



# **NATIONAL HIGHWAYS AUTHORITY OF INDIA**

**(MINISTRY OF SHIPPING, ROAD TRANSPORT AND HIGHWAYS)  
(DEPARTMENT OF ROAD TRANSPORT AND HIGHWAYS)**



## **NHAI WORKS MANUAL**

### **2006**

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**(DEPARTMENT OF ROAD TRANSPORT AND HIGHWAYS)**



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**2006**

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*Printed at:.....*

## FOREWORD

It is a matter of satisfaction that NHAI is bringing out a "Works Manual", which is a much needed compilation of the guidelines for officials engaged in procurement of works and consultancy services and construction. Although guidelines had been issued from time to time, it is for the first time that the existing guidelines have been compiled at one place in this Manual.

This Manual is a combined effort of large number of officials and I would like to express my appreciation of the guidance given by Shri Nirmaljit Singh, Member (Tech) and also the efforts put in by other officers in preparation of the Manual, particularly Sh B. P. Kukrety, Chief General Manager(PSQ) and Sh M. P. Sharma, General Manager(Tech).

The field of construction is dynamic and is undergoing fast changes both in terms of technology and contract management techniques. This will require the Manual to be dynamic and undergo updation frequently.

This Manual is one more step on the path of standardization of procedures to which NHAI is incessantly striving.

New Delhi  
July 19, 2006



(Santosh Nautiyal)  
Chairman, NHAI

## **PREAMBLE**

The National Highways Authority of India has been entrusted with the responsibility of implementing National Highways Development Project (NHDP) to have a world-class road infrastructure. In order to handle this time bound project, the Authority has to undertake a large number of construction works which are huge in size, complexity and innovation. New systems of contracting, supervision of works, hiring best available professional talent, tapping private initiative and financial resources, achievement of quality, and settlement of disputes as per international commercial practices are being put in place, the basic objective being to deliver effectively, taking into account cost, time and quality.

For implementation of projects in a systematic and transparent manner, the established practices, guidelines and procedures play an important role. The need for Works Manual was being felt from quite some time in the past. The Ministry of Shipping Road Transport and Highways constituted a Steering Group for standardization of Procedures, Documents and Manuals for implementation of NHDP. This group was headed by Shri S C Sharma, the then Director General (Road Development) & Addition Secretary of the Ministry. The Committee prepared a draft of the Manual.

The Manual was reviewed by a Joint Committee (JC) headed by the Chairman, NHAI. The JC in its report submitted to the Ministry while accepting the need of the Manual in principle suggested certain modifications and refinement before its adoption in NHAI.

NHAI on 8.2.2006 entrusted the task of preparing the NHAI Works Manual to Sh. M.P. Sharma, General Manager (Tech.). Chief General Manager (PSQ) also associated in the preparation of the Manual. The Manual has now been modified and updated in conformity with the guidelines/ instructions issued by the NHAI on various aspects. However, the base document remains the same as prepared by the Steering Group.


The Manual embraces the whole gamut of activities involved in Works, including pre-qualification of contractors, award of contracts, contract management, selection of consultants, quality assurance, measurement books and payments, corridor management, PPP Projects, land acquisition, environmental and forest clearance and dispute resolution.



The NHAI wishes to place on record its gratitude and sincere thanks to the members of the Steering Group, Joint Committee, and Sh. M. P. Sharma, General Manager (Tech). NHAI also wishes to thank Sh. B. P. Kukrety, Chief General Manager (PSQ) and Sh Deepak Saxena, Dy. General Manager (PSQ) who were associated in preparation of the Manual.

It is hoped that this Manual will serve a useful need for the NHAI Officers and other professionals. Obviously, a Manual of this kind is not a one-time affair, it has to constantly evolve and grow with experience and as new challenges arise. To recall the words of Franklin Roosevelt: "In a changing world worthy institutions can be conserved only by adjusting them to the changing time." Therefore, to keep the relevance and utility of this document up to date, the users may kindly send their comments to NHAI.


New Delhi  
July 19, 2006

  
(Nirmaljit Singh)  
Member (Technical), NHAI

## ACKNOWLEDGEMENT

In preparing this Manual, liberal use of the available current literature on various topics has been made. Particular mention needs to be made of publications of Indian Roads Congress, documentation of NHAI and some recent studies got done by it, training notes of SMEC for NH-1 Project in Haryana, CPWD Works Manual, publications of World Bank, ADB and commentary on FIDIC by E.C.Corbett. The help received from these sources is acknowledged collectively. Several colleagues gave the benefit of their advice and comments, which is acknowledged and appreciated.

New Delhi  
July 19, 2006

  
(M P Sharma)  
General Manager (Tech)





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## **ABBREVIATIONS**

ADB	Asian Development Bank
BIS	Bureau of Indian Standards
BOOT	Build, Own, Operate and Transfer
BOQ	Bill of Quantities
BOT	Build, Operate and Transfer
CMU	Corridor Management Unit
DBFO	Design, Build, Finance and Operate
DPR	Detailed Project Report
DRB	Dispute Resolution Board
DRE	Dispute Resolution Expert
EOT	Extension of Time
FIDIC	Federation Internationale des Ingenieurs Counseils (International Federation of Consulting Engineers)
GCC	General Conditions of Contract
GOI	Government of India
IBRD	International Bank for Reconstruction and Development
ICB	International Competitive Bidding
IRC	Indian Roads Congress
ITA	Instructions to Applicants
ITC	Information to Consultants
JBIC	Japanese Bank of International Co-operation
JV	Joint Venture
LD	Liquidated Damages
LOI	Letter of Invitation
MOSRTH	Ministry of Shipping, Road Transport and Highways
NCB	National Competitive Bidding
NH	National Highway
NHAI	National Highways Authority of India
NHDP	National Highways Development Project
OMT	Operate Maintain and Transfer
PIU	Project Implementation Unit
POL	Petrol, Oil and Lubricants
PPP	Public Private Partnership
PPR	Preliminary Project Report
PQ	Pre-qualification
PQC	Pavement Quality Concrete
PWD	Public Works Department
QBS	Quality Based System
QCBS	Quality Cost Basis System
RFP	Request for Proposal
SCC	Special Conditions of Contract
TOC	Taking Over Certificate
TOR	Terms of Reference
WB	World Bank



# Chapter 1

## INTRODUCTION

### 1.1 National Highways

- 1.1.1 National Highways are regarded as arteries of the country's economy. With effect from April 1, 1947, under an agreement with the then existing provinces, the Government of India provisionally accepted entire financial liability for the construction, development and maintenance of certain highways in the provinces which were considered suitable for inclusion in a system of National Highways (NH). After independence, Parliament has the exclusive power of legislation with respect to highways, which are declared as National Highways.
- 1.1.2 National Highways Act, 1956 which came into force from April 15, 1957, declared certain highways as National Highways and vested all National Highways in the Central Government. The Act also empowered the Central Government to declare any other highway as National Highway or omit certain highways from the list of National Highways. Further, this Act makes the Central Government responsible for developing all National Highways and maintaining them in proper repair.
- 1.1.3 In respect of the function in regard to the National Highways, the Central Government is authorized to entrust this function to any authority subordinate to the Central Government, or the Government of the State within which the highway passes. The Central Government can also lay down rules to provide for the manner in which any function in relation to development or maintenance of these highways are to be exercised as also to provide for any other matter.
- 1.1.4 Before the formation and operationalisation of National Highways Authority of India (NHAI), the respective State Governments and Union Territories, Boarder Roads Organisation and CPWD, as agents on behalf of Government of India, were discharging these functions. This arrangement may be continued, modified or altered, as Central Government may, in accordance with a policy, decide from time to time.

### 1.2 National Highways Authority of India (NHAI)

- 1.2.1 To develop, maintain and manage the National Highways, the Parliament enacted the National Highways Authority of India Act, 1988. NHAI came into existence with effect from June 15, 1989. However, it was operationalised only in February 1995. Section 11 of this Act provides for vesting in or entrustment to the Authority of such National Highways or any stretches thereof, which the Central Government may notify from time to time in the Official Gazette.

1.2.2 NHAI is constituted as a body corporate having perpetual succession and a common seal, with power, subject to the provisions of the NHAI Act, to acquire, hold and dispose property, both movable and immovable, and to contract and by the said name sue or be sued. The Authority consists of a Chairman, not more than five full-time and not more than four part-time members, all to be appointed by the Central Government [Section 3].

### **1.3 Functions of NHAI**

1.3.1 Functions of the NHAI, stated generally, are to develop, maintain and manage the National Highways and any other highways vested in, or entrusted to, it by the Government. Without prejudice to the generality of this statement, the Authority, under Section 16 of NHAI Act, may, for the discharge of its functions:

- (a) Survey, develop, maintain and manage highways vested in, or entrusted to, it;
- (b) Construct offices or workshops and establish and maintain hotels, motels, restaurants and rest rooms at or near the highways vested in, or entrusted to, it;
- (c) Construct residential buildings and townships for its employees;
- (d) Regulate and control the plying of vehicles on the highways vested in, or entrusted to, it for proper management thereof;
- (e) Develop and provide consultancy and construction services in India and abroad and carry on research activities in relation to the development, maintenance and management of highways or any facilities thereat;
- (f) Provide such facilities and amenities for the users of the highways vested in or entrusted to it as are, in its opinion necessary for smooth flow of traffic on such highways;
- (g) Form one or more companies under the Companies Act, 1956 to further the efficient discharge of the functions imposed on it by the NHAI Act;
- (h) Engage, or entrust any of its functions to, any corporation and body corporate owned or controlled by the Government;
- (i) Advise the Central Government on matters relating to highways;
- (j) Assist, on mutually agreed terms and conditions, any State Government in the formulation and implementation of schemes for highway development;
- (k) Collect fees on behalf of the Central Government for services or benefits rendered under section 7 of the National Highways Act, 1956, as amended from time to time, and such other fees on behalf of the State Governments on such terms and conditions as may be specified by such State Government; and
- (l) Take all steps as may be necessary or convenient for, or may be incidental to, the exercise of any power or discharge any of functions conferred or imposed on it.



## **1.4 Powers of NHAI**

1.4.1 To discharge its functions, NHAI is authorized, inter alia, to:

- (a) Appoint such number of officers and other employees, as it may consider necessary on such terms and conditions as may be laid down by the regulations [Section 9(1)];
- (b) Appoint, from time to time, any person as adviser or consultant as it may consider necessary, on such terms and conditions as may be laid down by the regulations [Section 9(2)];
- (c) Acquire any land required by it for discharging its functions is deemed to be the land needed for a public purpose and it can acquire the land under the provisions of the National Highways Act, 1956 [Section 13];
- (d) Enter upon, subject to regulations made in this behalf, any land or premises to make inspection, survey, measurement, valuation or enquiry; take levels; dig or bore into sub-soil; set out boundaries and intended lines of work; mark such levels, boundaries and lines by placing marks and cutting trenches; or do such acts or things as may be prescribed [Section 30];
- (e) Make regulations concerning:
  - (i) The terms and conditions of service, method of recruitment and remuneration of the officers and other employees appointed by it;
  - (ii) The form and manner in which a contract or class of contracts may be made by it, and the contract or class of contracts which are to be sealed with the common seal of the Authority;
  - (iii) General matters for efficient and proper maintenance and management of National Highways including the manner of
    - preventing obstructions on the National Highways for their normal functioning;
    - prohibiting the parking or waiting of any vehicle or carriage on the National Highway, except at places specified by it;
    - prohibiting or restricting access to any part of the National Highway; and
    - regulating or restricting advertisements on/around National Highways [Section 35].

1.4.2 The Authority may, with the approval of the Central Government, borrow money from any source. The Central Government may guarantee in such manner as it thinks fit the repayment of the principal and the interest with respect to the borrowings made by the Authority [Section 21].

## **1.5 Works of Government and Local Bodies**

The Authority may undertake on behalf of the Government or any local authority any works or services or any class of works or services on such

terms and condition as may be agreed upon between the parties concerned [Section 29].

## **1.6 Framework of the Functions of NHAI**

In the discharge of its functions, the Authority is to act on business principles. Under Section 33 of the NHAI Act, it is bound by such written directions of the Central Government on questions of policy as may be given to it from time to time and the decision of the Central Government whether a question is of policy or not is final. Under Section 34, it has to follow the rules made by the Central Government for carrying out the provisions of Act. NHAI (Budget, Accounts, Audit, Investment of funds, and Powers to enter Premises) Rules 1990 have been framed under this Section. Central Government interacts with the Authority generally through the Ministry of Shipping, Road Transport & Highways.

## **1.7 Status of NHAI Employees**

Employees of NHAI are deemed public servants within the meaning of section 21 of the Indian Penal Code. In addition, the NHAI and its officers and employees cannot be engaged in a suit, prosecution or other legal proceedings for anything done or intended to be done, in good faith for carrying out the provisions of the NHAI Act. They also enjoy protection under Section 197 of Cr.P.C.

## **1.8 Standardisation of Procedures**

- 1.8.1 The procedures given in this Manual are meant to be guides to action and serve as means for handling activities. They address the basic issues relating to highway and bridge works to be undertaken by NHAI. At places some description has been given to define the context of the procedures. They should be uniformly followed by all the units of the NHAI. Modification, if any, may be done with the approval of Chairman NHAI, for recorded reasons.
- 1.8.2 The extant guidelines/ instructions of NHAI on various aspects (as of June 2006) have been incorporated in the Manual. In case subsequent guidelines/instructions are issued modifying any provision of the Manual, then that provision of the Manual shall stand superseded by such guidelines issued.

## Chapter 2

### ORGANISATION

#### 2.1 Mission

To keep its operations organized and meaningful, NHAI defines its mission as under:

*“To meet the nation's need for the provision and maintenance of National Highways network to global standards and to meet user's expectations in the most time bound and cost effective manner, within the strategic policy framework set by the Government of India and thus promote economic well- being and quality of life of the people.”*

#### 2.2 Objectives

To fulfill its mission, the Authority will:

- (a) maintain and manage the NHs so as to ensure safe, efficient and environmentally sound movement of passengers and goods;
- (b) extend, improve, maintain and operate the NH network in support of the economic development of the country;
- (c) implement externally funded road programmes in an efficient, effective, and timely manner;
- (d) seek viable ways to involve the private sector in the provision, maintenance and operation of NHs;
- (e) encourage research and develop effective liaison with institutions involved in research in road and road related issues;
- (f) incorporate environmental and social safeguards in all relevant aspects of project planning and implementation and provide a congenial environment including landscaping, tree plantation and pleasant road sides to ensure safe, comfortable and pleasant driving; and
- (g) provide en-route facilities for the road users.

#### 2.3 Authority Set-up

2.3.1 NHAI is an autonomous corporate body of Government of India in the Ministry of Shipping, Road Transport and Highways. The NHAI Board (Authority) is comprised of a Chairman and not more than 5 full time members and 4 part time members. The Chairman and the members are appointed by the Central Government.

2.3.2 NHAI obtains staff primarily from two sources: (a) by recruiting from open market, and (b) by borrowing from various departments and undertakings of Government of India and various State Governments. Recruitment and conditions of service of its staff are regulated by the National Highways Authority of India (Recruitment, Seniority and Promotion) Regulations, 1996. There are other Regulations such as those

in respect of Recruitment, Seniority & promotion; Joining Time; Incentive; Travel & Daily Allowance; leave; Leave Travel Concession; Medical Attendance & Treatment; HRA & Leased Accommodation etc. Conduct of the staff is regulated by the National, Highways Authority of India (Conduct, Discipline and Appeal) Regulations, 1997.

- 2.3.3 At the Headquarters, there are three main divisions viz. Administration, Finance and Technical. The other associated functional areas are: Information Technology, Corridor Management, Environment and Social Development, Planning, Land Acquisition and Estate Management, Standardisation and Quality Assurance and Vigilance.
- 2.3.4 The Field formation comprises of Project Implementation Units/Corridor Management Units.
- 2.3.5 Staff of the Authority is classified into 4 groups: Group A, B, C and D. Chief General Managers, General Managers, Deputy General Managers and Managers are Group A officers. Group B employees are officers. Group C and D employees constitute the support staff.
- 2.3.6 The organisational set-up obtaining in June 2006 is given at Appendix-A. The division of duties among the various divisions/ units manning the various functional areas at the Headquarters is given at Appendix-B.

## **2.4 Authority Meetings**

All questions, which come up before any meeting of the Authority, are decided by a majority of votes of the members present and voting. By virtue of the powers conferred by the NHAI Act, the Authority has laid down the National Highways Authority of India (Transaction of Business) Regulations, 1997 to conduct its meetings. Extracts are given at Appendix-C.

## **2.5 Contracts by the Authority**

- 2.5.1 The Authority is competent to enter into and perform any contract necessary to discharge its functions. However, under Section 15 of the NHAI Act, the Authority has to obtain prior approval of the Central Government before entering into contracts of value or amount more than what may be prescribed by the Government. Contracts in respect of acquisition sale, or lease for a term exceeding 30 years, of immovable property exceeding a value or amount prescribed by the Government under Section 15 of the NHAI Act can be made only after previous approval of the Central Government.
- 2.5.2 NHAI Act authorises the Chairman, NHAI to make contracts on behalf of the Authority. The Authority is competent to lay down regulations to empower generally or specifically, other members and officers of the Authority to make contracts on its behalf. As per the extant delegation,

officers of the rank of General Manager and above can make contracts on behalf of NHAI, with the approval of Chairman.

- 2.5.3 As per Section 15 (3) of the NHAI Act, contracts that are not in accordance with the provisions of this Act and the regulations are not binding on the Authority. Officers of the NHAI before signing contracts on behalf of NHAI must ensure that the contract conforms to the prescriptions by the Authority.

## **2.6 Finance and Accounts**

- 2.6.1 NHAI Fund has been created under Section 18 of the NHAI Act, 1988. Any capital grant or aid received, any loan taken or any borrowing made by NHAI, as also any other sum received by the NHAI is credited to this fund.
- 2.6.2 The money in the Fund is utilized for meeting expenses in connection with the discharge of its functions, objects and purposes, and establishment expenditure. However, money received by way of grants, loans and borrowings are to be expended for the specific purpose for which such grants, loans and borrowings have been received.
- 2.6.3 The sources of finance available with the NHAI are: capital grant or loan provided by Government of India, including dedicated accruals from the corpus formed by the levy of cess on petrol and diesel; assistance from external funding agencies like World Bank, Asian Development Bank, JBIC, etc; borrowings from the market by issue of bonds, debentures and other such instruments and by setting up its own companies/Special Purpose Vehicles (SPVs); private funds through Build, Operate and Transfer schemes and other variations thereof; toll collections; lease of roadside land; charges for advertisements and hoardings, and income from investments in the securities of the Central Government or other appropriate instruments.
- 2.6.4 The Authority is enjoined to prepare its budget for each year showing its estimated receipts and payments in accordance with the prescriptions by the Ministry of Shipping, Road Transport & Highways (MOSRTH) regarding form and time. The Authority is also required to prepare its annual report giving full account of its activities during the previous financial year.

## **2.7 Procedure for Approval of Schemes**

- 2.7.1 The procedure/guidelines in respect of approval of schemes (including the monetary limits) by MOSRTH, Expenditure Finance Committee (EFC), Public Investment Board (PIB) and clearance by Cabinet Committee on Economics Affairs (CCEA) are given in Department of Expenditure, Ministry of Finance letter F.No.1(3)/PF.II/2001 dated 18.02.2002 (copy at Appendix-D), Deptt of Exp. U.O.No.24(16)/PF.II/2000 dated

31.7.2002 (copy at Appendix-D/1), Ministry's letter no. RW/NH-11029/1/97-DO1 dated 12 November 1997 (copy at Appendix-D/2) and Ministry's letter no. RW/NH-11029/1/97-DO1 dated 4.1.1999 (copy at Appendix-D/3). NHAI will obtain approval of the schemes from the Central Government as per the limits of delegated powers set down therein. The approval may be for individual schemes, based on a proper feasibility study and cost estimate or, if the circumstances so warrant, for a package of schemes/programmes using normative costs.

- 2.7.2 In the latter case, the NHAI Board will approve investment proposals of individual sub-projects only on the basis of detailed project reports and detailed estimates. While doing so, it will lay down the implementation and monitoring mechanism, along with the areas of responsibilities of concerned agencies/persons. The Board will periodically review the progress of important works, identify slippages if any, suggest corrective interventions and fix responsibility where due for any cost or time over run. Progress reports will be submitted to PIB at such periodicity and in such form as may be prescribed.

## **2.8 Audit and Control**

Statutory audit of NHAI accounts is done by Comptroller and Auditor General of India (C & AG). One Resident Audit Party (RAP) is positioned in NHAI by the C & AG to carry out concurrent audit of the transactions by NHAI. NHAI also gets its account internally audited by a firm of Chartered Accountants as appointed by it from time to time. Audit of Special Purpose Vehicles (SPVs) set up from time to time by the Authority is to be got done as for companies. Works and affairs of NHAI are subject to the control of Central Vigilance Commission (CVC). A Chief Vigilance Officer looks after these functions.

## **2.9 Organisational Policy**

NHAI is constituted as a body corporate. It is mandated to act on business principles in the discharge of its functions. In the light of this mandate organizational policy of NHAI as under:

- (a) to develop as a lean and officer-oriented organization, tapping private sector efficiencies by selective outsourcing of services;
- (b) to become smart in the true sense i.e. simple, moral, accountable, responsive and transparent;
- (c) to provide automated data collection facilities and computer based flow of information to enable officers discharge their functions effectively and efficiently; and
- (d) to encourage performance, based on trust and accountability.



## **2.10 Project Implementing Units (PIUs)**

Principal role of PIU will be to ensure that the project is effectively developed and implemented. PIU will be headed by a Project Director (PD), who may be an officer of the rank of the GM/ DGM and may be assisted by one or two engineers of the level of DGM/ Manager who may be posted at separate locations broadly conforming to work requirements. PD will be assisted by Accounts Officer (AO) and supporting staff for accounts & secretarial functions.

## **2.11 Corridor Management Units (CMUs)**

2.11.1 National Highways are spread over whole of India. To manage the network after development, NHAI is to have Corridor Management Units, with focus on corridor management. All site activities of maintenance, check and removal of encroachments, control on access, control on road side advertisements, management of road related events, management of NH land, collection of data, traffic monitoring, traffic census, ascertaining road user needs, provision of user facilities, arrangement and/or supervision of toll collection (as necessary), road safety audit, liaison with local authorities, etc. will generally be undertaken through these offices.

2.11.2 Depending upon the level of activities, a CMU may be headed by an officer of the rank of General Manager or Deputy General Manager. NHAI will post such suitable level officers to assist the CMU head, as it may consider appropriate. Decision of opening a CMU and allocation of the jurisdiction will be made by the NHAI.

## **2.12 Duties of Project Director (PD)**

The Project Director shall have the following duties, inter-alia;

- (a) Project Director will be overall in-charge of the project at site within his jurisdiction. He will also associate himself in the preparation of the Detailed Project Reports.
- (b) He will ensure timely acquisition of land, shifting of utilities and removal of obstructions, obtaining environment clearances and permission for tree cutting and securing approval of the railways for construction of ROBs. He will liaise with other agencies and groups to ensure that all the local issues are satisfactorily dealt with. He will interact with the State Governments and other departments of the Central Government for resolving issues holding up the progress of the work.
- (c) He will attend meetings called by the State Nodal Officers for review of progress of works and removal of bottlenecks, if any.
- (d) He will hold regular progress review meetings with the contractors and the consultants.
- (e) He will supervise and monitor the performance of the Construction Supervision Consultant and through him of the Contractor. He will

- administer the powers vested with him under the contract, including making of payments. He will oversee the Contractor's site laboratory.
- (f) He himself or through his designated officer of PIU (or CMU) will carry out random test check of 3% of the measurements, including 3% test checking of all hidden items of the work and all items for which the quantity exceeds more than 25% of the tender quantity, before making payment of any running/final bill. (Hidden item is one, which is not exposed for measurement after completion such as clearing and grubbing, earth work, bridge foundation, granular sub base, bituminous base etc.). The test measurement shall be in the presence of the Team Leader/Resident Engineer or other authorized personnel of the Supervision Consultant, for verifying the veracity of the bills and for checking the quality of the works. In case the check measurement is carried out by the designated officer, the Project Director will countersign the check measurements.
- (i) Project Director shall also exercise test check at least 3 % of Original Ground Levels/Reduced Levels recorded by the Supervision Consultant in the Level Book. The test check should be as representative as possible for the entire work done.
- (ii) For the purpose of test check, "measurements" means the "corresponding monetary value of measurements of work done." This, however, does not apply to "levels" in which case the test check has to be based on the number of levels recorded.
- (iii) Payment of any monthly interim IPC received shall not be held up for want of check measurement by the Project Director. If the check measurement could not be made by him, 75% of the payment will be released subject to fulfillment of other conditions, the balance 25% payment withheld for adjustment, if any, after test check measurement.
- (g) PD will issue Measurement Books, Level Books and Field Books to the Supervision Consultants in respect of works under his charge. He will ensure that these documents are maintained and utilized properly by the Supervision Consultant. Before releasing payment against IPC of the Contractors, the PD will ensure;
- (i) That Measurement Book is maintained by the Supervision Consultants in the standard format and in accordance with the guidelines prescribed/as per the contract conditions.
- (ii) That the mandatory percentage checking required to be conducted/certified by various key personnel of the Supervision Consultants, including the Team Leader, as per the contract conditions have been duly recorded in the Measurement Book.
- (iii) That the mandatory check measurements have been carried out by him.
- (iv) That the abstract Measurement Book is neatly and correctly drawn by the Supervision Consultants and has been signed by the Team Leader.
- (v) That the items, quantities and rates, etc., in respect of the executed items/ quantities and as claimed under any IPC are as per the contract.

- (vi) That all other contract conditions and guidelines issued by NHAI Headquarters on the subject have been complied with.
- (vii) That all the payments including advances and the recoveries are recorded in the abstract Measurement Book and are duly authenticated by the Project Director and the DDO.
- (viii) Before release of payment against IPC, the Project Director and the Drawing & Disbursing Officer (DDO) shall ensure that the above necessary requirements have been complied with.
- (h) PD will associate with the Team leader/Resident Engineer of the Supervision Consultant in test checking of quality control tests at least to the extent of 3%.
- (i) He will monitor that the original pre-qualified contractor is actually working and that there is no un-official sub-letting or back-to-back arrangement by the contractor to perform the contract or any part thereof. If the contract provides for a Joint Venture or a sub-contractor, PD should independently watch that they perform within accepted conditions and framework of the contract. He will also check up that the machinery and equipment as originally promised are actually working on the project site. If there is any infraction of or deviation from the agreed/ approved arrangements, he will take appropriate action as per condition of contract and will send his findings to the Headquarters.
- (j) He will ensure that the personnel of the Supervision Consultant are deployed at site as per the manning schedule agreed in the contract. He will give directions to the Supervision Consultant for any laxity in respect of inadequate deployment and poor quality level of supervision during execution of the work.
- (k) PD will report to the Headquarters critical issues in the implementation of the project. He will provide the necessary inputs to the Headquarters as and when required. He will examine the proposals of variations, time extension, disputes and claims etc. and furnish comments/recommendations to the Headquarters, and present the case before DRE/ DRB and arbitral tribunal. He will ensure proper maintenance of all relevant record that may be needed at any time in the future to defend cases before the arbitrators or in the courts. On transfer, he will leave complete handing over notes, with reference to records, about all differences, disputes, claims and other matters to enable the successor effectively watch the interest of NHAI.
- (l) Project Director heading the CMUs will build, update and maintain NH data required for Pavement Management System (PMS) and Bridge Management System on a computerised Geographical Information System (GIS) data base.
- (m) Project Director will take action for prevention and removal of encroachment, unauthorized access, billboards and advertisements hoardings from NH land.
- (n) He will prepare monthly 'encumbrances' list of the project site and submit to the NHAI Headquarters.

- (o) He will examine the proposals of access permission (private properties and retail outlets) as per relevant guidelines and submit the same to the Headquarters in time.
- (p) He will take action to update National Highway land records and develop inventory of highway land & property.
- (q) He will ensure that the prescribed building lines, control lines and set back distances are duly enforced.
- (r) He will exercise proper supervision of control to ensure that Toll collection is smooth and as per the guidelines.
- (s) He will submit monthly progress report to Headquarters in the prescribed format.
- (t) He will be responsible for maintenance of accounts in the prescribed manner and operation of Bank Account as joint signatory. He will attend to Audit observations promptly.
- (u) He will ensure that all the project records are maintained properly in the PIU/CMU. He will supervise the work of other officers and staff in the PIU/CMU.
- (v) Project Directors will maintain fixed assets register in respect of the assets purchased out of own funds including assets transferred from Head Office and assets acquired by contractors/consultants currently in their possession or transferred as part of their contract. In addition, PIUs/CMUs are also advised to carry out physical verification of the assets at the end of each financial year and submit a copy of the same to the Government Auditors/Internal Auditors during the course of their audit in the PIUs/CMUs. Insurance of such assets should also be taken out.
- (w) On completion of the Defect Liability Period, PD will carry out half-yearly performance evaluation of the project during the life cycle of the project.
- (x) On completion of the project, he will write confidential performance appraisal report of the supervision consultant and submit to the Headquarters. He will also receive the performance appraisal report of the contractor put up to him by the supervision consultant and forward it to the Headquarters after countersignature/ his remarks.
- (y) Project Directors, PIU/CMU will act as representative of principal employer (i.e. NHAI) under (i) Contract Labour (Regulations and Abolition) Act, 1970 and rules made there under and (ii) Employee's Provident Funds and Miscellaneous Provisions Act, 1952 and schemes framed there under. They will be responsible to implement all labour welfare activities required to be done by the principal Employer as per the statutory provisions.
- (z) As per NHAI Office Order No. 11041/131/2005-Admn III dated 19.9.2005, all Project Directors are designated as Assistant Public Information Officer under the Right to Information Act, 2005, for their respective Project Implementation Units/Corridor Management Units/ Special Purpose Vehicles.

To the extent applicable, the duties of Project Directors in respect of PPP (BOT-Toll/Annuity) projects shall be as enumerated above.

### **2.13 Duties of Accounts Officer**

Accounts Officer (AO) or any other officer of PIU so authorized will be responsible for maintaining the project accounts and assist the PD and other officers in processing all invoices/ payments pertaining to the concerned work/ package and will prepare cheques for the signature of PD or any other officer entrusted with such responsibility.

### **2.14 Powers of officers regarding Works**

2.14.1 Officers shall exercise such powers as may, from time to time, be delegated to them by the Authority. The existing powers regarding Works, vested with various officers at the Headquarters and the Chairman, NHA are given at appropriate place in the Manual.

2.14.2 These powers are subject to revision from time to time.

### **2.15 Guidelines on filing of documents and maintenance of records.**

Guidelines issued by NHA on the subject vide letter no 11041/9/2002-Admn. dated 16.2.2004 (71/2004) shall be followed. A copy of the guidelines is attached as Enclosure-1 at the end of this Chapter.

**GUIDELINES ON FILING OF DOCUMENTS AND MAINTENANCE OF RECORDS**

[Copy of NHA letter no.11041/9/2002-Admn. dated 16.2.2004 (71/2004)]  
(Ref. Para 2.15)

1. All the documents generated or received by the Unit/Division should be kept neatly in the chronological order in proper files.
2. Each file will contain documents pertaining to a particular subject. The broad subjects may be decided by the respective Unit/Division.
3. Each file will have a distinctly unique number, which will be indicated in all the documents generated on the subject and kept in that file. Normally, if the number of documents filed becomes more than 100, another volume may be opened with the same number along with an indication of the number of the volume.
4. The file index system to be followed for allotment of number to the files shall be as follows:
  - (a) Each main subject or main head under each functional group is assigned consecutive, Arabic numerals beginning with "11" which also could go up to "99".
  - (b) Similarly, the sub-subjects or sub-heads under each functional group is assigned consecutive, Arabic numerals beginning with "11" which also could go up to "99".
  - (c) The subject numerals and sub-subject numerals are separated by "0", the group of numerals to the left of "0" refer to the main subject while that to the right of its sub-subject, topic, aspect or factor.
  - (d) Files opened under the same subject etc. are given serial numbers 1, 2, 3 and so on and separated from the group of numerals identifying the main subject and the sub-subject by a slant stroke,
  - (e) The year in which the file is opened is shown separately from the file number by a slant stroke.
  - (f) At the end of each file code, number is to be indicated by the dealing division or unit by a suitably chosen abbreviated group of letters separated from the year by a hyphen.
  - (g) Each subject and sub-subject thus having been identified by an alpha-numeric code, a brief content of the subject is indicated in the rectangle on the file cover marked "subject".



## **Illustrations:**

(a) In a file numbered "11012/3/96-Admn", the first group of Arabic numerals "11" stands for the main subject heading "Establishment". The figure "0" is a separating sign. The second group of Arabic numerals "12" stands for the subordinate subject "Recruitment". The number "3" between slant strokes denotes that it is the 3rd file opened under this subordinate heading. The figure "96" indicates the year of opening the file and the abbreviating letters "Admn." stands for Administration Division

(b) In a file numbered "11020/5/2001 -DM II", the first group of Arabic numerals "11" stands for the main subject heading "Procurement". The figure "0" is a separating sign. The second group of Arabic numerals "20" stands for the subordinate subject "EOT". The number "5" between slant strokes denotes that it is the 5th file opened under this subordinate heading. The figure "2001" indicates the year of opening the file and the abbreviating letters "DM II" stands for Delhi-Mumbai II Division.

5. The documents will be filed in the following manner:

- (a) Each file will consist of two parts, the correspondence received/issued on a particular subject and noting sheets.
- (b) All the correspondence papers (letters, orders, instructions etc. issued/received by the Unit/Division) will be arranged in the chronological order of date of issue/receipt in the respective folder. Separate folders will be maintained for each distinct file number.
- (c) The notings pertaining to the decisions recorded will be kept on top of the correspondence folder, neatly tagged.
- (d) All the noting sheets as well as the correspondence papers (each page) will be serially numbered in ink.
- (e) The noting sheets will also have the file numbers typed on each sheet at top right corner (in small fonts).
- (f) Both the noting sheets and the correspondence folder will always be kept tied together neatly by a binder/tag.
- (g) So long as the file is current, the noting sheets will be kept on top of the folder and tied with the binder.
- (h) Once the file (or its volume) is closed, the noting sheets will be kept inside the folder and tied neatly.
- (i) The date of opening and closing the file will be indicated neatly on top of the file/volume.

6. Each Unit/Division will have a file register which will contain the record of all the files maintained in the Unit/Division.

This register will be maintained by the PA of the PD (in PIUs)/GM or DGM (in the Hqs) concerned. It will be the personal responsibility of all the officers of the respective Unit/Division to ensure that a file opened on any subject is first entered in the file register. It will also bear the signatures of the officers of the respective Unit/Division against the details of each file opened in the Unit/Division. This register will be inspected once in three months by the PD/GM concerned.

7. The documents like DPRs, survey records, register on various subjects etc. will also be included in the file register and assigned a distinctive number which may even be the serial number of the file register.

8 The PD/GM or DGM concerned will render a certificate to the Administration Division that the file register has been opened and is being maintained in accordance with these guidelines.

9. The folders along with binders will be made available to the Divisions in the Hqs., by the Admn. Division, The PIUs may obtain the samples from Admn. Division and procure the folders/binders from local market.

### **Recording & Weeding Out**

10. The old records which have outlived their utility and the prescribed period of retention may be weeded out by destruction. The periods for which the records are required to be maintained are prescribed in the various instructions issued by NHAI, MOSRT&H and Ministry of Personnel, Public Grievances and Pension.

11. A copy of the Record Retention Schedule for the substantive functions of the National Highways Authority of India which has been prepared on the basis of the Record Retention Schedule prescribed by the Ministry of Shipping, Road Transport & Highways is enclosed as Annexure I at the end of the Chapter.

For the areas not covered in the schedule of the NHAI, a reference may be made to the Record Retention Schedule prescribed by the Ministry of Shipping, Road Transport & Highways in particular and to the Record Retention Schedule prescribed by the Ministry of Personnel, Public Grievances and Pensions (Department of Administrative Reforms and Public Grievances).

12. Some important points to be kept in mind are as below:

- (a) While flagging the correspondence, the flags should not be stapled, as it is bound to cause damage to the paper. There should rarely be any need to put a flag because page number of the paper referred to in the section of correspondence, should generally be mentioned in the margin on the note sheet.

- (b) While typing on the noting sheets, it should be ensured that adequate margin is left, particularly on the right hand side.
- (c) While submitting the drafts for approval, the page number of the letters, which are being referred to in the draft, should be clearly indicated in the margin.
- (d) While submitting the notes to the higher authorities, it may be ensured that adequate space is left at the bottom of the note sheet for the higher officer to record their remarks. Wherever necessary, the last sentence of the noting may be carried to the next page so that adequate space is available for recording the notes by the higher officers. The note should never be carried to the bottom of the note sheet as it gets frayed over a period of time and note becomes indecipherable. Moreover, it should be ensured that the final authority passing orders on the proposals on the file does not have to put his/her signatures on the margin or at the bottom of the note sheet, which gets frayed after sometime or on a blank page. Such possibilities should be anticipated and note should be carried on to the next page.
- (e) It should always be ensured that courtesy note sheets are attached to the file i.e. there should always be at least one clear note sheet following the sheet on which last note is recorded.
- (f) The drafts for approval should be kept below the note sheets, duly flagged.
- (g) Part cases should not normally be opened. Wherever it becomes absolutely necessary to open a part case, it should be merged with the main file as soon as possible. Part cases opened should also be recorded in the document register kept with the GM concerned.

### **Space for Records in the HQs.**

13. The space for records is being provided at Basement Level-2 in the Headquarters. A Record Keeper along with an Assistant will be positioned in the Basement. The records to be taken out of the Basement by the concerned division should be entered in the register kept with the Record Keeper in the Basement.

**RECORD RETENTION SCHEDULE  
FOR NATIONAL HIGHWAYS AUTHORITY OF INDIA  
PART-A**

<b>Sr. No.</b>	<b>Documents</b>	<b>Period of retention from the date of recording</b>
<b>1.</b>	<b>Documents related to DPR Consultant</b>	
(i)	Pre-Qualification Documents	<p><u>Unqualified Bids</u>: 2 years from the date of Pre-qualification</p> <p><u>Qualified Bids</u>: 3 years from the date of Pre-Qualification except finally successful bid.</p> <p><u>Finally Successful Bids</u>: 2 years after expiry of professional liability period. In case of arbitration 2 years after settlement of the arbitration or legal disputes, whichever is later.</p>
(ii)	Bid Documents for Consultancy Services	<u>Unsuccessful Bids</u> : 3 years from the date of award of the contract. Original financial bids of unsuccessful bidders to be preserved for 2 years from date of completion of consultancy contract.
(iii)	DPR Consultancy Contract Document	5 years after expiry of professional liability. In case of arbitration 2 years after settlement of the arbitration or legal disputes, whichever is later.
(iv)	Detailed Project Report (DPR) all volumes	Permanent
<b>2.</b>	<b>Supervision Consultancy</b>	
(i)	Pre-Qualification Document	<p><u>Unqualified Bids</u> : 2 years from the date of Pre-qualification.</p> <p><u>Qualified Bids</u>: 3 years from the date of Pre-Qualification except finally successful bid.</p> <p><u>Finally Successful Bids</u>: 2 years after expiry of professional liability period. In case of arbitration 2 years after settlement of the arbitration or legal disputes, whichever is later.</p>
(ii)	Bid Documents for Consultancy Services	<u>Unsuccessful Bids</u> : 3 years from the date of award of the contract. Original financial bids of unsuccessful bidders to be preserved for 2 years from date of completion of consultancy contract.

Sr. No.	Documents	Period of retention from the date of recording
(iii)	Supervision Consultancy Contract Document	5 years after expiry of professional liability. In case of arbitration 2 years after settlement of the arbitration or legal disputes, whichever is later.
(iv)	Proof Checking designs, final completion drawing handing over report	Permanent
<b>3.</b>	<b>Civil Work Contract</b>	
(i)	Pre-Qualification Documents	<p><u>Unqualified Bids:</u> 2 years from the date of Pre-qualification</p> <p><u>Qualified Bids:</u> 3 years from the date of Pre-Qualification except finally successful bid.</p> <p><u>Finally Successful Bids:</u> 2 years after expiry of defect liability period. In case of arbitration 2 years after settlement of the arbitration or legal disputes, whichever is later.</p>
(ii)	Bid Documents	<u>Unsuccessful Bids:</u> 3 years from the date of award of the contract except L-2 and L-3 which shall be destroyed 2 years after completion of work.
(iii)	Contract Agreement for Civil Work	5 years from the date of actual completion or 2 years after expiry of defect liability period or settlement of arbitration or legal disputes, whichever is later.
(iv)	Measurement Books	10 years from the date of actual completion.

**RECORD RETENTION SCHEDULE FOR NATIONAL HIGHWAYS AUTHORITY  
OF INDIA**

**PART-B**

<b>Sr. No.</b>	<b>Documents</b>	<b>Period of retention from the date of recording</b>
1.	<b>Execution of National Highways</b> a) Survey Investigation i) Major Works ii) Minor Works b) Land Acquisition c) Technical Appraisal d) Administrative approval of works (less than Rs.50 lakhs) e) Enquiry committee f) Inspection Reports g) Quarterly Progress report on National Highways from States & Monitoring thereof h) Project Completion records i) Consultative Committee Minutes & Meetings j) VIP references k) Alignment of Roads (angle wise)	10 years 5 years Permanent 5 years 10 years 5 years 3 years 3 years Permanent 3 years 3 years Permanent
2.	<b>Maintenance and Development of National Highways</b> a) Policy b) Others (i) Bridges (ii) Roads a. Original work for widening & strengthening the road b. Maintenance/Repair of roads	Permanent 3 years Permanent 10 years 3 years after completion of work
3.	<b>New Additions in the National Highways system</b> a) State wise Proposal (i) Accepted (ii) Rejected b) Examination of Proposals regarding 4 laning of National Highways c) VIP References d) Misc. correspondence	5 years 3 years Permanent 3 years 1 year
4.	<b>Private Sector Finance for National Highways</b> a) Legislation – Identification of specific Projects	Permanent

Sr. No.	Documents	Period of retention from the date of recording
	b) Proposals (i) Accepted (ii) Rejected c) Meetings of Ministerial Committee/High Power d) Seminar e) Misc. Correspondence	5 years 3 years 10 years 3 years or 1 year after audit is over, whichever is later. 1 year
5.	<b>Roads of Inter-State &amp; Economic Importance</b> a) State wise proposals (i) Accepted (ii) Rejected b) Approval of Programme (i) Policy (ii) Others c) Misc. Correspondence	5 years 5 years Permanent 3 years after implementation 1 year
6.	<b>Tender Cases</b> a) Bridges b) Roads	Permanent 3 years after completion of work
7.	<b>Sanction of Original Estimates/Revised cost Estimates</b> a) Major b) Minor	10 years 5 years
8.	Processing of Estimate Finance committee (EFC) cases (up to 200 crores)	5 years
9.	Public Investment Board (PIB) cases (from 200 crore to 500 crores)	10 years
10.	Extension of Licence deeds in respect of Petrol Pump/Waterpipe line.Cables etc.	Permanent
11.	<b>Technical operational matters relating to Build Operate and Transfer (BOT) Projects</b> a) Empanelment of consultants for National Highways Projects b) Empanelment of Arbitrators of both domestic funded schemes and externally aided projects c) Traffic and Transportation on National Highways d) Wayside amenities – approval of e) V.I.P. references	3 years 3 years 5 years 5 years 3 years
12.	<b>National Highways</b> a) Policy	Permanent

Sr. No.	Documents	Period of retention from the date of recording
	b) National Highways Act 1956 & Amendments thereto c) Draft Ribbon Development Act & Rules there under (under progress) d) VIP references	Permanent  Permanent  3 years
13.	<b>Meetings</b> a) With outside agencies b) Transport Development council (TDC) c) Indian road Congress (Indian National International Bridge & Structural Engineers (IRC-ING-IABSE))	3 years 5 years 3 years
14.	<b>Plan Scheme Project</b> a) Five year plan of the NHAI b) Annual Plan NHAI c) 20 years plan	10 years 3 years 10 years
15.	<b>Road Development – Foreign Assistance</b> a) Asian Highway Policy b) Meetings c) Treaties/Agreements to which India became Party d) Seminars/Conferences e) Training abroad under Colombo Plan f) World Bank Assistance International Development Association /Asian Development Board (IDA/ADB) g) Permanent International Association of Roads Congress (PIAEC) Indian National Group of the International Associations for bridges and Structural Engineering (ING IABSE) h) Misc. Correspondence	Permanent 5 years Permanent  3 years 3 years 5 years  5 years  1 year
16.	<b>Training of Highways Engineers Local Training</b> a) Training b) Conference/Seminar/Workshops c) Annual Membership	3 years 3 years 3 years
17.	<b>Traffic Census Data</b> a) Traffic Census b) Traffic Statistics c) Misc. Correspondence	5 years 5 years 1 year
18.	<b>Reports &amp; Returns</b> Monthly/Quarterly/Fortnightly/Weekly/Annual	1 year
19.	Misc. correspondence	1 year



Sr. No.	Documents	Period of retention from the date of recording
20.	<b>Institutional Improvements/Research and Development/Introduction of new techniques</b> a) Policy b) Institutional improvement/Standing Committee, etc. c) Introduction of new machines/literature (item-wise) d) Follow up action (item-wise)	Permanent 10 years  5 years  5 years
21.	<b>Repair Estimates</b> a) Policy b) Repair Estimate c) Estimate for missing parts	Permanent 3 years 3 years
22.	<b>Hire Charges</b> a) Policy b) Recovery of Hire charges c) Hire out of machines to other organisation	Permanent 3 years after recovery 3 years or 1 year after audit is over where-ever financial matters are involved
23.	<b>Cement</b> a) Policy b) Correspondence	Permanent 1 year
24.	<b>Bitumen</b> a) Policy b) Others	Permanent 3 years
25.	<b>Maintenance &amp; Repair (M&amp;R) Grants</b> a) Budget provision – release of funds under M&R grants	3 years
26.	<b>Technical literature Bitumen work/earth work/Bridge work</b>	3 years
27.	<b>Inspections</b> a) Audit inspection of section	3 years or 1 year after audit is over whichever is later
28.	<b>National Highways</b> a) Policy matters/decisions relating to all aspects of National Highways b) National Highways Act, 1956 framing of Rules for levy of fee on National Highways c) Agency Charges on National Highway Works d) Registration of Land e) Correspondence regarding Railway level crossing	Permanent  Permanent  3 years  Permanent 3 years

<b>Sr. No.</b>	<b>Documents</b>	<b>Period of retention from the date of recording</b>
	f) Encroachment of National Highway lands correspondence g) Maintenance and Repairs of National Highways – Sanction letters h) Quality Control i) Policy ii) Others j) Inauguration Ceremonies of National Highways  k) Landscaping/Plantation of trees along the Roadside l) Electrification of Bridges – references received from the States m) Erection of Structures after completion of Structure n) Speed Breaks	3 years  3 years or 1 year after the audit is over whichever is later  Permanent 5 years 3 years or 1 year after the audit is over whichever is later  3 years  3 years  3 years  1 year

## **Chapter 3**

### **PROJECT PREPARATION AND APPROVAL**

#### **3.1 Classification of Works**

Works shall be classified as follows:

- (a) Original Works
- (b) Corridor Management Works, including Maintenance

#### **3.2 Original Works**

These will comprise all works of developmental nature by way of creation of new assets, or the up-gradation of existing assets, such as: Works of 4-Laning/6- Laning, Works of Improvement and Strengthening, Bridges, Expressways, Development of New National Highways, Buildings and their additions & alterations, etc.

#### **3.3 Corridor Management Works**

3.3.1 These will include works connected with the management of the highways, such as: Maintenance, Enforcement, Traffic, Safety, Encroachments, Ribbon, Development, Wayside Amenities, Roadside Advertisements, Land Management, Access Control, Traffic Management, etc.

3.3.2 Maintenance Works will include all works of:

- (a) Ordinary repairs
- (b) Periodic renewals
- (c) Special repairs
- (d) Flood damages

#### **3.4 Public Private Partnership in Highways**

3.4.1 These involve private investment, wholly or in part, and which may be domestic or foreign. They may use various routes such as: BOT (Toll) (or BOOT, BOLT, DBFO) and BOT (Annuity), etc. These works may typically include works such as: Bridges, Rail-over-Bridges, Flyovers, Bypasses, and Widening & Improvement of NHs, Expressways and Facilities etc.

3.4.2 To attract private investment the Government may provide tax concessions to the entrepreneurs, as well to the lenders and investors. NHAI may offer to carry out the preparatory work, arrange environmental and other clearances, and meet the cost of land, feasibility studies, relocation of utilities, resettlement & rehabilitation, etc.

3.4.3 In order to improve the viability of a private funded project, NHAI may, within defined limits, provide capital grants, participate in equity and offer bridge loans, besides agreeing to periodic revision of user trees, etc.

### **3.5 Procedure of commencement of Civil Works**

The following procedure will be followed while undertaking the work of highway or a bridge.

#### **3.5.1 Project Strategy**

Project may be organized and implemented in accordance with different strategies. Which strategy is best suited for the purpose depends on, for example, the nature and complexity of the project, the access to finance, life cycle costs of the project, the technical and administrative capability of the Employer etc. To a large degree contractual relationships between the parties and their individual rights, duties and risks thereby are also determined by the project strategy.

#### **3.5.2 Project Preparation and Approval**

##### **3.5.2.1 Public Funded Projects**

- (a) Broadly, the following three steps are involved in the preparation and approval of the project.
  - (i) Pre-feasibility study
  - (ii) Feasibility study/Preliminary project report
  - (iii) Detailed project report containing detailed engineering and plan of construction
- (b) In the first instance, a feasibility study for the project will be carried out, generally through a consultant, selected in accordance with the procedure and criteria laid down in Chapter 6. In some cases, especially for externally funded and BOT projects, it may be necessary to prepare a pre-feasibility report to enable a funding agency or private financier to appreciate the broad features of the project, the study of financial involvement and possible returns.
- (c) The feasibility study will establish the scope of the work, bring out requirement of land, prepare social and environmental assessments, carry out preliminary economic and financial analysis, examine different options, work out their merits and costs, and recommend the most suitable one.
- (d) In case the project is already identified, or the alignment is well established, or an existing asset is to be improved/

upgraded/replaced, feasibility study may be dispensed with. In another situation, it may be found more practical as well as expedient to combine feasibility report with detailed project report discussed below.

- (e) The studies and recommendations of feasibility study will form the Preliminary Project Report (PPR), as described in Para 3.6.4. On approval of PPR, if one has been commissioned, or otherwise if it has been dispensed with, a Detailed Project Report (DPR), as described in Para 3.6.5, will be prepared, again through a consultant who could be different from the one who had prepared the feasibility study report, but should preferably be the same. In this, standards, design parameters and specifications will be precisely laid down along with technology and quality standards to be followed. Detailed drawings, bill of quantities, detailed cost estimate will also be prepared.
- (f) The DPR shall be accepted as per the procedure prescribed in Para 3.10.
- (g) Consolidated investment proposal may be approved by the Authority. The proposal to be submitted to the Authority shall contain the details of the sections, estimated cost, means of finance, the nature of construction (4/6laning, rigid/flexible pavement, major structures etc), likely date of award and completion etc. After the approval of the investment proposal, the individual contract may be awarded with the approval of the Chairman.
- (h) The Bid document will be finalized before invitation of Bids. The bid documents will include the scope of the project and its description, standards and specifications, terms and conditions of the agreement, rights and responsibilities of the parties, remedies, implementation schedule, amount of earnest money (bid security), and the period of validity of the bid, etc. The bid documents will be formally approved by the tender accepting authority before inviting tenders.
- (i) Competitive tenders will be invited after giving them wide publicity. Eligible contractors who have been earlier pre-qualified or are to be post-qualified, or are registered with approved engineering organisations, depending on the size and nature of the project will be invited to bid.
- (j) The bids received will be evaluated and the one offering the least cost and found to be responsive, as described in Para 4.21, will be approved. Letter of acceptance will be issued in favour of the successful bidder, specifying therein the formalities to be completed by the successful bidder for signing the agreement.

- (k) In the meanwhile action will be taken in respect of:
  - (i) Provision of land/ site for the Work in accordance with the schedules set out in the contract documents;
  - (ii) Appointment of Construction Supervision Consultant to supervise the work;
  - (iii) Appointment of Dispute Resolution Expert (DRE)/Dispute Resolution Board (DRB), depending on the size of the work for dispute resolution in the course of execution of the work.
- (l) In the field, the work will generally be supervised by a supervision consultant, selected in accordance with the procedure described in Chapter 6. Project Director (in-charge of PIU) will superintend the performance of the supervision consultant and project implementation on behalf of NHAI.

### **3.5.2.2 Public Private Partnership (BOT) Projects**

- (a) For projects, which may be taken up on BOT (Toll/Annuity) basis, carrying out complete Detailed Project Report may not be necessary. Instead only Feasibility- cum-Preliminary Design of the project may be adequate to invite bids on DBFO pattern. Feasibility-cum-Preliminary Project Report (FCPPR) may be prepared through a Technical Consultant selected in accordance with the procedure laid down in Chapter 6.
- (b) The Feasibility-cum-Preliminary Project Report should as a minimum establish and evaluate the following:
  - (i) The basic characteristics of the project
  - (ii) Sources and availability of the project input
  - (iii) Location, geological and soil conditions and access to site
  - (iv) Environmental impacts
  - (v) Utility relocation plans
  - (vi) Preliminary design and detailing of the project
  - (vii) Financial appraisal of the project profitability, including sensitivity analysis
  - (viii) Preliminary estimation and costing
- (c) Services of Financial and Legal Consultants may also be obtained by the NHAI, if required to obtain quality inputs in their respective fields of specialization. These Consultants will complement their efforts with each other through close co-ordination and mutual interaction. The Financial Consultants will assist in appraising the project, inviting bids, answering pre-bid queries and negotiating (if necessary) with the winning bidder. The Technical and Legal Consultant will assist the Financial Consultant in his endeavour.

- (d) The Terms of Reference for the FCPPR shall be described precisely to ensure preparation of all the requisite details required for preparation of comprehensive bid document. After the approval of the Feasibility cum-Preliminary Project Report by the NHAI as per the procedure prescribed below, the bids will be invited from private entrepreneurs to award a BOT (Toll/Annuity) concession. The concession will be on DBFO pattern, wherein the concessionaire shall in accordance with a model concession agreement approved by the Government, take full responsibility to carry out the detailed design, construction, maintenance and operations of the project highways and the project facility conforming to the standards specified in the said agreement. Selection of entrepreneur will be carried out as per the procedure prescribed in Chapter 8.

### **3.6 Stages in Project Preparation for Public Private Partnership (BOT) Projects**

#### **3.6.1 Feasibility-cum-Preliminary Project Report**

The Feasibility-cum-Preliminary Project Report shall broadly contain the following:

- (a) Preliminary Design
  - (i) Cross sectional element and geometry
  - (ii) Proposed design standards and specifications
  - (iii) Traffic surveys and analysis
  - (iv) Preliminary pavement design and preliminary design of structures indicating the approximate sections and GAD
- (b) Road and bridge inventory data
  - (i) Inventory and condition surveys for road
  - (ii) Inventory and condition surveys for bridges and other cross drainage structures
- (c) Highway traffic management system
- (d) Land Acquisition Plan
- (e) Utility Relocation Plan
- (f) Details of various regulatory requirements such as environment and forest clearances
- (g) Social and Environment Impact Assessment Report
- (h) Economic and Financial Analysis
  - (i) Preliminary estimation and costing
  - (j) Operation and maintenance system
- (k) Technical schedule to the Concession Agreement

#### **3.6.2 Stages in Project Preparation for Public Funded Projects**

Project preparation involves following three main stages.

### **3.6.3 Feasibility Study Report**

3.6.3.1 The consultant shall carry out the feasibility study of the project in accordance with the accepted inception report. The feasibility study report shall broadly contain the following:

- (a) Executive summary;
- (b) Project financing and cost recovery mechanisms;
- (c) Project description including possible alternative alignments/bypass and technical/engineering alternatives;
- (d) Methodology adopted for the studies;
- (e) Socio-economic profile of the project influence area;
- (f) Indicative design standards, methodologies and specification;
- (g) Traffic surveys and analysis;
- (h) Environmental screening and preliminary environmental assessment;
- (i) Initial social assessment and preliminary land acquisition/resettlement plan;
- (j) Project cost estimates including L A cost;
- (k) Economic and financial analysis; and
- (l) Conclusions and recommendations.

3.6.3.2 The consultant shall also submit the following documents:

- (a) Details of the centre line of the proposed widened NH along with the existing and proposed right-of-way limits to appreciate the requirements of land acquisition;
- (b) The information concerning the ownership of land to be acquired for the implementation of the project shall be collected from the revenue and other concerned authorities and presented along with the strip plans;
- (c) Strip plans showing the position of existing utilities and services indicating clearly the position of their relocation;
- (d) Details for various clearances such as environment and forest clearances;
- (e) Separate strip plan showing shifting / relocation of each utility service in consultation with the concerned local authorities;
- (f) The utility relocation plans should clearly show existing right-of-way and pertinent topographic details including buildings, major trees, fences and other installations such as water-mains, telephone, telegraph and electricity poles, and suggest relocation of the services along with their crossings the highway at designed locations as required and prepare necessary details for submission to the Service Department;
- (g) Detail schedules for acquisition of additional land and additional properties in consultation with the revenue authorities; and
- (h) Land Acquisition Plan.



### **3.6.4 Preliminary Project Report (PPR)**

The PPR shall contain the following:

#### Volume-I: Preliminary Design Report

- (a) Executive summary
- (b) Project description
- (c) Summary of EIA/IEE and Action Plan
- (d) Summary of Resettlement Plan
- (e) Updated cost estimates
- (f) Updated economic and financial analyses
- (g) Suggested methods of procurement and packaging
- (h) Conclusions and recommendations

#### Volume -II: Design Report

- (a) Road and bridge inventory.
- (b) Summary of survey and investigations data
- (c) Proposed design basis, standards and specifications
- (d) Proposed pavement design and preliminary bridge designs

#### Volume -III: Drawings

- (a) Location map
- (b) Layout plans
- (c) Typical cross sections showing pavement details
- (d) Drawings for cross-drainage and other structures
- (e) Road junction designs
- (f) Indicative land acquisition plans

#### Volume-IV: Environment Impact Assessment or Initial Environmental Examination and Environment Management Plan.

#### Volume -V: Resettlement Plan and Resettlement Action Plan.

### **3.6.5 Detailed Project Report (DPR)**

3.6.5.1 The detailed Engineering covers detailed alignment surveys, soil and materials surveys, pavement design studies, drainage studies, environment management plan based on environment impact assessment studies, detailed drawings, estimates and implementation schedules and documents.

3.6.5.2 The DPR should generally consist of the following parts:

- (a) Main Report
- (b) Design Report
- (c) Materials Report
- (d) Environmental Impact Assessment (EIA) Report, including the Environmental Management Plan (EMP)

- (e) Resettlement Action Plan (RAP)
- (f) Technical Specifications
- (g) Rate Analysis (based on Data Book of MOSRTH)
- (h) Cost Estimates
- (i) Bill of Quantities (Essentially including the provisions of the EMP)
- (j) Drawings
- (k) Project specific changes in the Bid Documents

- 3.6.5.3 Main report should bring out the background of the project, its social analysis, details of survey and investigations carried out, analysis of survey and investigation data, traffic studies and demand forecast, rationale of design chosen, cost estimation, economic and financial analysis, sensitivity analysis, project clearances from various agencies for project implementation etc.
- 3.6.5.4 The Design Report and the Material Report should be detailed as per TOR and among other things, carry a certificate by the consultant that all ground survey, field tests, material tests, soil tests, sub-soil and hydraulic investigations etc. reported and relied upon, have been actually carried out with due diligence. Without this certificate DPR should not be accepted.
- 3.6.5.5 Cost should be worked out realistically based on correct physical inputs as per data Book of MOST (now MOSRTH) and the prevailing market unit rates of materials and equipment, rates as per State PWD Schedule of Rates applicable to the site, as actually verified and so certified. DPR should not be accepted without a certificate to this effect by the consultant.
- 3.6.5.6 As mentioned before, estimate should bring out the quantities of principal materials like, cement, steel and bitumen, and give the percentage cost of each of them separately, along with that of other general materials, in relation to the total cost of the work. These percentages will be used in the Price Adjustment Formulae.
- 3.6.5.7 During entire period of services, the Consultant will continuously interact with the concerned officials of NHAI and provide any clarification as regards methods being followed and carry out any modifications as suggested by NHAI. A prior programme of various activities will be sent to NHAI and prior intimation given regarding start of any key activity such as boring, survey etc. A monthly progress report, for monitoring purpose, will be sent by the consultant to the designated officer of NHAI.
- 3.6.5.8 The Detailed Project Report (DPR) shall be scrutinised thoroughly for accuracy and soundness by the team leader of the consultant and cross checked by other members of the team. Before final submission to the Employer, the Chief Executive Officer (CEO) of the consultancy firm will certify its correctness under his own signature.

### **3.7 Responsibility for accuracy of project documents**

- 3.7.1 The Consultant shall be responsible for accuracy of the data collected, by him directly or procured from other agencies/authorities, the designs, drawings, estimates and all other details prepared by him as part of these services. He shall indemnify the Authority against any inaccuracy in the work which might surface during implementation of the project. The Consultant will also be responsible for correcting, at his own cost and risk, the drawings including any re-survey/investigations and correcting layout etc. if required during the execution of the Services.
- 3.7.2 The Consultant shall be fully responsible for the accuracy of design and drawings of the bridges and structures. The Consultant shall indemnify the Client against any inaccuracy/deficiency in the designs and drawings of the bridges and structures noticed during the construction and even thereafter.

### **3.8 Peer Review of DPRs and Proof Consultant**

- 3.8.1 For major projects, the feasibility study report and DPR may be got reviewed by a Peer consultant, if considered necessary, to ensure that all the objectives of the project are covered, and that the presentation is consistent with quality, cost and time. For major bridges and complex structures, proof consultants should be appointed. Each part of the report will be reviewed by the consultant including site interaction with PD.
- 3.8.2 For small works like maintenance etc. review by Peer Consultant may not be necessary.
- 3.8.3 A panel of retired Officers of Government having the required eligibility will be maintained by Member (Tech). Request for empanelment will be invited through NHA website on a continuing basis i.e. without any time limit.
- 3.8.4 In all the cases, the award of the Peer Review works shall be got approved by Member (Technical).
- 3.8.5 The eligibility criteria for selection of the Peer review consultant shall be as below:
- (a) Retired Government Officers of the rank of Chief Engineer and above, with minimum 10 years experience in Highway/Bridges of which at least of 5 years should be at the level of Executive Engineer and above dealing with the Highways and bridges, can be considered as eligible for such assignment.
  - (b) No age limit is proposed.

- (c) The Officer undertaking the Peer Review shall be required to certify that he was not associated with the preparation of DPR/with the Consultants who had prepared the DPR.
- (d) Not more than two DPR packages will be awarded to one person at a time for Peer Review. This will be ensured by Member (Tech) through coordination meeting with concerned CGMs.
- (e) But for Major bridges/flyovers more than 60 m. length and ROB/RUBs (which are proposed to be proof checked separately through some other agency), all other aspects of the DPR will be covered by the Peer Review.
- (f) Remuneration for peer review shall be as decided by NHAI from time to time.

### **3.9 Scope of Peer Review of Draft FS Report**

Broad scope of Peer Review of feasibility study report and detailed project report is at Enclosure-1 attached at the end of the Chapter.

### **3.10 Procedure for scrutiny and acceptance of Feasibility Study Report (FS) and Detailed Project Report (DPR) by NHAI in case of Public Funded projects**

#### **3.10.1 Scrutiny**

3.10.1.1 As mentioned earlier, the design consultant shall be fully responsible for the accuracy of the data, details, designs and drawings etc. as contained in FS and DPR and these documents are got reviewed from a Peer Consultant (wherever required). The FS and DPR shall however, also be scrutinized in NHAI before their acceptance. The objective of scrutiny of the DPR etc in NHAI is to see that the DPR generally meets the requirements of the Terms of Reference, there is no glaring mistake with regard to design standards and the quality of the project preparation is maintained.

3.10.1.2 Considering the lean and thin structure of the organization it may not be feasible to carry out in-house detailed examination of the detailed project report (including feasibility study report, preliminary project report and other details) prepared by the consultant. However important aspects of the DPR need to be taken into account during scrutiny in NHAI. An indicative checklist of these important aspects is prescribed below. During presentation by the design consultant (as per Para 3.10.2 below), these aspects may specifically be raised for which the Design Consultant and/or the Peer Review Consultant shall have taken affirmative action. Random checking of important details may also be carried out, if considered necessary. In case of deficiency the DPR shall be modified accordingly by the Design Consultant.

- (a) The consultant has furnished all the reports/documents as per the TOR.

- (b) The Consultant has collected, compiled and analyzed the available data on road & bridge inventory, bridge condition survey, past performance of road, right of way details, hydrological characteristics of drainage system, terrain characteristics, socio-economic features of the Project influence area.
- (c) Traffic Survey locations are fixed in such a manner that representative traffic data are obtained.
- (d) Indicative Design standards, methodologies and specifications conform to relevant codal provisions/guidelines.
- (e) Preliminary Widening Scheme, proposal for bypass including suggested alternate alignments are based on thorough ground reconnaissance and meet the prescribed design standards.
- (f) Assessment of borrow areas/quarries has been done after extensive survey and careful considerations.
- (g) Environmental & social screening data has been collected diligently to avoid hassles during implementation.
- (h) Cost estimates are realistic and based on market rates, State PWD rates, rates of similar ongoing projects etc.
- (i) Parameters of financial and economic analysis have been adopted conforming to implementation strategy of the Project.
- (j) Hydraulic design parameters are based on correct data and field survey. Sub-soil investigation for design of structures, sub-grade soil and material investigations for design of pavements should be accurate and reliable and in sufficient detail.
- (k) Correct details of all physical features and obstructions, structures, railway lines, canal/river crossing, water mains, sewers, gas/oil pipes, trees, plantations, electric and telecommunication lines etc. which affect the proposal are marked to an accuracy/tolerance consistent with their likely interference.
- (l) Utilities relocation plans are prepared in consultation with the authorities concerned.
- (m) The drawings are capable of execution at site without additional instructions or changes.

- (n) The pavement design takes into account the characteristics of material to be used and the traffic forecast has been made appropriately.
- (o) Drawings for ROBs/RUBs is based on clearance by and approval of concerned Railway authorities.
- (p) In case of bridges, the final design is based on approval of General Arrangement Drawing (GAD) and alignment plan by NHAI, to be given after consideration of alternatives bringing out their cost effectiveness and ease of construction.
- (q) The description of items in Bill of Quantities is consistent with the drawings and specifications, and all should lend themselves to harmonious and unambiguous interpretation.
- (r) Besides the quantities of various items of work, BOQ also give the quantities of major materials like, cement, steel and bitumen likely to be required for the work in order to arrive at their reliable percentages, required to be given in the Price Adjustment Formula.
- (s) The requirements of road safety have been taken care of.
- (t) The Consultant had local consultations to identify the needs/expectations of the people regarding, underpasses/realignment etc. keeping in view the codal requirements).
- (u) Drawings, BOQ and Technical Specifications are compatible.

### **3.10.2 Acceptance**

#### **3.10.2.1 In case no Peer Review of DPR is carried out**

The DPR including the feasibility study report etc shall be scrutinized in NHAI as per the procedure prescribed above. If any deficiency is discovered, the proposal shall be returned to the consultants for necessary modification. Design consultant may be required to give a presentation about different aspects of the reports. A record of discussion of the meeting will be prepared. The feasibility study report and DPR will accordingly be accepted in NHAI at the level of CGM.

#### **3.10.2.2 In case Peer Review is carried out**

- (a) The observations of the Peer Consultant on the draft feasibility study report will be reviewed in NHAI and forwarded to the Design Consultant, with modification, if any. The Design Consultant will incorporate these modifications and submit the final feasibility report (FS) to NHAI. This report will be examined by the Peer Consultant and

shall also be scrutinized in NHAI as per the procedure prescribed above. A joint meeting of the Design Consultant, Peer Consultant and NHAI will be held for discussion and finalization of the feasibility study report. Design Consultant may be required to give a presentation about different aspects of the report. A record of discussion of the meeting will be prepared and signed by the three parties. The feasibility study report will be accepted /approved accordingly in NHAI at the level of CGM.

- (b) Based on FS report approved, the Design Consultant will prepare and submit the PPR and draft DPR. The draft DPR will be examined by the Peer Consultant. The observations of the Peer Consultant will be looked into by NHAI and forwarded to Design Consultant, with modification, if any. The Design Consultant will modify the DPR in view of the comments of the Peer Consultant and submit the final DPR. The DPR shall be examined by the Peer Consultant and also scrutinized in NHAI as per the procedure prescribed above.
- (c) The DPR may be discussed in a joint meeting of Peer Consultant, Design Consultant and NHAI. The Design Consultant will give presentation about different engineering aspects of the DPR. Any deficiency noted during the discussion will be complied by the Design consultant. A record of discussion of the meeting will be prepared and signed by the three parties. Based on the discussion and compliance received, if any, the DPR shall be accepted in NHAI at the level of CGM.
- (d) In case of projects involving major Bridges and complex structures, where proof checking is resorted to, the acceptance procedure will be the same as in case of Peer Review.
- (e) It is emphasized that scrutiny of the DPR in NHAI is to see that the DPR broadly contains all the details/reports in the TOR and any glaring mistake/omission etc. is avoided. However the responsibility for the accuracy of the data/details/designs etc in the DPR shall be of Design Consultant and formal acceptance of the DPR in NHAI will not absolve the Consultant of his responsibility.

### **3.11 Procedure for scrutiny and acceptance of Feasibility- cum- Preliminary Project Report (FCPPR) in NHAI in case of BOT projects**

The procedure for scrutiny and approval of FCPPR will be the same as for public funded projects described above.

### **3.12 Custody of DPRs and other related Documents**

The DPR and other related documents will remain in the custody of the General Manager concerned.

### **3.13 Implementation, Supervision and Evaluation**

- 3.13.1 The execution of the project will be done through a contractor who is competent, financially sound and offering to do the work at a reasonable price. To achieve this, the contractors shall be pre-qualified (or post-qualified) on the basis of detailed criteria, tailored to suit the needs of the project. The details of the process of bidding, evaluation of bids, and award of work are given in Chapter 4.
- 3.13.2 For supervising the work, NHAI will generally employ a competent construction supervision consultant. His appointment will be routed through a well-defined process of selection, based on combined evaluation of technical and financial proposals. The procedure of selection of consultant, and duties and functions of the supervision consultant are given in Chapters 5 and 6.
- 3.13.3 PIU (headed by a Project Director) will oversee the project on behalf of NHAI. Tasks and responsibilities of Project Director are given in Para 2.12.
- 3.13.4 On completion of the project, an assessment report should be prepared. This will, inter alia, address problems in respect of: cost overruns; delay in completion; new policies and procedures adopted; mistakes made; issues of dispute resolution; and lessons for the future. Supervision consultant, where considered appropriate, may be asked to give a brief presentation.
- 3.13.5 During life cycle of the project, six-monthly appraisal of the performance of the works against their expected behavior should be made by the Project Director and reasons for premature deterioration or fall in serviceability levels should be explored.

### **3.14 Expenditure on ‘Study and Project Preparation’**

Initial expenditure on FSR and DPR etc. shall be debited to a separate account head called 'Consultancy Services'. If they result in acceptance of the project, the expenditure so incurred shall form a part of the project cost and will be accounted for accordingly. But if the project is not accepted, and it is decided not to proceed further, the expenditure incurred on FSR/DPR etc. will remain debited to the 'Consultancy Services' head mentioned above.

### **3.15 Advertisement/Publicity of Tenders**

- 3.15.1 All notices inviting tenders with tender documents in downloadable format will be hosted on NHAI's website without any exception.
- 3.15.2 Tender notices will be published in newspapers only in “window” format. Advertisement(s) will be such that it displays only the most



important/core information and for documents/details leads the prospective bidder(s) to the information hosted on the authority's website or kept at specified places.

3.15.3 Attention is invited to CVC's communication no. OFF/CTE/ dated 4.2.2002 which stipulate:-

- (a) In order to have wider, fair and adequate competition, it is important that sufficient time, say 4-6 weeks in case of Advertised/Global tenders is allowed.
- (b) The tenders should preferably be kept open for sale till the date of tender opening or just one day prior to the date of tender opening.
- (c) With the widespread use of Information Technology, the tender notices should also be put on the website and e-mail address of the organization should be indicated in the tender notice

3.15.4 The advertisements may be published in the newspapers as under:

- (a) One leading English daily (all editions).
- (b) One leading Regional English daily (all editions of that region or state)
- (c) One leading Hindi daily (all editions or in select editions) and/or one leading regional Hindi daily (all edition of that region or state).
- (d) One Vernacular newspaper
- (e) In case of Global tenders, advertisements in one international newspaper can be published in abridged manner, with full advertisement on the Authority's website.
- (f) Selection of newspapers will be based on their circulation on all India basis or the region where the work is situated.

**3.16 Procedure for release of: (a) tender notices (b) display advertisements at the time of inauguration or foundation laying ceremony of NHAI contracts etc.**

The release of tender notices and display advertisements etc. shall be as per the guidelines to be issued by NHAI from time to time.

**THE SCOPE OF PEER REVIEW OF FEASIBILITY REPORT AND  
DETAILED PROJECT REPORT**

(Ref. Para 3.9)

The Peer review of DPR including feasibility study report shall ensure that all aspects of the Project are duly covered; that it is technically sound and that it is fit to form the basis of the contract. The following shall be particularly looked into.

**I Feasibility Report**

Draft FS report shall be examined to ascertain that Draft FS Report is prepared meeting the requirements of Terms of reference (TOR), it is technically sound and following aspects in particular are duly covered.

(i) The consultants have a proper quality assurance system required to produce a technically sound DPR.

(ii) The consultants have made sincere efforts to collect, compile and analyse the available data on road & bridge inventory, bridge condition survey, past performance of road, right of way details, hydrological characteristics of drainage system, terrain characteristics, socio-economic features of the Project influence area.

(iii) Traffic Survey locations are fixed in such a manner that representative traffic data are obtained. Further, traffic projection is carried out in a scientific & rationale manner for realistic prediction of toll revenue and design of different elements of the Project Highway.

(iv) Indicative Design standards, methodologies and specifications conform to relevant codal provisions/guidelines, practices in similar projects in India and new technological developments that can be adopted for the Project Highway.

(v) Preliminary Widening Scheme, proposal for bypass including suggested alternate alignments are based on thorough ground reconnaissance. Objective is to select alignment of the new carriageway that meets geometries requirements, causes minimum damages to the structures, is environment friendly and cost is optimized.

(vi) The surveys, field investigations, testing are being conducted by the consultants in desired manner.

(vii) Preliminary assessment of borrow areas/quarries has been done after extensive survey and careful considerations.

- (viii) Environmental & social screening data has been collected diligently to avoid hassles during implementation.
- (ix) Cost estimates are realistic and based on State PWD rates, rates of similar ongoing projects etc.
- (x) Parameters of financial and economic analysis have been adopted conforming to implementation strategy of the Project.
- (xi) Based on peer review of Draft FS Report, suggestions/ recommendations are to be given for improvement of the further activities of DPR work.

## **II Scope of Peer Review of DPR**

DPR shall be examined to ensure that all aspects of the Project are duly covered, that it is technically sound and that it is fit to form the basis of the contract. The following shall be particularly looked into.

- (i) DPR should be faithful to site conditions, availability of materials, and capable of translation on the ground. Survey control points on ground should be established physically and securely and in sufficient numbers to allow accurate and convenient setting out of works.
- (ii) Hydraulic design parameters should be based on correct data and field survey. Sub-soil investigation for design of structures, sub-grade soil and material investigations for design of pavements should be accurate and reliable and in sufficient detail. The information should be tabulated and also represented graphically in a form that is capable of being checked and verified. Due account should be taken of any environment restrictions.
- (iii) DPR should identify the potential sources of materials, like quarry sites, borrow areas, establish their quality and recommend their use on the basis of techno-economic principles.
- (iv) Correct details of all physical features and obstructions, structures, railway lines, canal/river crossing, water mains, sewers, gas/oil pipes, trees, plantations, electric and telecommunication lines etc. which affect the proposal should be marked to an accuracy/tolerance consistent with their likely interference.
- (v) Utilities relocation plans should be prepared in consultation with the authorities concerned.
- (vi) The drawings should be capable of execution at site without additional instructions or changes.
- (vii) The pavement design should take due account of the characteristics of materials to be used in various courses, and the variability of their properties. The report should also forecast, in terms of time and traffic, the deterioration

levels at various stages of pavement life, and suggest the required maintenance strategy.

(viii) Drawings for ROBs/RUBs should be based on clearance by and approval of concerned Railway authorities.

(ix) In case of bridges, the final design should be based all approval of Genera Arrangement Drawing (GAD) and alignment plan by NHA, to be given after consideration of alternatives bringing out their cost effectiveness and ease of construction.

(x) The description of items in Bill of Quantities should be consistent with the drawings and specifications, and all should lend themselves to harmonious and unambiguous interpretation.

(xi) Besides the quantities of various items of work, BOQ should also give the quantities of major materials like, cement, steel and bitumen likely to be required for the work in order to arrive at their reliable percentages, required to be given in the Price Adjustment Formula.

(xii) The requirements of road safety, the necessity for felling of trees, the local consultations had by DPR Consultants (with a view to identifying the needs/expectations of the people regarding, underpasses/realignment etc. keeping in view the codal requirements) etc. may also be reviewed.

## Chapter 4

### CONTRACTS

#### 4.1 General

All contracts in India are to be within the framework of the Indian Contract Act, 1872, which lays down the general principles relating to formation, performance and enforceability of contracts. NHA1 officers responsible for drawing up the contract documents should keep these principles in mind.

#### 4.2 Definition

4.2.1 When two or more persons have a common intention communicated to each other to create some obligation between them, there is said to be an “agreement.” An agreement which is enforceable by law is a “Contract.”

4.2.2 According to Indian Contract Act, 1872 only those agreements are enforceable by law which are made by the free consent of parties competent to contract, for a lawful consideration and with a lawful object and are not expressly declared to be void. This is subject to any special law according to which a contract should be in writing and attested by witnesses.

4.2.3 For the purpose of an agreement, there must be a communication of intention between the parties there to. Hence in a Contract there is:

- (a) A proposal and its communication
- (b) A communication of the acceptance of the proposal.

#### 4.3 Types of Contract -Based on Method of Payment

The most common types of contracts and their field of adoption are as under.

##### 4.3.1 Lump Sum Contracts

In these contracts the contractor agrees to execute the complete work with all its contingencies in accordance with the specified terms for a fixed sum. Either the Employer or the contractor may provide the detailed design. In the former case, the estimates have to be firm and all working drawings made available in the beginning. In the latter case, the design and the drawings furnished by the contractor will conform to the parameters and functional and design requirements enunciated in the tender documents, and require the approval of the Employer. A schedule of rate is specified in order to regulate the

amounts to be added to or deducted from the fixed sum on account of additions and alterations not covered by the contract.

Such types of contracts will be a good option in case of large bridge projects where the aims are (i) innovativeness of private initiative (ii) economy made possible by the contractor having standardized the design, bridge components, formwork modules, and technology, and (iii) speed of construction.

#### **4.3.2 Item Rate (Unit Price) Contracts**

In these contracts, the work is broken down into distinct categories, and the quantities of each category of work are calculated from the drawings, as accurately as possible. The contractor is required to quote for individual items of work on the basis of bill of quantities (BOQ) furnished by the Employer. The payment is made for the measured quantity at the rate set out in the contract. The contract carries necessary provisions to value variations.

This will be the most commonly used contract type for NHAI works. Specifications, design, drawings and the contract conditions have to be critically appraised before the procurement process, in order to minimize the incidence of internal inconsistencies and variations.

#### **4.3.3 Percentage Rate Contracts**

In this type of contracts the contractor is required to quote his rate in terms of percentage above or below the rates given in Bill of Quantities (BOQ) for various individual items of work. The payment is made for the measured quantity. Contract provisions are made to determine price of the items not included in the schedule of rates. In the absence of a standard schedule of rates, a project specific schedule of items and their rates is drawn.

This type of contract works best when the work does not involve major design process and directions, and simple drawings are sufficient for execution. It saves on the time and effort of detailed design before procurement process. Emergent repair works are best handled by such contracts.

#### **4.3.4 Turnkey Contracts**

In these, design and engineering, supply and installation of equipment and construction of complete works are all provided under one contract. Alternatively, the client may remain responsible for the design and engineering, and invite bids for a single responsibility contract for the supply of all goods and works required for the project component.

This type of contract saves on co-ordination effort and is useful for time bound commissioning of the facility. Budgets can be drawn with greater a certainty *in* such kind of contracts.

The detailed project reports should invariably suggest the kind of contract and the rationale of choosing one alternative in preference to the other. The officer empowered for accepting the detailed project report should give consideration to the appropriateness of the choice.

#### **4.4 Types of Contracts -Based on Ways Parties are arranged**

These contracts are of the following types.

##### **4.4.1 Management Contracts**

In these the Employer engages a design consultant to design the works, and then a management consultant to arrange construction through a contractor.

##### **4.4.2 Design and Build Contracts**

Here, the Employer, either directly or through an adviser, states the project requirements (financial as well as technical) in general terms and invites contractor to submit proposals and terms of payment for the design, construction, and possible commissioning of the project. 'Design and Build' contractor may be a consortium of contractors and consulting engineers getting together in a project specific arrangement to command all the resources required to bid for such a project.

##### **4.4.3 BOT (Build, Operate and Transfer) Contracts**

4.4.3.1 The concept envisages a consortium of financiers, contractors and consultants offering to construct some project, which would otherwise consume public money, at their own cost. They recover their cost, along with profit, over a period of time in which they operate the facility and collect fee from the public who make use of the facility. After the concession period, the ownership of the facility is transferred to the Employer.

4.4.3.2 Highway related facilities, such as the ones given below can be an integral part of the BOT project.

- (a) restaurants
- (b) hotels /motels
- (c) cargo terminals
- (d) warehouses
- (e) vehicle component shops
- (f) Insurance and medical facilities
- (g) commercial and residential complexes

- 4.4.3.3 In BOT contracts, the owner i.e. the Authority will first select an entrepreneur on the basis of several parameters such as: cost, financial strength, capacity to raise resources from the market, capital subsidy or equity support expected from the NHAI, quality and adequacy of the organization and institutional arrangements, performance specifications of the facility offered, period of concession, cost to be charged to the users, etc. NHAI will enter into an agreement with the concessionaire so selected, who enters into one or more contract (s) for the design, procurement of materials and equipment, and completion of the project in accordance with the provisions of the agreement with the NHAI.
- 4.4.3.4 Other variations of the BOT model are: BOOT (Build, Own, Operate and Transfer), BOLT (Build, Own, Lease and Transfer) and DBFO (Design, Build, Finance and Operate) etc.
- 4.4.3.5 The following model agreements are available which can be referred to.
- (a) Model Concession Agreement (Toll Based) for Small Road Projects (up to Rs. 100 crore).
  - (b) Model Concession Agreement (Toll Based) for projects costing more than Rs. 100 crore.
  - (c) Model Concession Agreement (Annuity Based).
  - (d) Model Concession Agreement for Public Private Partnership in Highways (published by the Secretariat for the Committee on Infrastructure, Planning Commission).
- 4.4.3.6 For BOT (Toll/Annuity) based projects the procedures for selection of an entrepreneur are different from those for engaging a contractor for other type of works.

#### **4.4.4 Operation Contracts**

These contracts are meant for Operation, Maintenance, Toll Collection, Traffic Management etc. These could be separate contracts or in combination. They will become necessary when the facility is built with NHAI funds, or after the concession period of a BOT project is over.

#### **4.5 Size of Contract**

The size of individual contracts will depend on the magnitude, nature, and location of the project, administrative convenience and benefits.

#### **4.6 Methods of Procurement**

The following methods may be followed.

- (a) International Competitive Bidding (ICB)
- (b) National Competitive Bidding (NCB)
- (c) Direct Contracting (DC)



#### **4.6.1 International Competitive Bidding**

ICB will be used where the size of package is very large (more than Rs 100 crore), or improved construction technology and materials and modern management practices are sought, or where lower cost and time and better quality standards are expected to be achieved.

#### **4.6.2 National Competitive Bidding**

NCB may be preferred where goods and services are available locally at prices below the international market, or where the works are labour intensive, or they are scattered geographically, or are spread widely over time.

#### **4.6.3 Direct Contracting**

Direct Contracting involves procurement from single source without competition and may be resorted to with the approval of Chairman in very exceptional cases like:

- (a) The required equipment is proprietary and obtainable only from one source;
- (b) The contractor responsible for a process design requires the purchase of critical items from a particular supplier as a condition of a performance guarantee; and
- (c) In emergency cases, such as in response to natural disasters.

### **4.7 Procurement for ICB/NCB**

#### **4.7.1 Steps for procurement**

The following steps are involved in procurement.

- (a) Preparation of Bid (Tender) Documents
- (b) Approval of Bid Documents by the tender accepting authority
- (c) Public invitation for Pre-qualification (where so specified)
- (d) Issue of Instructions to Bidders, and Pre-qualification Criteria
- (e) Receipt of Applications for Pre-qualification, and their Evaluation
- (f) Approval of Pre-qualification
- (g) Invitation for Bids
- (h) Issue of Bid Documents to prospective bidders
- (i) Pre-bid meeting (if specified), issue of minutes and clarifications, with the approval of the authority who originally approved the bid documents
- (j) Receipt of Bids
- (k) Scrutiny of Bids and their Evaluation
- (l) Negotiation (where warranted)
- (m) Acceptance of Bid (or Rejection of Bids)

## **4.7.2 Format of Bid Documents**

- 4.7.2.1 The format and conditions of the bidding documents shall be such as apportion the risks, responsibilities, and obligations between the Employer and the Contractor comprehensively.
- 4.7.2.2 For domestic funded projects costing upto Rs 10 crore, NHAI will prepare a Standard Bidding Document. Till such time the “Standard Bidding Document for Procurement of Civil Works” issued by the Ministry of Shipping, Road Transport & Highways (September, 2000 edition, with revision, if any) should be followed, with modification if any, duly approved by Chairman, NHAI.
- 4.7.2.3 For domestic funded projects costing more than Rs 10 crore, Standard Bidding Document for Procurement of Civil Works standardized by NHAI and issued vide letter no. 11041/21/2002-Admn. dated August 27, 2004 may be used.
- 4.7.2.4 For externally aided projects International Competitive Bidding (ICB), document of FIDIC (Federation Internationale des Ingenieurs Counseils i.e. The International Federation of Consulting Engineers) for works of Civil Engineering Construction shall be followed, with suitable modifications, as per stipulation in the loan agreement in this regard.

## **4.8 Bid Documents**

- 4.8.1 The Bid Documents will generally comprise the following:

### Volume 1

- Invitation for Bids (IFB)
- Section I Instructions to Bidders (ITB)
- Section II General Conditions of Contract -Part I
- Section III Conditions of Particular Application - Part II

### Volume 2

- Section IV Technical Specifications

### Volume 3

- Section V Forms of Bid and Appendix to Bid,
- Section VI Bill of Quantities
- Section VII Form of Bid Security (BG), Form of Performance Security (BG), Form of Advance Payment Security (BG), Form of Agreement
- Section VIII Schedules for supplementary information
- Section IX Sample Forms for updating qualification information etc.

### Volume 4

- Section X Drawings

- 4.8.2 The Bid shall be submitted by the Bidder as volume 5 of the Bid documents in two parts which comprise the following documents.

**Part 1 Technical Bid**

- (a) Bid Security for an amount and in form as specified in ITB
- (b) Power of Attorney
- (c) Qualification Information and supporting documents (if Pre-qualification has been done, original qualification will be updated).
- (d) Evidence of access to a revolving line of credit (minimum 10% of the value of work.
- (e) Undertaking for making available the required key equipment as specified.
- (f) Undertaking for making available the required key personnel as specified.
- (g) Annual audited turnover.
- (h) Current contract commitments/works in progress.
- (i) Financial data.
- (j) Additional information regarding litigation, debarment, arbitration, etc.
- (k) Joint venture agreement in case the bidder is joint venture.
- (l) Proposed methodology and programme for execution of work duly supported by equipment planning and quality assurance procedures proposed to be adopted by the bidder
- (m) Affidavit.

**The Technical Bid shall be hard bound and all pages serially numbered.** Hardbound implies such binding between two covers through stitching or otherwise whereby it may not be possible to replace any paper without disturbing the document.

**Part II Financial Bid**

- (a) Form of Bid and Appendix to Bid – duly filled in and signed on each page
- (b) Priced Bill of Quantities –duly filled in and signed on each page  
Each part will be separately sealed and marked as per instructions. All the quoted rates and the amount in the BOQ shall be laminated. **The bidder shall prepare and submit only one copy (original) of the bid.**

- 4.8.3 The following documents are deemed to be part of the Bid. However, these are not required to be submitted:

Volume 1	Invitation for Bids (IFB)
	Section I Instruction to Bidders (ITB)
	Section II General Conditions of Contract – Part I
	Section III Conditions of Particular Application – Part II
Volume 2	Section IV Technical Specifications
Volume 4	Section X Drawings

#### **4.9 Guidelines regarding Bid Documents**

Following guidelines shall be followed in the matter of procurement of Works.

- (a) The bidding documents shall clearly define the scope of works to be performed, the goods to be supplied, the rights and obligations of the Supplier or Contractor, and the functions and authority of the Engineer (supervision consultant) employed by the Employer in the Supervision and administration of the contract.
- (b) The bidding documents shall furnish all information necessary for a prospective bidder to prepare a bid for the goods and works to be provided. They shall be so worded as to encourage competition and shall set forth clearly and precisely the work to be carried out, the location of the work, the goods to be supplied, the place of delivery or installation, the schedule for delivery or completion, minimum performance requirements, and the warranty and maintenance requirements, as well as any other pertinent terms and conditions. In addition, the bidding documents shall define the tests, the standards, and methods that will be employed to judge the conformity of equipment as delivered or works as performed, with the specifications. Drawings shall be consistent with text of the specifications.
- (c) Any ambiguity, discrepancy or conflict between various documents forming the Contract will be settled by prescribing the priority of document, viz.
  - (i) Contract Agreement
  - (ii) Letter of Acceptance
  - (iii) Contractor's accepted Bid
  - (iv) Conditions of Particular Application
  - (v) General Conditions of Contract
  - (vi) Technical Specifications
  - (vii) Drawings
  - (viii) Priced Bill of Quantities
  - (ix) Any other documents forming part of the Contract

- (d) The basis for bid evaluation and selection of the lowest evaluated bid shall be clearly outlined. The bidding documents shall specify any factors, in addition to price, which will be taken into account in evaluating bids, and how such factors shall be quantified or otherwise evaluated. If bids based on alternative designs, materials, completion schedules payment terms etc. are permitted, conditions for their acceptability and method of their evaluation shall be expressly stated.
- (e) Fee to be charged for the bidding documents shall be nominal, to cover only printing and advertisement charges. It may be Rs 50,000/- for works costing more than Rs 100 crore and Rs 25,000/- for works costing upto Rs 100 crore or as may be specified by NHAI.
- (f) Bidders shall be required to submit bids valid for a period specified in the bidding documents, which shall be sufficient to complete the comparison and evaluation of bids and obtain all the necessary approvals so that the contract can be awarded within that time. Normally, this period should be four months after the date specified for opening of the bids.
- (g) Bidders shall be assured of equal opportunity to obtain additional information. They shall be given access to project sites for visits, at their own cost. Where considered necessary, a pre-bid conference with the Employer's representatives, led by the Chief General Manager, shall be arranged to enable potential bidders to seek clarifications. After issue of minutes and of any clarifications or any addenda/ corrigenda, sufficient period shall be given for preparation and submission of bids.
- (h) Standards and technical specifications shall be of those of the Ministry of Shipping, Road Transport & Highways, Indian Roads Congress, or Bureau of Indian Standards. Where these standards are not available or are found inadequate, those of internationally accepted organizations, with suitable adaptation to Indian conditions shall be accepted, subject to the Engineer's prior review and written approval of CGM, reference to brand names, catalogue numbers, or similar classifications shall be avoided. Should this become inevitable, the words 'or approved equivalent' shall be added after such reference All materials, plant and other supplies to be incorporated in the Works shall be new, preferably of the most recent current models, and incorporate all recent Improvements.
- (i) Bidders should be required to quote unit prices or lump sum prices for the performance of works, and such prices shall include all duties, taxes and other levies. Bids for goods shall be on the basis of CIF (cost, insurance, and freight to port of

destination) / CIP (cost, insurance, place of destination) for imported goods and EXW (ex -works, ex-factory, or off the shelf) for locally available or manufactured or assembled materials, including those previously imported. Where inland transportation, installation, or commissioning are required to be performed by the bidder, he will be required to quote for these services, in addition.

- (j) Bidding documents shall state how price adjustment shall be made to reflect any changes (upwards or downwards) in major cost components of the contract, such as labour, equipment, materials, and fuel. In the Price Adjustment formulae, the percentages to be assigned to labour, equipment, materials (cement, steel, bitumen and other general materials) and fuel (POL) should be realistic and appropriate to the type of work.
- (k) Currency of bid and payment shall be Indian Rupees. Where payment in foreign currency is permitted (as may be the case in externally aided projects), the bidder should be called upon to indicate the percentage(s) of the bid price, (excluding provisional sums) needed by him for foreign currency requirements, which should be limited to only three currencies.
- (l) Bidding documents shall clearly specify the following elements:
  - (i) Amount and form of bid security and its validity period;
  - (ii) Amount and form of performance security to be provided by the Contractor on award of work, as also the period of its validity;
  - (iii) Amount and terms of advances for mobilisation, and equipment and materials;
  - (iv) Method and periodicity of regular progress payments;
  - (v) Retention amounts and their release;
  - (vi) Liability and amount of liquidated damages;
  - (vii) Bonus, if any, with conditions of eligibility; and
  - (viii) Circumstances, necessity and the consequences of suspension/termination, and the procedure of final payment.
- (m) There shall be provisions for the settlement of disputes.
- (n) Provision shall be made that at all times, during the continuance of the Contract, the Contractor shall comply with all existing Acts, regulations and byelaws including statutory amendments and re-enactments of State and Central Governments and any other enactments, notifications and Acts that may be passed in future by the State or the Central Government or local authority. Model Rules for Labour Welfare and Sanitary Rules shall also be added.

- (o) Bid documents should call upon the bidder to, prior to submitting the bid, visit and examine the site of works and its surroundings at his own expense, and obtain and ascertain for himself, on his own responsibility, all information that might be necessary for preparing his bid and entering into a contract. This would, inter alia, include the actual conditions of the site and area, availability of materials, labour and probable sites for labour camps and stores etc. He should take into consideration local conditions, traffic restrictions, any possible obstructions to work, and allow in his Contract Price for all such extras likely to be incurred as a result thereof. It should further be added that a bidder is deemed to have knowledge of the site and area, whether he inspects it or not, and no extra charges consequent upon any misunderstanding or otherwise shall be allowed.
- (p) A stipulation should also be made that the bidder shall bear all costs associated with the preparation and submission of bids and that the Employer will, in no case, be responsible for any such cost regardless of the conduct or outcome of the bidding process.

#### **4.10 Conditions of Contract**

- 4.10.1 The standard bidding documents (whether of NHAI or FIDIC) contain two sets of conditions, viz. General Conditions of Contract, referred to as Part I and suggested Special Conditions of Contract (also called Conditions of Particular Application), referred to as Part II. General Conditions should be incorporated unaltered, to facilitate their reading and interpretation by the bidders and the lending institutions, if any. These Conditions have been prepared for a unit price or item contract, and will require suitable modifications for other types of contracts.
- 4.10.2 Any additions, deletions, or variations to the General Conditions felt necessary for a particular project shall be done by an appropriate entry in the Special Conditions. While drafting Special Conditions/Clauses, the circumstances warranting them shall be duly considered, including but not limited to the following.
  - (a) Where the wording in Part I specifically requires that further information is to be included in Part II and the conditions would not be complete without that information.
  - (b) Where the wording in Part I indicates that supplementary information may be included in Part II, but the conditions would still be complete without that information.
  - (c) Where the type, circumstances or locality of the works requires additional Clauses or Sub-clauses.
  - (d) Where the laws of the country, or exceptional circumstances necessitate alterations in Part I. Such alterations are affected by stating in Part II that a particular Clause, or part of a Clause in

Part I, is deleted and giving the substitute Clause or part, as applicable.

4.10.3 Conditions of special nature and project specific condition shall be rationally incorporated. Special Conditions shall be approved by the authority competent to accept the tender.

#### **4.11 Eligibility of Contractors**

##### **4.11.1 Eligibility criteria**

The following guidelines shall be followed.

- (a) A firm that has been engaged by NHAI to provide consulting services for the preparation or implementation of a project, and any of its affiliates (Associates, Subsidiary, JV Partner), shall not be eligible for subsequently providing goods or works (other than a continuation of the firm's earlier consulting services) for the same project.
- (b) Government-owned enterprises may participate only if they can establish that they are legally and financially autonomous and that they operate under commercial law.
- (c) A firm declared ineligible by NHAI or MOSRTH for indulging in corrupt or fraudulent practices shall be ineligible to bid for NHAI project during the period determined by NHAI.
- (d) A firm determined non-performing by NHAI shall not be eligible to bid during the period so determined.

##### **4.11.2 Pre-qualification**

Pre-qualification shall be necessary for all works costing more than Rs.50 crore and other complex or special works, irrespective of their value, to ensure that the prospective bidders can perform the particular contract satisfactorily, taking into account their (i) experience and past performance on similar and particular contracts (ii) capabilities with respect to personnel, equipment, and construction or manufacturing facilities, and (iii) financial position.

In this, two-stage bidding process will be followed. In the first stage, proposals will be invited from the bidders for their pre-qualification. Financial bids, in the second stage, will be invited from the pre-qualified bidders. In addition, other technical details, as specified in the bid documents, are also asked for.



### **4.11.3 Post-qualification**

Generally for works costing between Rs 5 crore to Rs. 50 crore, and for works under special circumstances, contractors shall be post-qualified. In that case the procedure and criteria of qualifying a contractor will be much the same as that for prequalification.

In this, bids will be received in two covers: one cover containing the Technical proposal and the other containing the Financial bid. The Financial Bid of only those bidders who meet the minimum technical standards will be opened and considered for evaluation.

### **4.11.4 Registered Contractors**

For works costing less than Rs 5 crore, besides open bidding, the option of inviting bids from contractors registered with the State PWDs, Railways, MES, CPWD and other engineering organizations approved by NHAI, may also be considered. The registered contractors would be eligible to tender for the class (es) of work(s) for which they are registered and up to the limits of their registration and area of operation.

## **4.12 Pre-qualification Process**

The process will start with short-listing of contractors by issuing an advertisement inviting applications for pre-qualification. Those who respond will be issued letter of 'Instructions to Applicants', which shall contain, among other things, the following:

- (a) scope of work (in physical as well monetary terms);
- (b) Pre-qualification criteria for single contractors and joint ventures;
- (c) disqualification clause for misleading statements, or the applicant found to be ineligible on the basis of facts;
- (d) various questionnaires and forms, required to be answered and filled by the prospective applicant, in support of pre-qualification;
- (e) form of affidavit by the applicant in certification of the statements made and information given by him;
- (f) indicative requirements of qualifications and experience of key personnel for the project;
- (g) indicative requirements of annual production rates of key items of work;
- (h) indicative requirements of major plant & equipment;
- (i) indicative quantities of major items of work;
- (j) description of the project area, its climate and language, site of work and means of access; and
- (k) key plan of project area along with site plan.

## **4.13 Pre-qualification Criteria**

### **4.13.1 Standard Pre-qualification Document**

4.13.1.1 NHAI has prepared and issued standard prequalification document for procurement of civil works, vide letter No 11041/20/2002-Admn. dated 24.12.2003. This document shall be followed uniformly.

4.13.1.2 To be qualified for award of the Contract, bidders shall provide evidence to the Employer of their capabilities and resourcefulness to carry out the contract effectively. In addition, any requirement of the foreign lending institutions, like the World Bank, ADB and JBIC that the bidders shall belong to the eligible member countries listed by them shall be met with.

4.13.1.3 Principal factors to be used for evaluation are: General Construction Experience; Particular Construction Experience; Financial Capabilities; Personnel Capabilities; Equipment Capabilities; Performance in Past Projects, and Bid Capacity. Specific criteria of 'pass' for each attribute will be as specified in the Standard Pre-qualification document. The general description is:

#### **(a) General Construction Experience**

The Applicant should have been actively engaged in civil works construction business for similar work at least for 5 years immediately prior to the date of submission of application.

#### **(b) Turnover**

The Applicant should have generated the specified minimum average annual construction turn over during the above period.

#### **(c) Particular Construction Experience**

(i) The Applicant should have successfully completed or substantially completed, within the last 7 financial years, at least one contract of the specified percentage of the contract value in question and which is similar to the one now being proposed and (ii) The Applicant should also have achieved the minimum annual production rates of the key construction activities stipulated.

#### **(d) Personnel Capabilities**

The Applicant's key personnel, as listed in the PQ document, should be suitably qualified and experienced, and meet the requirements of qualification and experience specified.

### **(e) Financial Capabilities**

(i) The Applicant should have access to, or possess available liquid assets and other financial means (independent of any contractual advance payments) sufficient to meet the construction cash flow requirements for the subject contract, of the certain minimum amount specified, (ii) The Applicant should have adequate sources of finance to meet the cash flow requirements of works currently in progress and for future contract commitments and (iii) The Applicant should possess financial soundness as established by audited balance sheets and/or financial statements.

### **(f) Equipment Capabilities**

The Applicant should own, or have assured access (through hire, lease, purchase agreement, other commercial means) to the specified key items of equipment, in full working order, and satisfy that, based on known commitments, the same will be available for timely use on the proposed contract.

### **(g) Litigation History & Past Performance**

A consistent history of unsuccessful or bad litigation or poor performance in past contracts, e.g. unsuccessful completion, or excessive delays cast a shadow on the contractor's capability, even if all other criteria are met with. A decision to disqualify has to be based on solid evidence (references) from the previous Employers to substantiate that non-performance resulted from a default by the applicant. The Employer should seek independent verification from the references in case of doubt.

### **(h) Bid Capacity**

The bidder should possess the bidding capacity as calculated by the specified formula. The formula generally used will be:  $\text{Bid Capacity} = A \times N \times 1.5 - B$ , where

A = Maximum value of civil engineering works executed in any one year during the last 5 years (updated at the current price level), taking into account the completed as well as works in progress.

N = Number of years prescribed for completion of the work in question.

B = Value (updated at the current price level) of the existing commitments and ongoing works to be completed in the next 'N' years.

A bidder may be awarded more than one contract if he: (a) meets the pre-qualification criteria of each of them; (b) demonstrates having the resources in respect of financial, personnel and equipment capabilities to meet the aggregate of the specified capabilities for each contract, and (c) has bidding capacity at the time of bidding, as calculated by the above formula, more than the total estimated cost of these works.

#### **4.13.2 Pre-qualification Forms**

4.13.2.1 The basic information, to evaluate these various factors, shall be compiled on a uniform pattern in the Pre-qualification Forms given in the standard Pre-qualification Document. These forms generally will be:

- (a) General Information (Name, Address, Ownership);
- (b) Organisation, History, Experience;
- (c) Annual Turnover;
- (d) Summary of Current Contract Liabilities and Commitments;
- (e) Financial Data;
- (f) Evidence of Access to Credit;
- (g) Joint Venture Data;
- (h) Experience in Contracts of Similar Nature;
- (i) Experience in Contracts of Similar Site Conditions;
- (j) Key Personnel Proposed for the project/Personnel Capabilities;
- (k) Equipment Available/Proposed for the Project;
- (l) Proposed Site Organisation;
- (m) Proposed Subcontractors; and
- (n) Litigation history/Current Litigation.

4.13.2.2 The above forms are required to be filled by the applicant and sent to the concerned office of NHAI along with (a) an affidavit in authentication of the information given by him and (b) a forwarding letter stating among other things that the 'bids by pre-qualified applicants will be subject to verification of all information submitted for pre-qualification at the time of bidding'.

#### **4.13.3 Joint Ventures**

4.13.3.1 Joint Ventures may be permitted to bring together the resources (physical, financial, personnel) that may be deficient within the structure of one partner. However, Joint Ventures should be (i) permitted only if the size of the contract exceeds a certain specified value (Rs. 100 crore), and (ii) limited to only three partners. JV should not be in name only, with a view to enhancing the prospect of contract award.

4.13.3.2 When the pre-qualification application is made by the Joint Venture, the evidence of clear mandate willing to form the Joint Venture shall be submitted along with. The Joint Venture agreement to be submitted by the applicants shall comprise, but not limited to, the following provisions:

- (a) Name and style of Project-specific JV, with head office address;
- (b) Management structure of JV with details;
- (c) Extent of participation of each party in the JV;

- (d) Name of Lead partner and empowerment to him by the JV to attend negotiations and incur liabilities on behalf of JV;
- (e) Commitment of each party to furnish the Bid Security, Performance Security, Security for mobilisation advance in proportion to their respective share;
- (f) Responsibility of each partner of JV, including personnel, plant & equipment;
- (g) Working Capital arrangement of JV;
- (h) Opening of separate bank account in the name of JV, to be operated at least by one foreign and one local partner (in case of JV between two local partners, both the partners are required to operate);
- (i) Provision of remedy, in case of non-performance of responsibility by any party;
- (j) Parties/firms committing themselves to the Employer (NHAI) for being jointly and severally responsible for the intended works; and
- (k) Power of Attorney to be duly notarized from the country of origin of the foreign partner for his part.

4.13.3.3 Any change in the formation of a pre-qualified joint venture shall be subject to the written approval of NHAI prior to the deadline for submission of bids. This approval shall be denied if: (i) the remaining partners do not meet the qualifying requirements or (ii) the new partners are not qualified, individually or as another joint venture or (iii) in the opinion of the Employer, substantial reduction in competition may result.

#### **4.13.4 Pre-qualification of Joint Venture**

For pre-qualification, the joint Venture should fulfill the criteria specified in the Standard Pre-qualification Document. The attributes to be evaluated will be the same as for individual contractors; however, certain parameters up to the specified limits have to be essentially met by them collectively, some by the Lead partner, and some by the other partner, as briefly described below.

- (a) Qualifying Factors to be met collectively: (i) average annual turn over from construction; (ii) particular construction experience and key production rates; (iii) construction cash flow for the subject contract; (iv) personnel capabilities, and (v) equipment capabilities.
- (b) Qualifying Factors for Lead Partner: (i) general construction experience; (ii) particular construction experience, average annual turn over from construction,) financial capability to meet cash flow requirement of subject contract –in proportion to their partnership in JV but not less than of 50% of the respective limits prescribed for individual contractors may be accepted; (v)

adequate sources to meet financial commitments on other contracts; (vi) financial soundness, and (vii) no adverse past performance litigation history.

- (c) Qualifying Factors for Other Partner: same as for Lead Partner except that for the factors specified in (b) (iv) above, a lower limit of 25% may be accepted instead of 50%.

#### **4.13.5 Disqualification**

Even if an applicant meets the pre-qualification criteria, he shall be subject to disqualification if he or any of the constituent partners is found to have:

- (a) made misleading or false representations in the forms, statements and attachments submitted; or
- (b) records of poor performance during the last 5 years, as on the date of application, such as abandoning the work, rescission of contract for reasons which are attributable to non-performance of the contractor, inordinate delays in completion, consistent history of litigation resulting in awards against the contractor or any of the constituents, or financial failure due to bankruptcy, etc. The rescission of a contract of joint venture on account of reasons other than non-performance, such as the Most Experienced Partner (Major Partner) of joint venture pulling out, court directions leading to break-up of joint venture before start of the work, which are not attributable to poor performance of the contractor, will, however, not affect the pre-qualification of the individual partner; or
- (c) shown very poor performance in implementation of the works of NHAI and determined non-performing by NHAI; or
- (d) been barred by NHAI as on the date of application; and
- (e) in case of a proprietary firm, partnership firm or a joint venture, the following are the disqualifications in case of failure to disclose information by partners or the proprietor.
  - (i) if, any of the partners or the proprietor is debarred by NHAI or any other Agency of Government of India or any of the State Governments;
  - (ii) if, any of the partners or the proprietor has a criminal history or has been convicted by any court of law for any of the offenses under any Indian laws;
  - (iii) if, any criminal proceeding is pending in any court of law in Indian against any of the partners or a proprietor and if any such proceeding culminates into conviction in last five years.

#### **4.13.6 Updation of Pre-qualification Information**

Bidders are required to update their financial (or any other) information at the time of submitting the bids, to confirm their continued compliance with the qualification criteria and furnish verification of the information provided. A bid may be rejected if the Applicant's qualification thresholds are no longer met at the time of bidding.

#### **4.13.7 Evaluation of Pre-qualification Applications**

For opening and evaluation of PQ Documents, a committee shall be constituted with the approval of the Chairman. It shall consist of two officers of the concerned technical division, two officers of other Tech. Divisions and one officer of the Finance Division.

In the process of evaluation, the following safeguards shall be taken:

- (a) contract and personnel experience shall be supported by past client references;
- (b) applicant's bona fides, performance and suitability shall be checked;
- (c) emphasis shall be on performance and experience of the personnel, and not merely on their academic qualifications;
- (d) data supplied by the applicants without supporting details shall not be accepted, until and unless substantiated;
- (e) arrangement of sub-contracting shall conform to contract conditions, and their capability duly assessed; and
- (f) arrangement of joint venture shall be examined in detail.

#### **4.14 Bid Security**

4.14.1 Each bidder shall furnish bid security as a part of his bid at the following rates:

- (a) two percent of the estimated cost for works up to Rs. 20 crore (subject to a maximum of Rs. 30 lacs).
- (b) one and one-half percent of the estimated cost for works between Rs. 20 crore to Rs. 50 crore (subject to a maximum of Rs. 50 lacs).
- (c) one percent of the estimated cost for works above Rs. 50 crore.

4.14.2 The Bid security shall be in favour of National Highways Authority of India and may be in one of the following forms.

- (a) Deposit-at-call Receipt from any scheduled Indian Bank or a foreign Bank located in India and approved by the Reserve Bank of India (RBI).

- (b) Fixed Deposit Receipt, a certified cheque or an irrevocable letter of credit, issued by any Scheduled Indian Bank or a foreign Bank approved by the Reserve Bank of India.
- (c) Bank Guarantee issued by the following banks.
  - (i) State Bank of India or its subsidiaries,
  - (ii) Any Indian nationalized Bank,
  - (iii) IDBI or ICICI/ICICI Bank,
  - (iv) Export Import bank of India,
  - (v) A Foreign Bank (issued by a branch outside India) with a counter guarantee from SBI or its subsidiaries or any Indian Nationalized Bank,
  - (vi) Any Scheduled Commercial Bank approved by RBI having a net worth of not less than Rs,500 crores as per the latest Annual Report of the Bank. In the case of a Foreign Bank (issued by a branch in India), the net worth in respect of the Indian operations shall only be taken into account.

4.14.3 The acceptance of the guarantee shall also be subject to the following conditions

- (a) The capital adequacy of the Bank shall not be less than the norms prescribed by RBI (presently 9, with effect from 31<sup>st</sup> March 2003, 10)
- (b) The bank guarantee issued by a Cooperative Bank shall not be accepted.

4.14.4 The bank guarantee shall be got confirmed as per the procedure mentioned in Para 4.38.

4.14.5 All such BGs and bid security received in other forms shall be maintained by the concerned Divisions at the Headquarter. It shall be the responsibility of the concerned Divisions to monitor the validity of the BGs (a register shall be maintained for this purpose) and ensure extension of the validity of the BGs in terms of the contract. Such BGs shall be released strictly in terms of the contract with the approval of the Member/CGM concerned.

4.14.6 Bank guarantees (and other instruments having fixed validity) issued as surety for the bid shall remain valid for 45 days beyond the validity of the bid.

4.14.7 The bid security may be forfeited:

- (a) if the bidder withdraws his bid during the period of bid validity;
- (b) if, the bidder does not accept the correction of his bid price,
- (c) in the case of a successful bidder, if he fails, within the specified time limit to
  - (i) furnish the required performance security or.
  - (ii) sign the Agreement.



- 4.14.8 Bid security of the unsuccessful bidders should be discharged/ returned without interest as promptly as possible. The Bid security of the successful bidder shall be discharged when he has signed the Agreement and furnished the required performance security.
- 4.14.9 Any Bid not accompanied by requisite bid security shall be straight away rejected as non-responsive.

#### **4.15 Call of Tenders**

- 4.15.1 Detailed Project Report for the project should be accepted by the CGM before Bids are invited
- 4.15.2 Before invitation of bids, the bid documents shall formally be got approved from concerned Member.
- 4.15.3 Before calling of bids for a project, approval of chairman NHAI shall be taken in each case.
- 4.15.4 While approving the Invitation for Bids (IFB), it will be ensured that:
- (a) there is no ambiguity, contradiction, or duplication in the nomenclature of items, conditions of contract, specifications and drawings;
  - (b) the specifications and drawings are capable of implementation at site; and
  - (c) the time stipulated to complete the job is adequate.

DGM/Manager will check each page of bid document, see that the correction slips/modifications made are numbered and signed in token of approval, and give the certificate: 'Certified that I have personally checked each and every page of the bid document and that I am satisfied with the correctness and accuracy of the document.'

- 4.15.5 Period given for submission of Bids should be adequate to enable the bidder make his investigations, visit the site, carry out his costing, and quote realistically. For domestic Bids this period may be 30 to 60 days. For ICB, this period will depend on the stipulations of the lending institution.
- 4.15.6 For urgent works, Short Term bids may be invited, with the approval of the Chairman. In such cases the period for submission of bids may be 15-20 days depending upon nature & urgency of work.

#### **4.16 Publicity of Tenders**

Advertisements of tender notices shall be done as per provisions under Para 3.15 & 3.16. The tenders shall be invited in the name of the National Highways Authority of India.

#### **4.17 Sale of Tenders**

- 4.17.1 Tender documents should be prepared and kept ready for sale before the issue of IFB. Contractors desiring to tender should make a written application. It is responsibility of the DGM/Manager to see that tender documents are made available with complete set of drawings to the contractors as soon as their applications are received. Their acknowledgement for receipt of tender documents shall be obtained on the requisition itself. The price of tender documents will be uniformly fixed on slab basis of the cost of works.
- 4.17.2 Each tender document issued must contain the following information:
- (a) name of work
  - (b) name of contractor
  - (c) date of receipt of contractor's application
  - (d) date of issue of tender
  - (e) serial number of tender
  - (f) scheduled date and time of opening the tenders

#### **4.18 Pre-Bid Meeting**

- 4.18.1 For tenders of maintenance works costing more than Rs. 20 crores or original works costing more than Rs. 50 crores or works of specialized nature, 'Instruction to Bidders' should contain a provision inviting the bidder or his official representative to attend a pre-bid meeting at a specified place and time. For the Employer to be able to answer questions on any matter that may be raised at that stage, the bidder should be requested to submit any question in writing by cable or fax so as to reach the Employer not later than one week before the meeting. The meeting should be chaired by CGM.
- 4.18.2 Minutes of the pre-bid meeting shall be prepared and got approved from Member. In case the Member feels that the minutes involve some policy decision or any departure from the bid documents, he may show the minutes to the chairman. Minutes of the meeting, including the text of the questions raised and the responses given, shall be transmitted without delay to all purchasers of the bidding documents. The Employer, through the issue of a separate addendum/ corrigendum, shall make any modification of the bidding documents, which may become necessary as a result of the pre-bid meeting. Non-attendance at the pre- bid meeting will not be a cause for disqualification.
- 4.18.3 After the issue of any clarifications/modifications consequent to pre-bid meeting, at least two clear weeks should be given for submission of bids.

## **4.19 Preparation and Submission of Bids**

- 4.19.1 Detailed procedure for submission, safe custody and evaluation of technical and financial bids as well as other aspects of open tender system has been prescribed by NHAI vide letter no. 13030/1/2004-Vig dated 14 Jan., 2004. A copy of the above letter is at Enclosure-I at the end of the Chapter. The gist of the procedure is also described below.
- 4.19.2 The bidder should prepare the bid in the manner prescribed in the tender documents (Instructions to Bidders). It will be accompanied by all the supporting documents, certificates, clearances and bid security as stipulated in ITB, and in the form prescribed therein. The bid shall remain valid and open for acceptance for a period specified in ITB after the date of Bid opening prescribed. Each bidder will submit only one tender. No bidder shall be allowed to participate in the bid of another for the same contract in any relation whatsoever. The bid shall be sealed, marked as per instructions in ITB and submitted before the time and date (or extended date, if any) and at the place specified. If the Employer declares such a date (or extended date) as a public holiday in the receiving office, the next official working day would be deemed as the last day for the submission of bids. Any bid received after the deadline for submission of bids shall be returned unopened.
- 4.19.3 The bidder may modify or withdraw his bid through a written notice so as to reach the office of the Designated Officer of NHAI before the deadline of submission of bid. No bid shall be withdrawn between the deadline for submission of bids and the expiry of the period of validity of bids specified. Withdrawal of bids in any form whatsoever during this interval may result in the forfeiture of Bid Security.

## **4.20 Opening of Bids and their Examination**

### **4.20.1 Technical Committee**

- 4.20.1.1 A Tender committee, as approved by the Chairman, NHAI will open and later evaluate the bids. It shall consist of two officers of the concerned technical division, two officers of other Tech. Divisions and one officer of the Finance Division. Or, there may be two separate committees- one to open the tenders, and the other, to evaluate them.
- 4.20.1.2 The committee shall open the bids at the prescribed time, date and place, in the presence of such bidders who may wish to be present. If the prescribed date comes to be declared by the Employer as a public holiday, the next official working date would be deemed as the date of opening of bids. The bidder representatives who are present shall sign a register evidencing their attendance.

## **4.20.2 Opening of Technical Bids**

- 4.20.2.1 The ' Technical Bids' of all bids received before the deadline for submission will be opened first. All the bids should be arranged in an order and assigned serial numbers like 1/5, 2/5, 3/5 ..., the denominator indicating the total number of bids received. Envelopes marked 'withdrawal' will be opened and read. Bids for which acceptable notice of withdrawal has been submitted will not be opened. Technical bids should be accepted only if these are hard bound.
- 4.20.2.2 Bidders names, 'withdrawals', 'modifications of technical bids', the presence (or absence) of bid security and such other details as the Employer may think appropriate, will be announced at the opening.
- 4.20.2.3 As the bids are to be submitted in hard bound form signing of covering letters and index page by all the committee members is sufficient. Minutes of the bid opening will be prepared including the information to those present.
- 4.20.2.4 In case the bids are received in “three bid system” comprising (i) other submissions (ii) technical bid (iii) financial bid, the “other submissions” will be opened first. Technical bids of those qualifying on the basis of other submissions will be opened. Opening and evaluation of technical and financial bids shall be carried out as per the procedure for “two bid system” as prescribed hereinafter.

## **4.20.3 Examination of Technical Bids**

Technical bids accompanied by Bid security, and on getting its validity confirmed with the issuing bank, will be examined to determine whether each bid has been properly signed, meets the eligibility and qualifications criteria, is accompanied by the requisite certificates undertakings and other relevant information specified, and is substantially responsive to the requirements of the 'Bid documents'.

## **4.20.4 Opening of Financial Bids**

- 4.20.4.1 The committee will open the 'Financial Bid' (including 'modifications of financial bids') of those bidders whose Technical Bid has been found to be substantially responsive, in the presence of bidders or their representative who choose to be present, on the date which will be intimated to such bidders, at least three days in advance.
- 4.20.4.2 The officer opening the bids shall mark all errors, over-writings, and cuttings, and number them serially in red ink on each page e.g. E/I, E/2 ..., O/I, O/2 ..., C/I, C/2 ..., initial them and give their respective totals at each page. Each page should be signed by all of the members.

- 4.20.4.3 Bidders' names, the bid prices, the total amount of each bid, any discount, 'modifications of financial bids' and such other details as the committee may consider appropriate will be announced by the committee at the opening. The absence of reading of rates of items, especially when demanded, is likely to create apprehensions. The Bid Prices should also be displayed on computer screen, where possible.
- 4.20.4.4 Any ambiguities in rates quoted by the bidders, in words or figures, shall be clearly indicated on each page of the schedule. In case where the tendered rate is in rupees and no 'paise' is mentioned, the word 'only' shall be incorporated under dated initials of the officer opening the tenders. Where the bidder has omitted to quote the rates in figures or in words, such omission shall be recorded.
- 4.20.4.5 The committee will prepare minutes of the meeting including the 'spot' comparative statement and other information disclosed.

#### **4.21 Determination of Responsiveness**

- 4.21.1 The committee will examine the 'Financial Bids' to determine whether each bid has been properly signed and is substantially responsive. For this purpose, a substantively responsive bid is one that conforms to all the terms, conditions and specifications of the tender documents without material deviation and reservation. A material deviation or reservation is one:
- (a) which affects in any substantial way the scope, quality, or performance of the works; or
  - (b) which limits in any substantial way the Employer's rights or the bidder's obligations; or
  - (c) whose rectification would affect unfairly the competitive position of other bidders which are substantially responsive.
- 4.21.2 If a bid is not substantially responsive to the requirements of the bid documents, it shall be rejected with the approval of the authority empowered to accept the bid in the first instance, and may not subsequently be made responsive by correction or withdrawal of the non-conforming stipulation.

#### **4.22 Correction of errors**

Substantially responsive financial bids will be checked for any arithmetic errors. Arithmetic errors will be rectified on the following basis.

- (a) If there is a difference between the amount of rate in figure and in words of an item, and the total amount is worked out, then the rate which corresponds to the amount worked by the bidder shall be taken as correct.

- (b) If the bidder has not worked out the amount of an item, or the same does not correspond with the rates written either in figures or in words, then the rate quoted by him in words shall be taken as correct.
- (c) If the rate quoted by the bidder in figures and in words tallies, but the amount is not worked out correctly, the rate quoted by the contractor shall be taken as correct and not the amount.

#### **4.23 Clarification of Bids**

To assist the process of examination, evaluation and comparison of bids, the Employer may ask the bidder individually for clarification, if any, of their bids, including breakdown of unit rates and price. The request for clarification and the response shall be in writing, but no change in the price or substance of the bid will be sought, offered or permitted, except as required to confirm the correction of arithmetical errors discovered by the Employer in the course of scrutiny.

#### **4.24 Confidentiality of Process**

- 4.24.1 Information relating to the examination, clarification, evaluation and comparison of bids, and recommendations for the award of a contract, shall not be disclosed to bidders or any other person not officially concerned with such process until the award to the successful bidder has been announced.
- 4.24.2 From the time of bid opening to the time contract award, no bidder shall contact the Employer on any matter related to the bid, except on request and prior written permission.
- 4.24.3 Any effort by the Bidder to influence the Employer in bid evaluation, bid comparison or contract award decisions will result in the rejection of the Bidder's bid.

#### **4.25 Correction of Bids**

- 4.25.1 Bids determined to be substantially responsive will be checked for any arithmetical errors. This may preferably be done by on-the-spot arithmetical checking the rates quoted by the bidder by entering in the computer (to be displayed on screen through OHP/Plasma Screen) which will automatically calculate the correct amount after multiplying with the pre-fed BOQ. One representative of IT division shall arrange the computer/OHP/Plasma screen etc required for this purpose and assist the Committee in the evaluation.
- 4.25.2 In case on-the-spot arithmetical checking is not possible in view of large number of bids, this may be done manually subsequently. The quoted rates in the bids shall be protected with lamination by the Committee, if not done by the bidders.

The arithmetical corrections will be done by the representatives of the finance division & concerned (technical) division in the Committee, whose responsibilities in this behalf are as under:

- (a) They are responsible for seeing that satisfactory and efficient arrangements are made for checking and computation of the bids;
- (b) They should conduct personally a test check to a sufficient extent to satisfy himself reasonably that the checking work has been properly done;
- (c) They should see that the comparative statement correctly incorporates the total as checked in the individual bids; and
- (d) They shall record the following certificate on the comparative statement:

'Certified that I have personally conducted a test check of the bids including the three lowest bids and have satisfied myself that the checking work has been properly done. The comparative statement correctly incorporates the totals as checked on the individual bids'.

4.25.3 In accordance with the corrections as approved by the Tender Committee, the amount stated in the bid will be adjusted with the concurrence of the bidder, and the same shall be binding on him. If the bidder does not accept the corrected amount, the bid will be rejected and the bid security forfeited.

#### **4.26 Evaluation and Comparison of Bids**

The evaluated bid Prices will be adjusted after taking into account (i) correction for errors; (ii) adjustments for any acceptable variations, deviations and, (iii) adjustments to reflect any discounts or other modifications offered. Variations, deviations, or alternative offers and other factors which are in excess of the bidding documents or otherwise result in unsolicited benefits for the Contractor should not be taken into account in bid evaluation. Duties, taxes and other levies will not be considered in evaluation of bids. If the bid of the successful bidder is seriously unbalanced in relation to the estimate of the cost of the work, the Employer may ask the bidder to produce detailed price analysis for any or all the items of Bill of Quantities, to demonstrate the internal consistency of those prices with the construction methods and schedule proposed. After evaluation of this analysis, the Employer may require that the amount of performance security be increased to a level sufficient to protect the Employer against financial loss in the event of default of the successful bidder under the Contract.

#### **4.27 Acceptance of Bids**

- 4.27.1 After the evaluation of the bids, the Tender Committee will give its recommendations in clear words indicating the name of the bidder whose bid is recommended by them along with the total bid amount recommended for acceptance/approval by the Competent Authority. Accordingly, the minutes of the Tender Committee shall be prepared wherein any doubt or discussions of the Committee Members inter-se must be highlighted in detail before giving final recommendations of the Committee as stated above.
- 4.27.2 The competent authority may accept bids on the recommendations of the Tender Committee. In case of externally assisted projects, the concurrence of the lending institution shall be obtained before accepting the bid.
- 4.27.3 Well before the expiration of validity period of the bid, the Employer shall notify the successful bidder by fax confirmed by registered letter that his bid has been accepted. This letter (called the 'Letter of Acceptance') shall specify the sum that the Employer will pay to the Contractor in consideration of execution and completion of the work and remedying of any defects therein. This notification (Letter of Acceptance) will constitute the formation of the contract, subject only to the furnishing of a performance security within the stipulated period.
- 4.27.4 After the receipt of the performance security and its verification the Employer will direct the Contractor to attend the Employer's office on a date determined by the Employer for signing the Form of Agreement. In the event of the successful contractor failing to sign the Agreement or furnish performance security, the Employer shall be free to annul the award, forfeit the bid security and take any other remedy for breach of Contract.
- 4.27.5 Upon furnishing by the successful bidder of the performance security the Employer will promptly notify the other bidder that their bids have been unsuccessful, and return their bid security.

#### **4.28 Rejection of Bids**

- 4.28.1 The Employer shall reserve the right to accept or reject any bid or all bids, recall the tender and to annul the bidding process, at any time before the award of its work, without thereby incurring any liability to the affected bidder(s) or any obligation to inform the affected bidder(s) of the grounds for this action. However, clear, logical reasons for any such action for rejection/recall of tenders should be recorded on the file.



- 4.28.2 In case of externally assisted projects, the stipulation in the loan agreement regarding acceptance or rejection of bids, if any, shall be kept in view.

#### **4.29 Negotiations**

- 4.29.1 As a general rule, negotiations should not be resorted to. However, they may become necessary in certain situation. CVC guidelines in this regard stipulate as under.

- (a) There should not be any negotiations. Negotiations if at all shall be an exception and only in the case of proprietary items or in the case of items with limited source of supply. Negotiations shall be held with L-1 only. Counter offers tantamount to negotiations and should be treated at par with negotiation.
- (b) Negotiations can be recommended in exceptional circumstances only after due application of mind and recording valid, logical reasons justifying negotiations. In case of inability to obtain the desired results by way of reduction in rates and negotiations prove infructuous, satisfactory explanations are required to be recorded by the Committee who recommended the negotiations. The Committee shall be responsible for lack of application of mind in case its negotiations have only unnecessarily delayed the award of work/contract.
- (c) In case of L-1 backing out there should be re-tendering as per extant instructions.

- 4.29.2 The original terms and conditions of the bid should not be varied while negotiating. A record of the negotiations will be kept, which will form part of the agreement along with undertakings given by the contractor.

#### **4.30 Guidelines for acceptance and award of single tenders**

The acceptance of single tender should not be encouraged. It shall be an exception and not a general rule. Following guidelines shall be followed in this regard.

- (a) In case only a single bid is received by the due date of receipt, normally the tender process may be cancelled and re-bidding done by giving 4 weeks notice except in cases where due to other reasons like difficult conditions, law and order etc., the tender response is expected to be poor.
- (b) In case of re-bidding, change from pre-qualification to post-qualification may also be considered and resorted to if that would help increase response of tender.

- (c) In case re-bidding/change to post-qualification also results in receipt of single bid then it should be opened and the bid amount should be compared with the estimated project cost. In case the bid amount is within 15% of the estimated cost, then acceptance of the bid may be considered with proper justification and reasons.
- (d) If the justification given for acceptance of the bid is found reasonable then tender for EPC contract costing upto Rs 50 crores can be accepted by the Chairman, NHAI and tender for the contract costing more than Rs. 50 crores can be accepted with the approval of the Authority.
- (e) In cases where due to reasons like difficult conditions, law and order, likelihood of poor response etc., it is decided to open the single bid without going for re-bidding, then for acceptance, above guidelines shall be applicable as are prescribed for acceptance of tenders where re-bidding is resorted to.

#### **4.31 Custody of Bids**

The bids will remain in the custody of General Manager concerned.

#### **4.32 Time schedule for bidding activity**

A strict time schedule should be followed for evaluation of bids and award of contracts. The entire process from the date of receipt of bids to award of contracts should generally be completed within 40 days. In case of externally aided projects, this time schedule will depend upon the time for approval of process at various stages by the aid agency.

#### **4.33 Time schedule for construction**

Following time schedule for completion of the projects may generally be aimed at.

- (a) Highway project costing less than Rs.200 Crores: 2.0-2.5 years
- (b) Highway project costing above Rs. 200 Crores: 2.5-3.0 years
- (c) For projects in hilly areas, heavy rainfall areas or in any other special geographical conditions, the above time limit may be extended by another 6-12months
- (d) For bridge projects the time schedule may be prescribed depending upon the nature and complexity of the bridge.

#### **4.34 Performance Security**

- 4.34.1 The successful bidder shall be required to furnish to the Employer a performance security within 28 days of the receipt of Letter of Acceptance, in an amount equivalent to 10 % (ten percent) of the

contract price plus additional security for unbalanced bids. The Performance Security to be provided by the successful bidder in the form of a bank guarantee as per prescribed format shall be issued from any nationalized Indian bank/IDBI/ICICI/Export Import bank/Foreign bank with counter guarantee from any nationalized Indian Bank/any RBI approved scheduled commercial bank having net worth of more than Rs. 500 crore of Indian Operation and acceptable to Employer. In case of Joint Venture (JV), the Bank Guarantee towards performance security shall be provided by all partners in proportion to their participation in the project.

- 4.34.2 The Bank Guarantee for performance security shall remain valid until a date 365 days (or as specified in the Contract) after expiry of Defects Liability Period.
- 4.34.3 The Bank Guarantee for performance security shall be submitted invariably in the format given in the Standard Bidding Document.

#### **4.35 Retention Money**

A retention amounting to six (6) percent shall be deducted from each running bill (interim payment), the total retention being pegged at five (5) percent of contract price. The Contractor may, at his option, replace the retention amount with an unconditional bank guarantee from the bank acceptable to the Employer at the following stages:

- (a) After the amount reaches half the value of the limit of retention money
- (b) After the amount reaches the maximum limit of retention money

One-half of the retention money (or bank guarantee, which replaced retention money) shall be released on the issue of Taking-over-Certificate; if the Taking-over Certificates are issued in parts, then in such proportions as the Engineer may determine, having regard to the value of such part or section. The other half of the retention money (or bank guarantee, which replaced retention money) shall be released upon expiration of 365 days after the Defects liability period of the Works or final payment whichever is earlier on certification by the Engineer. In the event of different Defect Liability Periods being applicable to different sections or parts, the expiration of Defect Liability Period shall be the latest of such periods.

#### **4.36 Advance Payments**

- 4.36.1 An interest bearing mobilization advance shall be paid to the contractor exclusively for the costs of mobilization at ten percent of contract price on the provision by the contractor of an unconditional bank guarantee. Such bank guarantees shall remain effective until the advance payment

has been fully repaid, but the amount thereof shall be progressively reduced by the amount repaid by the Contractor, as indicated in the Interim Payment Certificates.

- 4.36.2 The aforesaid advance of 10% shall be paid in two installments, each of 5%. The first one shall be paid on commencement of the work and provision by the Contractor of unconditional bank guarantee in respect of the advance. The second installment shall be paid on certification by the Engineer of the Contractor's having achieving financial progress of 10% of the contract price, as also provision of bank guarantee by the Contractor for this part of the advance;
- 4.36.3 Another interest bearing advance of five (5) percent of contract price, depending on the merits of the case, shall be paid against the new key construction equipment purchased for the work and brought to the site, if so requested by the Contractor. This advance shall be subject to the conditions: (i) the Contractor shall produce satisfactory proof of payment; (ii) such equipment are considered necessary by the Engineer for the Works; (iii) these equipments have been verified to have been brought to site; (iv) the Contractor gives an undertaking on stamp paper that the equipment will work only on that job and will not be removed from the site without obtaining written approval from the 'Engineer'; and (v) Contractor furnishes bank guarantee to cover the advance. No advance shall be admissible on equipments purchased under hire purchase scheme/financing arrangement or on hired equipments etc.
- 4.36.4 The rate of interest shall be 10% per annum or as may be notified by the NHAI from time to time.
- 4.36.5 The repayment of advances shall be done through percentage deductions from interim payments. The time of commencement of repayment, rate of deductions from interim payments, and the time by which the advance should be fully repaid will be as specified in the Contract.
- 4.36.6 The advances shall be used by the Contractor exclusively for mobilization expenditures, including the acquisition of construction related plant and equipment. Mobilization expenditures mentioned herein shall not include the margin money and bank commission etc. paid by the contractor for procurement of BGs against performance security and mobilization advance etc. Should the Contractor misappropriate any portion of the advance, it shall become due and payable immediately, and no further advance will be made to the Contractor thereafter. In such cases the contractor shall also be liable for appropriate action under the contract.

#### **4.37 Secured Advance**

- 4.37.1 Secured Advance for non-perishable materials brought to site but not yet incorporated in the Works will be made up to 75% of invoice value, or the 75% of the corresponding value of the materials determined on the basis of BOQ rates, whichever is less, subject to the condition that their quantities are not excessive and shall be used within a period of 90 days and subject to other stipulations in the Contract. The Contractor will be required to sign an indenture bond, hypothecating the goods to the NHAI, and also be responsible for their safe custody. It may be ensured that the contractor has not taken any loan/ limit from banks against hypothecation of the materials against which the secured advance is claimed. An undertaking in this regard may also be taken from the contractor.
- 4.37.2 Generally, as per the provisions of the contracts, the contractors are required to submit proof of cost of materials and the delivery of material at site while claiming such advances. The stock register should be maintained from the commencement of the contract and unless otherwise prescribed in the contracts, the stock, so considered for advance should generally be only paid stock (and not brought on credit). Where the materials are supplied from a captive source of contractor, the reasonableness of the valuation of such materials may be ensured.
- 4.37.3 The advance will be repaid from each succeeding monthly payments to the extent materials for which advance has been previously paid have been incorporated into the Works. In all cases, the repayment of the advance will be affected after expiry of a period of 120 days since payment of advance, whether the material is consumed in the work or not.

#### **4.38 Guidelines for acceptance of Bank Guarantees**

- 4.38.1 Bank Guarantees issued by the following Banks would be accepted under the contracts.
- (a) State Bank of India or its subsidiaries,
  - (b) Any Indian nationalized Bank
  - (c) IDBI or ICICI/ICICI Bank/Export Import Bank
  - (d) A Foreign Bank (issued by a branch outside India) with a counter guarantee from SBI or its subsidiaries or any Indian Nationalized Bank.
  - (e) Any Scheduled Commercial Bank approved by RBI having a net worth of not less than Rs,500 crores as per the latest Annual Report of the Bank. In the case of a Foreign Bank (issued by a branch in India), the net worth in respect of the Indian operations shall only be taken into account.

4.38.2 The acceptance of the guarantee shall also be subject to the following conditions

- (a) The capital adequacy of the Bank shall not be less than the norms prescribed by RBI (presently 9, with effect from 31st March 2003, 10)
- (b) The bank guarantee issued by a Cooperative Bank shall not be accepted.

4.38.3 The bank guarantee(s) to be submitted by the contractors and consultants against performance security/advance payments and for various other purposes shall be as per the prescribed formats. Before acceptance of the bank guarantee(s), it shall be ensured;

- (a) The bank guarantee(s) contains the name, designation and code number of the officer(s) signing the guarantee(s).
- (b) The address and other details (including telephone no.) of the Controlling Officer of the Bank are obtained from the Branch of the Bank issuing the BG (This should be included in all the Bank Guarantees to be received by NHAI).
- (c) Before opening of the financial proposals (in the case of bid security), signing of the contract (in the case of performance security), release of payments (in case of BGs for mobilization advances/against retention money), etc., as the case may be:-
  - (i) the confirmation form the Issuing Branch of the Bank is obtained in writing through Registered Post/Speed Post/Courier. The Bank should be advised to confirm the issuance of the Bank Guarantee(s) specifically quoting the letter of NHAI on the printed official letterhead of the Bank indicating address and other details (including telephone nos.) etc., of the Bank and the name, designation and code number of the officer(s) confirming the issuance of the Bank Guarantee.
  - (ii) Confirmation is also obtained with the help of responsible officer (not below the rank of a Manger) at PIU/HO, which is close to the Issuing Branch of the Bank, who should personally obtain the confirmation from Issuing Branch of the Bank and forward the confirmation report to the concerned Technical Division at HO.
- (d) As a matter of abundant pre-caution, the confirmation from the Controlling Officer of the Bank may also be separately obtained by the concerned Technical Division in the manner prescribed in para (c) (i) above.

#### **4.39 Guidelines for maintenance and release of Bank Guarantees**

##### **4.39.1 BGs for mobilization & machinery advances and retention money**

- (a) All such BGs shall be maintained by the PIUs.
- (b) It shall be the responsibility of the Project Directors to monitor the validity of the BGs (a register shall be maintained for this purpose) and ensure extension of the validity of the BGs in terms of the contract.
- (c) Such BGs shall be released by the Project Directors strictly in terms of the contract.

##### **4.39.2 BGs for performance security**

- (a) All the Bank Guarantees shall be maintained by the concerned Divisions at Headquarters. A copy of such BGs shall be forwarded to the concerned PIUs for monitoring.
- (b) It shall be the responsibility of the PIU to monitor the validity of the BGs (a Register shall be maintained for this purpose) and ensure extension of validity of the BGs in terms of the contract provisions, as and when required.
- (c) For release of the Bank Guarantees, the proposal shall be forwarded by the PIUs with their recommendations in accordance with the contract conditions, to the Headquarters.
- (d) The release of BGs shall be approved by the Member/CGM of the concerned Division with the concurrence of the Finance Division.

##### **4.39.3 BGs for Bid Security/other purposes**

All such BGs shall be maintained by the concerned Divisions at the Headquarter. It shall be the responsibility of the concerned Divisions to monitor the validity of the BGs (a register shall be maintained for this purpose) and ensure extension of the validity of the BGs in terms of the contract. Such BGs shall be released strictly in terms of the contract with the approval of the Member/CGM concerned.

#### **4.40 Corrupt or Fraudulent Practices**

The Employer will reject a proposal for award if it determines that the Bidder recommended for the award has engaged in corrupt or fraudulent practices in competing for the contract in question. Further, the Employer will declare the firm ineligible, either indefinitely or for stated period of time, for being awarded a contract with NHAI if it, at any time, determines that the firm has engaged in corrupt or fraudulent practices in competing for the contract, or in its execution.

**PROCEDURE FOR SUBMISSION, SAFE CUSTODY AND EVALUATION OF TECHNICAL AND FINANCIAL BID AS WELL AS OTHER ASPECTS OF OPEN TENDER SYSTEM**

[Copy of NHAI letter No 13030/1/2004-Vig. dated 14.01.2004 (3/2004)]

(Ref. Para 4.19)

**(A) PQ Documents**

**Sale/Issue of PQ documents**

Through advertisement as per NHAI policy in newspaper and website display, the prospective applicants shall be invited to submit their PQ document in order to establish their prequalification before making them eligible for submission of bids.

There shall be no restrictions for selling PQ Documents, i.e. the PQ documents are to be sold to all the applicants bidders whom so ever apply. A PQ Document Issue Register shall be maintained by the concerned Technical Division.

PQ application of JV shall be considered even if a partner of JV has purchased the PQ documents in his name.

The last date for receipt and issue of PQ documents shall be kept same (to avoid any problems to applicants downloading the PQ document from website).

**Submission and Receipt of PQ documents**

The Applicants shall submit the details only on issued/downloaded PQ Application and in hard bound form with all pages numbered serially and by giving an index of submissions. PQ Applications submitted in other forms like spiral bound form, loose form, etc., shall be rejected. Copies of PQ Applications shall not be submitted and considered.

PQ Documents shall be submitted at ground floor Reception of NHAI Building only and the persons delivering the documents shall not be allowed to enter beyond the Reception. The designated officer of Technical Division shall provide the receipt register indicating various contents to be filled in by the Receptionist and guide the Receptionist about giving acknowledgement; recording the details in Receipt Register, etc. If necessary a dedicated person may be kept in the Reception on the last date of receipt of PQ Documents. The Receptionist shall give the acknowledgement to the persons delivering the documents towards the receipt of PQ documents duly mentioning date & time of receipt. The receptionist must also record the date and time of receipt on the sealed envelop containing the PQ document. In the receipt register, the receptionist must also record the details viz; name of work, name of applicant, date and time of the receipt of PQ documents. All these documents are to be handed over to the



concerned official of Technical Division immediately after the deadline for submission of PQ documents and on the same day in any event. On the last date, the designated officer of the concerned technical division will also check the register immediately after the closing hours of bid submission and put his signature as a proof of closing the register at the prescribed time.

### **Evaluation of PQ Applications**

Evaluation Committee: For opening and evaluation of PQ Documents, a committee shall be constituted with the approval of the Chairman. It shall consist of two officers of the concerned technical division, two officers of other Tech. Divisions and one officer of the Finance Division.

The evaluation of PQ Applications shall be carried out by the Evaluation Committee strictly based on the evaluation criteria finalized in conformity with the PQ document and approved by the evaluation committee prior to the opening of PQ Applications.

Soon after the receipt of PQ Applications, the applications must be opened in the presence of all the committee members. The Index and the Letters of Application only shall be signed by each member of the Committee as it is not possible to sign all pages. Further, signing of all pages is not required as PQ Applications shall be submitted by the Applicants in hard bound form.

All the members of the Committee shall see the details corresponding to main qualifying criteria like average annual turnover; one similar work completed; and bid capacity of each applicant and initial the corresponding pages of PQ Applications in support of this.

In case a clarification is sought from any applicant, the date by which a response must be received should be specified so as to avoid any slippage in the overall programme for completing the evaluation.

The results of PQ shall be informed to the Applicants only after the Chairman approves the recommendations of the Evaluation Committee.

No representations from the Applicants for reconsideration of their qualifications after completion of evaluation process shall be considered by the Committee.

### **B Sale/issue and Receipt of Bidding Documents**

As per pre-qualified list of the bidders finalized by the evaluation committee and approved by the competent authority, the bidders shall be informed in writing by Fax followed by a letter about their pre-qualification and inviting them to purchase the bidding documents.

## **Sale/Issue and Receipt of Bids**

In case of Bids on Pre-qualification basis, the bidding documents shall not be placed on website. However, in case the procurement is on the basis of post qualification system, the bidding documents may be placed on website but the submitted bids by prospective bidders must be hard bound separately for technical & financial bids.

The Bidding document shall be issued in hard bound form only with page numbering and an index. Each page of the bidding document must be put with round seal of NHAI. The BOQ portion of the bidding documents is spaced sufficiently so as to enable the bidders to enter rates (in Figures and Words) and amounts legibly.

The bidding documents are issued only on payment of requisite fee in accepted mode of payment by Demand Draft. The documents shall be issued to the authorized representatives of the bidders after obtaining their acknowledgement in the Bidding Documents Issue Register. On first page of bidding document, the name of the bidder to whom the document is issued shall be recorded with date/time and signature of designated issuing officer of NHAI.

If requested by any bidder in writing, the bids shall also be sent by Courier at the risk of bidders duly collecting Rs.500/- in the form of DD towards Courier charges and NHAI shall not take any responsibility for delivery of bids by courier.

Bids shall be received only at Ground Floor Reception of NHAI by the Receptionist and no bidder shall be allowed to enter into NHAI building with the bids.

## **Submission of Bid Documents**

The bidder should submit only the bidding document issued by NHAI and in hard bound form with page numbering and index. Any additional information shall also be furnished by the bidder in hard bound form with proper indexing and page numbering. The details submitted in other forms like spiral bound form, loose form, etc. will be rejected. Copies of bidding documents shall not be submitted and considered.

The bidding documents shall be submitted at ground floor Reception of NHAI Building only and the persons delivering the documents shall not be allowed to enter beyond the Reception. The designated officer of Technical Division shall provide the receipt register indicating various contents to be filled in by the Receptionist and guide the Receptionist about giving acknowledgement; recording the details in Receipt Register, etc. If necessary a dedicated person may be kept in the Reception on the last date of receipt of Bidding Documents. The Receptionist shall give the acknowledgement to the persons delivering the bids towards the receipt of bid documents and modification/withdrawal letters duly mentioning date/time of receipt. The receptionist must also record the date and time of receipt on the sealed envelopes containing the bidding documents and

letters of modifications/withdrawals. In the receipt register, the receptionist must also record the details viz; name of work, name of bidder, date and time of the receipt of bidding documents and letters of modifications/withdrawals, if any. All these documents are to be handed over to the designated officer of the concerned technical division immediately after the deadline for submission of bids on the same day in any event. On the last date, the designated officer of the concerned technical division will also check the register immediately after the closing hours of bid submission and put his signature as a proof of closing the register at the prescribed time.

## **C Opening and Evaluation of Bids**

### **Opening of Technical Bids**

For opening and evaluation of technical and financial bids and for giving recommendations to the Chairman for award of work, a committee shall be constituted with the approval of the Chairman. It shall consist of two officers of the concerned technical division; two officers of other Tech Divisions and one officer of the Finance Division.

On the last date, the deadline for submission of Bid may be kept as 11.00 hrs and the opening of technical bids may be started on the last date for submission of bid at 12.00 hrs. In case of non availability of any member of the committee on the date of opening, a substitute is to be nominated by divisional head. If it is not possible to open the technical bids on the same day for any reason, the committee will decide unanimously another date/time and all the bidders shall be informed accordingly.

Before opening of bids, the attendance sheet must be prepared and the authorized representatives of the bidders (persons having authorization letters only shall be allowed in opening) must sign the attendance sheet as a mark of their presence in the technical bid opening process. The authorisation letters shall be attached to the attendance sheet.

Envelope marked "withdrawal" shall be opened and read out first. Bid for which notice of withdrawal has been submitted before the deadline for submission of the bids shall not be opened and shall be returned to the bidders as unopened after completion of bidding process.

As the bids are to be submitted in hard bound form signing of covering letters and index page by all the committee members is sufficient.

Late Bids shall not be opened by the Committee.

### **Bid Security**

At the time of opening of the technical bids, a statement may also be prepared simultaneously containing the details of the bid security submitted by the bidders.

It must be ensured that the amount of bid security is as per the requirements of the bidding document and it must be in the form and manner as indicated in the bidding document

The validity of bid security must also be calculated and worked out on individual bid basis and be compared with the minimum desired validity period. Any bid having bid security for lesser value and shorter validity period shall be treated as non-responsive. The fact must be mentioned in the statement and the remaining technical bid and the sealed financial bid will be returned to the bidder after the award of work/completion of bidding process.

The signatures of the authorized representatives of the bidders shall also be obtained as a mark of acknowledgement of the facts of the bid security.

Simultaneously, confirmations of the bid securities from the bankers (issuing bank and one higher office of that Bank) shall be obtained in writing by fax followed by Registered Post/Courier.

### **Custody of Financial Bids after opening of the Technical Bids**

The outer envelop of the Financial Bids and the letters of modifications must be signed by all Committee Members. A list containing the details of number of envelopes including letters of modifications in each bid shall be prepared and signed by all the Committee Members. The bidders' representatives shall also confirm the number of envelopes forming part of their financial bid by signing on the list.

These documents shall be kept in a properly tied and sealed container/cloth signed by all the committee members.

It is preferable, if signatures of a few of the bidders representatives participating in the technical bid opening are also taken on the outer sealed cover of the container of Financial Bids. The bids shall be kept in the custody of convener of the committee/designated officer.

### **Evaluation of Technical Bids**

The evaluation of technical bids may be carried out by the Evaluation Committee strictly based on the criteria laid down in the bidding documents (same Evaluation Criteria as used for evaluation of PQ Applications may be used).

The Evaluation Committee after evaluation of technical bids shall prepare a list of technically successfully bidders.

A detailed statement shall be prepared by the Evaluation Committee stating therein clearly the reasons for failing the non successful bidders and the statement along with the minutes of the proceedings of the Evaluation Committee must be signed by all the committee members.

Approval of Chairman is necessary to the list of technically successful bidders before informing the bidders and opening of Financial bids.

The successful bidders should be sent written intimation regarding the time and date of opening of the financial bids with a request that the authorized representatives of the bidders may attend the opening of financial bids with proper authorization letters. The bidder's representatives having authorization letters only shall be allowed in above meeting.

### **Opening of Financial Bids**

The opening of financial bids shall start at 10:00 hours with a view to complete the opening and evaluation of bids by the committee on the same day.

The signatures of the bidder's representatives (only those having authorisation letters are to be allowed in opening) must be taken on the attendance sheet and all the authorization letters shall be attached to the attendance sheet.

The sealed container containing the financial bids and the modifications must be shown to all the committee members and the representatives of the bidders in order to ensure that the contents are intact. The container shall then be opened and the envelopes containing the financial bids and the modifications be shown to the committee members and to the bidders representatives.

The bids shall then be opened in a sequel manner displaying the envelopes to the concerned bidder.

All the outer envelopes containing the bids and modifications must be kept till the evaluation is complete.

It shall be ensured to see whether any separate letter is there along with the financial bid indicating the modifications to the bid value by the bidder.

After opening of each financial bid and modification, the same must be initialed by all the committee members.

All the Financial Bids shall be opened first. The final quoted amount, rebate/premium and the net amount shall be announced publicly in front of the bidders' representatives and the same shall also be entered simultaneously in the bid opening statement.

The original bids then shall be stamped/recorded by the Committee indicating the number of corrections/cuttings and number of over-writings already done by the bidder as observed by the Committee at first instance. It shall also be indicated whether all those corrections/cuttings/over writings are authenticated by the authorized person on behalf of the bidder. In case of non authentication, the fact must also be mentioned and signed by the Committee on relevant page of the bid.

All corrections/cuttings and over-writings shall be circled in red ink and initialed by all the committee members. All corrections/cuttings and over writing of the bidders in the rates entered in words shall be rewritten by one member of the Committee and signed by all other members in red ink.

All the Committee members must put their signatures on each page of the BOQ including the summary carrying the page wise totals; the bid forwarding letter & index; and the modification letter.

The Committee must also verify that there should not be any apparent deviation in the rates indicated in words and figures. If such deviations are there, they shall be encircled in red ink and be initialed by the committee members.

### **Evaluation of Financial Bids**

The financial bids opened shall be checked by the Committee for any arithmetical errors. To facilitate the arithmetical checking the rates quoted in words by the bidder be entered in the computer (to be displayed on screen through OHP) which will automatically calculate the correct amount after multiplying with pre-fed BOQ. One Representative of IT division shall arrange the Computer, OHP; etc required for this purpose and assist the committee till the evaluation is completed.

All rates shall be quoted by the bidders on the BOQs issued by NHAI. The instructions given in the bidding document must be strictly followed while carrying out the arithmetical corrections. If on checks there are differences between the rates quoted by the bidder in words and figures or in amounts worked out by him, the following procedure shall be followed:

*(a) When there is a difference between the rates in figures and in words, the rates written in words shall be taken as correct and the amounts shall be corrected accordingly.*

*(b) When the amount of any item is not entered by the bidder or it does not correspond with the rates written in words, then such amount shall be entered based on the rate quoted by the bidder in words.<sup>±</sup>*

(c) If the bidder enters the rate of any item in words but fails to enter the rate in figures then the Committee shall enter such rate in figures (to be signed by an Committee members). [However, if for any item the rate is not quoted in words, then the bid shall be declared non-responsive]\*.

Note: The following points shall also be observed and necessary corrections shall be carried out by the Committee if not done by the bidder in red ink. In case of figures, the word 'Rs.' should be written before the figure of rupees and word 'P' after the decimal figures, e.g. 'Rs. 2.15 P' and in case of words, the word,

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<sup>±</sup> The sub-paras (a) and (b) in the rectangle stand substituted by the relevant provision in Para 4.25

\* Sentence in parenthesis stands deleted.

'Rupees' should precede and the word 'Paise' should be written at the end. Unless the rate is in whole rupees and followed by the word 'only' it should invariably be up to two decimal places. While quoting the rate in BOQ, the word 'only' should be closely following the amount in words and it should not be written in the next line.

The corrections must be marked in red ink and the corrected totals be carried over to the summary sheet and final corrected amount be indicated incorporating all the corrections rebate/premium etc. All the corrections and the final corrected amount must be authenticated by all the Committee Members.

The corrected bid amount and the net bid amount after affecting the rebates/premiums, if any, shall also be entered in the statement.

The original financial bids must be put in a separate container and be sealed and authenticated by the Committee Members and the same must be kept in the safe custody of the Committee.

**(E) Recommendations of Evaluation Committee for award of work**

In case the Committee feels that the quoted bid price is very low, the Committee may recommend appropriate additional Performance Security.

After the evaluation of the bids, the Evaluation Committee must give its recommendations in absolute and clear words indicating the name of the bidder whose bid is recommended by them along with the total bid amount recommended for acceptance/approval by the Competent Authority. Accordingly, the minutes of the Evaluation Committee must be prepared wherein any doubt or discussions of the Committee Members inter-se must be highlighted in detail before giving final recommendations of the Committee as stated above.

## **Chapter 5**

### **CONTRACT MANAGEMENT**

#### **5.1 Responsibilities of the Parties**

- 5.1.1 The two parties to the contract are the Employer and the Contractor.
- 5.1.2 Employer is responsible for defining the scope of the work, setting the standards to which the work shall be constructed and completed, providing possession of site to the Contractor, making payments, approving any variations or design changes, coordination with other government agencies and getting clearances from them wherever mentioned in the Contract.
- 5.1.3 Contractor is responsible for construction methods, provision of competent and experienced personnel, supply and organization of labour, job safety, traffic management, construction-related quality assurance and quality programmes, compliance with all laws relevant to the work, and overall completion of the Contract Works. He will keep proper records including those for quality, inspection, rejection or rectification of work
- 5.1.4 Engineer is the party mentioned in the Contract. The Engineer, as such, is the consultancy firm engaged by the Employer or any official of NHAI designated as such. The firm is, however, required to appoint a person to act as the Engineer and delegate to him the responsibilities to work and act on its behalf and carry out most of the functions related to the project. The consultancy firm may have internal regulatory and control arrangements with the said person and give him required directions.
- 5.1.5 The Engineer is responsible for administering the Contract, inspection of plant, materials and workmanship, making measurements of quantities as work proceeds and making engineering decisions where ambiguities or unforeseen circumstances occur. He will act impartially, give proper and timely advice to the Employer/Contractor to enable corrections during execution, and give reasons for his recommendations and decisions when called by the Employer. He will keep proper records including those for quality, inspection, rejection or acceptance of work, and make available such records as may be called for by the Employer.

#### **5.2 Land Acquisition and Other Clearances**

The process of land acquisition shall be started by the Employer, through the Project Director, well ahead and completed entirely, or at least substantially, by the time contract is awarded, The Project Director shall also pursue with the following departments for requisite



clearances so that the progress of work is not impeded and incidence of delay claims by the contractor is avoided.

- (a) Forest Department, for removal of trees, compensatory afforestation and approval under Forest Conservation Act;
- (b) Telecommunication Department, for re-locating telephone lines;
- (c) Public Health Engineering Department and/or Local Authorities such as Corporations/Municipalities, for re-locating the water supply and sewer pipe lines;
- (d) State Electricity Boards, for shifting or removing of electricity poles;
- (e) Optical Fibre Cable Service (OPC) providers, for safety of cables;
- (f) Ministry of Petroleum, for adjustment in the sites of petrol pumps and gas lines;
- (g) Railways, for conversion of level crossings into ROB/RUB, and laying of project needed railway sidings;
- (h) District Administration, for Rehabilitation and Resettlement (R&R) of persons affected by the project and Land Acquisition;
- (i) Police Department, for traffic control;
- (j) State Mining and Mineral Department, for mining of earth and stone;
- (k) Archaeology Department, for clearance in respect of interfering protected monuments;
- (l) Industries Department, for blasting permission, if any;
- (m) Ministry of Environment, for environmental clearance; and
- (n) Community Leaders, for shifting of religious shrines.

### **5.3 Duties and Powers of the Engineer**

The Engineer has no general authority to relieve the Contractor of any of his obligations. He may appoint and delegate, in writing with copy to the Contractor, duties and/or authority to the Engineer's Representative (who may be called Resident Engineer). The Engineer may reject work despite the failure of Engineer's Representative to do so. The Contractor may query any action of the ER/RE with the Engineer who may vary or overrule it.

Various duties and powers of the Engineer are stated in the Conditions of the Contract and Construction Supervision Agreement. Under the contract his three main functions are: Approval and Acceptance, Evaluation, and Instructions.

#### **5.3.1 Approval and Acceptance**

- (a) Approval of the Contractor's programme, his proposed methods of working, and cash flow statement;
- (b) Approval of setting out of works;
- (c) Temporary Works approval;
- (d) Issue of Working Drawings;

- (e) Acceptance of workmanship and approval of the quality of materials;
- (f) Approval of measures to deal with problems such as unforeseen physical conditions or slow progress;
- (g) Issue of certificates accepting the work as substantially complete and accepting the satisfactory completion of the maintenance period; and
- (h) Application of the test of 'satisfaction' as the standard of compliance for all matters pertaining to the Contract, including maintenance of records.

### **5.3.2 Evaluation**

- (a) Explanation and adjustment of ambiguities, discrepancies, errors and omissions in the Contract Documents;
- (b) Assessment of whether physical conditions or artificial obstructions were 'unforeseen';
- (c) Assessment of delays and evaluation of extra costs incurred by the Contractor;
- (d) Allocation of liability of damage to the Works or public highways;
- (e) Assessment of the rate of progress against completion date;
- (f) Assessment of any extension to the Contract period;
- (g) Measurement and valuation of Works for interim payment and final account The Engineer shall take measurements of the works independently and not through a different agency/ subcontractors; and
- (h) Evaluation of whether and how contract rates should be varied to take into account changes in the Works.

### **5.3.3 Instruction**

- (a) Giving order to commence the Works;
- (b) Issue of further drawings and variation orders to supplement, delete or modify any part of the Works;
- (c) Suspension (for a limited period) of the works due to weather, default of the Contractor, reasons of safety or the presence of unforeseen physical conditions;
- (d) Direction to the Contractor in dealing with unforeseen physical conditions;
- (e) Ordering removal and substitution of improper work and/or materials;
- (f) Direction to the Contractor regarding the use of provisional or prime cost items in the bill of quantities; and
- (g) Direction of the Contractor regarding the keeping and maintenance of particular contemporary records in connection with any claim.

### 5.3.4 Consultation with and approval of the Employer

5.3.4.1 Consultation with the Employer, where required, shall be adequate and visible. In certain specified responsibilities, listed below, the Engineer is obliged to obtain prior permission and specific approval of the Employer before taking appropriate decisions.

- (a) Issuing notice to commence the work;
- (b) Consenting to subletting any part of the Works;
- (c) Certifying additional cost on account of unforeseen physical obstructions and conditions;
- (d) Determining any extension of Contract time;
- (e) Ordering suspension of work;
- (f) Fixing new rates or prices;
- (g) Issuing order for Special Tests not provided in the Contract;
- (h) Issuing changes or additional Specifications;
- (i) Issuing a variation except if such variation would be within the limits as indicated below;

(i) Variation in individual BOQ Items: The 'Engineer' is authorized to issue variation order up to 25% of the value of individual item or 1% of contract value whichever is less.

(ii) New items (Non-BOQ items): Before issuing orders to execute new items of work (non BOQ items), 'Engineer' shall obtain technical approval from Employer.

(iii) Subject to provision under (i) & (ii) above, the 'Engineer' is authorized to issue cumulative variations up to a limit of 10% of the original contract value (less negative variations/savings). The overall limit shall apply collectively on all BOQ items as well as non-BOQ items and shall include all the variations issued till that point of time including those approved otherwise than by the Engineer. The overall limit shall be exclusive of escalation.

(iv) Any variation beyond above limits (individual items and overall variations) shall be approved by the Employer.

(j) Notwithstanding the obligation, as set out above, to obtain approval, if, in the opinion of the Engineer for reasons to be recorded in writing, an emergency occurs affecting the safety of life or of the works or of adjoining property, he may, without relieving the Contractor of any of his duties and responsibilities under the Contract, instruct the Contractor to execute all such work or to do all such things as may, in the opinion of the Engineer, be necessary to abate or reduce the risk. The Contractor shall forthwith comply, despite the absence of approval of the Employer, with any such instruction of the Engineer. The Engineer shall determine an addition to the Contract Price, in respect of such instruction, in accordance with

conditions of the contract and shall notify the Contractor accordingly, with a copy to the Employer.

- 5.3.4.2 Project Director should send his report and detailed comments quickly whenever such approvals are sought by the Engineer and ensure that all initial formalities are complied with. Chief General Manager/Member Technical should ensure that the requisite approvals are communicated promptly.

### **5.3.5 Other Responsibilities of the Engineer**

The Engineer has to perform several other duties stipulated in the Works Contract and Supervision Contract. These may include but not be limited to, the following:

- (a) Prepare, in consultation with the Employer, a Construction Supervision Manual outlining routines and procedures to be applied in management, construction supervision and administration. In order to ensure a minimum threshold for quality assurance by the contractors during construction a Quality Assurance Manual has been prepared by the Steering Group appointed by the Ministry of Shipping, Road Transport & Highways. The National Highways Authority of India has adopted this document as a reference document for use by NHAI officials and Supervision Consultants and ensuring its enforcement in the field. Supervision Consultants may improve upon it in preparing their project specific Quality Assurance plans while following the guidelines contained in the Quality Assurance Manual;
- (b) Assist/advise Employer for advance action to be taken to achieve different milestones for completion of the project as per schedule;
- (c) Write a Daily diary to record all events and information relating to the administration of the Contract; which may at a later date be of assistance in resolving queries that may arise concerning execution of the works;
- (d) Prepare and issue monthly and quarterly progress reports along with detailed quality control test statement in an approved format;
- (e) Advise the Employer on all matters relating to claims from the Contractor and to make recommendations thereon including the possible recourse to arbitration;
- (f) Prepare quarterly cash flow projections for the Employer in an acceptable form, bringing out fund requirements;
- (g) Update cost estimates at specified intervals (such as yearly/quarterly completion/or at 50% and 100% completion stage);
- (h) Make independent measurements and check all quantity measurements and calculations required for payment purposes
- (i) Superintend and ensure performance by the Sub-contractors and Joint Ventures strictly as per approvals given and terms of the Agreement;

- (j) Inspect the works during construction regarding safety, adequacy of methods of construction, quality, and deployment of the required materials and equipment;
- (k) Inspect the works at proper intervals during Defects liability Period, issue Defects Liability Certificate after rectification by the Contractor of possible defects, and issue final payment certificates;
- (l) Verify and correct the 'as-built' drawings supplied by the Contractor;
- (m) Advise and assist the Employer with respect to arbitration, litigation, if so required, and at the end of the job give complete handing over notes regarding pending differences, disputes and claims;
- (n) Maintain records of all plant, labour and material used in construction of the works;
- (o) Assist the Employer in taking over from the Contractor each section in particular by preparing list of deficiencies/defects which need to be corrected, and further assist with monitoring of the performance of the works during the Defects Liability Period;
- (p) Prepare a Maintenance Manual outlining the routines to be adopted in each specific reach and for bridges and culverts;
- (q) Assist the Employer in providing clarifications/explanations to observations made from time to time by Audit; and
- (r) Provide, on agreed terms, other specialist services relevant to the project as ordered by the Employer.

#### **5.4 Commencement of Works**

After signing the Contract and issue of Letter of Acceptance, the following steps become mandatory:

- (a) The Engineer instructs the Contractor to 'Commence the Works';
- (b) The Contractor, within the stipulated time, submits to the Engineer for his consent: (i) programme in such form and detail as the Engineer reasonably prescribes; (ii) methods statement which the Contractor proposes to adopt for execution of the Works, and (iii) Quality Assurance Plan – only General Procedures at this stage; and
- (c) The Employer provides to the Contractor total or partial possession of site.

#### **5.5 Setting up of Milestones**

'Deadlines' or 'Contractual Milestones' should be set up and tabulated to facilitate monitoring of the progress of work.

#### **5.6 Quality Assurance**

Quality Assurance should be put in place to: (i) give confidence that performance at all levels and stages of construction are being managed

appropriately, and (ii) provide documented evidence that all specified requirements are met. This will be achieved through a structured arrangement comprising the following elements.

#### **5.6.1 Quality Assurance Manual (QAM) of the Employer**

QAM of NHAI spells out the quality policy of the Authority, the various duties of the contractors, the requirements of quality assurance as per ISO -9000, working out of quality index, reference to IRC guidelines, use of standard forms for different objectives etc. This will set the minimum benchmark.

#### **5.6.2 Supervision Manual of the Supervision Consultant**

This will be job specific and elaboration of QAM as applicable to that job. It will embrace the consultant's arrangements for quality assurance, his internal quality audits, the various approvals to be obtained from time to time for different items, non-conforming procedures, detailed Performa or documentation etc.

#### **5.6.3 Quality Management Plan (QMP) of the Contractor**

QMP to be submitted by the contractor for the subject work will detail his own quality control measures and quality organisation, both on and off the site, detailed methodology (to be got approved from the Engineer) for different items, describing various processes, controls, equipments to be used, calibration, site laboratory, non-conforming procedures, handling and storage, and such other site requirements to ensure quality product.

#### **5.6.4 Quality Audit**

It will be an independent examination to determine whether quality activities and related result comply with planned arrangements and whether these arrangements are implemented effectively and are suitable to achieve objectives.

#### **5.6.5 IRC Publications**

Indian Roads Congress has published two guidelines, which can be referred to,

- (a) IRC: SP: 57-2001 'Guidelines on Quality Systems for Roads'
- (b) IRC: SP:47-1998 'Guidelines on Quality Systems for Road Bridges (Plain, Reinforced, Pre stressed and Composite Concrete)'

## **5.7 Quality Management Plan**

### **5.7.1 General**

Quality Management Plan to be established by the Contractor should give written description of: (i) site management structure and the particular responsibility of each individual (ii) appropriate general procedures (iii) specific work procedures (iv) individual quality plans for important packages of work listing quality requirements including any inspection tests or hold points. The Employer should see that the Plan is effective.

### **5.7.2 Design**

Where contractor-designed items and temporary works design are required, appropriate procedures will be written. These should cover design criteria, the process of design, and design checks. The procedures will be structured to comply with relevant standards and codes of practice.

### **5.7.3 Inspection, Measuring and Test Equipment**

The contractor should control, calibrate and maintain all his inspection, surveying and test equipment. He should ensure that such equipment employed by his sub- contractors is, like-wise, adequately controlled.

### **5.7.4 Construction Control and Inspection**

Control of quality will be achieved by proper implementation of procedures, method statements and works instructions. The contractor's quality programme shall provide for inspection to be carried out during construction on all the important items which cannot be checked at a later stage. Checklists shall be provided for such inspections.

### **5.7.5 Workmanship**

Workmanship shall be as per approved methodology and established standards and codes; and where standards are not available, then as per approved samples.

### **5.7.6 Purchasing**

The Contractor shall establish and maintain documented procedures to ensure that: (i) all purchased products conform to specified requirements; (ii) they are handled, stored, combined with other products, installed and used in accordance with the manufacturer's

recommendations and (iii) the materials are compatible with the other products and works

#### **5.7.7 Product Identification and Traceability**

The Contractor shall maintain data and documentation that allow product identification and tractability during all stages of production, delivery and construction. The Contractor shall identify all samples and test results with the field locations to which they relate. Work under the Contract shall be subdivided into lots or discrete work areas and controlled in accordance with the Engineer's requirements.

#### **5.7.8 Process Control**

The Contractor shall identify all factors affecting the quality of the product, and plan the production, installation and processes to ensure that these are carried out under controlled conditions. The Contractor shall document the decisions on the requirement and content of the Technical Procedures or Process Control Plans.

#### **5.7.9 Inspection and Testing**

5.7.9.1 The Contractor shall establish Inspection and Test Plans for all manufacturing and construction activities in order to verify that the specified requirements are met. The sequence of all activities identified in the Inspection and Test Plans shall be concisely described in the process control documentation or by a process flow diagram.

5.7.9.2 The Engineer shall be given access, in conjunction with or through the Contractor, to all laboratories and other facilities used for quality control inspections and tests. The Contractor shall establish and maintain a system to ensure and demonstrate that all products or parts of products requiring inspection and/or testing are so inspected and/or tested.

5.7.9.3 Frequency of testing shall be appropriate to verify conformity and shall not be less than stated in the specifications. Where no minimum frequency of inspection or testing is stated in the Specification, the Contractor shall nominate appropriate frequencies in the Inspection and Test Plan(s), to be approved by the Engineer.

#### **5.7.10 Inspection and Test Status**

Records shall be maintained to identify inspection and test status of all works under the Contract.



### **5.7.11 Control of Non-conforming Product**

- 5.7.11.1 The Contractor shall establish an appropriate method for identification and control of all occasions where the product/work or service fails to pass any inspection or test in accordance with the deemed acceptance criteria.
- 5.7.11.2 Where conformity cannot be achieved either by reworking or repair, the Contractor shall notify the Engineer of the non-conformity and record it in an appropriate register. The non-conformance report will indicate the proposed disposition, calculations of any deductions, and when the disposition is to be undertaken.
- 5.7.11.3 If surveillance or an audit by the Engineer indicates a non-conforming product that has not been addressed by the non-conformance report by the contractor, the engineer will issue a non-conforming product notification.
- 5.7.11.4 A non-conforming product/work shall neither be covered up nor be further built in unless a disposition has been accepted by the Engineer and implemented by the Contractor.

### **5.7.12 Preventive and Corrective Action**

The Contractor shall review, analyse and record the cause of all detected non-conformities and develop corrective action to eliminate the cause of non-conformities. This shall include both the determination of immediate action to prevent recurrence, as well as long-term corrective action.

### **5.7.13 Control of Quality Record**

- 5.7.13.1 The Contractor shall establish and maintain documented procedures for identification, collection, indexing, access, filing, storage, maintenance and disposition of quality records. Quality records shall be maintained to demonstrate conformance to the required quality and the effective operation of the quality system. In case of non-conformities, records of repair, rectification, retesting, inspection and acceptance shall be kept.
- 5.7.13.2 The records shall be so stored and maintained that they are easily retrievable, and are in appropriate facilities/environment to minimize deterioration or damage, and to prevent loss.
- 5.7.13.3 The Contractor shall make the quality records available to the Engineer at all reasonable times, and where requested by the latter, permit him make copies.

## **5.8 Work Programme**

5.8.1 The Contractor will, within the specified period, prepare construction programme for submission to and approval of the Engineer. The programme should show the proposed order of work and dates for commencement and completion of various stages. The programme should include:

- (a) Bar Chart showing proposed month-wise execution of quantities of principal items of work; and
- (b) Critical Path Method/PERT analysis of various activities from start to completion.

5.8.2 The programme shall be:

- (a) complete (i.e. include all activities);
- (b) accurate (activities are properly sequenced);
- (c) based on the resources and equipment deployed and their efficiency;
- (d) related to the site conditions;
- (e) able to show realistic reductions of output of relevant activities during the monsoon period;
- (f) not structured in a manner as to exploit any pending action on the part of the Employer; and
- (g) designed to provide for periodic updating.

## **5.9 Revised Programme**

If the progress of work is falling significantly behind schedule or the Contractor is not following the programme, the Contractor shall produce, at the request of the Engineer, a revised programme showing modifications to ensure completion of the Works within the Time for Completion. Impliedly, the revised programme will contain all the supporting details of revised resources.

## **5.10 Methods Statement**

5.10.1 The Contractor shall provide a general description of the arrangements and methods he proposes to adopt for the execution of the works for approval of Engineer before hand. These would include environment management plan during construction stage and traffic diversion/opening of roads as temporary measures.

5.10.2 These methods statement shall be written in the form of various steps in the required sequence, supplemented by sketches where necessary, and shall be self- explanatory. No change shall be made by the Contractor from the approved procedures without first obtaining the

approval of the engineer to the proposed changes. List of principal activities and their expected form of detailing is given at Appendix-E.

- 5.10.3 The consent of the Engineer to the Programme and Methods Statement docs not relieve the Contractor of his contractual responsibilities,

## **5.11 Traffic Safety**

The maintenance of existing road as well as safety during construction has to be maintained by the contractor with utmost sincerity. Only because some of these items are not part of BOQ but incidental to main work, the contractors should not shirk their responsibility for maintenance and safety. The Engineer has to satisfy himself as well as NHAI about compliance of the safety and maintenance requirement. In case of non compliance by the contractor or the supervision consultant, an amount of 2% should be with held from each IPC payment or monthly invoice of the consultants, as case may be, released only after the measures as per contract provisions are taken. In spite of this, if adequate traffic safety measures are not taken by the Contactor, appropriate action may be initiated as per the contract

## **5.12 Approval of Quarries, Borrow Areas and Materials**

### **5.12.1 Quarries and Borrow Areas**

- 5.12.1.1 The Contractor will obtain approval of the Engineer for each quarry and borrow area to be used in the Project prior to commencement of quarrying and/or borrow area excavation activities. The Engineer should consider, inter alia, the following aspects before granting approval:

- (a) the Contractor has legal approval by the owner to excavate/remove materials from the proposed quarry/borrow area;
- (b) any statutory permission required from the Government has been obtained;
- (c) the proposed materials meet specification requirements;
- (d) the Contractor submits an acceptable 'Environment Management Plan' for development, use and closing down of the proposed quarry/borrow area, together with any other approvals or documents that may be required from the concerned authorities; and
- (e) the Contractor gives an undertaking that he will pay all royalty and other levies/dues.

- 5.12.1.2 Based on the proposal of the Contractor, and receipt of site inspection report of the Engineer's team, the Engineer will: (i) approve the proposed quarry/borrow area, or (ii) give approval subject to one or more required changes, or (iii) ask for a revised proposal, giving details

of required changes, and additional requirements, or (iv) reject the proposed quarry/borrow area.

### **5.13 Materials**

- 5.13.1 All materials (whether natural, processed, manufactured, or designed) proposed by the Contractor to be used on the Works shall be first got approved from the Engineer to comply with the requirements of Specifications.
- 5.13.2 Approval of natural materials will be done first by approving the quarry or borrow area, and then on the basis of test results meeting the specifications and trial results.
- 5.13.3 Approval of processed materials will be done after they meet the test results, and have evidence of satisfactory production and storage conditions.
- 5.13.4 Approval of manufactured materials will be based on submission of appropriate test results by the manufacturers, and then on positive results being obtained for acceptance.
- 5.13.5 Approval of the designed materials (like, concrete mix, bituminous mix) will be done stage-wise, involving approval of: the source of quarries; the individual processed material; laboratory-based mix design; plant mix design; trial section and finally, successful laying in accordance with the approved methodology, conformance to quality control requirements and tests as per provisions of the Specifications.
- 5.13.6 Following initial approval, the quarries, borrow areas and materials shall be continuously monitored by the Engineer to ensure continued adherence with the design Specifications. If and when the materials fall outside the acceptance criteria the situation may call for: (i) changes in the quarries/borrow areas; (ii) modifications of the process and/or design in the case of processed or designed materials, and (iii) change of source of procurement in the case of manufactured materials.

### **5.14 Compliance with Laws**

- 5.14.1 In carrying out the Contract, the Employer and the Contractor, in their respective areas of performance, shall comply with the provisions of all statutes, regulations and bylaws of the Union Government, the State Government, Local Bodies and other public authorities that may be applicable to the Contract Works. A list of existing Acts and regulations which are relevant to road construction is given at Appendix-F.
- 5.14.2 The Contractor shall give all notices and obtain all other necessary permits and approvals as may be required for the construction of the Contract Works' and shall pay 'for all such permits and approvals.

5.14.3 The Engineer will check the above and ensure compliance. The Project Director will test check and monitor.

## **5.15 Subcontracting**

The Works Contract provides for the Contractor to get specified works executed from subcontractors included in the Pre-qualification application, or later on consented to by the Employer, notwithstanding the fact that responsibility for all subcontract work rests with the prime Contractor. Subcontracting will generally be for specialized item of work, such as reinforced earth retaining walls, pre-stressing works, etc. Procurement of material, hire of equipment or engagement of labour will not mean subcontracting. The total value of subcontracting work will not exceed 33 %of the Contract Price or as specified in the contract.

Subcontracting by the Contractor without the approval of the Employer shall be a breach of Contract.

The following procedure shall be followed in giving approval of subcontractors.

### **5.15.1 Subcontractor Assessment Procedures and Guidelines**

Subcontractor has got to be approved before being allowed to come to the site.

- (a) The Contractor should promptly intimate to the Engineer about the subcontractor moving to the site. The Engineer shall provide to the Employer an assessment of the subcontracting proposal, noting the location, types and value (and percentage) of the works, the likely mobilization period required to accomplish these works, and a review of the subcontractor's qualification with regard to his proposed works. In essence, the assessment would be similar to that conducted for the Contractor during pre-qualification, except that only the qualifications relevant to the designated works to be subcontracted are to be considered.
- (b) In case the Engineer discovers an unapproved subcontractor working at the site, he shall notify the Contractor, in writing, of the breach of Contract. A copy of this correspondence shall be forwarded to the Employer.
- (c) Upon receipt of this notice from the Engineer, the Contractor is to immediately take steps to remove the subcontractor from the site. Failure by the Contractor to do so will constitute breach of Contract on his part.

### **5.15.2 Responsibilities**

If a Contractor persists with the engagement of a non-approved subcontractor, despite a notice from the Engineer for his removal, then the work done by such a subcontractor shall not qualify for payment, besides its constituting, as mentioned above, a breach of Contract, and non-compliance of directions on the part of the Contractor, entailing action as provided in the Contract

### **5.15.3 Powers to grant approval to subcontracting**

All proposals for subcontracting shall be got approved from the competent authority.

## **5.16 Delays and Extension of Time**

Contractor may experience delay or disruption due to his own actions or inaction, those of his subcontractor or other suppliers, those of the Employer or the Engineer, or other causes. Such delays expose the non-performing party to various sanctions under the Contract. These sanctions include extension of time, damages or determination of the Contract.

While examining the request of the Contractor for extension of time, the Engineer shall consider all the circumstances and see whether:

- (a) Force Majeure applies viz. acts of God, adverse weather, floods etc.;
- (b) Delay is compensable (the Employer delaying payments, wanting to make changes, altering the sequence of construction; the Engineer not giving timely decisions, or there being unforeseen site conditions etc.), which affords the Contractor both additional time and money; and
- (c) Delay is inexcusable (Contractor's own faults), which puts the full burden of responsibility on the Contractor.

To determine the nature of delay, its consequences and the kind of relief available to the Contractor, the source of event, the cause and factors surrounding the delay will need to be examined. Once the delay is categorised, it should then be determined not only whether the Contractor is eligible for time extension and/or monetary relief but also whether sanctions, such as liquidated damage or default determination, can be imposed on the Contractor.

### **5.16.1 Delay Administration**

A system should be set up whereby all delay, alleged delay, notice of delay, variations that conceivably cause delay, hindrances and obstructions, lack of possession of site etc. are recorded.

## **5.16.2 Extension of Time (EOT)**

### **5.16.2.1 As the Contract Progress**

EOT must not be left to the end; it should be dealt with promptly during the progress of the contract. For ongoing critical delay, there are provisions for interim EOT to be awarded. While granting Extension of Time, the following may be kept in view.

- (a) Is there a delay to a particular work front/activity?
- (b) What/Who caused the delay? Is it eligible for consideration of extension of time?
- (c) Does the cause reasonably justify an extension of time? To qualify for an extension of time, the delay must affect an operation critical to the Contractor's completion time.

Decision should be taken as the work progresses, depending on developing events and circumstances, without waiting for substantial completion. If the events are such as fairly entitle the Contractor to an extension of time for completion of Works, or any Section or part thereof, the Engineer shall, after due consultation with the Employer and the Contractor, determine the amount of such extension and notify the Contractor accordingly, with a copy to the Employer.

### **5.16.2.2 Extension of Time (Final)**

After the final stage of substantial completion is reached (final Taking-Over Certificate issued), EOT may be reviewed, if required. The Contractor puts in his final submission, with full details and particulars. The Engineer should examine it, form preliminary conclusions, hold consultations with Contractor and Employer and then submit an assessment report with recommendations, to the Employer.

### **5.16.2.3 Action by the Employer**

The Employer shall examine the recommendations of the Engineer, call for such information from the Engineer and the Project Director as considered necessary, satisfy himself that the recommendation is not intended to extend the supervision services, and convey final decision promptly.

## **5.16.3 Concurrent Delays**

Concurrent delays may occur when two or more events responsible for delay overlap each other. The delays may be attributable to the Employer or the Contractor or none, and fall in the categories of excusable, compensable, or inexcusable. The eligibility for extension of

time should be determined by plotting on the critical path each concurrent delay. Employer should see that the concurrent delays do not result in unnecessary extra extension of time.

#### **5.16.4 Authority for approval of extension of time**

5.16.4.1 Proposals for grant of EoT shall be considered and approved by a Committee consisting of the Chairman, Member [F] and the concerned Member/CGM.

5.16.4.2 The payment against actual work done and claimed in the monthly bills by the contractor and recommended for payment by the Engineer may continue to be made to the contractor, without recovery of any liquidated damages where a proposal has been received from the 'Engineer' for grant of EoT. Technical Division (NHAI) may finalize grant of EoT within a maximum period of two months on receipt of such proposal from the 'Engineer'.

5.16.4.3 Technical Division (NHAI) may also simultaneously finalize grant of EoT to the Supervision Consultant, in such cases, within said two months period. Payment, may, however, be continued to be made to the Supervision Consultant as per actual requirement of staff/deployment of staff. However, a review of the requirement of the personnel of the supervision consultant may also be carried out by the respective Divisions and submitted along with proposal for EoT.

#### **5.17 Liquidated Damages (LD)**

5.17.1 The rate of Liquidated Damages is stipulated in the Contract for each day of delay caused (1/2000 of Contract price per day delay), with a maximum amount not exceeding 10%. The Employer may, without prejudice to any other method of recovery, deduct the amount of such damages from any money due or to become due to the Contractor. The payment or deductions shall not release the Contractor from his obligation to complete the work or any other of his obligations and liabilities under the Contract.

5.17.2 There may be situations where completion is not achieved within the stipulated time because of delays attributable to the Employer. These may be denial of access to the whole or part of the site; failure to provide design and drawings at the stage when these were required by the Contractor; delay in giving timely instructions; refusal or denial to pay due and legitimate payments; holding up amounts on account of non-sanctioning of rates of extra/varied items; failure to abide by the contractual duties etc. In such situations the Contractor may not be liable for recovery of any liquidated damages.



## **5.18 Time at Large**

Time becomes at large when the obligation to complete within the specified time for completion of a contract is lost. Before the expiry of originally stipulated date of completion, the Employer should extend the currency of the Agreement and set a new time limit for completion and make the extended time as essence of the contract, without prejudice to his right to recover damages as per the contract.

## **5.19 Payments and Certificates**

The basis of all progress payments is a determination in the field of actual quantities of work that have been accomplished as stated by the Contractor in his request.

### **5.19.1 Interim Payment Certificates (IPC)**

- (a) At a prearranged date each month, the Contractor will submit a statement in such form as the Engineer from time to time prescribe, showing the amounts to which the Contractor considers himself entitled up to the end of the month.
- (b) The Engineer's tasks in checking the progress payment submission will include the following:
  - (i) Quantity of work actually completed as of agreed 'cut-off' date
  - (ii) Field measurements of quantities of work completed or claimed
  - (iii) Inventory of equipment and materials delivered to site but not yet used in the work (Materials on site)
  - (iv) Review of claims for extra work
  - (v) Check of retention amount and other recoveries
  - (vi) Review of variations -whether these have been approved by Employer. If not, Provisional rates to be used until final valuation sanctioned by Employer
  - (vii) Price Adjustments

The Engineer will not be bound to certify any payment if the net amount thereof, after all retentions and deductions, is less than the minimum amount of interim payment certificate, if any, specified in the Contract.

- (c) Interim monthly payments will be based on Interim Payment Certificate processed by the Engineer following bills filed by the Contractor. The Supervision Consultant will ensure proper record of measurement/ check measurement as specified and the Project Director will ensure test check of measurements as per procedure laid down in Chapter 7.

- (d) The Engineer will send the Interim Payment Certificate to the Project Director for approval and subsequent payment. Payments will be net of (i) retentions and recovery of advances at the rates prescribed in the Contract (ii) statutory deductions (works tax, income tax, others).

### **5.19.2 Final Payment Certificate**

The Final Payment Certificate shall be issued as required under the Conditions of Contract. This shall be done when, on completion of the Defects Liability Period, the Contractor has submitted the following:

- (a) Final statement of the value of work done by him and any further sums due to him; and
- (b) Written Discharge confirming that the total of the Final Statement represents full and final settlement of all moneys due to him.

## **5.20 Variations**

### **5.20.1 General**

- (a) Variation means: (i) increase or decrease in the quantity of any work included in the Contract; (ii) omission of any such work (but not if the omitted work is to be carried out by the Employer by another contractor); (iii) change in the character or quality or kind of any such work; (iv) change in the levels, lines, position and dimensions of any part of the Works; (v) additional work of any kind necessary for the completion of the Works; and (vi) change of the specified sequence or timing of construction of any part of the Works.
- (b) The variation or additional work must be a necessary part within the scope of the original works. The variation may result in additional or reduced payments to the Contractor or there may be no price change at all.
- (c) It is important to have a written procedure for the issuing of a variation instruction. Once it is decided that a variation is required, the instruction should be issued promptly to minimize any adverse effect on the overall works.
- (d) Before a variation can be instructed to the Contractor, prior approval from the Employer is needed, except for certain situations as may be specified in Special Conditions of the Contract.
- (e) The rate/price/valuation does not have to be agreed with the Contractor, although this is preferable.

- (f) Any change in 'Approval for Construction' drawings should be evaluated properly and its full financial implications worked out at that very stage for submission to the appropriate authority for approval.
- (g) In case there are changes in ground levels from those shown in the approved drawings, they shall be agreed in writing, jointly by the Contractor, Engineer and PD. Also, PD will send a report to the Head Office for considering whether any action lies against the design consultant for non-conformity of the levels as shown by him in the drawings and those actually obtaining.

### **5.20.2 Keeping Track of Variations**

Variations Register shall be used to administer and keep track of the status of a variation. This shall cover the following important steps:

- (a) Employer's prior approval of the issue of the variation instruction;
- (b) Engineer's instruction to the contractor (this letter creates the variation). Particular details of a variation are not entered into the Variations Register until the day the instruction is issued. Prior to that it is only a 'proposed variation' and is tracked/administered in a separate register;
- (c) The variation instruction letter must be given a unique variation number and details entered into the variation register;
- (d) The register is updated at the end of each month and summarized on one sheet 'Variation Status', so that the three involved agencies are aware as to what work needing action is held up with each of them; and
- (e) The financial implications are kept up to date.

### **5.20.3 Valuation of Variations**

5.20.3.1 Variation instructions for modified, new or additional work involving extra cost shall be valued as per the procedure set out in the relevant Clause of the Contract. The following are the steps to be taken by the Engineer:

- (a) to form an opinion as to applicability of the rates in BOQ;
- (b) if considered applicable, to use BOQ rates;
- (c) if not considered applicable, to use BOQ rates as the basis for valuation;
- (d) in the event of disagreement, to consult with Employer and Contractor to try and agree suitable rates; this means developing new rates from first principles;
- (e) if disagreement, to fix appropriate rate; and
- (f) to determine provisional rates to allow monthly certification.

- 5.20.3.2 In making his recommendations, the Engineer should give the Contractor the opportunity to state his case and, if he considers the BOQ rate to be inappropriate, to present his proposals as to how the rate should be adjusted or what basis should be used to assess a new price. For his part, the Contractor must support his submission with full particulars including, where applicable, detailed cost breakdown of any rate in the Bill of Quantities.
- 5.20.3.3 The Employer must also be consulted with. The Employer should ensure that the above procedure has been duly followed and appropriately explained by the Engineer in his recommendations, before he approves the variation.
- 5.20.3.4 Where it is reasonable to value at the BOQ rate or some modification of it, any stance by the Contractor that the tendered price may be 'wrong' or deliberately set low is irrelevant.
- 5.20.3.5 Threshold level of the value/ quantity of a varied item below which a variation will not merit re-fixation of rate or price should be specified.

#### **5.20.4 Procedure for approval of variations**

The procedure/delegation of powers for approval of variations is as under:

##### 5.20.4.1 Variations in individual BOQ items:

- (a) Engineer: Up to 25% of the value of individual BOQ item or 1 % of Contract value, whichever is less,
- (b) CGM: Rs 30 lakhs for each item subject to a limit in aggregate of 3% of the Contract value for entire contract,
- (c) Member: Rs 50 lakhs for each item subject to a limit in aggregate of 5% of the Contract value for entire contract, including approvals at lower levels.
- (d) Any variation in individual BOQ item beyond above limits shall be approved by the "Variation Committee" comprising Chairman, Member (Fin) and Member/CGM of the concerned Technical Division.

##### 5.20.4.2 New items (Non-BOQ items):

Before issuing variation orders to execute new items of work (non BOQ items) "Engineer" shall obtain technical approval from NHAI. The powers for granting technical approval shall be exercised at Headquarters as under:

Sr.	Item	CGM	Mamber	Chairman
1	Limit for each item	Rs.30 lakh	Rs.50 lakh	Full powers subject to overall delegation given to the Authority.
2	Limit in aggregate for entire contract	3% of contract value	5% of contract value including approvals at lower levels	Full powers subject to overall delegation given to the Authority.

5.20.4.3 Determination of rate for new items and for BOQ items beyond the limits prescribed in the contract:

- (a) In respect of new items/BOQ items beyond the limits prescribed, the rates may be determined in accordance with the clause 52 of the general conditions of the contract (FIDIC) or Clause 38/39/40 of the general conditions of the contract (NCB) or equivalent, of the civil works contracts, as applicable for the specific contract.
- (b) Technical Division (at the level of the concerned Member) may examine the rate prescribed/determined by the 'Engineer' for its reasonableness and for its acceptance before putting up the proposal to the Competent Authority/Variation Committee for an in principal approval of the variation.
- (c) In case it is considered that the rates fixed by the Engineer are on higher side, NHAI may separately exercise the option of contesting as per the relevant contract conditions (such as DRB/Arbitration, etc.)

5.20.4.4 Overall Variations under Contract:

Subject to provisions under Paras 5.20.4.1, 5.20.4.2, 5.20.4.3 above, the "Engineer" is authorized to issue cumulative variations up to a limit of 10% of the original contract value (less negative variations/savings). The overall limit shall apply collectively on all BOQ items as well as non BOQ items and shall include all the variations issued till that point of time including those approved otherwise than by the Engineer. The overall limit shall be exclusive of escalation.

5.20.4.5 However, where the limits prescribed at Paras 5.20.4.1 and 5.20.4.2 above restrict the powers of the "Engineer" that have already been defined in the respective civil works contracts, the "Engineer" may issue variation orders up to the limits prescribed in such civil works contracts.

- 5.20.4.6 Variations beyond above limits: Any variation beyond above limits (individual items and overall variations) shall be approved by the "Variation Committee" comprising Chairman, Member (Finance) and the Member/CGM of the concerned Technical Division.
- 5.20.4.7 All variations approved for each contract shall be intimated by the Project Director to the concerned Technical Division at Headquarters in the prescribed format on a quarterly basis. Concerned Technical Division shall compile the details and submit for the information of Chairman and Member (Finance), NHAI.
- 5.20.4.8 (a) Revised Cost Estimates should be prepared and submitted to HQs at appropriate time as per the guidelines of MOSRTH for obtaining the sanction of the Competent Authority.
- (b) Monthly information on variations should be reported to the Finance Division and concerned Technical Division at HQ.
- (c) No variation shall be approved unless recommended by the Engineer. The Engineer should explain the Financial Implications along with detailed reasons and justification. The Engineer should furnish the following information and details along with the proposal.
- (c.1) Vouchers and proper quotations in support of the market rates.
  - (c.2) Analysis of rates should be self-explanatory and supported by proper drawings.
  - (c.3) Recommendations given should be self-explanatory and nomenclature of the items should also be properly worded.
  - (c.4) Copy of analysis of rate given by the contractor.
- 5.20.4.9 The above clauses may be incorporated in the contracts at appropriate places.
- 5.20.4.10 Care may also be taken by all divisions to ensure that provisions contained in the contract agreements with the Supervision Consultant and the civil work contractor are in consonance. Further, suitable modification of sub-clause 2.1 defining "Engineer's Duties and Authority" may invariably be included in the conditions of Particular Application (Special Conditions of Contract).

## **5.21 Site Order Book and Inspection**

- 5.21.1 At each site of work, a proper 'Site Order Book' shall be maintained by supervision consultant. The inspecting authorities shall record their observation of site inspection in the site order book duly dated and initialed.

- 5.21.2 Inspection notes for the inspection of the work carried out by Project Director or any officers from HQ shall formally be issued indicating the quality aspect and variation ordered at site after obtaining approval of the competent authority wherever required as per the procedure mentioned below. The Supervision Consultants may get the oral order of the inspecting authority confirmed subsequently.
- 5.21.3 Frequent inspection of works by the NHA officers from Headquarters is essential for effective monitoring of the projects. The following guidelines are prescribed in this regard.
- (a) Members may inspect the projects under their jurisdiction at least once in a quarter.
  - (b) Either the CGM or GM concerned may inspect the projects under their jurisdiction at least once in a month
  - (c) Inspection report/ Tour observations should invariably be issued within seven days of the completion of the Inspection. For inspection by CGMs/GMs, the tour report may be got approved by Members concerned. The tour report of Members may be issued with the approval of Chairman.

The inspecting officer shall, along with the inspection of works, also inspect the functioning of the Supervision Consultant.

- 5.21.4 Quarterly Review Meetings of the works may also be carried out, either at project site or Headquarters by the Members with Project Directors, representatives of the Contractors and representatives of the Supervision Consultants. Minutes of the review meetings shall be issued with the approval of the Chairman.

## **5.22 Daywork**

The Engineer has the option of ordering any variation of minor nature to be paid for at Daywork rates. When the work is executed at Daywork rates, the Engineer is effectively hiring the Contractor's plant, labour and material. The cost of any inefficiency, wasted time or lack of full effort is now borne by the Employer. The Engineer should take a close interest in the operational control of all Daywork activities to avoid uneconomic working or inefficient use of resources.

## **5.23 Substantial Completion, Taking-Over Certificates, Defects Liability Period**

### **5.23.1 Substantial Completion**

- 5.23.1.1 It means that stage in the execution of the work under the contract when the Contract Works are complete except for minor outstanding items and minor defects: (a) which in the opinion of Engineer the Contractor has reasonable grounds for not promptly correcting; (b)

which do not prevent the Contract Work being used for their intended purpose, and (c) rectification of which will not prejudice the convenient use of the Contract Works.

5.23.1.2 Substantial Completion is generally taken to refer to a sufficient degree of completion to enable the Employer to take beneficial use of the works concerned. 'Substantial completion' must be kept distinct from completion of 'the Works' or of 'the Contract'.

5.23.1.3 The phrase 'substantially complete' needs to be interpreted judiciously. Minor outstanding items, surface finishes for instance, or the removal of certain types of temporary works may not generally prevent the issue of the Taking-Over Certificate, nor should small defects, for the contract covers their completion or correction. The material consideration is whether or not the incomplete work impairs the safe and effective use of the Works, including the consequences to the Employer, and perhaps the public if they are to have access, of accepting the works in that state.

5.23.1.4 Engineer's decision in the matter of deciding substantial completion shall be final.

### **5.23.2 Taking-Over Certificate (TOC)**

5.23.2.1 The Engineer is empowered to issue a 'Taking-Over Certificate'. The Contractor shall notify the Engineer when he believes the work to be complete and the Engineer will either agree and so certify, or specify the works necessary to be completed before substantial completion. In the latter case, the Contractor receives his certificate within the specified period of completing the listed work.

5.23.2.2 Taking-Over Certificate may be issued in respect of specified sections or part of the Works, which are either complete or are incomplete but have been taken over by the Employer.

### **5.23.3 Hand-over to Employer**

On issue of the Taking-Over Certificate, the Employer is responsible for the road section and for maintaining it, unless it is the Contractor's responsibility to maintain it.

### **5.23.4 Outstanding Work**

On issue of Taking-Over Certificate, the Engineer will send a complete and accurate list of any outstanding work. The Project Director should also satisfy himself in this regard.



### **5.23.5 Defects Liability Period (DLP)**

This period is named in the Contract. It starts from the date of substantial completion stated in the TOC. If there are more than one TOC, then there are different Defect Liability Periods for the different sections/parts taken over.

### **5.23.6 Completion of Contract**

The Contract is not to be treated complete until a Defects Liability Certificate has been issued. There will be only one Defects Liability Certificate. It will be issued when the Contractor has completed all his obligations under the Contract, viz.

- (a) completion of all the physical works absolutely, down to the last minor item, including site clearance;
- (b) remedying of all the defects for which the Contractor is responsible; and
- (c) Fulfillment of all other obligations, such as submission of approved 'as built' drawings, manuals, warranties, etc. as may have been specified.

## **5.24 Claims**

### **5.24.1 Various reasons for claims**

Claims may arise for various reasons, such as:

- (a) construction drawings may include more or less details or perhaps increased or decreased quantities of work than could be anticipated from the tender drawings, or may cause a different construction method to be used;
- (b) ambiguities or discrepancies in the contract documents which cannot be mutually agreed by referring to conditions of contract 'Priority of Contract Documents';
- (c) differences over the valuation of variations;
- (d) unforeseen conditions, such as adverse physical obstructions or unexpected conditions encountered during construction, which could not have been reasonably foreseen by an experienced Contractor when tendering;
- (e) effect of war, rebellion, actions of third parties and the effects of weather;
- (f) delays in giving possession of site, issuing 'approved for construction' drawings, and Employer supplied materials or services;
- (g) unwarranted work rejection, necessitating removal and re-execution;
- (h) acceleration claims, when events would have fairly entitled a Contractor to an extension of time, but no extension has been

- granted, the Contractor may claim extra costs because he has to accelerate to meet the original contract time requirements;
- (i) disruption claims, when the contractor would allege that because of the combination of numerous variations and directions, general disruption has taken place, which in effect makes the tendered BOQ rates null and void;
  - (j) carrying out additional tests not envisaged in the contract, which either impose higher standards or which are found to finally show the materials, plant or work to be in accordance with the provisions of the contract; and
  - (k) bonus claim, if any.

### **5.24.2 Procedure for Claims**

5.24.2.1 The Contract sets out a disciplined manner of dealing with claims. Claims procedure prescribes time for the notification and substantiation of claims and requires contemporary records to be kept. If such records are not kept, the Contractor may be limited in his entitlement.

5.24.2.2 In the first place, the Contractor is required to give notice to the Engineer within specified days of occurrence of the event, giving rise to the claim. This is a practical requirement. The event having taken place, the Contractor is required to maintain contemporary records. At this stage the Contractor can call upon the Engineer to inspect such records and state if he (the Engineer) requires other records to be kept. In this manner the Contractor can satisfy himself that the records he is keeping will be suitable for the Engineer to evaluate the claim in due course.

5.24.2.3 If the circumstances giving rise to the claim are not continuing, the Contractor has the obligation, and also the benefit, of submitting his claim to the Engineer for agreement or discussion while the event is still sufficiently recent for site personnel to have the facts at their fingertips and the records readily available. If the circumstances are continuing the Engineer will inspect the records at reasonable intervals and raise any points with which he disagrees or on which he wishes to have further information when he inspects the records.

5.24.2.4 The Engineer will furnish all the data and his recommendations to the Project Director who will forward the case to Head Office for decision.

### **5.24.3 Claims Register**

A register will be kept to keep track of claims. Entries are to be made once the Contractor notifies the claim. The register needs to be kept up to date as to the progress of each claim, status, action required, etc. Review and updating should be once a month by the Engineer and the Project Director.

## **5.25 Records**

Proper records shall be kept in an easily retrievable form for any future reference. They may be needed for resolving/ defending claims. They are also important as, very often, new people may have to analyse and make recommendations on the claims, and defend in arbitration proceedings.

The list of records to be maintained will depend on the type and nature of work, amount of delegation and channels of communication. However, the records that are regarded fundamental are enumerated below.

### **5.25.1 Site Supervision Records**

These may include *inter alia*, the following:

- (a) All correspondence between the Engineer and the Contractor including site instructions, approval forms etc.;
- (b) All correspondence between the Supervision Consultant, the Employer and 'third parties';
- (c) The minutes or notes of every formal meeting;
- (d) Measurement records, such as dimension books, timesheets, delivery notes etc.);
- (e) Day work records as submitted and as corrected;
- (f) Contractor interim statements, as submitted with copies of all supporting particulars, as corrected Contractor's statements and interim certificate;
- (g) level and survey book, covering checks on setting out and completed work;
- (h) Laboratory results and any other testing data;
- (i) Progress Photographs;
- (j) 'Approved for Construction', Revised, 'As-Built' Drawings;
- (k) Administrative records such as leave and sickness returns, accident reports etc.;
- (l) Personal site diaries; and
- (m) Record of site approvals.

### **5.25.2 Daily Diaries**

One of the most important records kept on site is the 'Daily Diary'. The purpose is to have information for use in the determination of claims, disputes and arbitration, should the need arise. Dairy diaries will include: weather records, progress of work activity-wise, work or material rejected with reasons machinery deployed, log books of machinery, man power employed category-wise, payment record, official visits and inspections, unusual conditions, problems encountered,

materials or equipment delivered to site, length and cause of any delay etc.

### **5.25.3 Personal Diaries**

A daily personal diary concerning work activities/happenings should be issued to and maintained by each member of the Supervision Consultant's field staff. This book is an important and basic document and should be neatly and accurately recorded. Entries should be made every day, whether or not work was performed. Such diaries need to be checked, collected and stored.

### **5.25.4 Field Office Records**

All field office records should be kept up to date and should be maintained for ready reference at the job site during construction phase of the project. Upon completion of the work, the records should be turned over to the Supervision Consultant's Main Office, who will retain some and forward other to the Employer for retention. The field office records should include: Correspondence, Drawings, Reports, Samples, Operating tests, Material tests, etc.

### **5.25.5 Miscellaneous Reports**

There are numerous types of individual records that are important to log and retain for future reference. Many of the records that must be maintained are primarily of a technical nature. No detailed coverage is possible. However, as a reminder, the following will serve as a partial list of some of the many technical records that must be maintained on a job, as applicable.

- (a) Manufacturer's certificates for a product;
- (b) Laboratory test certificates;
- (c) Temporary Works approval;
- (d) Concrete transit-mix delivery tickets;
- (e) Records of pile driving;
- (f) Record of inspection of structural welding;
- (g) Fabricating plant inspection reports;
- (h) Concrete batch plant daily reports;
- (i) Concrete mix designs;
- (j) Concrete placing reports;
- (k) Concrete placement checkout sheet;
- (l) Grouting reports;
- (m) Embankment placing reports etc.;
- (n) field investigating reports; and
- (o) Defects/non-conformance reports

### **5.25.6 Project Photographs and Videos**

Photography and Videos will be used as evidence of site conditions before starting work, to document construction progress, technical detail, record of important events, types of materials, methods of installation, any damages such as because of flood, and similar tasks. They will also be useful aids for presentation.

### **5.25.7 'As-Built' Drawings**

On completion of the Works or Section thereof, the Contractor has to furnish to the Employer 'As-Built' drawings at his own cost. Contract may have a provision that in the event of Contractor's failure to furnish the 'As-Built' drawings by the specified date, Taking-Over Certificate shall not be issued by the Engineer. The other provision could be that the amount specified in the Contract shall be withheld from payments due to the Contractor. Action will be taken by the Engineer in accordance with the actual provision.

'As-Built' drawings shall be in the form of hard bound copy and soft copy.

### **5.25.8 Registers**

The use of registers to summarise track of records is a necessity. One can invent/add registers as required.

### **5.25.9 Meetings**

The Engineer will organize regular site meetings with the Contractor to review progress and Contractor's work methods, take stock of problems, discuss variations and claims, and to decide who is to take the next action and when. Similarly, the Employer may hold formal contract (project) review meetings. The Engineer should attend all such meetings, fully prepared to take notes of the business transacted at each meeting. Minutes of any officially called meetings should be accurately recorded, distributed and agreed with all parties concerned as being a true record.

## **5.26 Termination of the Contract**

- 5.26.1 The Contract empowers the Employer to terminate employment of the Contractor and lists the consequent steps required to be taken. The power arises if the Contractor: (i) has become insolvent, or (ii) has seriously or repeatedly breached the contract, or (iii) has failed to obey instructions in relation to his progress or defective work, material or plant, or (iv) is in breach of the prohibition against subcontracting, or (v) has committed fraud. The defaults of the Contractor also include:
- (a) failure to supply sufficient and suitable constructional plant, temporary works, labour; material as proposed in the work programme;
  - (b) substantial suspension of work for more than the specified days without authority from the Engineer and failure to proceed with the work within the specified days of receipt of notice from the Engineer; and
  - (c) failure to comply with the requirements regarding joint ventures.
- 5.26.2 In the event that insolvency occurs in one of the listed firms or if the Engineer certifies one of the heads of default, the Employer can give two weeks' notice before terminating the contract and taking over the site. The Employer is then free to complete the works himself or with another contractor and use the Contractor's materials, equipment, temporary works as he/they think proper.
- 5.26.3 If termination is because of a fundamental breach on the part of the Contractor, the Engineer shall issue a certificate for the value of work done, deducting there from the amounts in respect of: (i) advance payments; (ii) any recoveries; (iii) taxes as due, and (iv) percentage to apply to the work not completed as indicated in the Contract Data.. If

the total amount due to the Employer exceeds that due to the Contractor, the difference will be a debt payable to the Employer.

- 5.26.4 If termination is because of Employer's convenience or fundamental breach on his Part. the Engineer will certify the value of works executed, the value of any materials lying at site, reasonable cost of removal of equipment, repatriation of project staff, cost of protecting and securing the works and deduct there from: (i) pending advances; (ii) other recoveries, and (iii) taxes as due.

## **5.27 Financial Control**

- 5.27.1 Besides administering the Contract as regard to its quality and completion, the Engineer will regularly assess the financial position and exercise financial control. He will update on quarterly basis cash flow projections, and the cost estimates yearly/quarterly milestones, and submits them to the Employer. Variations should be with a view to achieving economical completion of the Work, and not to result in avoidable higher rates or costs.

- 5.27.2 In case of a significant number of variation orders or unexpectedly rapid cost escalation, update may be done more frequently. The financial statements should bring out comparisons of the initial estimated/ tendered cost with the actual - component wise and activity wise -both in respect of quantities and value. Employer should examine these statements critically. If excess is likely to happen, it should be anticipated, and a revised estimate of cost prepared, with full explanations, for approval by the competent authority.

## **5.28 Bonus**

- 5.28.1 Bonus may be provided if urgency is attached to the project. It should be, if the Contractor completes the Whole of the Works prior to the Intended Completion Date, a sum stated in Contract Data as bonus for every completed month which shall elapse between the date of completion of the Works and the said date. No allowance with regard to the original date will be made for any variations ordered or extension of time granted. Any period short of completed month will be ignored. Maximum limit of bonus will be as specified in the Contract Data.
- 5.28.2 Following clause will be included in the Bidding Document for the civil work contracts
- 5.28.3 "if the contractor achieves completion of the whole of the works prior to the specified period of completion from the date of commencement, the Employer shall pay to the contractor a sum of One percent of the initial contract price as bonus for every completed month (part of month to be excluded) which shall elapse between the date of completion of all items of works as stipulated in the contract including variations ordered by

the Engineer and the specified period of completion limited to Six per cent of initial contract price. In case of time extension for any reason, bonus for early completion considering the extended time shall NOT be payable.”

## **5.29 Performance Appraisal of Contractors**

5.29.1 A confidential report of the Contractor regarding his performance will be prepared by the Engineer. The report should, *inter alia*, bring out:

- (a) Ability to understand and willingness to carry out instructions;
- (b) Implementation of quality assurance plan;
- (c) Compliance with contractual provisions, labour laws, and safety rules;
- (d) Deployment of the required equipment, key personnel and finances;
- (e) Any complaint regarding unauthorized subletting, subcontracting, performance of JV;
- (f) Satisfactory rate of progress and completion, except for reasons or delays not attributable to him;
- (g) Imposition of any penalty, liquidated damages, suspension, termination, or expulsion/removal of staff; and
- (h) Overall assessment.

5.29.2 The report will be signed by the PD and submitted to the HQ with his remarks.



## Chapter 6

### CONSULTANCY SERVICES

#### 6.1 Requirement of Consultancy Services

In order to prepare and implement the projects, and do forward planning, NHAI needs high-quality services of consultants to blend economy with efficiency. The consultancy services in connection with works, which the NHAI shall be most often seeking, include, but not limited to the following:

- (a) Feasibility studies
- (b) Project preparation, including specifications and BOQ
- (c) Tender documents
- (d) Construction supervision
- (e) Project co-ordination consultancy (PCC), which could embrace all of the above mentioned tasks
- (f) Development of management systems
- (g) Special studies relating to planning and research
- (h) Road/bridge inventory database
- (i) Traffic data base
- (j) Computer aided designs
- (k) Transport modeling
- (l) Expressway designs and operations
- (m) BOT viability of a project and preparation of bid documents
- (n) Proof consultancy with respect to designs
- (o) Peer review of DPR
- (p) Training
- (q) Quality Audit
- (r) Pavement management system
- (s) Condition survey of highways (functional)
- (t) Safety Audit
- (u) Performance based consultancy/advisory service in different areas
- (v) Legal Services
- (w) For BOT projects, financial consultancy services.

#### 6.2 Contracts in Relation to Consultancy Services

The consultants may be engaged in the following ways.

##### 6.2.1 Lump Sum (Firm Fixed Price) Contract

Lump sum contracts will be used mainly for assignments in which the content and duration of the services and the required output of the consultants are clearly defined. Areas of application will be simple planning and feasibility studies, environmental studies, detailed design of standard or common structures, preparation of data processing systems, and so forth. Payments will be linked to outputs (deliverables),

such as reports,' drawings, bills of quantities, bidding documents and software programs.

### **6.2.2 Time – Based Contract**

This type of contract will be an appropriate choice when it is difficult to define the scope and length of services. Areas of application will be complex studies, supervision of construction, advisory services, and most training assignments. Payments will be based on agreed hourly, daily, weekly, or monthly rates for staff (who are normally named in the contract) and on reimbursable items using actual expenses and/or agreed unit prices. The rate for staff include salary, social costs, overheads, fee (or profit), and where appropriate, special allowances. This contract should specify the maximum amount to be paid to the consultants. This ceiling amount should include a contingency allowance for unforeseen work and duration, and provision for price adjustments, where appropriate. Time based contracts need to be closely monitored and administered in order that the assignment is progressing satisfactorily and that payments claimed by the consultants are appropriate.

### **6.2.3 Percentage Contract**

These contracts will be relevant for architectural services. They may be also used for procurement, inspection agents, or work supervision. In these, the fees paid to the consultant should be related to the estimated or actual project construction cost, or the cost of the goods procured or inspected. The contracts will be negotiated on the basis of market norms for the service and/or estimated staff month costs for the services, or competitive bid. These contracts may encourage the consultants to provide proposals that are not economical.

### **6.2.4 Indefinite Delivery Contract (Price Agreement)**

These contracts will be used when there is a need to have 'on call' specialised services to provide advice on a particular activity, the extent and timing of which cannot be defined in advance. These may be used to retain 'advisers' for implementation of complex projects, expert adjudicators for dispute resolution panels, institutional reforms, procurement advice, and technical trouble shooting etc. The client and the firm agree on the unit rates to be paid for the experts, and the payments are made on the basis of the time actually used.

## **6.3 Selection Method**

The consultants may be drawn from various sources, wherever talent and experience of the relevant kind are available. These may include private and public entities such as: consulting firms, engineering firms, construction managers, management firms, procurement agents,

inspection agents, investment institutions, research bodies, government agencies, individuals. Different methods of selection and the areas to which a particular method is most appropriate, and also the detailed procedure of evaluation, selection and appointment of consultants are:

- (a) Quality-and Cost-Based Selection (QCBS)
- (b) Quality-Based Selection (QBS)
- (c) Selection Under Fixed Budget
- (d) Least- Cost Selection
- (e) Selection Based on Consultant's Qualification
- (f) Individual Consultants

## **6.4 Quality and Cost-Based Selection (QCBS)**

### **6.4.1 Selection Process**

6.4.1.1 QCBS will use a competitive process among firms that takes into account the quality of the proposal and the cost of the services in the selection of the successful firm. Cost, as a factor of selection, should be used judiciously. The relative weight to be given to the quality and cost will be determined for each case, depending on the nature of the assignment. This method is the preferred method for many of the consultancy assignments relating to works to be undertaken by NHAI.

6.4.1.2 The process of service procurement is in the following steps:

- (a) Preparation of Terms of Reference (TOR);
- (b) Preparation of cost estimate of the services and the budget;
- (c) Advertising to seek expression of interest (EOI);
- (d) Preparation of the short list of consultants;
- (e) Preparation and issuance of the Request for Proposals (RFP);
  - (i) Letter of Invitation (LOI);
  - (ii) Information to Consultants (ITC);
  - (iii) Proposed contract;
- (f) Receipt of proposals;
- (g) Evaluation of technical proposals; consideration of quality;
- (h) Evaluation of financial proposal;
- (i) Final evaluation of quality and cost; and
- (j) Negotiations and award of the contract to the selected firm.

### **6.4.2 Terms of Reference (TOR)**

TOR shall be prepared by the person(s) specialized in the area of the assignment. Standard TOR of NHAI shall be followed in normal cases. Any departure shall be got approved from Chairman. For complex cases the TOR may be prepared by the concerned Technical Division/ Technical Committee and got approved from Chairman. The TOR should:

- (a) define clearly the objectives, goals, and scope of the assignment;

- (b) provide background information (including a list of existing relevant studies and basic data) to facilitate the consultants in preparation of their proposals;
- (c) list the tasks, services and surveys necessary to carry out the assignment and the expected outputs, such as reports, data, maps, designs, drawings, recommendations, etc. ;
- (d) spell out any training requirements within the consultant's brief to develop skills;
- (e) specify schedule for completion of tasks;
- (f) list data, services, facilities to be provided by NHAI;
- (g) give procedure for review or progress reports, status, final draft, and final reports;
- (h) stipulate list of key professional position whose curriculum vitae (CV) and experience would be evaluated, and minimum expected inputs from key personnel.

However, TOR should not be too detailed and inflexible, so that the competing consultants come out with innovative proposals of their own methodology and firms shall be encouraged to comment on the TOR in their proposals. The respective responsibilities of NHAI and the consultants should be clearly defined in TOR.

#### **6.4.3 Advertising and Seeking Expression of Interest (EOI)**

To obtain expressions of interest, advertisements will be put in as per procedure given in Paras 3.15 and 3.16. Advertisement will also be put up on the NHAI web site. The information requested should be only sufficient to make a judgment on the firm's suitability, but not so complex as to discourage consultants from expressing interest. Sufficient time should be provided for responses before preparation of the short list.

#### **6.4.4 Short List of Consultants**

In case of the consultancy services requiring short-listing, a short list of consultants (4 to 8) from among those expressing interest and possessing the relevant qualifications and experience will be prepared. In case of ICB, short lists should have a wide geographic spread, and meet with any requirement of the funding agency. Firms that have expressed interest, as well as any other firm that may specifically so request, shall be provided the final short list of firms.

#### **6.4.5 Preparation and Issuance of the Request for Proposals (RFP)**

RFP will be issued to the consultants short listed in accordance with the above procedure, and in case of jobs of design consultancy, to the empanelled consultants described in Para 6.4 depending on the limits of their eligibility as deemed in the said Para. The RFP shall include:

- (a) a letter of invitation (LOI);
- (b) information to consultants (ITC);
- (c) the terms of reference (TOR); and
- (d) the proposed contract.

Whenever possible, standard RFPs shall be used. RFPs shall specify the currency in which payments will be made. Local costs shall be in Indian Rupees.

#### **6.4.6 Letter of Invitation (LOI)**

The LOI shall state the intention of the NHAI to enter into a contract for the provision of consulting services, the source of funds, the details of the client and the date, time, and address for submission of proposals.

#### **6.4.7 Information to Consultant (ITC)**

- 6.4.7.1 The ITC shall contain all necessary information that would help consultants in preparing responsive proposals. The evaluation process, indicating the evaluation criteria and factors and their respective weights and the minimum passing quality score should be spelt out. It should also indicate the procedure for handling any clarifications and conduct of negotiations.
- 6.4.7.2 The ITC shall not indicate the budget (since cost is a selection criterion), but may indicate the expected input of key professionals (staff time). Consultants, however, shall be free to prepare their own estimates of staff time necessary to carry out the assignment.
- 6.4.7.3 The ITC shall specify the deadline for submission of the proposal, method of its submission, anticipated date of commencement of the assignment, as also the proposed validity period.

#### **6.4.8 Receipt of Proposals**

Sufficient time should be allowed for the consultants to prepare their proposals. This will depend on the assignment, but normally should not be less than four weeks nor more than three months. During this interval, the firms may request clarifications about the information provided in the RFP. The NHAI shall provide these clarifications in writing and copy them to all firms on the short list (who intend to submit proposals). If necessary, the NHAI shall extend the deadline for submission of proposals. The technical and financial proposals shall be submitted at the same time. No amendments to the technical or financial proposal shall be accepted after the deadline. The technical and financial proposals shall be submitted in separate sealed envelopes. After the closing time for submission of proposals, the technical proposals shall be opened by a duly constituted Committee with the approval of Chairman. The Committee shall comprise of two officers of the concerned Technical

Division, two officers of other Technical Division and one officer of the Finance Division. The financial proposals shall remain sealed in the custody of GM concerned until they are opened publicly. Any proposal received after the closing time for submission of proposals shall be returned unopened.

#### **6.4.9 Evaluation of Proposals: Consideration of Quality and Cost**

The evaluation of the proposals shall be carried out in two stages on QCBS system: first the quality, and then the cost. Evaluators of technical proposals shall not have access to the financial proposals until the technical evaluation is completed. Financial proposals shall be opened only thereafter. The evaluation shall be carried out in full conformity with the provisions of the RFP.

#### **6.4.10 Evaluation of Quality**

6.4.10.1 The NHAI shall evaluate each technical proposal through an Evaluation Committee to be approved by the Chairman NHAI as mentioned in Para 6.4.8 above.

6.4.10.2 Evaluation shall take into account several criteria. Each criterion may be divided into sub-criteria. However, the number of sub criteria should be kept to the minimum essential. Exceedingly detailed lists of sub criteria shall be avoided so as not to render the evaluation to a mechanical exercise rather than a professional assessment of the proposals.

6.4.10.3 Evaluation of only the key personnel shall be made. A thorough review shall be made of the qualifications and experience of proposed key personnel in their curricula vitae, which must be accurate, complete, and signed, by an authorized official of the consultant and also the individual proposed declaring his consent to be fielded for the particular job. When the assignment depends critically on the performance of key staff, it may be desirable to conduct interviews. Experience shall be relevant to the assignment in question and at the appropriate level.

6.4.10.4 Every proposal shall be adjudged on the basis of its responsiveness to the TOR. A proposal shall be considered unsuitable and shall be rejected at this stage if it does not respond to important aspects of the TOR or it fails to achieve a minimum technical score specified in the RFP.

#### **6.4.11 Evaluation Criteria for Design Consultancy**

6.4.11.1 Evaluation for short-listing will be done on the basis of the following factors:

- (a) Structure and Organization

- (b) Turnover
- (c) Relevant experience of the firm, depending on nature and size of the project
- (d) Equipment available with the firm

Suitable weightage will be assigned to each factor. Overall score for short-listing will be stipulated, but more emphasis to be laid on the experience factor. For projects having special requirements, the above mentioned factors can be suitably modified.

The Technical proposal should score minimum qualifying marks before the Financial Proposal is opened and taken up for evaluation.

6.4.11.2 Evaluation for selection will be done on the basis of the following factors:

- (a) Firm's relevant experience
- (b) Past performance (certificates from previous employers)
- (c) Site appreciation and methodology
- (d) Equipment and software proposed to be used
- (e) Qualification and relevant experience of the key personnel

Suitable weightage will be assigned to each factor. Attributes to be considered for each factor will be modified according to the requirements of the project.

#### **6.4.12 Evaluation Criteria for Supervision Consultancy**

6.4.12.1 Evaluation for short-listing will be done on the basis of the following factors:

- (a) Structure and Organisation.
- (b) General experience
- (c) Particular experience
- (d) Key personnel, work load and adequacy for the job

Suitable weightage will be assigned to each factor. Overall score for short-listing will be stipulated, but more emphasis to be laid on the experience factor

6.4.12.2 Evaluation for selection will be done on the basis of the following factors:

- (a) Specific experience relevant to the assignment
- (b) Understanding/appreciation of TOR, Methodology, Adequacy and structure of the proposed Work Plan, Manning Schedule of key personnel, Facilities available
- (c) Past performance (certificates from previous employers)
- (d) Qualification and competence of the key staff proposed
- (e) Suitability of the transfer of knowledge programme (training)
- (f) Local participation of key personnel

Suitable weightage will be assigned to each factor. Attributes to be considered for each factor will be modified according to the requirements of the project.

### **6.4.13 Evaluation Report of Quality**

At the end of the process, an evaluation report of the 'quality' of the proposals shall be prepared. The report shall substantiate the results of the evaluation and describe the relative strengths and weaknesses of the proposals. All records relating to the evaluation, such as individual mark sheet, shall be retained until completion of the project and its audit.

### **6.4.14 Evaluation of Cost**

6.4.14.1 After the evaluation of quality is completed, notification shall be sent to those consultants whose proposals did not meet the minimum qualifying mark or were considered as non-responsive to the RFP and TOR, indicating that their financial proposals will be returned unopened after completing the selection process. Simultaneously, notification shall be sent to the consultants that have secured the minimum qualifying mark, also indicating the date and time set for opening the financial proposals. The opening date normally may not be sooner than one week after the notification date. The financial proposals shall be opened publicly in the presence of representatives of the consultant and their signature taken on the Attendance Register. The quality scores and the proposed prices shall be read aloud and recorded when the financial proposals are opened. Minutes of the public opening shall be duly prepared.

6.4.14.2 The financial proposals shall then be reviewed. If there are any arithmetical errors, they shall be corrected. For the purpose of comparing proposals, the costs shall be converted to a single currency i.e. Indian Rupees, as may be specified in the RFP.

6.4.14.3 For the purpose of evaluation, 'cost' shall include all reimbursable expenses, such as travel, transportation, report printing, or secretarial expenses. While inviting quotations from consultants for expenses, they should be asked to give the maximum ceiling for each item, and only such ceilings shall be taken into account.

### **6.4.15 Combined Quality and Cost Evaluation**

The total score shall be obtained by suitably weighting the quality and cost scores, and adding the two scores so obtained. While the technical score is straight forward, the financial score will be arrived at by giving the lowest cost a score of 100, and in the case of other proposals, financial scores that are inversely proportional to their prices. The relative weightage between the technical and financial scores depends



on the complexity of the assignment and the importance of quality. Except for special services, weight for cost should normally be limited to 20- 30 points out of a total score of 100. The proposed weightings of quality and cost shall be specified in the RFP.

#### **6.4.16 Negotiations and Award of Contract**

6.4.16.1 Negotiations shall include discussions of the TOR, the methodology, staffing, improvement of the proposal, NHAI inputs, and special conditions of the contract. These discussions shall not substantially alter the original TOR or the terms of the contract, lest the quality of the final product, its cost, and the relevance of the initial evaluation be affected. Major reductions in work inputs should not be made solely to meet the budget. The final TOR and the agreed methodology shall be incorporated in 'Description of Services' which shall form part of the contract. Financial negotiations shall include clarification of the consultants' tax liability in India (if any) and how this tax liability has been or would be reflected in the contract.

6.4.16.2 The selected firm should not be allowed to substitute key staff, unless both parties agree that undue delay in the selection process makes such substitution unavoidable or that such changes are critical to meet the objectives of the assignment. If this is not the case, and if it is established that key staff were offered in the proposal without confirming their availability, the firm may be disqualified and debarred for a minimum period of 6 months. The process may be continued with the next ranked firm. The Team Leader, unless so expressly desired by the Employer for stated reasons, or in his sole discretion, shall not be changed by the consultant, except on ground of medical unfitness. The key staff proposed for substitution, in the circumstances mentioned above, shall have qualifications equal to or better than key staff initially proposed. Restrictions that will apply in case of substituted staff are given in Para 6.13.9.

6.4.16.3 After negotiations are successfully completed, NHAI shall promptly notify other firms on the short list that they were unsuccessful.

#### **6.4.17 Rejection of All Proposals and Re-invitation**

NHAI shall reserve the right to reject all proposals. In case re-invitation is decided, the scope of services and RPF may be reviewed. However, clear and logical reasons for any action for rejection/re-invitation should be recorded on the file.

#### **6.4.18 Confidentiality**

Information relating to evaluation of proposals and recommendations concerning awards shall not be disclosed to the consultants who

submitted the proposals or to other persons not officially concerned with the process.

## **6.5 Empanelment of Design Consultants**

6.5.1 For feasibility studies and detailed project reports of road projects more than 100 km length and for very large bridges, the system of project specific short listing by inviting EOI, as detailed above, may be followed. However, the system of empanelment may be followed for the following categories of works after the empanelment is finalised by NHAI.

- (a) Category -I For road projects up to 100 km length and for bridges up to 100 m individual span
- (b) Category -II For road projects up to 50 km length and for bridges up to 50 m individual span

6.5.2 Further, for specialized work like Geo-technical Investigation, Traffic & Transportation Studies, Environmental Studies, Rehabilitation of Bridges, the empanelled list of NHAI/MOSRTH can be used,

## **6.6 Quality-Based Selection (QBS)**

6.6.1 QBS shall be used in the following types of assignments:

- (a) Complex or highly specialized assignments for which it is difficult to define precise TOR and the required input from the consultants, and for which the client expects the consultants to demonstrate innovation in their proposal
- (b) assignments that have a high downstream impact and in which the objective is to have the best expert; and
- (c) assignments that can be carried out in substantially different ways, such that proposals will not be comparable.

6.6.2 In QBS, the RFP shall request submission of a technical proposal and simultaneously the financial proposal, but in separate envelopes (two-envelope system).

## **6.7 Selection under Fixed Budget**

This method will be used when the assignment is simple and can be precisely defined, and when the budget is fixed. The RFP should indicate the available budget and request the consultants to provide their best technical and financial proposals in separate envelopes, within the budget. TOR should be particularly well prepared to make sure that the budget is sufficient for the consultants to perform the expected tasks. Evaluation of all technical proposals shall be carried out first as in the QCBS method. Then, the price envelopes shall be opened in public. Proposals that exceed the indicated budget shall be rejected. The

consultant who submits the highest ranked technical proposal among the rest shall be selected and invited to negotiate a contract.

## **6.8 Least- Cost Selection**

This method will be used for assignments of a standard or routine nature, where well-established practices and standards exist and in which the contract amount is small. Under this method, minimum inputs required will be specified and certain minimum qualifying marks for the quality, established. Proposals to be submitted in two envelopes will be invited from a short list. Technical envelopes will be opened first and evaluated. Those securing less than the minimum will be rejected and the financial proposals of the rest opened in public. The firm with the lowest price shall then be selected. The minimum inputs required and the minimum qualifying marks shall be stated in the RFP.

## **6.9 Selection Based on Consultants' Qualifications**

This method may be used for very small assignments for which the need for preparing and evaluating competitive proposals is not justified. In such cases, NHAI shall prepare the TOR, request expressions of interest and information on the consultants' experience and competence relevant to the assignment, establish a short list, and select the firm with the most appropriate qualifications and references. The selected firm shall be asked to submit a combined technical- financial proposal and then be invited to negotiate the contract.

## **6.10 Individual Consultants**

6.10.1 Individual consultants shall be employed on assignments for which (a) teams of personnel are not required, (b) no additional outside (home office) professional support is required, and (c) the Experience and qualifications of the individual are the paramount requirement. When coordination, administration, or collective responsibility may become difficult because of the number of individuals, it would be advisable to employ a firm.

6.10.2 Individual consultants shall be selected on the basis of their experience, qualification and suitability for the assignment. This may be done through references or comparison of qualifications among those expressing interest in the assignment or approached directly by the NHAI. Individual so employed shall meet all relevant qualifications and shall be fully capable of carrying out the assignment

## **6.11 Proof Consultants and Peer Review Consultants**

6.11.1 Proof Consultants are not a separate entity, unlike the ones described above. They may be individuals or consulting firms, who are hired for checking designs of complex or important structures, or checking the

safely of a structure in distress, or examining designs for their restoration. The fee is decided on case-to- case basis. In case the proof consultant holds a different view/assessment, he should not just give his comments but should be required to interact with the designer who had prepared the proposal in the first instance.

- 6.11.2 Proof consultants will be finally responsible for the accuracy of analysis and design, except initial data, irrespective of the fact whether the same has been examined and approved by the Employer or not.
- 6.11.3 Peer Review Consultants may be selected from a panel of retired officers of Government having the required eligibility. The officer undertaking the Peer Review shall be required to certify that he was not associated with the preparation of DPR/ with the Consultants who had prepared the DPR. A consolidated fee may be provided on job basis.
- 6.11.4 The Peer review of DPR including feasibility study report shall ensure that all aspects of the Project are duly covered; that it is technically sound and that it is fit to form the basis of the contract.

## **6.12 Quality Audit Consultants**

- 6.12.1 Quality auditors will be third party auditors. They will carry out the work of preparation of checklists and documentation to verify the implementation of Quality Assurance Plan, extent and efficacy of control exercised by contractors and consultants at site, compliance with provisions of the contract, critical analysis of test results and their trend, deficiencies observed and improvements suggested, comments on quality index, compliance with previous remarks/ observations.
- 6.12.2 Quality auditors should not be entrusted with any other consultancy of design or supervision by NHAI. Selection may be made from a list prepared by a high level committee which may comprise Member NHAI, DG (RD), and some eminent experts of known professional competence and integrity.

## **6.13 Contractual and Professional Provisions**

### **6.13.1 Price Adjustment**

Adjustment of the remuneration for foreign and/ or local inflation will be done as per price adjustment provision included in the contract if its duration is expected to exceed 18 months. In exceptional cases, contracts of shorter duration may include a provision for price adjustment when local or foreign inflation is expected to be high and unpredictable.

### **6.13.2 Payment Provision**

- 6.13.2.1 Payment provisions, including amounts to be paid, schedule of payments, and payment procedures, currencies of payment, shall be agreed upon during negotiations. Payments may be made at regular intervals (as under time based contracts) or for agreed outputs (as under lump sum contracts).
- 6.13.2.2 Interest bearing Advance (at rates specified in the contract) up to 10% of the contract amount may be paid which will be backed by bank guarantee. The advance will be set off in equal monthly installments against payments, and fully recovered by the time the cumulative charges of Services have reached 80%.

### **6.13.3 Performance Security**

The consultant may be required to submit an acceptable bank guarantee in an amount up to 5% of the accepted consultancy cost towards Performance Security, which shall be valid for the duration of services plus three months (or such period as may be specified).

### **6.13.4 Conflict of Interest**

The consultant shall not receive any remuneration in connection with the assignment, except as provided in the contract. The consultant and its affiliates shall not engage directly or indirectly in activities that conflict with the interest of the NHAI under the contract, and shall be excluded from downstream supply of goods or construction of works or purchase of any asset or provision of any other service related to the assignment other than a continuation of the 'Services' under the ongoing contract not connected with the job concerned.

### **6.13.5 Professional Liability**

- 6.13.5.1 Professional liability is a term used to recognize the obligation of a person or firm to compensate those who suffer loss or damage as a result of the negligent performance of the professional services they have provided.
- 6.13.5.2 The consultant will be expected to carry out the assignment with due diligence and in accordance with prevailing standards of the profession. He will always act, in respect of any matter relating to the Contract or the Services, as faithful adviser to the Employer and will at all times support and safeguard the Employer's legitimate interests in any dealings with the subcontractors or third parties.
- 6.13.5.3 He shall be responsible for accuracy of data (whether collected directly by him or procured from other agencies/authorities), the designs,

drawings, estimates and all other details prepared by him as part of the Services. He shall indemnify the NHAI against any negligence, deficiency in Services, or inaccuracy/deficiency in the work that might surface during implementation of the project. The consultant will also be responsible for correcting at his own cost, the drawings including any re-survey/investigation and correcting layout, if required.

### **6.13.6 Professional Liability Insurance**

6.13.6.1 Professional Liability Insurance, more commonly referred to as Professional Indemnity Insurance, is a mechanism to transfer all or part of the risk to an insurance company for payment to those who are entitled to be compensated for their losses to the negligent performance of a duty of care by the professional.

6.13.6.2 The consultant shall provide to the NHAI a Professional Liability Insurance (PLI) for a period of five (5) years or as per applicable law, whichever is higher, after completion of services. The liability to the NHAI shall be limited to not less than the total payments expected to be made under the consultant's contract, or the proceeds the consultant is entitled to receive under its insurance, whichever is higher.

### **6.13.7 Guidelines on Professional Liability Insurance**

Following guidelines are prescribed.

- (a) In all NHAI funded Consultancy packages, PLI initially for one year may be accepted, which shall be extended annually for five years.
- (b) PLI shall be uniformly taken for a period of five years for all projects.
- (c) Following clauses shall be incorporated in RFP documents/ contracts.
  - (i) Professional liability coverage may be described in the following way.
  - (ii) Consultant will maintain at its expense, Professional Liability Insurance including coverage for errors and omissions caused by Consultant's negligence in the performance of its duties under this agreement, (A) For the amount not exceeding total payments for Professional Fees and Reimbursable Expenditures made or expected to be made to the Consultants hereunder OR (B) the proceeds, the Consultants may be entitled to receive from any insurance maintained by the Consultants to cover such a liability, whichever of (A) or (B) is higher.
  - (iii) The policy should be issued only from an Insurance Company operating in India.
  - (iv) The policy must clearly indicate the limit of indemnity in terms of "Any One Accident" (AOA) and "Aggregate limit on the policy" (AOP) and in no case should be for an amount less than stated in the contract.

- (v) If the Consultant enters into an agreement with NHAI in a joint venture or 'in association', the policy must be procured and provided to NHAI by the joint venture/in association entity and not by the individual partners of the joint venture/association.
- (vi) The contract may include a provision whereby the Consultant does not cancel the policy midterm without the consent of NHAI. The insurance company may provide an undertaking in this regard.

### **6.13.8 Termination**

Progress of work done by the consultants will be reviewed during the course of consultancy. If the consultant is found to be not performing satisfactorily, or refuses to re-do part of the work which is found unacceptable, or fails to comply with any decision reached as a result of arbitration proceedings, or becomes bankrupt, or is found to indulge in corrupt and fraudulent practices, or knowingly submits a false statement which has a material effect on the rights, obligations or interests of the Employer, NHAI may terminate the contract after giving due notice. Upon termination, the Employer shall, after offsetting any advances, pay for the services satisfactorily done before the effective date of termination, and also of reimbursable expenditures which have been actually incurred before the said date

### **6.13.9 Staff Substitution**

- (a) During an assignment, if substitution is inescapably necessary, the consultants shall forthwith provide as a replacement a person of equivalent or better qualifications.
- (b) If the Employer (i) finds that any of the Personnel has committed serious misconduct or has been charged with having committed a criminal action, or (ii) has reasonable ground to be dissatisfied with the performance of any of the Personnel, then the consultant shall, at the Employer's written request specifying the grounds therefore, forthwith provide a replacement with qualifications and experience acceptable to him.
- (c) For the reason other than death/extreme medical ground (i) for total replacement up to 33% of key personnel, remuneration shall be reduced by 5% (ii) for total replacement between 33% to 50%, remuneration shall be reduced by 10% and (iii) for total replacement beyond 50% of the total of key personnel, the client may initiate action for termination/debarment of such consultants for future projects of NHAI for a period of 6 months to 24 months.
- (d) If the team leader or any other key personnel/specialist considered pivotal to the project is replaced, the substitute may be interviewed by a committee headed by Member/CGM to assess their merit and suitability.
- (e) If any member of the approved team of a consultant engaged by NHAI leaves that consultant before completion of the job, he should be barred for a period of 6 months to 24 months from being engaged

as a team member of any other consultant working (or to be appointed) for any other NHAI projects.

- (f) In exceptional situations where the replacement with equivalent or better qualification is not available as mentioned in Sub-Para (a) & (b) above, replacement with lower qualifications than the originally approved may be accepted with reduction in remuneration as per the procedure prescribed and enclosed at Enclosure-I at the end of the Chapter. This kind of relaxation shall however, be limited to replacement of 2 key personnel only in one consultancy contract package.

#### **6.13.10 Powers to approve removal and replacement of staff**

Following powers are delegated to NHAI officers in this regard:

Item	Delegation Approved			Remarks
	Project Director (Not below the rank of DGM)	CGM	Member	
Removal and replacement of staff of the consultant	Full powers for domestic other/support staff	Full powers for key staff (excluding Team Leader)	Full powers for key staff (excluding Team Leader)	Chairman- Full powers for all the Staff including Team Leader/ Domestic key staff

#### **6.13.11 Extension of Time**

Time shall be extended for the period equal to the one during which the Consultant was unable to act as a result of Force Majeure.

#### **6.13.12 Settlement of Disputes**

Dispute between the parties shall be settled by arbitration in accordance with procedure given in Chapter 12.

#### **6.14 Monitoring the Performance of Design Consultants**

The work of Design Consultant shall be regulated and monitored as follows:

- (a) Monthly Progress Reports and Review
- (b) Disincentives: A part of fee (up to 10%) should be deducted for:
  - (a) major deficiency discovered through proof checking, peer review or check by the Employer;
  - (b) undue delay in giving the agreed outputs;
  - (c) changes in personnel more than the specified limit;
  - (d) large time and cost overruns executed during execution



on account of deficiency in project preparation, estimates and designs. The exact amount of disincentive based on suitable norms/contract provisions may be judged/assessed at the time of final payment.

- (c) Deterrent Action: Corrective and punitive action should be taken against consultants for deficiency in services, errors, acts of commission and misconduct as per the procedure prescribed in para 6.16.
- (d) Performance Appraisal Report (PAR): At the end of every job, PAR of the consultant will be written by the GM, reviewed by CGM and countersigned by Member NHAI. The report will be attached to the consultant's dossier.

### **6.15 Monitoring the Performance of Supervision Consultant**

The work of Supervision Consultant shall be regulated and monitored as follows:

- (a) Monthly Progress Reports: These should, inter alia, include: (a) manpower inputs with time sheets; (b) achievements during the period; (c) ratio of up-to-date expenditure on consultancy to the total cost of work; (d) highlights of any discussion/ review by the Employer and compliance thereof, and (e) results of quality audit of the job by the quality auditors.
- (b) Disincentives: A part of fee (up to 10%) should be deducted for: (a) failure of structures attributable to lack of supervision; (b) lack of control on time and cost overrun beyond 10%; (c) undue delay in drawings, decisions, leading to contractual claims; (d) changes in personnel more than the specified limit; (e) unsatisfactory quality index of work and (f) serious remarks in the report of quality auditors. The exact amount of disincentive based on suitable norms/contract provisions may be judged/assessed at the time of final payment.
- (c) Deterrent Action: Similar action as in Para 6.14 (c) above.
- (d) Performance Appraisal Report (PAR): At the end of every Construction Supervision job, Performance Appraisal Report of the consultant will be written by PD, reviewed by CGM and countersigned by Member NHAI. It will include professional conduct, negligence, safety record, quality index, documentation, integrity, time and cost overruns, delays in bills and decisions, co-ordination and relationship, assessment from quality audit report, any innovation or modern techniques adopted etc. The report will be attached to the consultant's dossier.

### **6.16 Deterrent Action Against Defaulting Consultants**

Corrective and punitive action should be taken against consultants for deficiency in services, errors, act of commission and misconduct. The deterrent action shall be taken as per guidelines issued by NHAI vide

NHAI letter No. 11041/21/2002-Admn dated 16 April, 2004 (32/2004), a copy of which is at Enclosure-II at the end of the Chapter

**6.17 Guidelines for award of additional works to the existing DPR Consultants/Supervision consultants**

Additional works may be awarded to the existing DPR Consultants as a variation to their main contracts subject to the following conditions-

- (a) The value of such additional works will not be more than 20% of the awarded contract price.
- (b) The rates would be derived from the exiting main contract Where the rates in respect of any personnel are not available in the contract, such rates may be finalized based on the minimum of the rates of such personnel in the contracts of the adjoining stretches of the same consultant, failing which the rates may be decided on a case to case basis.
- (c) The additional works, which normally the DPR consultant would have done, may also be awarded as a variation to the existing supervision consultant subject to the above conditions.
- (d) The individual cases for such variation may be approved by the Member concerned.

**PROCEDURE REGARDING REPLACEMENT OF PROFESSIONAL/  
STAFF BY THE CONSULTANT**

(Ref. Para 6.13.9)

1. The new proposed personnel as a replacement has to be evaluated as per the criteria fixed at the time of evaluation of original proposal and marks/rating found and then:
  - (a) If the original personnel (included in the original proposal based on which the contract was awarded) is to be replaced at the instruction of NHAI and the new proposed personnel is having less qualification/experience i.e. marks/rating (but fulfilling the minimum requirement as per TOR), his remuneration would be reduced by 15% over and above the stipulated conditions in the contract because of less qualified personnel.
  - (b) If the original personnel (included in Contract Agreement) is to be replaced by the Consulting firm and the new proposed personnel is having less qualification/experience (marks/rating), then his remuneration would be decreased proportionally in comparison to the marks of the original personnel. This will also take into account the contract condition and if the proposed reduction is less than that stipulated in contract condition, it would be as per the contract provision.
  - (c) It will need to be ensured that the new proposed personnel should score at least 75% of the marks of the originally approved key personnel.
  - (d) In order to prevent the tendency of personnel to shift from one job to another in NHAI works, the following undertakings may be obtained from the personnel/consulting firm:-
    - (i) From personnel: That the personnel was not earlier working with any of the consultants of NHAI/contracting firm (firm to be supervised now) for continuing works and has not left the job without completing his assignments. He will be available for the entire duration of the current project (named.....) and in case he leaves this assignment in the middle of the completion of the work, NHAI would be at liberty to debar him from further assignment in NHAI works for an appropriate period to be decided by NHAI. A sample format for undertaking is enclosed at Annexure -I.
    - (ii) From Consulting firm: That to the best of their knowledge, the proposed personnel was not working with any of the consultants engaged/contacting firm (firm to be supervised now) in any continuing works of NHAI and if it is found at a later date about this, he would be removed from this assignment and NHAI would

debar him for an appropriate period to be decided by NHAI. A sample format for undertaking is enclosed at Annexure –II.

2. In order to prevent the tendency of the personnel and consulting firm to submit incorrect and inflated CV, they should sign every page of CV before submission in order to authenticate that CV furnished by them is correct. The consulting firm and the personnel through consulting firm should be informed by NHAI while accepting CV of the new personnel that if CV is found in correct and inflated at a later date, the personnel accepted would be removed from his assignment and debarred from further NHAI works for an appropriate period to be decided by NHAI and the new proposed personnel in place of removed personnel would be paid 15% less salary than the original personnel. 15% reduction in the salary will be imposed as a penalty for submitting the incorrect information. This penalty will be imposed only once. If the same consulting firm submits incorrect information again second time, necessary action will be taken by NHAI to black-list that firm.
3. Considering the above mentioned points, the Technical Division at Headquarters of NHAI will ensure the following before approving CV and informing the acceptance of CV of proposed personnel:
  - (a) Action to evaluate new CV of the proposed personnel as per the criteria laid down at the time of award of the contract and accept CV only if the new proposed personnel scores at least 75% of the marks of the original approved key personnel as mentioned in para 1(c) above.
  - (b) Action as per para 1 (a)/1(b) regarding reduction in salary.
  - (c) Action to get the undertakings from the proposed personnel and consulting firm as mentioned in para 1 (d) above.
  - (d) Action to ensure that the condition given in para 2 is included in the acceptance letter to be issued to the consulting firm.
  - (e) Action to ensure that the new proposed personnel would be kept on probation for a period of three months and his assignment would be confirmed after receipt of the report after three months from Team Leader of the consulting firm, Project Director of NHAI and views of Technical Division at Headquarters of NHAI.

**UNDERTAKING FROM THE PROFESSIONAL**

I, ..... (Name and Address) have not left any assignment with the consultants engaged by NHAI/contracting firm (firm to be supervised now) for any continuing works of NHAI without completing my assignment. I will be available for the entire duration of the current project (named.....). If I leave this assignment in the middle of the completion of the work, NHAI works for an appropriate period to be decided by NHAI. I have also no objection if my services are extended by NHAI for this work in future.

**UNDERTAKING FROM CONSULTING FIRM**

The undersigned on behalf of..... (name of consulting firm) certify that Shri..... (name of the proposed personnel and address) to the best of our knowledge has not left his assignment with any other consulting firm engaged by NHAI/contracting firm (firm to be supervised now) for the ongoing projects. We understand that if the information about leaving the past assignment with NHAI without completing his assignment is known to NHAI, NHAI would be at liberty to remove the personnel from the present assignment and debar him for an appropriate period to be decided by NHAI.

**DETERRENT ACTION AGAINST DEFAULTING CONSULTANTS**

[Copy of NHA letter No11041/21/2002-Admn dated 16 April, 2004 32/2004]  
(Ref. Para 6.16)

1. In case of deficiencies in work of consultancy services specially in respect of accuracy of data analysis and design, non-fulfillment of commitments by the consultants observed by the Employer/client during implementation of the project or at a later date, it is necessary to take deterrent action against the erring consultants in any of the following ways to ensure a fair degree of accuracy on the part of the consultants in carrying out the tasks assigned to them.
  - (a) Issue warning to the consultants as decided by Employer/client.
  - (b) Suspend their short-listing with NHA and debar them from award of future works in NHA for a period of less than 12 months in case of minor deficiency in services.
  - (c) Debarring the consultants for a period of 1 to 5 years for major negligence/deficiency in services.
2. Wide publicity will be given to the deterrent action taken against the erring consultants for major negligence/deficiency (category (c) above) through circulation to Ministry of Road Transport and Highways, all State Governments/Government departments dealing with National Highways and centrally sponsored schemes' and publication of notices in newspapers and IRC journals. Publicity may also be given to actions taken under category (a) & (b) above as may be decided in the circumstances of the case.

**3. Type of Deficiency of Service - Errors, Omissions & Commissions or Misconduct of Consultants**

Some of the common errors and omissions generally committed by the consultants are listed below. These are only indicative and not comprehensive.

**A. Errors in Bid Data:**

- (a) Non-furnishing/concealing/misrepresentation of facts like litigation/expulsion/other action taken against the consultant/abandoning of work, failure and distress in works handled earlier etc.
- (b) Submission of bio-data of personnel without their consent or false bio-data.
- (c) Non-availability/non-deployment of the personnel projected for the job while bidding and seeking change of personnel soon after the commencement of services/frequent change of personnel during the contract period.

**B. Errors in Project Data & Design:**

- (a) Survey lines and levels and features not matching the ground conditions.
- (b) Traverse not closing properly.
- (c) Hydraulic design parameters based on incorrect data and field survey.
- (d) Inadequate and/or incorrect subsoil investigations warranting change in design during execution or time and cost overrun or performance or affecting safety of road/bridge structure.
- (e) Design not conforming to the requirements of relevant codes, standards and specifications and sound engineering practice.
- (f) Discrepancies between the BOQ and the detailed drawings
- (g) Omissions and inadequate provision of items/specification in DPR leading to significant variations during execution of civil contracts
- (h) Improper assessment of essential value additions in DPR based on site requirements.
- (i) Incomplete submission for getting the payment from the client or delay in complying with the observations/instructions given by the client on draft reports etc.
- (j) Major delays in submission of complete DPR.

**C. Errors in Supervision:**

- (a) Not acting impartially or acting in collusion with contractors in award of variations, fixation of new rates etc.
- (b) Not keeping proper records regarding quality control, inspection rejection/rectification of work etc.
- (c) Failure to give proper and timely advice to client/contractor to enable corrections during execution.
- (d) Delay in design and withholding approvals etc.
- (e) Recommending extension to contractor with a view to extending duration of supervision services.
- (f) Refusing to give reasons for decisions when called for by the client.
- (g) Not being fully conversant with manuals, specifications, standards, NHAI's/Ministry's guidelines and requirements of the project to be followed during construction.
- (h) Certifying substandard work for payment
- (i) Not exercising required scrutiny/non-approval of temporary stretches/works.
- (j) Lack of proper coordination with contractors and PDs to ensure smooth implementation of projects.

**D. Other Faults:**

Permitting subletting of any part/major works without authorization.



#### **4. Enquiry Procedure:**

- 4.1 Based on the report from the concerned Project Director or of the concerned Technical Division in NHAI bringing out deficiency of minor nature not having any time/cost implication for the successful implementation of the project of NHAI, will, after due examination, issue a warning to the Consultant.
- 4.2 In case of Minor/Major deficiency involving significant time/cost implication of the project a complaint or an observation of deficiency of services, errors and acts of omissions & commission by a consultant shall be sent by the Project Director to HO, NHAI giving details of the errors, acts of omissions and commissions and deficiency of services of the consultant. The matter will be examined in Headquarter and if considered fit, the Chairman, NHAI will constitute a committee consisting of three CGMs of NHAI to look into the complaint or observation.

The Chairman of the Committee would be one of the CGMs as decided by Chairman, NHAI.

- 4.3 If the Committee on examination of the complaint/adverse report from a Project Director feels that a prima-facie case exists for taking deterrent action against the consultant, it will give a mandatory notice to the consultant at its registered address stating the facts of the deficient service, errors, and acts of commissions/omissions. The consultant will be given a reasonable time to reply to the charge and also an opportunity to be heard in person by the Committee at a specified time and date.
- 4.4 The Committee will enquire into the charges refuted by the consultant. The consultant will have the right to inspect the documents on which the complaint is based.
- 4.5 The Committee will record all written and/or oral submission and arguments presented. Entire proceedings shall be recorded in writing and a decision given in each case. If the consultant chooses not to respond to notices issued by the Committee or does not attend the meeting of Committee to explain and defend the charges, an ex-parte enquiry may be conducted and decision recorded. The Committee shall decide on the severity of the deficiency/omissions etc considering the facts of the case and the implications on financial, safety and other aspects.
- 4.6 On completion of the enquiry, the Committee shall submit its report with details of findings and recommendations to the concerned Member, NHAI.
- 4.7 The concerned Member, NHAI will take appropriate action based on the recommendations of the committee.

- 4.8 The time frame for conducting inquiry and taking final action will generally be as follows:
- (a) Constitution of Committee - within 10 days of receipt of the complaint.
  - (b) Submission of report by the committee - within 3 months of receipt of the complaint.
  - (c) Conveying the final decision - within 20 days of the receipt of the final report.

## **5. Exceptions**

- 5.1 The prescribed procedure for deterrent action outlined in para 4.3 to 4.8 above will not be followed before ordering deterrent action under special circumstances like;
- (a) Where a penalty flows from conduct of the consultant which has led to his conviction on a criminal charge; or action of the consultant jeopardizing the security of the State or
  - (b) Where the Committee is satisfied that it is not practicable to hold an enquiry in the matter in the prescribed manner:
- 5.2 In cases under Category (a), the Committee will peruse the judgment of the criminal court and take into account the gravity of the offence of misconduct committed, its impact on the project, administration, other extraneous circumstances etc and recommend deterrent action to be taken against the consultant after giving an opportunity to the consultant to make representation on the deterrent action proposed to be taken.

Regarding category (b), it will be obligatory on the part of the Committee to record in writing the reasons for its satisfaction to the effect not to hold the enquiry. The reasons, though brief, shall not be vague.

- 5.3 Concerned Member NHAI will take appropriate action based on the recommendations of the Committee.

## **6. Appeal or Review or Revision**

- 6.1 The aggrieved consultant may within thirty days of receipt of the final decision ordering any of the actions listed under para 1 [(a) to (c)] appeal to the Chairman, NHAI against the order or seek its review or revision by the NHAI. A copy of the appeal shall be endorsed to concerned Member, NHAI.

Chairman, NHAI may condone the delay in filing of appeal, if valid reasons are given.

6.2 The appeal shall be considered by a committee consisting of the following:

Chairman, NHAI	- Chairman
Member (Admn.)	- Member
Concerned Member	- Member

6.3 If the appellant makes a specific request for a personal hearing, this may be granted by the Committee at its discretion, considering the circumstances of the case.

6.4 Member (A) on the basis of the decision of the Committee shall issue necessary orders which will be final and binding on the appellant. The time limit for decision of appeal or review or revision of the earlier orders will generally be 45 days from the receipt of application in the NHAI.

## **Chapter 7**

### **MEASUREMENT BOOKS AND PAYMENTS**

#### **7.1 General**

The payments to contractors and others for the work done or other services rendered are made on the basis of measurements recorded in the Measurement Book. Instructions regarding maintenance of the measurement books and review of measurement books are given in subsequent paras here under.

#### **7.2 Writing of Measurement Book**

7.2.1 Measurement book is one of the most important records. It is the basis of all accounts of quantities, whether of work done by contractors or by labourers employed departmentally or materials received which have to be counted or measured. It should be so written that the transactions are readily traceable.

7.2.2 These books should be considered as very important accounts records and maintained very carefully and accurately as these may have to be produced as evidence in a court of law, if and when required.

7.2.3 All measurement books belonging to a PIU shall be numbered serially and a register should be maintained in a form showing the serial number of each book, officer/Supervision Consultant to whom issued, the date of issue, the date of its return to the PIU and date of its record after the required review in the PIU has been completed.

7.2.4 A similar register should be maintained by the officer/supervision consultant showing the name of person whom the measurement books are issued.

7.2.5 Each Measurement Book should be provided with an index of the contents of different entries at the space provided at the beginning which should be kept up to date. If a Measurement Book is used by a number of officers, the names of different officers should be recorded at the beginning of each Measurement Book. The checking of the measurement by officers should also be recorded at the beginning at the space provided for this.

#### **7.3 Recording of Measurement**

7.3.1 Separate Measurement Books will be used for recording of details of measurement and for preparation of abstract of cost.

7.3.2 The size of the Measurement Book may be 30 x 22 cm. and each Measurement Book may contain 200 pages. Where the details of measurement for items of works are prepared in the form of a computer

sheet, the sheet shall be of half/three-fourths of the size of the page of the Measurement Book. It shall be numbered and pasted in one page of the Measurement Book and the total of the abstract of quantities in the computer sheet shall be recorded in ink on that page of the Measurement Book and signed. Any blank space shall be scored out. The supporting details of the measurement in the computer sheet shall be kept as record for reference.

- 7.3.3 In case of projects being supervised by the Supervision Consultants, the competent authority to record the measurements and to test check the measurements etc. shall be as indicated in the Contract Agreements with the consultants.
- 7.3.4 In case of other works, the competent authority to record and test check the measurements etc. shall be as the Manager/DGM/GM of PIU of NHAI, as the case may be.
- 7.3.5 Before the measurement book is brought into use the pages should be examined and any serious defect such as the tearing off or the substitution of pages brought to notice of issuing authority at once.
- 7.3.6 As all payments for work or supplies must be based on the quantities recorded in the measurement book, it is incumbent upon the officer taking the measurements to record the quantities clearly and accurately.
- 7.3.7 Detailed measurements should be recorded only by those officers who are specifically authorised and to whom measurement books have been issued for the purpose.
- 7.3.8 Each set of measurements to be recorded should commence with entries stating:
- (I) In the case of bills for works done:
    - (a) Full name of work as given in the agreement/Estimate.
    - (b) Situation of work.
    - (c) Name of contractor.
    - (d) Number and date of agreement.
    - (e) Date of written order to commence work.
    - (f) Date of actual completion of work.
    - (g) Date of recording measurements.
    - (h) Reference to previous measurements.
  - (II) In the case of bills for supply of materials:
    - (a) Name of supplier.
    - (b) Number and date of supply order/agreement.
    - (c) Purpose of supply in one of the following forms as applicable to the case.

- (i) Stock (for all supplies for stock purpose).
- (ii) "Purchase" for direct issue to the work (full name of the work as given in the estimate may be mentioned).  
"Purchase" for (full name of work as given in estimate) for issue to contractor .....on.....:
- (d) Date of written order to commence the supply.
- (e) Date of actual supply; and
- (f) Date of recording measurements.

- 7.3.9 A suitable abstract should then be prepared which should indicate, in the case of measurements for work done, the total quantities of each distinct item of work relating to each sanctioned sub-head. In case, where a work which is susceptible of measurements, is carried out by daily labour, a similar procedure should be adopted; the quantities of work done as shown on the Muster Roll being compared with the entries in the Measurement Book before payment is authorised.
- 7.3.10 For recording measurements and also for preparing abstract, the agreement item No. both in words as well as in figure should be given neatly, instead of writing the description of the item in full or in abbreviated form which would not be necessary.
- 7.3.11 In case of extra/substituted item of work that is not covered in the agreement, the full nomenclature shall be reproduced in the measurement book and the bill form.
- 7.3.12 The full nomenclature of the items shall be adopted in preparing abstract of final bill in the measurement book and also in the bill form for final bills.
- 7.3.13 If the measurements are taken in connection with a running contract, a reference to the last set of measurements, if any, should be recorded. If the entire job or contract has been completed, the date of completion should be duly noted in the prescribed place. If the measurements taken are the first set of measurements on a running account, or the first and final measurements, this fact should be suitably noted against the entries in the Measurement Book and in the latter case, the actual date of completion should be noted in the prescribed place.
- 7.3.14 All measurements should be recorded neatly in the Measurement Book. The signature of the contractor or his authorised representative should be obtained in the measurement book for each set of measurements.
- 7.3.15 Conditions of Contract normally provides that before taking any measurement of any work, the Engineer shall give reasonable notice to the contractor's attendance. If the contractor fails to attend at the measurements after such notice or neglects or omits to send his representatives, then the measurements recorded in his absence by the Engineer or by the subordinate deputed by him as the case may be shall

be taken to be the correct measurement and shall be deemed to have been accepted by the contractor and shall be dealt as per relevant condition of the contract.

- 7.3.16 All entries in the measurement book should be made directly in ink. No entry should be erased or effaced so as to be illegible. If a mistake is made, it should be corrected by striking out incorrect one and inserting the correct one between the lines. Every such correction should be dated and initialed by the officer. No line should be left blank. Any lines not required should be carefully crossed out in ink in order to prevent additional entries being made afterwards.
- 7.3.17 All measurements should be neatly entered directly in the measurement book at site of work. The measurements should be recorded cumulative. The total brought forward from the previous page of a measurement book should be entered above the top line, similarly the total at the foot of each page should be entered below the bottom line. The person recording the measurements should record a dated certificate "measured by me" over his full signature in the measurement book. When any measurements are cancelled the cancellation must be supported by the dated initials of the officer ordering the cancellation, or by a reference to his orders initialed by the officer who made the measurements. In either case, the reason for cancellation should be recorded.
- 7.3.18 Copying into measurement books from a note-book or other source is strictly prohibited. All measurements in a measurement book must be an actual record of work or supplies measured at the time of entry in the measurement book.
- 7.3.19 The pages of the measurement book should be machine numbered. Entries should be recorded continuously and no blank page left or torn out. Any pages or space left blank inadvertently should be cancelled by diagonal lines, the cancellation being attested and dated.
- 7.3.20 The Measurement Books no longer to be used by any officer, to whom it was issued, should be withdrawn promptly even though it contains some blank pages. The same may be re-issued for further use.
- 7.3.21 When any officer in-charge of the work or stores is transferred, he should hand over the Measurement Books issued to him to his successor and these should be shown as received back in requisite form from him and re-issued to the relieving officer. The transfer should also be recorded in the Measurement Book after the last entry in each book under dated signature of the relieving officer and relieved officer.
- 7.3.22 On completion of the abstract, the Measurement Book should be submitted to the competent authority who after carrying out his test-check should enter the words "Check and Bill" with his dated initials. The calculation of quantity in the abstract and the bill should be checked

and after comparing the two, the Engineer should sign the bill and the measurement book at the end of the abstract. From the measurement books all quantities should be clearly traceable into the documents on which payments are made. When a bill is prepared for a work or supplies every page containing the detailed measurements must be invariably scored out by a diagonal red ink line. When the payment is made, an endorsement must be made in red ink, on the abstract of measurement, giving a reference to the number and date of the voucher of payment.

- 7.3.23 Any corrections to calculations or rates made in the Project Implementation Unit/Division should be made in red ink and brought to the notice of competent authority. In the case of final bills, payment should be deferred until the corrections have been accepted by the person making the measurements. All corrections made by the concerned official should be in red ink.
- 7.3.24 Measurement Book should be sent only by Registered Post or by Special Messenger.
- 7.3.25 Check measurements should be noted in measurement books, the items actually check measured being distinguished by the initials of the checking officer on the left side of the column 'Particulars' in line with the items check measured. The 'Test-Check' referred to above should, as far as possible be carried out before the payment is made.
- 7.3.26 A collective record of all checks carried out from time to time will be prepared in each Measurement Book in the following tabular form:
- (a) Date of check.
  - (b) Page recording measurements subject to test-check.
  - (c) Value of measurements checked.
  - (d) Results of the check exercised.
  - (e) Dated initials and designation of the checking officer.

The result will be indicated by the word "Satisfactory" or "Unsatisfactory" as judged at the time of merits of each case.

- 7.3.27 When a Measurement Book is lost, an immediate report of the facts of the case together with an explanation of all parties concerned responsible for the loss should be made promptly to the competent authority, who is empowered to sanction the write off of the lost Measurement Books. Such losses for write off should be reported in the prescribed proforma.
- 7.3.28 In addition to above, the instructions/directions as contained in the contract agreement will also be taken into account while writing the measurements in the Measurement Book.

#### **7.4 Test checking of Measurements**

- 7.4.1 The Engineer/Engineer's representative must satisfy himself before



submitting a bill (payment certificate) it to the Project Director for payment that the work or supply billed for has actually been carried out/completed in accordance with the terms and conditions of the contract. He should personally inspect all works of any magnitude before authorising final payments in connection therewith.

7.4.2 In addition to the above, the team leader of the Supervision Consultant is required to check measure 5% of the value of the measurements and the Resident Engineer is required to check measure 10% of the value of the measurements before any IPC is submitted to PIU. For the purpose of test check, "measurements" means the "corresponding monetary value of measurements of work done." This, however, does not apply to "levels" in which case the test check has got to be based on the number of levels recorded.

7.4.3 The Project Director himself or through his designated officer of PIU (or CMU) will carry out random test check of 3 % of the measurements, including 3 % test checking of all hidden items of the work and all items for which the quantity exceeds more than 25% of the tender quantity, before making payment of any running/final bill. (Hidden item is one, which is not exposed for measurement after completion such as clearing and grubbing, earth work, bridge foundation, granular sub base, bituminous base etc.). The test measurement shall be in the presence of the Team Leader/Resident Engineer or other authorized personnel of the Supervision Consultant, for verifying the veracity of the bills and for checking the quality of the works. In case the check measurement is carried out by the designated officer, the Project Director will countersign the check measurements.

Project Director shall also exercise test check at least 3 % of Original Ground Levels/Reduced Levels recorded by the Supervision Consultant in the Level Book. The test check should be as representative as possible for the entire work done.

For the purpose of test check, "measurements" means the "corresponding monetary value of measurements of work done." This, however, does not apply to "levels" in which case the test check has to be based on the number of levels recorded.

Payment of any monthly interim IPC received shall not be held up for want of check measurement by the Project Director. If the check measurement could not be made by him, 75% of the payment will be released subject to fulfillment of other conditions, the balance payment 25% payment withheld for adjustment, if any, after test check measurement.

7.4.4 A collective record of all the check carried out from time to time will be prepared in each measurement book in the following tabular form:

- (a) Date of check.
- (b) Page recording measurements subject to test check.

- (c) Value of measurements checked.
- (d) Result of the check exercised.
- (e) Dated initials and designation of the checking officer.

The result will be indicated by the word "Satisfactory" or "Unsatisfactory" as judged at the time on merits of each case.

## **7.5 Recording measurements for Earth levelling work**

- 7.5.1 In case of levelling operations and earthwork, measurements are required to be recorded in level books in addition to Measurement Books as per the relevant procedure.
- 7.5.2 On completion of work, the levels should again be recorded in the level book and the contractor's signatures obtained. These levels should also be test checked to the same extent as indicated above within one month of the date of completion of the earth work and according to the procedure as laid down in the case of initial levels as indicated above. The formation levels as per final execution of the work should be compared with the proposed formation levels and work got rectified within permissible tolerance.

## **7.6 Review of Measurement Books**

All the Measurement Books in use in a PIU should be collected once in a year for review by the Account Officer in the following respects:

- (a) To compare the books in use with part 1 of the register of measurement books maintained in prescribed form and to note necessary corrections in the register.
- (b) To see that no original sheet is torn out of a book or any entry erased or disfigured and that the corrections made therein are initialed.
- (c) To see that pencil entries are not inked over.
- (d) To test check the accuracy of calculations and to ensure that the Instructions regarding writing of measurement books, recording of measurements and their test check are being followed properly.

## **7.7 Payments and Certificates**

Interim monthly payments will be based on interim payment certificate processed by the Engineer following bills filed by the contractor. The Project Director will scrutinize the IPC to ensure that all contract conditions/guidelines have been adhered to before making any payment against the IPC.

## **7.8 Guidelines for release of payments to Contractors**

### **7.8.1 Levels of Authorities to make payment**

- (a) All the initial payments, i.e., mobilization and equipment advances etc. shall be processed and paid at Headquarter. The proposals for release of retention money against Bank Guarantees may be processed by the Project Director in accordance with the contract/guidelines issued by the Headquarters. The accounting entries and other related documents shall be forwarded to the concerned PIUs by the Headquarter [both Finance & Tech. Divisions].
- (b) All other payments (except the payments covered under (i) above) i.e. progress payments, release of final payments etc., shall be released directly by the PIUs strictly in accordance with the Contract Conditions. However, where approvals are required from the Headquarter, PIUs may ensure that such approvals are obtained from the Headquarter prior to release of such payments by them. These releases may be made in consultation with Technical Division at HO, wherever required.
- (c) All the Bank Guarantees will be maintained and monitored in accordance with the existing guidelines.
- (d) While taking any decision, PIUs may strictly adhere to the contract conditions including the guidelines/instructions issued by the Headquarter from time to time.

### **7.8.2 Guidelines for Release of Payments**

Detailed guidelines regarding making payments and release of Bank Guarantees as prescribed by NHAI vide letter No 11041/21/2002/Admn-III dated June 19, 2002 (08/2002) are enclosed as Enclosure-I at the end of the Chapter.

### **7.8.3 Guidelines for payments to contractors pending grant of EoT**

- (a) The payment against actual work done and claimed in the monthly bills by the contractor and recommended for payment by the Engineer may continue to be made to the contractor, without recovery of any liquidated damages where a proposal has been received from the 'Engineer' for grant of EoT. Technical Division (NHAI) may finalize grant of EoT within a maximum period of two months on receipt of such proposal from the 'Engineer'.
- (b) Technical Division (NHAI) may also simultaneously finalize grant of EoT to the Supervision Consultant, in such cases, within said two months period. Payment, may, however be continued to be made to the Supervision Consultant as per actual requirement of staff/deployment of staff. However, a review of the requirement of the personnel of the supervision consultant may also be carried out

by the respective Divisions and submitted alongwith proposal for EoT.

- (c) It has also been decided that the proposals for grant of EoT shall be considered and approved by a Committee consisting of the Chairman, Member [F] and the concerned Member/CGM.
- (d) In case the proposal for EoT is not approved by the NHAI subsequently, the eligible liquidated damages shall be recovered from the contractor and the contractor shall not be entitled to make any claim in this regard.

**7.8.4 Guidelines for approval of variations, grant of EOT, sanction of estimates, award of work orders/contracts, release of payments, etc.**

Detailed guidelines in this regard prescribed by NHAI vide letter No. 11041/21/2002/Admn.-III July 12, 2004 (87/2004) are enclosed as Enclosure-II at the end of the Chapter.

**GUIDELINES FOR RELEASE OF PAYMENTS**

[Copy of NHAI letter No11041/21/2002/Admn.III dated June 19, 2002  
(08/2002)]

(Ref Para 7.8.2)

These guidelines are generally based on the standard clauses of the contracts between NHAI and the Civil Works Contractors. These guidelines shall be read in conjunction with provisions of the contract under which the payment is sought and shall be uniformly followed for processing all the cases for acceptance of BGs/release of payments to the contractors, etc.

**1. Scrutiny of BGs for Performance Security**

Subject to compliance of various conditions laid down in the contract, the following compliance may be seen.

- 1.1 Examine that the Letter of Acceptance [LoA] has been issued by the concerned Division for a contract price
- 1.2 Examine that the contractor has submitted the performance security BG within 28 days [or any other date stated in the contract] of receipt of LoA. If not, relaxation by the Competent Authority may be sought.
- 1.3 Examine the following issues in respect of the BG.
  - 1.3.1 BG should be as per the format prescribed in the contract.
  - 1.3.2 BG should be for the requisite amount [say 10% of the contract] & in the requisite currency as stated in the contract.
  - 1.3.3 BG should be valid for the period prescribed [Generally, period for issue of notice + period of commencement from issue of notice + project completion period + defect liability period, if required as per contract + 365 days, if required as per contract].
  - 1.3.4 BG should have been issued in the name of the contractor [in case of JV, the BG should be in the name of the JV].
  - 1.3.5 BG should be unconditional and should have been issued by a bank as specified in the contract [generally by SBI or its subsidiaries or any Indian nationalized bank or IDBI or ICICI or 1CJCI Bank or by a foreign bank through a correspondent bank in India. BG on any other bank should have been expressly accepted by NHAI].
  - 1.3.6 Confirmation from the bank has been obtained
  - 1.3.7 More than one BG can be accepted only subject to any other specific condition laid down in the contract being complied with.

**2. Payment of Mobilization Advance**

Subject to compliance of various conditions laid down in the contract, the following compliance may be seen

- 2.1 Examine that the contract has been signed.

- 2.2 Examine that the performance security BG has been submitted in accordance with relevant clause of the contract and the conditions as laid down at para 1.3 above have been complied with.
- 2.3 Examine that the letter for commencement of works has been issued. If not, relaxation by the Competent Authority may be sought.
- 2.4 Examine that the mobilization advance has been claimed within the period as specified in the contract, if any. If not, relaxation by the Competent Authority may be sought.
- 2.5 Examine that the Engineer [or any body authorized by the Competent Authority to act an 'Engineer'), if so required under the contract, has recommended the claim of the contractor for advance, else relaxation by the Competent Authority may be sought.
- 2.6 Examine the following issues in respect of the BG
  - 2.6.1 BG should be as per the format prescribed in the contract.
  - 2.6.2 BG should be for the requisite amount [generally 10% of the contract] & in the requisite currency as stated in the contract.
  - 2.6.3 BG should be valid until the advance amount has been repaid or until completion of the contract or any other period, as may be prescribed under the relevant clause of the contract [generally clause 60.6 (a)].
  - 2.6.4 BG should have been issued in the name of the contractor [in case of JV, the BG should be in the name of the JV].
  - 2.6.5 BG should be unconditional and should have been issued by a bank as specified in the contract [generally. by SB1 or its subsidiaries or any Indian nationalized bank or IDBI or ICICI or ICICI Bank or by a foreign bank through a correspondent bank in India. BG on any other bank should have been expressly accepted by NHAI].
  - 2.6.6 Confirmation from the bank should have been obtained.
  - 2.6.7 More than one BG can be accepted subject to provisions contained in the relevant clause of the contract [generally clause 60.6 (a)].
- 2.7 Examine that the contractor has submitted an invoice claiming the advance.
- 2.8 Examine that the contractor has taken out adequate insurance coverage in accordance with the relevant clauses of the contract [generally clauses 21.1 and 21.2]. If not, concerned Division or Project Director or the 'Engineer' to the project may be requested to verify such insurances and examine the adequacy of such coverage (including both value & period of cover) in terms of the contract.
- 2.9 The amount claimed by the contractor may be released, in the proportions of the currencies as specified in the contract, subject to the maximum amount stated in the contract and the amount of BG furnished.

### **3. Payment of Equipment Advance**

Subject to compliance of various conditions laid down in the contract, the following compliance may be seen

- 3.1 Examine that the contract has been signed.
- 3.2 Examine that the performance security BG has been submitted in accordance with the relevant clause of the contract (generally clause 10.1)

and the conditions as laid down at para 1.3 above have been complied with.

- 3.3 Examine that the letter for commencement of works has been issued. If not, relaxation by the Competent Authority may be sought.
- 3.4 Examine that the contractor has made the request for payment of advance. No advance against plant & equipments may be granted after a period specified in the contract, if any or beyond the number of maximum installments specified in the contract, if any, unless recommended by the Engineer along with justification and approved by the Competent Authority.
- 3.5 The contract requires that the advance may be released subject to the condition that such plant & equipments are considered by the Engineer to be necessary for the works, the plant & equipments have been brought to site and they are in working order. Examine that the Engineer has specifically recommended for payment of equipment advance covering the aforesaid aspects as required under the contract. However, in case of new equipments, the advance may be considered for release even if the equipments are at installation stage.
- 3.6 Examine the following issues in respect of the plant & equipments
  - 3.6.1 The claim is supported by legible copies of the invoices of the equipments. In case of old equipment, if the copies of the invoices are not available, a certificate from a Chartered Accountant or any other acceptable evidence duly indicating the purchase price, year/date of purchase, depreciated value, etc., may be considered.
  - 3.6.2 Since the advance is to be released subject to the condition that such plant & equipments are considered by the Engineer to be necessary for the works, advance may be released/paid on the basis of the certification of the Engineer against an equipment whether owned, hired, under hire purchase arrangement/financed. However, Engineer may ensure that the conditions stipulated in the relevant clause in the contract, if required under the contract, have been complied with. The invoices may be examined only with respect to purchase price, year/date of purchase, depreciated value, etc.
  - 3.6.3 Where the invoice indicates the value in any foreign currency, the basis for conversion either in the form of a copy of the corresponding bill of entry or in the form of a bank certificate may be obtained
  - 3.6.4 All the equipments purchased after the issuance of LoA may be considered as new equipments. In the case of old equipments, the eligible advance may be released on the basis of the depreciated value determined and recommended/certified by the 'Engineer'. The 'Engineer' may, if considered necessary by him, recommend payment of advance against depreciated value of the equipments on the basis of a certificate of a Chartered Accountant.
  - 3.6.5 Generally, the contracts provide that no advance may be granted on any piece of the plant & equipment with a value less than the amount specified in the contract [the term value shall be deemed to be the purchase price in case of new plant & equipments and depreciated value in case of old plant & equipments]  
The Competent Authority has, however, approved that if the 'Engineer' has

recommended for grant of advance against an equipment valuing less than the amount specified in the contract, the same may also be considered for release.

- 3.6.6 Sometimes, the contract prescribes [generally as an information] for minimum plant & equipment (including maximum age) to be deployed by the contractor for the work. However, if the 'Engineer' has recommended for grant of advance against any equipment other than those prescribed anywhere in the contract [including older than the maximum age prescribed), subject to fulfilling the conditions prescribed in para 3.5, the same may also be considered for release.
- 3.6.7 In case a certificate has been issued by NHAI/MoRT&H for availing exemption from custom duty or central excise, no advance may be permitted on such duty component.
- 3.7 Examine the following Issues in respect of the BG.
  - 3.7.1 BG should be as per the format prescribed in the contract.
  - 3.7.2 BG should be for the requisite amount [say 5% or 10% of the contract] & in the requisite currency as stated in the contract.
  - 3.7.3 BG should be valid until the advance amount has been repaid or until completion of the contract or any other period, as may be prescribed under the relevant clause of the contract [generally clause 60.6 (a)].
  - 3.7.4 BG should have been issued in the name of the contractor [in case of JV, the BG should be in the name of the JV].
  - 3.7.5 BG should be unconditional and should have been issued by a bank as specified in the contract [generally. by SBI or its subsidiaries or any Indian nationalized bank or IDBI or ICICI or ICICI Bank or by a foreign bank through a correspondent bank in India. BG on any other bank should have been expressly accepted by NHAI].
  - 3.7.6 Confirmation from the bank should have been obtained
  - 3.7.7 More than one BG can be accepted subject to provisions contained in the relevant clause of the contract [generally clause 60.7 (c)].
- 3.8 Examine that the contractor has submitted an invoice claiming the advance.
- 3.9 Examine that the contractor has taken out adequate insurance coverage in accordance with the relevant clauses of the contract [generally clauses 21.1 and 21.2 of the contract), more specifically the insurance in respect of the plant & equipments. If not, concerned Division or Project Director or the 'Engineer' to the project may be requested to verify such insurances and examine the adequacy of such coverage (including both value & period of cover) in terms of the contract.
- 3.10 The amount claimed by the contractor may be released, in the proportions of the currencies as specified in the contract, subject to the maximum amount stated in the contract and the amount of BG furnished.

#### **4. Payment against Monthly IPCs**

- 4.1 Competent Authority has approved for release to the contractor up to a maximum of 75% of the net payment as certified by the Engineer, based on the monthly statement submitted by the contractor as stated in the relevant clause of the contract [generally clause 60.1], with in a maximum of 2 working days of receipt of such a certificate from the Engineer.



- 4.2 The Engineer shall then submit the complete IPC in accordance with the relevant clause of the contract [generally clause 60.2] [also as stated in Para 4.4 below] as early as possible considering that a reasonable time shall be taken by NHAI to process the payment proposal and considering the time specified in the contract for the balance amount payable to the contractor.
- 4.3 It has already been decided that all the payments against IPCs shall be released from PIUs. The measurement books [MB] shall be maintained and check measured by the 'Engineer'. In addition, the measurement books [MB] and all other technical reports shall also be scrutinized by the Technical Officer/Project Director in PIU. The concerned Technical Officer at PIU shall scrutinize the IPC and forward the same along with the recommendations to the DDO for payment. The DDO shall, subject to the compliance of various conditions laid down in the contract, scrutinize the proposal covering the following aspects for the following compliances.
- 4.4 Examine that the Engineer/Contractor has submitted the following documents duly signed by the authorized representative of the consultant for monthly payments, covering broadly the following aspects.
  - 4.4.1 Certificate/monthly statement
  - 4.4.2 Bill-wise summary in accordance with the relevant clause of the contract [generally clause 60.1] covering provision as per contract, quantity executed, etc.
  - 4.4.3 An account of material brought to site supported with vouchers, material consumed, etc.
  - 4.4.4 Summary of price adjustment, etc.
  - 4.4.5 Details of variations, etc.
  - 4.4.6 A final summery sheet showing the amounts due on various accounts, recoveries and deductions, etc.
- 4.5 Examine the following issues.
  - 4.5.1 IPCs must be submitted strictly on a monthly basis instead of clubbing the work done in 2-3 months.
  - 4.5.2 The work should have been executed during the validity period of the contract.
  - 4.5.3 That In case of execution of extra quantities or extra items, approval of the Engineer/Competent Authority has been accorded as per the guidelines for approval of variations issued by HO. The extra quantity/item as approved by the Engineer/Competent Authority must be properly reflected in the detailed statement enclosed with IPC.
  - 4.5.4 That the price escalation is admitted on the value of the work done during the month based on the current indices available or provisional indices [generally cover under' clause 70.3] and the linking factor prescribed by HO.
  - 4.5.5 That the payment of advance for material brought to the site and the adjustment of advance for material incorporated in the works has been recommended by the Engineer strictly in accordance with the relevant clause of the contract [generally clause 60.3].
  - 4.5.6 Retention is made at the rates [and subject to the ceiling] specified in the contract. Where the limit is prescribed in terms of 'final' contract price, such price shall include the price escalation admitted and the approved

variations.

- 4.5.7 Recovery of the advance is made in accordance with the relevant clause of the contract [generally clause 60. 7(d)].
- 4.5.8 Deduction of taxes at source [Income Tax, Sales Tax (Works Contract Tax), Royalty, if any] has been made. In case of deduction of tax at concessional rates, original letters issued by the Income Tax Department should be kept on record. Generally, a confirmation from the Income Tax Department should also be obtained.
- 4.5.9 Recovery towards liquidated damages is made, if applicable unless the recovery has been deferred or the Competent Authority has granted EoT, recovery should be made from the IPC or out of any other sums payable to the contractor after the scheduled completion time.
- 4.5.10 Recovery based on the CTE's observations or as awarded by the Arbitrator has been made.
- 4.5.11 Both gross and net amounts payable have been determined in accordance with the relevant clause of the contract [generally clause 60.1) and have been expressed in the currencies in which the payments are to be made in accordance with the contract.
- 4.5.12 No payment should be admissible if the net amount of the IPC, after all retentions and deductions, is less than the minimum amount of [PC as may be specified in the contract. However, vide office order no. 110I4/21/2002/Admn.11 dated 5/6/2002, the condition of minimum value of IPC has been relaxed only during the initial stages of the contract i.e, till the time the progress payments reach a level of 20% of the initial contract value. Thereafter, the prescribed IPC threshold as per the contract shall be strictly adhered to.
- 4.6 The amount shall be paid after all arithmetical corrections. Engineer may, however, be intimated by the Technical Division in respect of any discrepancy Any amount withheld or disallowed shall also be intimated to the Engineer and the Contractor along with the reasons for the same.
- 4.7 No payment as specified in para 41 should be made unless the previous IPC has been duly settled.
- 4.8 No two payments should be against an IPC for a month [except as specified under para 4.1 and 4.6].
- 4.9 Examine that the contractor has taken out adequate insurance coverage in accordance with the relevant clauses of the contract [generally clause 21.1 and 21.2], more specifically the insurance in respect of the plant & equipments If not, concerned Division or Project Director or the 'Engineer' to the project may be requested to verify such insurances and examine the adequacy of such coverage in terms of the contract.
- 4.10 Examine that the contractor has supplied copies of invoices or other documents to the Engineer to demonstrate that the advance payment has been utilized only to pay for equipment, plant and mobilization expenses required specifically for the execution of the works.
- 4.11 It may be ensured that other conditions stipulated in the contract, but not covered above, are also duly complied with.

**GUIDELINES FOR APPROVAL OF VARIATIONS, GRANT OF EOT, SANCTION OF ESTIMATES, AWARD OF WORK ORDERS/CONTRACTS, RELEASE OF PAYMENTS, ETC.**

[Copy of NHAI letter No.11041/21/2002/Admn.-III July 12, 2004 (87/2004)]

(Ref Para 7.8.4)

1. The following proposals shall be considered by the Variation Committee comprising of Chairman, Member (F) and Member concerned in its meetings.
  - (i) All the proposals for approval of variations (positive or negative) in civil works/maintenance contracts beyond the limits (individual items and overall variations) up to which such variations can be approved by the Engineer to the project as prescribed.
  - (ii) All the proposals for grant of extension of time (EOT) to a contractor under the civil works/maintenance contract, involving financial implications like waiver of liquidated damages or payment of escalation, etc. on account of such EOT.
  - (iii) All the proposals in respect of BOT/Annuity projects like, final approval of change in scope/change in contract conditions involving financial implications and extension of time.
  - (iv) All the proposals for deferment of recovery of advances and for payment of additional advances over and above the contract conditions, subject to interest as per the prevailing norms.
2. Proposals for additional man-months/additional financial implication, etc. in respect of the supervision consultants, commensurate with the EOT for civil works, shall be put up on file by the concerned Divisions, routing through Finance Division seeking financial concurrence, for the approval of the Chairman, NHAI.
3. The proposals for grant of EOT to the contractors or the consultants (including DPR consultants) or any other agencies under various contracts, without involving any financial implications like waiver of liquidated damages or payment of escalation, etc. on account of such EOT, shall be approved by the Member concerned. However, the above proposals involving any financial implications (except in case of proposals covered under Para 1 above) shall be put up on file by the concerned Divisions, routing through Finance Division seeking financial concurrence, for the approval of Chairman, NHAI.
4. The proposals for sanction/approval of all the estimates (except for estimates for land acquisition and the estimates for shifting of utilities

furnished by a Government Department/agency), award of work order/contracts, and other financial approvals, etc., shall be put up on file by the concerned Divisions, routing through Finance Division seeking financial concurrence, for the approval of the Chairman, NHAI.

5. Technical Divisions may process the estimates in respect of land acquisition and shifting of utilities furnished by a Government Department/agency and obtain the approval of the Chairman, NHAI. Based on such approval, the PIUs may deposit the requisite funds in the joint bank account or otherwise for land acquisition and with the concerned Government Department/ agency or otherwise in respect of utility shifting.
6. The proposals for payments on account of mobilization advances and bonus to the civil works/maintenance contractors, DPR and supervision consultants and other agencies and for payment of grant to the Concessionaire in the case of a BOT project shall be put up on file by the concerned Divisions, routing through Finance Division seeking financial concurrence, for the approval of the Chairman, NHAI. Upon approval, the payments shall, unless approved otherwise, be released from HO.
7. All the payments, other than those covered under Para 6 above, like progress payments, payments/release of funds to various departments/agencies on account of preconstruction activities including deposit in the joint bank account or otherwise for land acquisition on the basis of estimates already approved by Chairman, NHAI (as per Para 4 and 5 above), release of retention money, release of payment against final bill, etc., shall be made by the respective Project Directors at the PIUs/C1.1Us (as per policy circular no.32/2003). The establishment/other payments may be released by the Project Directors as per the existing delegation of powers.
8. On the lines of the powers exercised by the Project Directors at the PIUs/CMUs for release of payments in respect of projects handled by them (as per Para 7 above); all the payments being handled at the headquarters like payments to DPR consultants, payments under any contract/work order or against sanction/approval of the Chairman, NHAI, except for payments covered under Para 6 above, subject to the approval of Chairman, NHAI as per Para 4 above, may be made by the DDO at HO on the basis of certification/approval of the General Manager concerned and GM(F)/or DGM(F)/Mgr(F) as per the office order no.NHAI/F&A12000/Work Allocation/100 dated 17/5/2004]. However, where any such payment on each occasion exceeds Rs. 50 lakh, the same may be released with the approval of the Member (Finance) and the Member concerned.
9. Transfer of funds to the Project Implementation Units (PIUs) and Corridor' Management Units (CMUs) may continue to be made by the GM (F) against the requisitions of the respective PIUs/CMUs and subject to the budgetary limits.

## **Chapter 8**

### **PUBLIC PRIVATE PARTNERSHIP PROJECTS**

#### **8.1 Design, Build and Maintenance Contracts**

8.1.1 The Employer either, directly or through an advisor, states the project requirement (financial as well as technical) in general terms and invites the pre-qualified contractors to submit proposals and terms of payment for the design, construction and maintenance of the project. 'Design, Build and Maintenance' contractor may be a consortium of contractors and consulting engineer getting together in an ad hoc arrangement to command all the resources required to bid for such a project. The bidders shall bid for the entire facility on a "single responsibility" basis such that the total bid price shall cover all of the contractor's obligations in respect of design, construction and completion of the facility and maintenance thereof for a specified period. The procedure for receipt of bids, opening and evaluation of bids will be the same as for Public Funded contracts mentioned in Chapter 4.

8.1.2 Employer may appoint a Proof Consultant for checking designs etc. of the contractor. The Employer will engage a consultant as Employer's Representative for supervision. The Employer's Representative while supervising the work will ensure that the work conforms to the approved design, drawings and conditions laid-down in the contract and make necessary quality checks. He will carry out liaison with Contractor's Project's Representative and will hold site meetings on regular fixed intervals.

#### **8.2 Build, Operate and Transfer (BOT) - Toll/Annuity Projects**

8.2.1 The concept envisages a consortium of financiers, contractors and consultants offering to construct some project, which would otherwise consume public money, at their own cost. They recover their cost, along with profit, over a period of time in which they operate the facility and collect money from the public who make use of the facility. In case of Annuity projects, the concessionaire will be entitled for a fixed 'Annuity' during the entire concession period. After the concession period, the ownership of the facility is transferred to the Employer.

8.2.2 BOT contracts are essentially EPC (Engineer, Procure, Construct) contracts where it is the entrepreneur who arranges the finances. In these, the owner i.e. the Authority will first select an entrepreneur on the basis of several parameters such as: cost, financial strength, capacity to raise resources from the market, capital subsidy or equity support expected from the NHAI, quality and adequacy of the organization and institutional arrangements, performance specifications of the facility offered, period of concession, cost to be charged to the users, etc. NHAI will enter into an agreement with the concessionaire so selected, who enters into one or

more contract (s) for the design, procurement of materials and equipment, completion and maintenance of the project in accordance with the provisions of the agreement with the NHAI.

8.2.3 Other variations of the BOT model are: BOOT (Build, Own, Operate and Transfer), BOLT (Build, Own, Lease and Transfer) and DBFO (Design, Build, Finance and Operate) etc.

8.2.4 The following model agreements are available which can be referred to:

- (a) Model Concession Agreement (Toll Based) for Small Road Projects (up to Rs. 100 crore).
- (b) Model Concession Agreement (Toll Based) for projects costing more than Rs. 100 crore.
- (c) Model Concession Agreement (Annuity Based)
- (d) Model Concession Agreement for Public Private Partnership in Highways (published by the Secretariat for the Committee on Infrastructure, Planning Commission).

8.2.5 For BOT (Toll/Annuity) based projects the procedures for selection of an entrepreneur are different from those for engaging a contractor for other type of works.

### **8.3 Project Preparation and Approval**

8.3.1 For the projects on BOT (Toll/Annuity) basis, carrying out complete Detailed Project Report may not be necessary. Instead only Feasibility-cum-Preliminary Project Report (FCPPR) of the project may be adequate to invite bids on DBFO pattern. Feasibility-cum-Preliminary Project Report may be prepared through a Technical Consultant selected in accordance with the procedure laid down in Chapter 6. Services of Financial and Legal Consultants may also be obtained by the NHAI, if required to obtain quality inputs in their respective fields of specialization. These Consultants will complement their efforts with each other through close co-ordination and mutual interaction. The Financial Consultants will assist in appraising the project, inviting bids, answering pre-bid queries and negotiating (if necessary) with the winning bidder. The Technical and Legal Consultant will assist the Financial Consultant in his endeavour. The Feasibility-cum-Preliminary Project Report shall be prepared and approved as per the procedure prescribed in Chapter 3.

8.3.2 The Terms of Reference for the FCPPR shall be described precisely to ensure preparation of all the requisite details required for preparation of comprehensive bid document. After the approval of the Feasibility cum-Preliminary Project Report, the bids will be invited from private entrepreneurs to award a BOT (Toll/Annuity) concession. The concession will be on DBFO pattern, wherein the concessionaire shall in accordance with a model concession agreement approved by the Government, take full responsibility to carry out the detailed design, construction, maintenance

and operations of the project highways and the project facility conforming to the standards specified in the said agreement.

## **8.4 Selection of Concessionaire**

### **8.4.1 Request for Proposals (RFP)**

The proposals shall be invited from the interested parties through a Concession on BOT (Toll/Annuity) basis for a specified concession period indicating the scope of works and the draft concession agreement applicable. The Bidder may be a sole applicant (Single Entity) or a group of entities (hereinafter referred to as 'Consortium'), coming together to implement the Project.

The bidder shall prepare and submit only one **original** Proposal. The Proposal shall be submitted in a hard bound manner. The pages and volumes of each part of the Proposal shall be clearly numbered and stamped and contents of the Proposal shall be duly indexed.

The numbers contained in the Financial Proposal (price bid format – Grant/Negative Grant/Premium quoted or Annuity) shall be covered with a clear/transparent adhesive tape.

### **8.4.2 Eligibility of Bidders**

- (a) An Entity which has been barred by NHAI from participating in NHAI project (BOT or otherwise) and the bar subsists on the Proposal due date, would not be eligible to submit the Proposal, either individually or as member of a Consortium.
- (b) The bidders shall furnish an Anti Collusion Certificate.

### **8.4.3 Specific eligibility requirement for Consortium**

- (a) The members of the Consortium shall submit a Memorandum of understanding (MOU) , specific to the project, for the purpose of submission of the Proposal.
- (b) The members of the Consortium shall furnish a Power of Attorney in the prescribed format, designating one of the members as per MOU as the Lead Member (Lead Member is the member who meets at least 50% of either the threshold Technical or Financial Qualification Capability and has the ability to arrange at least 50% of equity financing requirement).
- (c) Proposal submitted by a Consortium should comply with the following additional requirements:
  - (i) Number of Members in a Consortium would be limited to 4;
  - (ii) Wherever required, the Proposal should contain the information required for each Member of the Consortium;
  - (iii) An individual Member applying as a Single Entity cannot at the same time be member of any Consortium applying for the

project. Further, a member of a particular Consortium cannot be member of any other Consortium applying for the project. Any Member who submits or participates in more than one Proposal for the project will be disqualified and will also lead to disqualification of the Consortium(s) of which it is a Member.

The principal contract between the NHAI and the Concessionaire will be the Concession Agreement, based on the Model Concession Agreement

#### **8.4.4 Bid Security**

All proposals should be accompanied by a bid security of a specified amount. The guidelines for submission of bid security shall be as prescribed as Chapter 4. The bid security shall remain valid for 45 days beyond the proposal validity period including any extension(s).

The bid security of the unsuccessful bidder shall be returned within a period of 56 days from the date of announcement of the successful bidder. However, the bid security of the second lowest bidder shall be returned on expiry on the proposal validity period or execution of the Concession Agreement whichever is earlier. The bid security of the successful bidder shall be returned after signing of the Concession Agreement with the Concessionaire.

The bid security shall be forfeited in the following cases:

- (a) If the bidder withdraws the Proposal except as provided in the RFP document.
- (b) If the bidder withdraws the Proposal during the interval between the Proposal due date and expiration of the Proposal validity period.
- (c) If the successful bidder fails to provide the requisite Performance Security.
- (d) If the successful bidder fails to ensure signing of the Concession Agreement between the NHAI and the Concessionaire.

#### **8.4.5 Evaluation Process and Eligibility Criteria**

The procedure for receipt of bids, opening of bids and other aspects of open tender system will be more or less the same as for Public Funded contracts mentioned in Chapter 4. However for BOT projects there will be single stage bidding process wherein the interested parties are required to submit only one proposal in three parts, viz.:

- Part 1: Other Submissions
- Part 2: Qualification Proposal
- Part 3: Financial Proposal

The evaluation of the Proposals would be carried out in three stages. The first stage would involve a test for responsiveness based on 'Other Submissions' (Part 1). Part 1 of the Proposal shall be opened in the presence of bidders' representatives who choose to attend. The



information regarding bidder's name, name of the Consortium members and particulars of the bid security shall be announced. Those proposals found to be responsive would be evaluated for the next stage i.e. Qualification Stage.

In the Qualification Stage, the Qualification Proposal (Part 2) comprising information about Technical and Financial Capability of the Bidders for undertaking the Project would be evaluated. Those Proposals found to meet the threshold Technical and Financial Capability as set out for the Project would be short listed/qualified and their Financial Proposal (Part 3) would be opened for selecting the Successful Bidder.

#### **8.4.6 Criteria for evaluating Qualification Proposal**

- (a) **Technical Capability:** The Bidder should have executed 'Eligible Projects' in the Road and/or Core Infrastructure Sector over the last 10 years immediately preceding the Proposal Due Date with an aggregate experience score equal to at least 50% of the Total Project Cost of the Project. This is a **pass/fail** criteria and no bid capacity assessment would be carried out based on Technical Capability of the Bidder.
- (b) **Financial Capability:** The Financial Capability of the Bidder shall be evaluated in terms of three criteria
  - (i) **Net Worth:** The Average Aggregate Net Worth of the Bidder over the last three financial years should be at least 25% of the Total Project Cost of the Project.
  - (ii) **Net Cash Accruals:** The Average Aggregate Net Cash Accruals of the Bidder (either sole or consortium) over the last 3 years should be at least 10% of the Total Project Cost of the Project. In addition, the Net Cash Accruals of the individual Consortium Members or the Single Entity should be positive for each of the last 3 financial years.  
The criteria as set out above are **pass/fail** criteria and the Bidder must qualify on both these criteria for its Equity Financing Plan to be evaluated.
  - (iii) **Equity Financing Plan:** The Bidder must provide a committed and unencumbered Equity Financing Plan for financing the Equity for the Project.

The bidding capacity of the Bidder would be based only on the amount of committed aggregate Equity Financing it is able to bring over and above the earlier commitments made on already awarded BOT projects, for executing the Project.

On each of these parameters, the Bidder would be required to meet the threshold capability. Any Bidder meeting all the criteria will be qualified for evaluation of Financial Proposal.

## **8.4.7 Evaluation of Financial Proposals**

### **8.4.7.1 BOT (Toll) Projects**

Bidders will be ranked on the basis of the Grant quoted or present value of the Negative Grant quoted by the Bidders. The proposal with the highest Premium/highest NPV of Negative Grant/lowest Grant would be ranked L1 and other proposals would be ranked accordingly. For the purpose of calculation of NPV of Negative Grant discount rate of 10 (ten) percent shall be applied.

In the event that two or more Bidders have quoted same Premium/Negative Grant (NPV) or same Grant, NHAI may:

- (a) Invite fresh Financial Proposals only from the Bidders quoting same Premium/Negative Grant (NPV)/Grant. However, the fresh Financial Proposals should not have lower Premium/Negative Grant (in absolute value in any of the years quoted earlier and in NPV for the aggregate)/higher Grant than the one quoted by the Bidders in their original Proposals.

OR

- (b) Take any such measure as may be deemed fit in its sole discretion, including annulment of the bidding process.

NHAI may invite the L1 Bidder for negotiations.

Upon acceptance of the Grant with or without negotiations, NHAI may declare the Successful Bidder.

### **8.4.7.2 BOT (Annuity) Projects**

Bidders will be ranked on the basis of the Semi Annuity quoted by them. The proposal with the lowest Semi Annuity amount would be ranked L1 and other proposals would be ranked accordingly.

In the event that two or more Bidders have quoted same Semi Annuity, NHAI may:

- (a) Invite fresh Financial Proposals only from the Bidders quoting same Semi Annuity. However, the fresh Financial Proposals should not have higher Semi Annuity than the one quoted by the Bidders in their original Proposals.

OR

Take any such measure as may be deemed fit in its sole discretion, including annulment of the bidding process.

NHAI may invite the L1 Bidder for negotiations.

Upon acceptance of the Annuity with or without negotiations, NHAI may declare the Successful Bidder.

## **8.5 Minimum Equity Requirement**

- (a) The aggregate equity shareholding of the Consortium Members (or Single Entity, if applicable) and their / his Associates, in the issued and paid up capital of the Concessionaire shall not be less than (a) 51% thereof during the Construction Period and for 3 years following COD and (b) 26% during the balance remaining Operation Period.
- (b) In case of a Consortium:
  - (i) The equity shareholding of each Consortium Member including its Associates shall be as stated in the MoU submitted with the Proposal.
  - (ii) The Lead Member and its Associates would commit to hold a minimum equity stake equal to 51% of the aggregate shareholding of the Consortium in the SPV at all times during the Concession Period.
  - (iii) Each other Member of the Consortium and its Associates would commit to hold a minimum equity stake equal to 10% of the aggregate shareholding of the Consortium in the SPV at all times during the Concession Period.
- (c) In case the Bidder is a Consortium, the Members of the Consortium shall furnish a Power of Attorney in the format prescribed designating one of the Members, as per the Memorandum of Understanding (MoU), as their Lead Member (Lead Member is a member who meets at least 50% of either the threshold Technical or Financial Qualification Capability and has the ability to arrange at least 51% of equity financing requirements).

## **8.6 Issue of Letter of Acceptance (LOA) and Execution of Concession Agreement**

8.6.1 On the basis of evaluation of Proposals, NHAI will issue a Letter of Acceptance to the Successful Bidder. Within fifteen (15) days from the date of issue of the LOA, the Successful Bidder shall accept the LOA and return the same to NHAI. The Successful Bidder shall ensure execution of the Concession Agreement between the Concessionaire and NHAI within forty five (45) days of acceptance of LOA.

8.6.2 Following the issue of the Letter of Acceptance, the Successful Bidder shall be required to incorporate a Special Purpose Vehicle (SPV) in the form of a limited liability Company (hereinafter referred to as the "Concessionaire"). The Concessionaire shall not undertake any business, except scope of work for this Project, during the Concession Period. The Concession Agreement shall be executed between the Concessionaire and NHAI. In

case the Successful Bidder is a Consortium, the equity holding of the Consortium Members in the Concessionaire would be as per the requirements.

8.6.3 In case, the Concession Agreement does not get executed within forty five (45) days of acceptance of LOA, NHAI reserves the right to annul the bidding process and may invite fresh Proposals for the Project. In such a case, the Bid Security submitted by the Successful Bidder shall be forfeited. However, extension of aforesaid period may be considered by NHAI on request from the Successful Bidder.

## **8.7 Guidelines for acceptance and award of single tender**

The acceptance of single tender should not be encouraged. It shall be an exception and not a general rule. Following guidelines shall be followed in this regard.

- (a) For each sub-project the justified Grant/Annuity amount for achieving acceptable Project IRR/Equity IRR shall be worked out before invitation/opening of bids based on project specific parameters.
- (b) In case only a single bid is received by the due date of receipt, normally the tender process may be cancelled and re-bidding done by giving 4 weeks notice except in cases where due to other reasons like difficult conditions, law and order etc., the tender response is expected to be poor.
- (c) In case re-bidding also results in receipt of single bid, then the bid of sole bidder shall be opened and evaluated as per the RFP.
- (d) If the Grant/Annuity amount quoted by the sole bidder is less than the justified Grant/Annuity worked out before invitation of bids, the work may be awarded with the approval of the Authority to the sole bidder without negotiation.
- (e) If the Grant/Annuity quoted by the sole bidder is more than the justified Grant/Annuity worked out before invitation of bids, the single bid may be considered by the Authority, which may accept the bid or direct that bids be re-invited with or without such modifications as considered necessary.
- (f) In cases where due to reasons like difficult conditions, law and order, likelihood of poor response etc., it is decided to open the single bid without going for re-bidding, then for acceptance, above guidelines shall be applicable as are prescribed for acceptance of tenders where re-bidding is resorted to.

## **8.8 Performance Security**

The Successful Bidder shall incorporate a SPV solely for the purpose of domiciling the project (the “Concessionaire”) and the Concessionaire shall for due and faithful performance of its obligations during the Construction period furnish Performance Security for an amount of 5% of the Project cost by way of an irrevocable Bank Guarantee in specified format, within the period expiring on the 30<sup>th</sup> day from the date of issue of LOA but prior to execution of the Concession Agreement. The Bank Guarantee shall be issued by a specified Bank (as prescribed in Chapter 4) in favour of National Highways Authority of India, New Delhi.

## **8.9 Independent consultant**

- 8.9.1 An Independent Consultant will be appointed by NHAI for design review and construction supervision of the project. In addition, NHAI may appoint a technical auditor in the nature of Proof Consultant, at any time during the concession period, to review the work carried out by the Independent Consultant. The Independent Consultant shall report to NHAI about his work, services and activities through regular periodic reports as the situation may warrant.
- 8.9.2 The remuneration, cost and expenses of the Independent Consultant shall be paid by NHAI. One half of such remuneration, cost and expenses shall be reimbursed by the concessionaire to NHAI.
- 8.9.3 For selection of independent consultant, NHAI will provide a long list of pre-qualified/empanelled consultants to the concessionaire, who will prepare a shortlist of up to 10 consultants and forward it to the NHAI. NHAI will approve the shortlist after modification if desired, with the mutual consent of the concessionaire. Thereafter the technical and financial proposals will be invited from the shortlisted consultants and selection will be made as per the procedure mentioned in the Chapter 6.
- 8.9.4 The terms of reference of the Independent Consultant shall be as per the provisions in the Model Concession Agreement adopted.

## Chapter 9

### CORRIDOR MANAGEMENT

#### 9.1 Corridor Management

For dealing with matters relating to corridor management, including operation, maintenance and user fees in respect of all completed 4/6-laned stretches of the National Highways entrusted to NHAH a separate Corridor Management Division (CMD) is established in the Headquarters.

#### 9.2 Transfer of Corridors to Corridor Management Division

9.2.1 Following procedure will be followed for handing over of completed 4/6-laned corridors to CM Division.

- (a) Concerned Technical Division will give information about the handing over of the completed 4/6-laned corridors to CM Division at least 120 days prior to the likely date of completion. Following documents should be annexed with the communication intimating the likely date of completion.
  - (i) Strip map of ROW with land width along the entire stretch;
  - (ii) Land records indicating ownership of land included in ROW;
  - (iii) Copy of the detailed project report;
  - (iv) Draft of fee notification with prescribed details as per circular no NHAH/Commercial Operations/16 dated 21.4.2003 (and as may be modified from time to time);
  - (v) Any other relevant information.
- (b) Following documents should also be sent on or before the date of the completion.
  - (i) Inventory of assets/furniture on the highway;
  - (ii) Copy of drawings of construction along with the amendments (preferably "as built drawings").

9.2.2 The Corridor Management Division (CMD) has been given the following responsibilities in respect of completed four lane corridors transferred to it.

- (a) Operation and Maintenance
- (b) Levy of fee (tolling)
- (c) Wayside amenities/user services
- (d) Commercial exploitation of ROW/other properties/development of business service
- (e) Road Safety
- (f) Construction of Toll Plaza, wherever required
- (g) Traffic Management System
- (h) Grant of permission to private parties for utilities (water/gas/oil pipelines, electric/optical fiber cables, electric poles, etc.), access to private properties, retail outlets, private sign posts/ decorations etc.

- 9.2.3 Before the corridor is completed and transferred to CMD all the above functions have to be looked after by the concerned Technical Division at the Head Office.
- 9.2.4 After handing over of completed 4/6-lane corridors, Corridor Management Division at Head Office will look after the above functions.
- 9.2.5 Above functions in respect of 2-lane corridors where 4/6/8 laning is proposed and for bridges located on the corridor where widening is going on either side will be dealt with by the concerned Technical Divisions and not by CMD.
- 9.2.6 CM Division will look after a particular corridor from the date of its transfer. Administration Division at the Head Office will issue an office order to this effect.
- 9.2.7 The period of 120 days will be utilized by CM Division for procuring O&M Agency (short term transit maintenance contractor or long term comprehensive O&M contractor) to be in place immediately from the likely date of the completion.

### **9.3 Key Areas to be Addressed**

The keys areas to be addressed will be:

- (a) Maintenance
- (b) Incident Management
- (c) Control of National Highway
- (d) Land Management and Road Infrastructure.
- (e) Maintenance and upkeep of Wayside Amenities, Highway Buildings, Equipments and Machinery.
- (f) Arboriculture
- (g) Road Safety
- (h) Levy and Collection of User Fee (Toll)

### **9.4 Maintenance**

Before the formation and operationalisation of NHAI, the States and Union Territories through which the National Highways pass, were maintaining them, on behalf of Government of India. This practice is still continuing where NHAI has not yet taken over the National Highways.

Besides preservation of assets, maintenance strategy by NHAI will be geared towards the following aspects:

- (a) Movement of maximum traffic with minimum inconvenience, with focus on serviceability;
- (b) Provision of passenger-related amenities, and
- (c) Efficiency and optimization of work procedures.

### 9.4.1 Maintenance Programme

This will comprise of the following activities:

(a) Ordinary Repairs

It involves routine maintenance such as repair of potholes, shoulders and embankments; repair of bridges and culverts; accidental repairs; repairs to railings; roadside drainage; tree plantation; vegetation trimming; rubbish removal; cleaning and painting of kilometer and intermediate stones; kerb painting and road traffic signs and markings etc.

(b) Periodic Renewal

It involves provision of renewal coat to the wearing surface at such intervals as to achieve desired levels of serviceability, taking account of the roughness (mm/km) and volume of traffic. For renewal coat to be effective, the existing surface, if in a state of deterioration, should first be rehabilitated.

(c) Special Repairs

It includes works like improvement to curves, improvement to visibility, significant repairs to culverts & bridges etc, new safety measures and amenity provisions and repairs/ rehabilitation of major distressed sections.

(d) Flood Damages and Emergency Repairs

It includes repairs or reinstatement of which the need arises from heavy rains, flooding, snowfall, cyclones, landslides, sand dune formation, earthquakes, major accidents etc. High priority shall be assigned to traffic safety and restoration of traffic.

The various activities of maintenance and their frequency in respect of roads and bridges are listed in MOSRTH publication 'Report of the Committee on Norms for Maintenance of Roads in India' and may be referred to. A yearly calendar of maintenance should be drawn up, taking into account the climate, rainfall and suitability of temperature for bituminous operations.

Guidelines containing an indicative checklist of activities for necessary preventive/ precautionary measures to meet any eventuality arising out of heavy rains/ floods have been issued by the NHAI vide letter no. 11041/21/2002-Admn dated 3.6.2005 (53/2005) (copy enclosed as Enclosure-I at the end of the Chapter), which may be followed so that the roads are kept in traffic worthy conditions under all circumstances.



### 9.4.2 Inspection

Inspection should be carried out not only to check the conditions of works but also for planning future strategies. Chief General Managers should make it a point to interact with their colleagues in charge of PIUs/CMUs, go through their inspection notes and make suitable suggestions so that inspections are meaningful. Inspection should cover the following aspects.

#### (a) Roads

- (i) Safety
- (ii) Carriageway and crust conditions
- (iii) Berms (Shoulders)
- (iv) Road fixtures
- (v) Road drainage
- (vi) Road protection works
- (vii) Roadside trees
- (viii) Road geometrics
- (ix) Median plantation
- (x) Unauthorised median cuts
- (xi) Unauthorised access to NHs
- (xii) Encroachments and hoardings
- (xiii) Conditions of toll plazas

#### (b) Bridges

- (i) Approaches
- (ii) Protective works
- (iii) Waterway
- (iv) Foundation
- (v) Substructure
- (vi) Bearings
- (vii) Superstructure
- (viii) Expansion Joints
- (ix) Wearing coat/Deck
- (x) Drainage
- (xi) Hand rails, parapets
- (xii) Footpaths
- (xiii) Utilities (water and sewerage pipes, telephone and electric cables, others)
- (xiv) Environment – signs of aggressiveness
- (xv) Visual intrusions, growth of vegetation on structural members

(c) Assess the requirement for improvement from safety, drainage and other considerations

The detailed checklists given in 'Manual for Maintenance of Roads' of MOST (now MOSRTH), and 'Guidelines for Inspection and Maintenance of Bridges' (Special Publication 35 of Indian Roads Congress) should be followed.

From time to time, special inspection of major bridges (length 60 meter or more between abutment faces) and any other bridge of importance will be got done through experienced firms. Based on these inspections, the strategy of rehabilitation, strengthening or replacement of bridges, wherever required, will be evolved.

#### **9.4.3 GIS Data Base and Management System**

The NH network should be on computerized Geographical Information System (GIS) database for easy referencing, manipulation and presentation of spatial data. The entire NH system, including its details (state-wise, node-wise, section-wise) should be capable of being seen on maps, for strategic planning. Any attributes of the National Highways such as, intersecting state roads, bypasses, bridges, level crossings, streams, volume of traffic, intensity of commercial traffic, accident prone sections, system bottlenecks/constrictions like weak or narrow bridges and pavement etc. that may have any bearing on the development, planning and maintenance of the road network should be stored for easy assessment and retrieval.

Pavement Management System (PMS) and Bridge Management System(BMS) based on GIS will be used as a means of effectively distributing available funds based on priority of needs, road condition, and achievement of pre-determined standards of serviceability.

For building up the data, sources like State PWDs, Census Reports, Survey of India, Bureau of Economics & Statistics, State Police Department, MOSRTH records, etc. may be accessed. Data to be collected by PIUs/CMUs in respect of NHs, for the purpose of PMS will include:

- (a) Inventory (physical pavement features including number of lanes, length, width, surface type, functional classification and shoulder information)
- (b) History (project data and type of construction, reconstruction, rehabilitation and preventive maintenance)
- (c) Condition Survey (roughness, rutting, distress)
- (d) Traffic (volume, vehicle type, load data)

Similar information will be collected about bridges and fed into the GIS Data Base. This data will include physical and design parameters of bridges, their condition surveys, functional deficiencies, and sufficiency ratings.

The data in respect of the NH network should be updated, at least annually, to account for changes and developments.

#### **9.4.4 Maintenance Implementation**

Where maintenance has been taken over by NHAI, the broad approach will be 'Maintenance by Contract'. Three models viz. (i) Activity Contracting (to do a specific maintenance activity), (ii) Region-wise Maintenance Contracting (to embrace a region, an area, or section of National Highway) and (iii) Undertaking operation and maintenance of a specified stretch through private sector participation on Operate, Maintain and Transfer (OMT) basis will be used, depending on the requirements of the situation. In either case, activities to be performed will be identified and detailed, quality standards and frequency for each activity set, and measurement procedures and method of payment established.

When NHAI finds that in a given situation, it is convenient or expedient to entrust maintenance to PWD on agency basis, it may do so with appropriate arrangement with the concerned Government.

#### **9.4.5 Traffic Census**

Traffic census will be carried out at selected points on the NH system, twice a year (summer and winter months) for a 7 days period. Manual traffic census may be done on relatively less trafficked sections of National Highways. However, for all the important sections and particularly those amenable to tolling, or which are candidates for up-gradation on BOT bases, Smart Automatic Traffic Counters may be used. NHAI may set up its own traffic census strategy, instead of having to depend on the exiting data prepared by the State PWDs. Weigh-in-Motion bridges may be installed at strategic locations to carry out axle load surveys and build a reliable database for pavement design and appropriate investment decisions.

### **9.5 Incident Management**

9.5.1 This will involve management of:

- (a) Recurring events, such as traffic bottlenecks, especially during morning and evening hours, as may be the case in respect of urban roads.
- (b) Random events, such as vehicle accidents, spilled goods, vehicle breakdown, deployment of patrol vehicle, ambulance and tow-away cranes.

9.5.2 Recurring congestion on NHs is primarily the result of capacity constraints and inefficient utilization of the highway. NHAI will coordinate with local agencies to work out solutions. 'Guidelines on LOW Cost Traffic Management Technique for Urban Areas' published by India Roads Congress as IRC: 43 may be used as considered appropriate to a situation.

9.5.3 Management of accidents run across jurisdiction of various authorities and will require coordination with:

- (a) State PWD
- (b) State Police
- (c) District Administration
- (d) District Fire Authorities
- (e) District (Chief) Medical Officer
- (f) Automobile and Trucker Association
- (g) General Insurance Companies

9.5.4 The Project Director will work towards enlisting the co-operation of these Departments for mobilizing various services and resources, such as tow trucks, ambulances, fire tandems etc. as and when necessary.

9.5.5 For detection and reporting of accidents, use should be made of patrol vehicles (police, service, maintenance etc.), emergency telephones or call boxes, and in special cases closed circuit TV monitoring.

9.5.6 To restore the road to its full capacity, several activities will need to be triggered including:

- (a) First aid and removal of the injured
- (b) Accident investigation
- (c) Fire control
- (d) Vehicle removal and debris clearance
- (e) Installation of traffic control signs and advance warning signals
- (f) Traffic control at accident site
- (g) Re-routing of traffic/provision of alternate route

9.5.7 For activities for which NHAI is directly responsible, implementation should start without loss of time. Some of the activities require the intervention of other Departments, particularly the Police for traffic regulation, law and order, and towing away of any accidental vehicle. The local NHAI/State PWD officials will secure necessary assistance on emergency basis.

9.5.8 As a result of experience of these accidents, NHAI will identify what design improvements are needed to ease congestion and what counter-measures are required against black spots. Necessary remedial measures shall be implemented on priority. First aid posts should be set up/identified by NHAI for accident-prone areas.

## **9.6 Control of National Highways**

### **9.6.1 The Control of National Highways (Land and Traffic) Act, 2002**

The Control of National Highways (Land and Traffic) Act, 2002 has been enacted by the Govt. of India. The Government has also notified the procedural rules for the National Highways Administration set up under the Act. The Highway Administration (HA) shall be empowered body to

exercise the powers and discharge the functions conferred on it under the Act. The HA shall be empowered to prevent unauthorized occupation of the National Highways land, control of access points and regulate traffic on National Highways and imposition of penalty for unauthorized occupation. The Act also empowers summary removal of unauthorized occupation by the Highways Administration. The various sections of the Act empowers the HA to take legal steps as may be necessary to ensure that the National Highways are free from encroachments and flow of traffic is smooth without obstruction and other hindrances.

In respect of the National Highway stretches under the control of NHAI, the Regional Officers of the Ministry have been established the HAs by the Central Government vide Gazette Notification dated 20.1.2005.

As per the Act the Regional Officer (as HA) may, after the approval of the central government, authorise the concerned Project Director of NHAI to exercise the powers and discharge the functions of HA conferred on it by the Act. The Project Director so authorised shall discharge his functions and exercise the powers vested in him to control the land within the National Highway, right of way, traffic moving on the National Highways and remove unauthorized occupation thereon as per the provisions of the said Act.

### **9.6.2 Enforcement**

Enforcement will require action by PIUs/CMUs on several fronts including:

- (a) Detection, prevention and removal of encroachment
- (b) Protection of highway assets and prevention of vandalism
- (c) Access control and removal of unauthorized access ways
- (d) Regulation of over loading
- (e) Enforcement of traffic rules and regulation
- (f) Prevention of unplanned/unapproved activities on/along highway (such as work by utility organizations).
- (g) Prevention/removal of unauthorized billboards and advertisements.

Several of these works will require assistance of State Government authorities, at the District or Headquarters level, which will be sought at the appropriate senior level, such as CGM or Member. In special circumstances, Chairman NHAI may take up issues of policy with the State Authorities.

### **9.6.3 Encroachments**

As the first step, officer in-charge of a PIU/CMU will take urgent action to update National Highway land records by involving the state revenue department, and hiring retired patwaris (land record officials), and develop the inventory of highway land and property. On the basis of this authentic

record, which can bear the scrutiny of a court, encroachments should be identified and removed.

#### **9.6.4 Preservation of Assets**

As a site referencing system and as a deterrent to any attempt of illegal annexation of highway land or of encroachment, pillars to demarcate the land boundary should be installed. Fencing along the highway should also be done where conditions demand.

#### **9.6.5 Overloading**

To check overloading Weigh-in-Motion Station (WIMS) should be installed across the National Highways network. These weigh stations may be integrated with toll plazas, or with truck detention centers, where overweight trucks would be required to reduce load and pay fines. WIMS will also be used to develop a database to project the spectrum of axle loads, which would be useful in pavement design.

#### **9.6.6 Access Control**

The procedure to deal with unauthorized access on National Highways would be similar to that dealing with existing encroachments. In the first step all access derived on NHs will be identified and recorded. Those access fronts that are appropriately designed and do not pose a traffic hazard may be tolerated, for the time being. Hazardous access points will be tackled with the cooperation of local development agencies.

As a further strategy, NHAI at the appropriate senior level, will take up with the State governments that development authorities and local bodies must have statutes, rules and regulations prohibiting highway-abutting property from direct front on the highway; all such property should derive access from service roads. The provision of these service roads should be made the responsibility of the development agencies. In an existing scenario of National Highways passing through sub-urban areas, and carrying sufficient local traffic, NHAI should itself consider the provision of service roads, and if circumstances so demand, of a bypass. Other engineering solution should be devised, as considered necessary.

At all times, prior clearance of NHAI deriving for deriving access on NHs, which is already mandatory, should be enforced strictly by PIUs/CMUs.

#### **9.6.7 Unauthorised median cuts**

Measure should be taken by PIU/CMU to close all unauthorized median cuts as soon as these occur and suitable action should be taken against the identified agency by lodging an FIR.

### **9.6.8 Utilities**

All works of laying/upgrading utility have to have mandatory NHAI clearance. Utility works on/along National Highways should be allowed by PIUs/CMUs only as per NHAI policy, provided further that they conform to the prescribed guidelines, design and specifications. In this regard, Indian Roads Congress publication IRC: 98 'Guidelines on Accommodation of Underground Utility Service Along and Across Road in Urban Areas', should be followed as applicable. However these guidelines need to be modified to deal with problems encountered in rural sections of NHs. Applications for permission should be entertained only if the utility agency:

- (a) submits drawings/plans of the concerned utility;
- (b) gives a work programme and the duration of occupation of the right-of-way
- (c) gives traffic safety and management plan and an undertaking to implement it on approval;
- (d) deposits works security and restoration fee and
- (e) deposits/or agrees to deposit fee for use of right-of -way.

While according approvals, future development plans of the highway should be considered. The user may also be called upon to enter into lease agreement with NHAI with the standard clause that no cost for removal or modification will be paid.

### **9.6.9 Advertisements**

Any roadside billboard/advertisement-other than those put up by NHAI for regulation, safety or information purpose- should be allowed only with the prior approval of the NHAI. Broadly, the guidelines given in IRC: 46 'A policy on Roadside Advertisements' should be followed. Existing advertisements, especially which obstruct vision, distract attention, affect safety and reduce the capacity of the highway, should be handled as encroachments.

## **9.7 Land Management**

Some of the major procedures to be followed have been described in Para 9.6. In addition, officers in-charge of PIUs/CMUs will further ensure that the prescribed building lines, control lines and setback distances are duly enforced. Access to expressways and other arterial routes should be controlled by fencing. To check ribbon development, guidelines given in IRC: SP:15 – 'Ribbon Development Along Highways and its Prevention' should be followed.

## **9.8 Maintenance and upkeep of Wayside Amenities, Highway Buildings, Equipments and Machinery**

### **9.8.1 Wayside Amenities and Highway Buildings**

A number of buildings and structures will come into possession of the Authority or will be owned by it, such as project site offices, wayside amenities, structures at toll plazas, traffic management structures, quarters, rest sheds/houses along the highways etc. It is necessary for the officers of the Authority like Project Director to have a proper record of these properties for their upkeep and control. The basic data of these buildings should be maintained in a 'Building Register', containing information of these buildings in respect of; year of construction, cost, type of structure, number of storey, title of land (owned or leased) along with details of permanent fixtures provided, etc. Periodically, when any additions, alterations or improvements are carried out in future, these details should also be incorporated in the Building Register. In addition, record plans of such buildings and structures including foundation details should be maintained in separate files for reference.

The buildings and properties should be regularly inspected by a senior engineer of the Authority at the level of DGM (and at higher level in case any problem is discovered) at least once a year, preferably before the monsoon season. The observations of such inspection must be recorded in a register specially kept for the purpose in every PIU/CMU. After compliance of these remarks and execution of any repairs that required, a suitable note should be made against the inspection notes in the register. The Project Director should monitor these and be responsible for proper upkeep and maintenance of these buildings.

If any such properties are leased out, the terms must be in accordance with the guidelines approved by the Authority. Even though the maintenance of these properties may be the responsibility of the lessee, depending on provisions of the lease agreement, the annual inspections by the Authority officers, as mentioned above, must continue and any defects or misuse noticed should be got rectified from the lessee.

### **9.8.2 Machinery and Equipment**

Variety of equipment and machinery may be owned or possessed by the Authority, such as office equipment, survey equipment, traffic management equipment, toll plaza equipment, vehicles, laboratory equipment, scientific instruments, and any other machinery of the contractors, hypothecated or otherwise, taken over under the contract provisions concerned. It is necessary to maintain a proper record of these in the PIU/CMUs of the Authority in the 'Equipment Register'. It should contain information like year of manufacture, year and the mode of procurement, capacity and make, cost, registration number, etc. In



addition, original literature and manuals of such equipment with registration documents should be maintained in the PIU/CMUs.

The machinery and equipment must be got checked once during monsoon months at the level of DGM and observations, if any, recorded and conveyed to the Project Director for initiating proper action. He should monitor such annual inspections and ensure the proper maintenance of all machinery and equipments, their periodic servicing, calibration where necessary, renewal of licenses, maintenance of proper logbooks, payment of taxes, if any, etc.

Whenever any items of equipment and machinery are not needed for the Authority's use, these may be disposed of/sold with the approval CGM concerned. Such sale should only be through public notices or public auction as may be approved by the CGM, and at value not less than the reserve price (to be approved by CGM) or at book value, whichever is higher. All cases of disposal or sale of an item less than that figure should be reported with justification to the Chairman for approval (ex post facto, for items with book value/reserve price below Rs. one lac).

## **9.9 Arboriculture**

9.9.1 Due attention shall be devoted towards arboriculture, Plantation of trees shall be done to enhance landscape, reduce pollution, cut off glare, mask unsightly structures, and make journey pleasant. Region-wise schemes of plantation plans shall be drawn up, which are best suited to the location of the highway, prevailing climate and soil conditions.

9.9.2 Plantation of trees along the road margins, central verge and traffic rotaries may be entrusted to: (i) agencies specialized in plantation and landscaping; (ii) maintenance contractor, or (iii) reputed agencies, organizations, institutions in return for allotment of advertisement rights on highway land. In the last mentioned case, a Memorandum of Understanding (MOU) valid for the specified period will be entered into. The terms of MOU will include: (i) development and maintenance of plantation by the agency at its own cost, and to the satisfaction of the officer-in-charge of PIU/CMU; (ii) no construction of any kind on highway land to be permitted to the agency or commercial usage allowed to be derived; (iii) the agency to be allowed the putting up of advertisements/hoardings after getting them approved from NHAI, and (iv) on expiry of MOU, the agency to clear the site, but all fencing material, tree guards, trees, shrubs and tube well, if any, to become the property of NHAI.

## **9.10 Road Safety**

The measures to be taken should include:

(a) Provisions of safety guidelines given in the following publications of Indian Roads Congress shall be observed;

- IRC: SP: 44 – ‘Highway Safety Code’
  - IRC: SP: 55 – ‘Guidelines for Safety in Construction Zones’
- (b) All hazardous locations, elements of surprise to the driver, impaired visibility, shall be improved and rest areas for the fatigued drivers planned;
- (c) Coordination with State Transport Authorities and Police Departments shall be kept to enforce traffic rules, avoid over-speeding and overloading; and
- (d) Training courses shall be arranged to train drivers and educate road users about safety on roads.

### 9.11 Levy and Collection of User Fee

9.11.1 User Fee on mechanical vehicles (except the categories of vehicles exempted by GOI) using completed 4/6-lane sections of National Highways, will be levied as notified. The fee shall not exceed the capping rates as notified by the central government vide the National Highways (Rate of Fee) Rules 1997. The rates, which became effective from 1.7.97 are as below:

<u>S.N.</u>	<u>Type of Vehicle</u>	<u>Rate (in Rupees per km.)</u>
(i)	Car or Jeep or Van	0.40
(ii)	Light commercial vehicle	0.70
(iii)	Truck or Bus	1.40
(iv)	Heavy construction machinery and earth moving equipment	3.00

These rates are subject to revision after every five years based on whole sale price index and fixed in multiple of rupees five. MOSRTH can stipulate higher rates of toll on expressways, major bridges, new bypasses, tunnels and in other exceptional cases where so justified by level of traffic.

9.11.2 User Fee may be collected departmentally or through OMT Concessionaire. In either case, traffic survey, vehicle class-wise, will be first conducted, and based on the proposed User Fee rates, expected annual revenue will be estimated.

9.11.3 During the currency of the contract, PD will exercise control to ensure that: (i) rates of toll are prominently displayed at the site by the person in charge of collections; (ii) the rates being charged are as per the notification issued; (iii) proper receipts are issued to the drivers/vehicle in-charge paying the toll, and (iv) collections are smooth and there is no undue hardship to the road users (v) adequate number of personnel are deployed by the contractor (vi) quarterly training courses are arranged to train the plaza personnel (vii) the approved dress code with clearly indicating the name of the personnel is used and (viii) behavior of the personnel at the toll plaza is quintessential . He will also, from time to

time, check the volume of traffic and toll collections so that a more realistic floor price can be determined for the future years.

- 9.11.4 In a given situation, toll may be collected departmentally. Officer in charge of PIU/CMU will exercise due check and control regarding the issue of proper receipts, toll collections, maintenance of accounts, remittances of the collections into the appropriate NHAI account, submission of returns to the Headquarters, including surprise checks on volume of traffic.

## **9.12 Institutional Set-up**

Corridor Management Units (CMUs) will handle the functions of Maintenance and Corridor Management. Basically, a CMU will comprise of two units – Maintenance and Highway Management. The responsibilities of the officer manning the CMU will be as below:

- (a) To collate Corridor condition data, road user survey data, traffic survey data;
- (b) To identify maintenance activities, prioritise them, follow procedural guidelines formulated by Headquarters, administer maintenance contracts, monitor their execution and carry out necessary evaluation;
- (c) To manage highway property, including buildings, equipment and machinery;
- (d) To develop and implement systems for traffic management and highway safety;
- (e) Prevention of encroachments, unauthorized advertisements, unauthorized access to highways, unauthorized median cuts, ribbon development and over-loading;
- (f) Management of highway incidents;
- (g) To arrange roadside and verge plantation, upkeep and beautification of the roundabouts, and upkeep and beautification of toll plazas.
- (h) To interact, co-ordinate and liaise with local authorities;
- (i) To supply any information, data, comments, reports specifically or generally asked by Headquarters;
- (j) To handle income from tolls, use (advertisements, housing of utilities etc.) of highway land and other facilities, sale or auction of any asset, etc. and to deposit it into the appropriate NHAI account, and
- (k) To act as the local PRO of the NHAI.

**MAINTENANCE OF ENTRUSTED HIGHWAYS DURING MONSOON**

[Copy of NHA letter No.11041/21/2002-Admn dated 3.6.2005 (53/2005)]

[Ref para 9.4.1 (d)]

Project Directors shall take necessary preventive/ precautionary measures and be in state of preparedness to meet any eventuality arising out of heavy rains and floods during the monsoon. All the National Highways which have been entrusted to NHA for widening and strengthening or completed corridors should be kept in traffic-worthy condition under all circumstances.

The responsibility for works of maintenance in the sections where widening and strengthening work is in progress is of the civil contractor. The O&M contractors/operators are responsible for the sections under CM Division.

The following guidelines may be kept in view while formulating and finalizing the action plan on the subject:

**1. Sections under Corridor Management Division**

- (a) All cross drainage works must be inspected immediately and it may be ensured that there is no debris/dismantled material/any other obstruction in the water way.
- (b) All pucca drains, kaccha drains, median drains, sub-surface drains, drainage spouts on bridges and drainage pipes in the kerb between the main road and service road etc. are properly cleaned and maintained so that there is no ponding of water on the carriageway or service road.
- (c) Embankment protection and stone pitching etc. at all cross drainage works may be checked in advance and rectified if required.
- (d) Special attention/ vigilance needs to be given to cross drainage structure and embankment at the location of major rivers and canals where there is a past history/precedent of flood damages.
- (e) Regular movement of route patrol vehicle during the rainy season may be ensured and staff on route patrol vehicle should be educated and trained for reporting of any unusual observation during patrolling to the Project Director immediately. The Project Director should also make frequent inspection of the sections during monsoon period specially during the days when there is heavy downpour.
- (f) Contact telephone no. of ambulance services should be displayed at regular intervals specially near the accident/flood prone locations so as to provide immediate help in case of any emergency.

**2. Sections/ packages under construction**

- (a) It may be ensured that no dismantled or construction material is lying in the water way of any 'C D works which is under construction or has been completed recently.
- (b) For the bridge/C D works which are under construction, adequate arrangements for drainage by providing suitable numbers of pipes at

the time of staging/shuttering be ensured at site.

- (c) No construction material/debris/ loose soil should be dumped on road surface.
- (d) The surface of embankment or sub-grade should at all times during construction be maintained at such a cross fall as will shed water and prevent ponding.
- (e) The placement of construction material/earth in median/carriageway should be checked and ensured that there is no spillage of such materials or mud due to flow of water on the carriageway under use so as to avoid any slippery surface causing accidents.
- (f) The key personnel of contractor/consultant and staff of NHAI should maintain a comprehensive list of service provider of ambulance, hospitals and trauma care centers which have the facilities to take care of the accident victims. Such details should also be readily available at the camp site of the contractor, office of the consultant and PIU office of NHAI and displayed at accident prone locations.

### **3. Preparedness for all sections:**

- (a) Inventory of all equipment and machinery which are required during floods/ rainy season along with their availability should be prepared in advance and kept handy in each PIU/CMU.
- (b) Necessary liaison and co-ordination with district administration/flood control centre of the concerned district/state government should be maintained.
- (c) At critical locations/flood prone sites, arrangements for required material/ gunny bags and labour etc. may be made in advance to meet any emergency requirements.
- (d) Advance warnings signs regarding portions of any of the highways closed/ damaged or diversion or any other information which needs to be advised to the road users should be prepared in advance.
- (e) Each PIU/CMU will designate one officer in charge for liaison and monitoring of the flood related activities. Further, each PIU/CMU shall maintain liaison and co-ordination with adjoining PIU/CMU to meet any emergency situation.
- (f) All contractors working on the highway projects in NHAI must be advised to take all necessary safety measures, precautions during construction to protect the work and ensure safety of the road users during heaving rains and floods. Further, the area under excavation/ trenching should be properly cordoned off by providing suitable barricading and arrangement for providing lighting, retro-reflective tapes, sign boards should be made at such hazardous locations.

## **Chapter 10**

### **LAND ACQUISITION**

#### **10.1 Necessity of Land Acquisition**

Land acquisition will be necessary for development of expressways, new National Highways, construction of bypasses, bridges and their approaches, NH buildings or improvement of existing facilities, where the existing land or the available right of way (ROW) proves insufficient. Land may also be required for borrow areas, quarries, site office, labour camps, site plant etc. Land acquisition may be needed for wayside amenities, and also for estate development in case of a private funded project.

#### **10.2 Land required for public purpose**

Section 13 of the National Highways Authority of India Act, 1988, which was amended with effect from 24.1.1997, provides that any land required by the authority for discharging its functions under this Act shall be deemed to be land needed for a public purpose and such land may be acquired by the authority under the provision of National Highways Act, 1956. This enables the entry on and taking possession of any land by NHAI within 60 days of assessment of cost and its deposit with the competent authority.

#### **10.3 Procedure of Land Acquisition**

With the amendment of National Highways Act 1956 vide Amendment Act of 1997, which became effective on 24.1.1997, major changes have been brought about, removing many time consuming procedures of Land Acquisition Act, 1894. In the National Highway Act, 'competent authority' means any person or authority authorized by the Central Government, by notification in the official Gazette, to perform the function of the competent authority for such area as may be specified in the notification. The revised Section 3 of NH Act, 1956 lays down the following procedure.

##### **10.3.1 Power to acquire land, etc. (3A)**

(1) Where the Central Government is satisfied that for a public purpose any land is required for the building, maintenance, management or operation of a National Highway or part thereof, it may, by notification in the official gazette, declare its intention to acquire such land.

(2) Every notification under sub-section (1) shall give a brief description of land.

(3) The competent authority shall cause the substance of the notification to be published in two local newspapers, one of which will be in a vernacular language.

### **10.3.2 Power to enter for survey, etc. (3B)**

On the issue of a notification under sub-section (1) of section 3A, it shall be lawful for any person, authorized by the Central Government in this behalf, to-

- (a) make any inspection, survey, measurement, valuation or enquiry;
- (b) take levels;
- (c) dig or bore into sub-soil;
- (d) set out boundaries and intended lines of work;
- (e) mark such levels, boundaries and lines by placing marks and cutting trenches; or
- (f) do such other acts or things as may be laid down by rules made in this behalf by that Government.

### **10.3.3 Hearing of objections (3C)**

(1) Any person interested in the land may, within twenty-one days from the date of publication of the notification under sub-section (1) of section 3A, object to the use of the land for the purpose or purposes mentioned in that sub-section.

(2) Every objection under sub-section (1) shall be made to the competent authority in writing and shall set out the grounds thereof; and the competent authority shall give the objector an opportunity of being heard, either in person or by a legal practitioner, and may, after hearing all such objections and after making such further enquiry, if any, as the competent authority thinks necessary, by order, either allow or disallow the objections.

Explanation – For the purposes of this sub-section, “legal practitioner” has the same meaning as in clause (i) of sub-section (1) of section 2 of the Advocates Act, 1961 (25 of 1961).

(3) Any order made by the competent authority under sub-section(2) shall be final.

### **10.3.4 Declaration of acquisition (3D)**

(1) Where no objection under sub-section (1) of section 3C has been made to the competent authority within the period specified therein or where the competent authority has disallowed the objection under subsection (2) of that section, the competent authority shall, as soon as may be, submit a report accordingly to the Central Government and on receipt of such report, the Central Government shall declare, by

notification in the official gazette, that the land should be acquired for the purpose or purposes mentioned in sub-section (1) of section 3A.

(2) On the publication of the declaration under sub-section (1), the land shall vest absolutely in the Central Government free from all encumbrances.

(3) Where in respect of any land, a notification has been published under sub-section (1) of section 3A for its acquisition but no declaration under sub-section (1) has been published within a period of one year from the date of publication of that notification, the said notification shall cease to have any effect:

Provided that in computing the said period on one year, the period or periods during which any action or proceedings to be taken in pursuance of the notification issued under sub-section (1) of section 3A is stayed by an order of a court shall be excluded.

(4) A declaration made by the Central Government under sub-section (1) shall not be called in question in any court or by any other authority.

#### **10.3.5 Power to take possession (3E)**

(1) Where any land has vested in the Central government under sub-section (2) of section 3D, and the amount determined by the competent authority under section 3G with respect to such land has been deposited under sub-section (1) of section 3H, with the competent authority by the Central government, the competent authority may by notice in writing direct the owner as well as any other person who may be in possession of such land to surrender or deliver possession thereof to the competent authority or any person duly authorized by it in this behalf within sixty days of the service of the notice.

(2) If any person refuses or fails to comply with any direction made under sub-section (1), the competent authority shall apply-

- (a) in the case of any land situated in any area falling within the metropolitan area, to the Commissioner of Police;
- (b) in case of any land situated in any area other than the area referred to in clause (a), to the Collector of a District;

and such Commissioner or Collector, as the case may be, shall enforce the surrender of the land, to the competent authority or to the person duly authorized by it.



### **10.3.6 Right to enter into the land where land has vested in the Central Government (3F)**

Where the land has vested in the Central Government under section 3D, it shall be lawful for any person authorized by the Central Government in this behalf, to enter and do other act necessary upon the land for carrying out the building, maintenance, management or operation of a National Highway or a part thereof, or any other work connected therewith.

### **10.3.7 Determination of amount payable as compensation (3G)**

(1) Where any land is acquired under this Act, there shall be paid an amount which shall be determined by an order of the competent authority.

(2) Where the right of user or any right in the nature of an easement on, any land is acquired under this Act, there shall be paid an amount to the owner and any other person whose right of enjoyment in that land has been affected in any manner whatsoever by reason of such acquisition an amount calculated at ten percent, of the amount determined under sub-section (1), for that land.

(3) Before proceeding to determine the amount under sub-section (1) or sub-section (2), the competent authority shall give a public notice published in two local newspapers, one of which will be in a vernacular language inviting claims from all persons interested in the land to be acquired.

(4) Such notice shall state the particulars of the land and shall require all persons interested in such land to appear in person or by an agent or by a legal practitioner referred to in sub-section (2) of section 3C, before the competent authority, at a time and place and to state the nature of their respective interest in such land.

(5) If the amount determined by the competent authority under sub-section (1) or sub-section (2) not acceptable to either of the parties, the amount shall, on an application by one of the parties, be determined by the arbitrator to be appointed by the Central Government.

(6) Subject to the provisions of this Act, the provisions of the Arbitration and Conciliation Act, 1996 (26 of 1996) shall apply to every arbitration under this Act.

(7) The competent authority or the arbitrator while determining the amount under sub-section (1) or sub-section (5), as the case may be, shall take into consideration.

- (a) the market value of the land on the date of publication of the notification under section 3A;
- (b) the damages, if any, sustained by the person interested at the time of taking possession of the land, by reason of the severing of such land from other land;
- (c) the damage, if any, sustained by the person interested at the time of taking possession of the land, by reason of the acquisition injuriously affecting his other immovable property in any manner, or his earnings;
- (d) if, in consequences of the acquisition of the land, the person interested is compelled to change his residence or place of business, the reasonable expenses, if any, incidental to such change.

#### **10.3.8 Deposit and payment of amount (3H)**

(1) The amount determined under section 3G shall be deposited by the Central Government in such manner as, may be laid down by rules made in this behalf by that Government, with the competent authority before taking possession of the land.

(2) As soon as may be after the amount has been deposited under sub-section (1), the competent authority shall on behalf of the Central Government pay the amount to the person or persons entitled thereto.

(3) Where several persons claim to be interested in the amount deposited under sub-section (1), the competent authority shall determine the persons who in its opinion are entitled to receive the amount payable to each of them.

(4) If any dispute arises as to the apportionment of the amount or any part thereof or to any person to whom the same or any part thereof is payable, the competent authority shall refer the dispute to the decision of the principal civil court of original jurisdiction within the limits of whose jurisdiction the land is situated.

(5) Where the amount determined under section 3G by the arbitrator is in excess of the amount determined by the competent authority, the arbitrator may award interest at nine percent per annum on such excess amount from the date of taking possession under section 3D till the date of the actual deposit thereof.

Where the amount determined by the arbitrator is in excess of the amount determined by the competent authority, the excess amount together with interest, if any, awarded under sub-section (5) shall be deposited by the Central Government in such manner as may be laid

down by rules made in this behalf by that Government, with the competent authority and the provisions of sub-sections (2) to 4 shall apply to such deposit.

### **10.3.9 Competent authority to have certain powers of civil court (3I)**

The competent authority shall have, for the purposes of this Act, all the powers of a civil court while trying a suit under the code of Civil Procedure, 1908 (5of 1908), in respect of the following matters, namely:-

- (a) summoning and enforcing the attendance of any person and examining him on oath;
- (b) requiring the discovery and production of any document;
- (c) reception of evidence on affidavits;
- (d) requisitioning any public record from any court or office;
- (e) issuing commission for examination of witnesses.

### **10.3.10 Land Acquisition Act of 1894 not to apply (3J)**

Nothing in the Land Acquisition Act, 1894 shall apply to an acquisition under National Highway Act 1956.

## **10.4 Land Acquisition and Estate Management (LA & EM) Division**

All the activities of land acquisition for various projects is coordinated by the LA & EM division at the head quarters. This division is assisted by a Consultant Legal Advisor (CLA). All PIUs/ CMUs will submit the proposals pertaining to Land Acquisition to the concerned technical/corridor management division. The technical/corridor management division will scrutinize the proposals and forward it to the LA & EM division. The LA & EM division after getting the proposal vetted from the CLA will send it to the Ministry containing both the English and Hindi versions of the notification through competent authority in NHAI to the Ministry for processing and issue of notification.

The technical/corridor management division while submitting LA proposals to the LA and EM division shall furnish the following information/documents:-

- I. For 3(a) draft notification proposal
  - (i) Order of the Government for appointment of Competent Authority.

II. For 3A(1) draft notification proposal

- (i) Name of the Taluks, Villages, etc. as given in 3A(1) draft notification should be as per the details given in 3(a) notification.
- (ii) Copy of the appointment of Competent Authority u/s 3(a) of NH Act, 1956.

III. For 3D draft notification proposal

- (i) A certificate to the effect that the area of land, Survey Nos. etc as given in the schedule of draft 3D notification are within the limits of 3A(1) notification.
- (ii) Copies of newspapers substance as published in two local newspapers, one of which should be in a vernacular language.
- (iii) Submission of the Report of the Competent Authority to the Central Govt. which mentions that objections have been disallowed under sub-section(2) of section 3A and the recommendation that the notification should be published in the Gazette of India, Extraordinary .
- (iv) Draft notification U/s 3D to be authenticated by the Competent Authority and the concerned Project Director.

IV. In addition to the above, the following would be required to be sent at the time of forwarding of each type of notification by PIUs/Technical Divisions.

- (i) Hindi version of the draft notification containing information on the villages, Taluks/Districts etc. be sent to the Hqrs. along with English Version in the floppy/CD along with the hard copy. This would enable Technical Divisions to make requisite changes in English and Hindi versions of the draft notification after the same have been vetted by LA & EM Division & translated by Hindi Officer.
- (ii) Check list of the documents being forwarded by Project Director PIUs through Technical Divisions to LA & EM Division.

V. On receipt of the report, along with draft Notification, from the Competent Authority, the Project Director shall:

- (i) In case of 3A(1) Notification, check the land details contained therein with the land details in detailed project report/requisition sent to the competent authority and reconcile deviations, if any, in consultation with the competent authority and forward the proposal to NHAI HQ for publication of the notification.

- (ii) In case of 3D notification check the land details contained therein with the land detail in 3A (1) notification and reconcile deviations, if any, with the competent authority and forward proposals clearly listing out deviations and reasons thereof.
- (iii) The Project Director shall also, while forwarding the proposal for publication of the draft notification to NHAI HQ, append a certificate to the effect that the land particulars contained therein have been duly checked and are in order and deviations along with reasons have been listed.
- (iv) On receipt of proposals at NHAI HQ, the cases will be examined especially with reference to deviations.
- (v) (a) If the deviations are such in nature which cause change in the description of the property necessitating calling of fresh objections, the plots involved in such change, may not be included in 3D notification which may be processed and published excluding the plots involved in such change. For such plots an Amendment to 3A notification may be processed quickly and published. After allowing the usual time for objections, if any and their disposal, 3D Notifications for those plots may also be processed and published after receipt of report from the competent authority. All effort should be made to ensure that the time gap in publishing Amendment is kept at barest minimum.
- (b) If the deviations do not involve substantial change in description of properties nor any confusion exist in identification of properties, the 3D notification as per recommendation of the competent authority may be published as it is, notwithstanding the deviations.

## **10.5 Issuance of Notifications under various sections of the National Highways Act, 1956**

As per Govt. of India (Allocation of Business Rules) 1961 as amended in September 2005, Department of Road Transport and Highways under Ministry of Shipping Road Transport and Highways has been given powers for issuance of notifications under clause (a) of section 3, and section 3A and section 3D of the National Highways Act, 1956 (48 of 1956), without being scrutinized and vetted by the legislative department of Ministry of Law and Justice. All draft notifications for Land Acquisition under clause (a) of section 3, and section 3A and section 3D of the National Highways Act, 1956 are required to be submitted by NHAI to the Ministry in the formats standardized by the Ministry

## **10.6 Role of NHAI Officers in Land Acquisition**

When the case of land acquisition is before the competent authority, NHAI officers should take proactive part, to expedite the process. Their role should be to:

- (a) survey the proposed area after notification under section 3A, do soil exploration to ascertain its suitability;
- (b) take joint measurements along with the revenue authorities and the land owners;
- (c) present the view point of NHAI before the competent authority when he has received objections;
- (d) participate in the proceeding under sections 3A to 3G and assist the competent authority in arriving at a valuation of the land, and any trees or structures standing thereon (taking into account sale deeds available in the office of the registrar, auction rates of similar land in the vicinity, adjustment of rates due to the physical features of the land in question);
- (e) arrange for the payment of land after the announcement of award, demarcate the land, and take possession.

## **10.7 Sanctions of Acquisition of Land**

Whenever land is required by NHAI the concerned Project Director will submit a proposal to the Headquarters for sanction. The proposal will be accompanied by the following documents:-

- (a) plan showing the location of the land, area of land, survey plan of the land (if possible), giving alternative proposals and arguments in favour of acquisition of the proposed land;
- (b) schedule showing particulars of the land;
- (c) revenue records (shajra plans) obtained from the revenue authorities;
- (d) approximate cost of land, supported by recent sale deeds;
- (e) details of trees and structures on the land, with their valuation, and
- (f) whether the land will be purchased through private negotiation or acquired under the NH Act, 1956, along with reasons for the former course.

## **10.8 Acquisition by Negotiation/Consent**

10.8.1 Normally no lands may be taken over unless finally acquired and compensation paid. However, in case of urgency, Project Director may, with the prior permission of the Chairman, take possession of land by private negotiations with the land owners. In such cases it is required to draw 'panchanama' indicating standing crops, if any, trees, structures.

10.8.2 No negotiations should be entered into in respect of lands which are in dispute in the Court of Law. It is desirable to ascertain title of lands

invariably with reference to record of rights with revenue authorities before any negotiations are entered into.

10.8.3 Direct negotiations, without going through the Revenue Authorities, may be resorted to only under exceptional circumstances, with the approval of the Competent Authority, preferably up to 5% of total quantum of land acquisition in one construction package, and adopted only in the following cases:

- (a) Acquisition of missing plots which are left out from the bulk acquisition
- (b) Acquisition of additional land required due to alteration of alignment at implementation stage

## **10.9 Guidelines for acquisition through consent**

For acquiring the land through consent enough protective mechanism is required in respect of rates to be adopted and for establishing the rightful ownership. The following procedure/guidelines may be followed henceforth in cases of acquisition through consent:

- (a) The proof of legal ownership for the plots shall be obtained from the revenue officials not below the rank of Tehsildar.
- (b) The plot shall be measured exactly and verified through the village/circle/taluka level revenue official on the ground and on the map.
- (c) The legal owner shall be consulted by the PD/Technical Manager. Prior to their formal consent, the concerned technical division shall process each case and obtain the approval of the Competent Authority. The rates for the consent shall be the maximum of compensation rates declared by the Competent Authority (LA) for similar type of land in the adjoining area or the circle rate/guideline value of similar land use, if notified by the revenue authorities for such areas.
- (d) The rate used by the Competent Authority (LA) or the circle rate/guideline value shall be the maximum up to which the PIU may agree to acquire the land. However, in case of projects funded by multilateral funding agencies, where an R&R framework has been agreed to, land shall be negotiated at the replacement value worked out through the procedure agreed in the R&R framework for the project. The PD will certify in his proposal that in no case, the rates negotiated with the title holders exceed those adopted by the Competent Authority for similar type of land in the adjoining areas or the replacement value in case of projects funded by multilateral funded agencies.

- (e) After receiving the approval, the formal consent of individual titleholder shall then be recorded on a stamp paper and duly notarized. A sample format of consent is enclosed at Enclosure-I at the end of the Chapter. The concerned PD/Manager shall then finalize the sale deed in the sample format enclosed at Enclosure-II at the end of the Chapter and shall get the transaction registered with the concerned registrar office.
- (f) The account payee cheque towards the compensation/replacement value of land shall be given to the titleholder at the time of registry. All taxes, registration charges and other expenses like value of the stamp papers, etc. shall be borne by NHAI.
- (g) Assets other than the land, viz. structures, wells, trees, etc. shall not be registered. The compensation of the assets shall be paid on the basis of the prevailing Basic Schedule of Rates of the State PWDs. In such cases the valuation shall be done by the PIU with the help of a Government approved valuer. For trees, the help of Forest/Horticulture Departments shall be taken.
- (h) All the sale deeds shall be sent to the concerned revenue office for transfer of the land in the name of Government of India. The PD shall ensure that the land acquired through negotiation is mutated in the name of Government of India. The technical division shall keep a separate record of all such land.
- (i) The PD shall send a copy of the consents verified and countersigned by him in original to the concerned technical division at Headquarters.

#### **10.10 Acceptance of Compensation**

Sub-section 5 of Section 3G of NH Act provides that if the amount of compensation determined by the competent authority is not acceptable to either of the parties, the amount shall, on an application by one of the parties, be determined by the arbitrator to be appointed by the Central Government. Chairman NHAI will decide whether to accept the determination or to go in for arbitration.

#### **10.11 Acquisition of Land other than for Highway**

If land is to be acquired for rest houses, wayside amenities, incidental housing such as for the toll collection staff or other such purposes as are integral part of highway development, CGM will consider the necessity in detail and decide.

#### **10.12 Guidelines for processing of cases for land acquisition**



The following guidelines are prescribed for processing the estimates and for release of payments for land acquisition:

- (a) For the purpose of National Highways, the land is required to be acquired in accordance with the provisions contained in the National Highways (Amendment) Act, 1997. If the land is acquired under the Land Acquisition Act, 1894, specific permission of the Competent Authority, NHAI may be obtained citing proper justification.
- (b) In accordance with section 3(G) of NH (Amendment) Act, 1997, the Competent Authority (Land Acquisition) shall determine the compensation to be paid to the land owners. It may be examined that such compensation has been determined as prescribed under Section 3(G) of the Act. In case any other charges have been included in the estimate/award, necessary reference of the provision under which such charges have been levied may be sought for from the Competent Authority (Land Acquisition).
- (c) The estimate/award furnished by the Competent Authority (Land Acquisition) as determined under Section 3(G) of the National Highways (Amendment) Act, 1997 may be got approved by the Competent Authority, NHAI. Wherever the award of the Competent Authority (Land Acquisition) is not found to be reasonable/acceptable, NHAI may while depositing the amount in the joint account, refer the matter for arbitration.
- (d) Upon approval of the estimate as per (c) above, the amount of compensation to be paid to the land owners as per the award of the Competent Authority (Land Acquisition) may be deposited in a separate account in accordance with the Section 3(H) of the NH (Amendment) Act, 1997. Under the prevailing procedure in NHAI, such compensation is required to be deposited in an account jointly operated by the Competent Authority (Land Acquisition) and the Project Director, NHAI. All the payments pertaining to compensation may be released only out of such account.
- (e) The bank account shall not be a part of NHAI books of accounts. Since all the amounts shall be deposited in the joint account as prescribed in (d) above after publication of the notification under section 3(D) and the issuance of the award of the Competent Authority (Land Acquisition) under section 3(G) of the NH (Amendment) Act, 1997, the amount may be booked under the head CWIP - Land Acquisition in the books of accounts. However, necessary details in respect of the amounts released out of such accounts may be maintained by the PIUs.
- (f) However, where the amount is required to be deposited otherwise than as prescribed in (d) above, specific permission of the

Competent Authority, NHAI may be obtained. In such cases, PIUs may ensure that utilization certificates are furnished by the agency in respect of the compensation disbursed out of the amounts paid by NHAI.

- (g) In case of land acquisition under the Land Acquisition Act, 1894, the amount of compensation as demanded by the respective Land Acquisition Officers may be deposited as prescribed under the Land Acquisition Act, 1894.
- (h) Generally, the Competent Authorities (Land Acquisition) also seek funds to meet the expenditure on salary and other establishment expenses including for release of notifications in the newspapers in connection with the land acquisition. PIUs may obtain the prior approval of the Competent Authority, NHAI in respect of budget/estimate for such purposes. For such purposes, the amount may be released to the Competent Authorities (Land Acquisition) as advance and subsequently, necessary vouchers may be obtained from the Competent Authorities (Land Acquisition) for adjustment of advances. Alternatively, PIUs may reimburse such amounts to the Competent Authorities (Land Acquisition) based on the claims submitted by them duly supported with vouchers, subject to the overall ceiling approved by the Competent Authority, NHAI. It may be ensured that these amounts are not deposited in the account to be operated jointly by the Competent Authority (Land Acquisition) and the Project Director, NHAI as prescribed in (d) above.
- (i) It may be ensured that notification is published in as many newspapers as required under the relevant Act.
- (j) The amount of compensation determined by the Arbitrator may also be paid as per the provisions contained in the NH (Amendment) Act, 1997.
- (k) Any amount, if lying un-disbursed for more than a year from the date of last and final transaction in the joint bank account of Competent Authority (Land Acquisition) and Project Director, NHAI, along with any amount of interest lying in the said account, may be remitted back to the accounts of NHAI after closing the Joint Account (except for exceptional cases such as, where money is required to be deposited in the court, etc.). All the records relating to the land acquisition should be taken over by the Project Director concerned. Any claim of compensation may be released by the Project Director in accordance with the original orders of land acquisition issued by the Competent Authority (Land Acquisition). In case where an Arbitrator has been appointed, award of the arbitrator shall be honored and payment shall be released with the approval of the HQs. Project Director, however, will ensure that

payment, in all cases is released to the genuine claimant, proper records are maintained and records including books of accounts are reconciled on a periodical basis. Manager (F)/Accounts Officer will advise and assist Project Director in discharging these functions.

### **10.13 Maintenance of Land Records**

All lands forming parts of the National Highways and acquired subsequently for the purpose shall be the property of the Central Government. The Records of the Rights in respect of the National Highway land should be in the name of Central Government. The Project Directors shall take necessary action to ensure that the title of the land is in the name of the Central Government and the land records are authentic at all times. These should be kept by the PDs so that they are readily forthcoming for future reference and also to establish the ownership of NHAI in the matter of removal of encroachments.

शपथ पत्र

[संदर्भ पैरा १०.९ (ई)]

समक्ष राष्ट्रपति, भारत सरकार द्वारा परियोजना निदेशक, भारतीय राष्ट्रीय राजमार्ग प्राधिकरण, परियोजना कार्यान्वयन इकाई, इलाहाबाद बाईपास, इलाहाबाद

शपथ पत्र संख्या ----- सन्-----

शपथ - पत्र मिनजानिब . . . . . पुत्र श्री . . . . . ग्राम . . . . .  
.परगना . . . . . तहसील . . . . . जनपद . . . . . निम्नलिखित है ।

हम शपथकर्तागण धर्मपूर्वक निम्नलिखित बयान करते हैं ।

१. यह कि हम शपथकर्तागण शपथ - पत्र उपरोक्त में प्रार्थी और शपथ - पत्र में दिए गए कारणों से भली भांति जानकारी रखते हैं ।
२. यह कि भू- खण्ड संख्या . . . . . कुल रकबा . . . . . हे० स्थित ग्राम . . . . .  
.परगना . . . . . तहसील . . . . . जनपद . . . . .  
. . . . . में से क्षेत्रफल . . . . . हे० भूमि, राष्ट्रपति भारत सरकार, द्वारा परियोजना निदेशक, भारतीय राष्ट्रीय राजमार्ग प्राधिकरण, परियोजना कार्यान्वयन इकाई, इलाहाबाद बाईपास, इलाहाबाद को रू० . . . . . (....  
. . . . . मात्र) प्रति हे० की दर से विक्रय करने पर सहमत है ।

हम शपथकर्तागण उपरोक्त बहलफ करते हैं कि मजमून शपथ - पत्र की धारा १ लगायत २ हम लोगों की व्यक्तिगत जानकारी में सत्य एवं सही है इसमें कोई तथ्य छिपाया नहीं गया है।

शपथकर्ता

दिनांक : . . . . .

विक्रय पत्र

[संदर्भ पैरा १०.९ (ई)]

मैं/हम कि ..... पुत्र/ पत्नी ..... निवासी ग्राम .....  
..... प्रो० ..... तहसील ..... जिला ..... अपनी  
भूमि गाटा सं० ..... स्थित मौजा ..... से रकबा हे० ..... चेक सं० .....  
..... द्वारा रू० .....

..... मुआवजा लेकर बहक राष्ट्रपति भारत सरकार वास्ते पोत परिवहन, सड़क परिवहन और राजजमार्ग मंत्रालय, परियोजना निदेशक, भारतीय राष्ट्रीय राजमार्ग प्राधिकरण, परियोजना कार्यान्वयन इकाई, इलाहाबाद बाईपास, इलाहाबाद को बेच दिये तथा विक्रीत भूमि पर क्रेता को अधिकार दे दिया ।

विक्रय पत्र लिख दिये कि सनद रहे और समय पर काम आवे ।

दिनांक : .....

## **Chapter 11**

### **ENVIRONMENTAL AND FOREST CLEARANCE**

#### **11.1 Environmental Clearance**

Environmental Clearance is required for highway projects under the Environment (Protection) Act 1986, Environment Protection rules 1986, and Environmental Impact Assessment (EIA) Notification, 1994 (with subsequent amendments). A highway project requires Environmental clearance if any of the following condition is met:

- (a) If the alignment passes through an eco-sensitive area (National Park, Sanctuary, Reserved Forest)
- (b) In case of a highway widening project if the land acquisition is more than 20m put together on either side
- (c) In case of a new alignment/re-alignment/bypass, if the cost of an individual new alignment/re-alignment/bypass exceeds Rs. 100 crore.

#### **11.2 Procedure for Environmental Clearance**

- 11.2.1 The procedure for environmental clearance is depicted in the flow chart placed at Enclosure-I at the end of the Chapter.
- 11.2.2 The process for obtaining Environmental Clearance starts with submission of application in prescribed format provided under Schedule II of the EIA Notification, 1994 ( copy placed at Enclosure -II at the end of the Chapter) to the concerned State Pollution Control Board (SPCB). The concerned Project Director (PD) submits the application and the filled-in 'Questionnaire for the Highways' in the format prescribed by the Ministry of Forest and Environment (MoEF), a copy of which is placed at Enclosure -III at the end of the Chapter.
- 11.2.3 In case environmental clearance is not required for a particular project, 'Consent to establish the project' needs to be taken under the Water (Prevention and Control of Pollution) Act, 1970 and Air (Prevention and Control of Pollution) Act, 1981. For this, the PD is required to submit an application in the format prescribed by the concerned SPCB.
- 11.2.4 If the project falls in the coastal areas, clearance is to be obtained first from the Coastal Zone Management Authority (CZMA) of the concerned State under the Coastal Regulation Zone Notification, 1991 (as amended from time to time).
- 11.2.5 If Public hearing is mandatory (only for new alignments/ bypasses requiring environmental clearance), the same should be completed by SPCB within a period of 60 days from the date of receipt of complete documents.

### **11.3 Submission of Application for Environmental Clearance**

11.3.1 The Project Director should send the copies of the NOC from SPCB, clearance from the CZMA (if applicable), and Proceedings of public hearing (if applicable) to the concerned technical division along with three copies of application and questionnaire. The technical division will scrutinize the application and the questionnaire and will verify the information provided therein. Two copies of the following documents will be forwarded by the technical division to the Environmental and Social Development Unit (ESDU) for submission to the MoEF:

- (a) Application in prescribed format
- (b) Questionnaire for Environment Appraisal of Highways
- (c) Environment Impact Assessment Report
- (d) Environment Management Plan
- (e) Resettlement Action Plan
- (f) Feasibility report
- (g) Vol I (Main text) of DPR
- (h) NOC from SPCB
- (i) Clearance from the CZMA (if applicable)
- (j) Proceedings of Public Hearing (if applicable)

11.3.2 The reports and documents submitted along with application are evaluated and assessed by the Ministry of Environment and Forests, New Delhi. If application is found to be complete, the project is kept for consideration by Expert Committee on Infrastructure and Miscellaneous Projects which meets at the MoEF every month.

11.3.3 On receipt of intimation regarding consideration of the project by the Expert Committee, the technical division is required to arrange for immediate dispatch of the following documents to the committee members for review:

- (a) Filled-in Application
- (b) Filled-in-Questionnaire
- (c) Feasibility report
- (d) EIA Report
- (e) Environment Management Plan
- (f) Resettlement plan
- (g) Volume I (main report) of the DPR
- (h) Typical cross sections of the embankment and major bridges
- (i) GADs for major bridges crossing an important perennial water body
- (j) Land use map of the stretch on a toposheet showing main features along the highway (agriculture areas, settlements, industrial establishments, waterbodies, forest areas, areas rich in wildlife, proposed bypasses, realignments, underpasses/overpasses, wayside amenities, etc.)

- (k) NOC from the State Pollution Control Board (SPCB)
- (l) Clearance from CZMA (if applicable)
- (m) Minutes of public hearing (if applicable)
- (n) Disaster Management Plan
- (o) Risk Analysis Study.

11.3.4 The technical division is required to make a presentation to the Committee, through the DPR consultants, highlighting the salient features of the project, key environment issues associated with the project, and the mitigation measures enumerated in the EMP. The meeting should preferably be attended by Environment Expert, Highway Expert and Bridge expert of the DPR consultant, the Project Director and the GM (Tech.) responsible for the project.

11.3.5 The clearance orders are issued by MoEF in due course on the recommendations of the Expert Committee.

#### **11.4 Forest Clearance**

11.4.1 Forest Clearance is required for highway projects under the Forest Conservation Act (FC Act), 1980 (with amendments made in 1988) and Forest (conservation) Rules 2003, only in cases where diversion of forest land is required for highway purpose. As per the guidelines issues by the MoEF, forest clearance for a project is considered in entirety. This implies, that one single proposal is submitted for a DPR package. However, for the sake of convenience and verification by the district level officials, it is advisable to divide the proposal into as many volumes as the number of forest divisions involved.

11.4.2 Investigations and Surveys carried out in connections with development projects do not attract the provisions of FC Act as long as these surveys do not involve any clearing of forest or cutting of trees and operations are restricted to clearing of bushes and lopping of tree branches for purpose of sighting. If however, investigations and surveys involve clearing of forest area or felling of trees, prior permission of the Central Government is mandatory.

11.4.3 Notwithstanding the above, survey, investigation and exploration are not allowed in Wildlife Sanctuaries, National parks and sample plots demarcated by the Forest Department without obtaining the prior approval of the Central Government, Whether or not felling of trees is involved.

11.4.4 The work of actual construction would however, fully attract the provisions of the Act if it involves diversion of forest area; and prior permission of the Central Government must be obtained even if such work does not require felling of trees.



## **11.5 Procedure for Diversion of Forest Land**

- 11.5.1 The procedure for forest clearance is depicted in the flow chart placed at Enclosure -IV at the end of the Chapter.
- 11.5.2 The DPR consultant should first identify the forestland required for widening/construction along with the Forest Officials and revenue authorities physically, on Topo sheets, and on revenue maps.
- 11.5.3 Once Forest land is identified, the consultant should prepare the proposal in the appropriate form appended with the Forest Conservation Rules, 2003 (copy placed at Enclosure-V at the end of the Chapter). The PD should submit the application to the concerned Nodal Officer authorized in this behalf by the State Government, along with requisite information and following documents:
- (a) Location Map of Project area.
  - (b) Road in forest area marked in green and forest boundaries on topo sheets in the scale of 1:50000.
  - (c) Proposed Right of way superimposed on the forest map and revenue maps.
  - (d) Undertaking of Project Authorities etc
  - (e) Rehabilitation Plan For oustees if displacement is in forest areas.
  - (f) Cost Benefit Analysis (if forest land to be diverted is more than 20 ha in plains or more than 5 ha in hills).
- 11.5.4 Copies should also be sent to the concerned Conservator of Forest/ Divisional Forest officers for processing. The PD should also send a copy of the proposal along with copy of receipt received from Nodal officer of the state to the Assistant Inspector General of Forest (FC)/ Director In-charge of the monitoring cell, at the Ministry of Environment and Forests, Government of India, New Delhi.
- 11.5.5 The concerned Divisional Forest Officer carries out a joint inspection of the site along with the PD and gets the enumeration of trees done. The proposal is then processed within the forest department and ultimately recommended to the MoEF by the State Advisory Group constituted by MoEF for this purpose (for proposals upto 40 ha).
- 11.5.6 The following delegation of power exists within MoEF:
- (a) For proposals involving less than 5ha forest land, the Regional Office of the MoEF is competent to issue clearance.
  - (b) For proposals involving more than 5 ha but less than 40 ha, the clearance is issued by the Central office of MoEF on the recommendations of the Regional office.

- (c) Proposals involving more than 40 ha are directly forwarded to the central office of MoEF by the State Government.
- (d) For roadside plantations notified as PF, the regional office of the ministry is competent to dispose all proposals irrespective of the area.

11.5.7 Highway plantations not yet been declared as protected forests do not attract the provisions of Forest (Conservation) Act 1980. However, the concerned agency should seek permission under local law from appropriate authority.

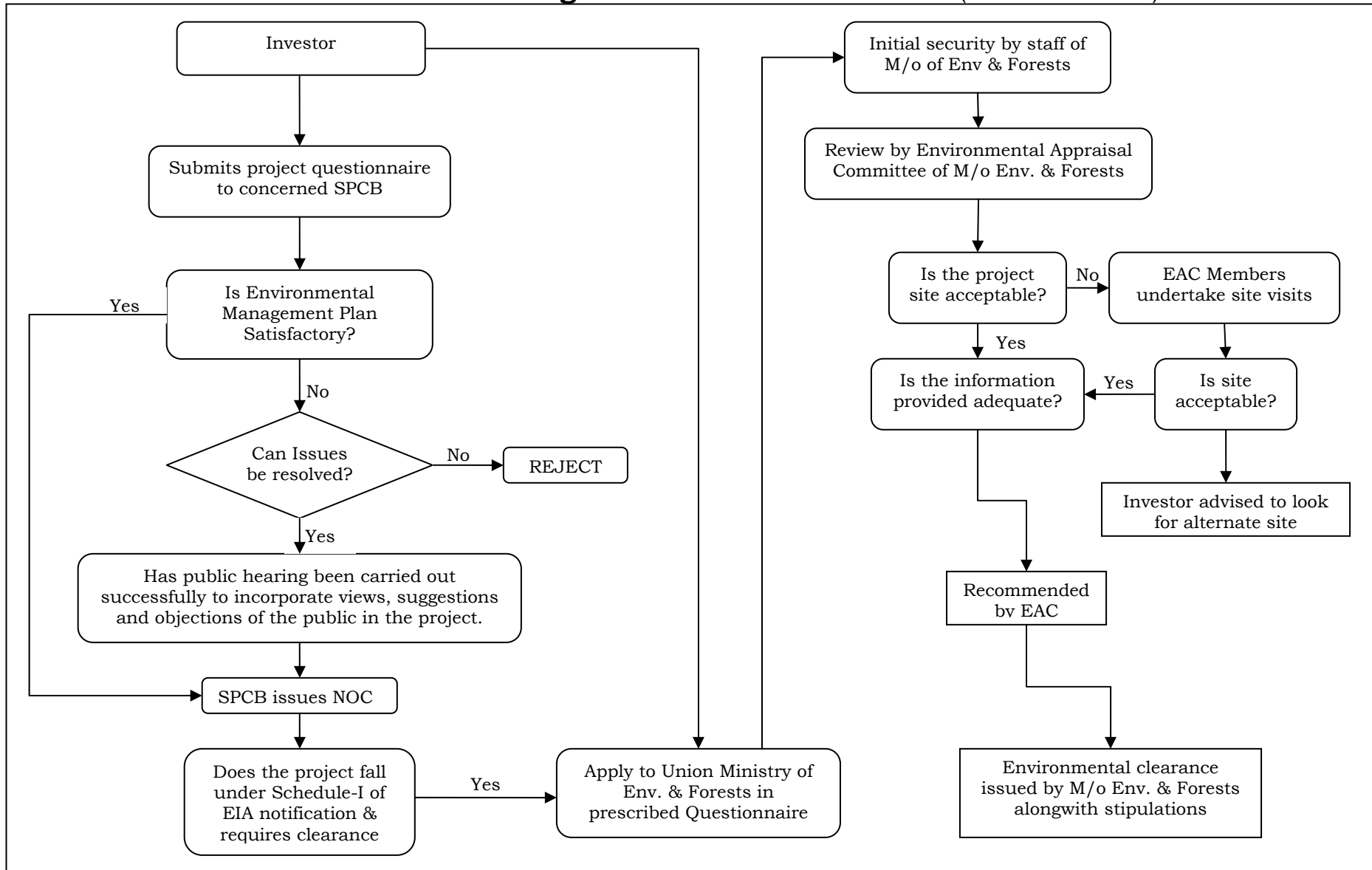
11.5.8 Forest Clearance is given in two stages. In 1st Stage, the proposal is accepted in principle with conditions like Payment of Net Present Value, Cost of Compensatory afforestation, etc. After receipt of compliance report on the stipulated conditions the final approval or 2nd Stage clearance is accorded.

## **11.6 Forest Clearance for Wildlife areas**

11.6.1 If a project involves diversion of forest land from a notified wildlife area (National Park or Wildlife Sanctuary), permission of Hon'ble Supreme Court of India is required both for undertaking survey and investigation, and for actual diversion of forest land.

11.6.2 In such a case, the DPR consultants are required to prepare a separate application to be submitted by the technical division through the ESDU to the National Board of Wildlife. The application for survey and investigation should be accompanied with the detailed information in the format prescribed by the MoEF (copy placed at Enclosure-VI at the end of the Chapter). After the approval of the Standing committee of the National Board of Wildlife, the technical division is required to fill an application to the Hon'ble Supreme Court of India for permitting diversion of the forest land. The subsequent steps shall be the same as described above for Forest clearance.

**Flow Chart for Obtaining Environmental Clearance** (Ref. Para 11.2.1)



**APPLICATION FORM (SCHEDULE – II)**

(Ref Para 11.2.2)

(See Sub-para I (a) of Para 2 of The EIA Notification dt. 27.1.94 )

I A. Name and address of the project proposed:

B. Location of the project

Name of the Place:

District, Tehsil:

Latitude/Longitude:

Nearest Airport/Railway Station

C. Site Selection

Alternate Sites examined	
Reason for selecting the	

D. Does the site conform to stipulated land use as per local land use plans:

II Objectives of the project:

III A. Land Requirement:

1. Agriculture Land:
2. Forest Land and Density of Vegetation :
3. Other (specify) :

- B.
1. Land use in the catchment/within 10 kms. radius of the proposed site:
  2. Topography of the proposed area indicating gradient, aspect and altitude:
  3. Erodability classification of the proposed land:

C. Pollution sources existing within 10 km. radius and their impact on the quality of air, water and land:

D. Distance of the nearest Park/Sanctuary/Biosphere:, Reserve/Monuments/heritage site/Reserve Forest:

E. Rehabilitation plan for quarries/borrow areas :

- F. Green belt plan:
  - G. Compensatory afforestation plan:
- IV. Climate and Air Quality:
- A. Windrose at site
  - B. Max./Min./Mean annual temperature
  - C. Frequency of inversion
  - D. Frequency of cyclones/tornadoes/cloudburst: Ambient air quality data:
  - E. Nature & concentration of emission of SPM, Gas, (CO, CO<sub>2</sub>, NO<sub>2</sub>, CH<sub>n</sub> etc.) from project.
- V. Water balance:
- A. Water balance at site:
  - B. Lean season water availability
  - C. Source to be tapped with Competing users (River, Lake, Ground, Public Supply):
  - D. Water quality
  - E. Changes observed in quality and quantity of ground water in the last 15 years and present charging and extraction details:
  - F.
    1. Quantum of waste water to be released with treatment details:
    2. Quantum of quality of water in the receiving body before and after disposal of waste:
    3. Quantum of waste water to be released on land and type of land:
  - G.
    1. Details of reservoir water quality with necessary catchment Treatment Plan:
    2. Command Area Development Plan:
- VI. Solid wastes:
- A. Nature and quantity of solid wastes generated:
  - B. Solid waste disposal method:
- VII. Noise and Vibrations:
- A. Sources of noise and vibrations:
  - B. Ambient noise level:
  - C. Noise and Vibration control measures Proposed:
  - D. Subsidence problem, if any, with Control measures
- VIII. Power requirement- indicating source of supply:  
Complete environmental details to be furnished separately, if captive power unit proposed:

IX. Peak Labour force to be employed giving details of:

Endemic health problems in the area due to waste water/air/soil-borne disease	
Health care system existing and proposed	

- X A. Number of villages and population to be displaced:  
B. Rehabilitation master plan:

XI Risk Assessment Report and Disaster Management Plan:

- XII Reports prepared as per guidelines of MOEF issued from time to time:  
A. Environmental Impact Assessment:  
B. Environment Management Plan:  
C. Detailed feasibility report:  
D. Duly filled questionnaire:

XIII. Details of Environmental Cell:

I hereby give an undertaking that the data and information given above are true to the best of my knowledge and belief and I am aware that any if any part of the data/information submitted is found to be false or misleading at any stage, the project be rejected and the clearance given, if any, to the project is likely to be revoked at our risk and cost:

Signature of the applicant  
With name and full address

Date:  
Place:

Given under the seal of Organization  
on behalf of whom the applicant is signing

Note: In respect to item for which data are not required or is not available as per the declaration of the project proponent, the project would be considered on that basis.

**QUESTIONNAIRE FOR ENVIRONMENTAL APPRAISAL  
(FOR ROAD/HIGHWAY PROJECTS)**

(Ref Para 11.2.2)

Note 1 :	All information given in the form of Annexures should be part of this file itself. Annexures as separate files will not be accepted.
Note2 :	Please enter x in appropriate box where answer is Yes/No

**I. General Information**

A. Name of the project

- Existing project/proposed project/  
expansion project/modernization project:
- If Existing/expansion/ modernization project, whether  
environmental clearance has been obtained:

B. Length (in kilo metres)

C. Location

Stretch of the Road/Alignment	Village	Tehsil	District	State

D. Geographical information

1	Latitude	From	<input type="text"/>	To	<input type="text"/>
2	Longitude	From	<input type="text"/>	To	<input type="text"/>
3	G.T. Sheet No (Survey of India Map No).				
4	Elevation above Mean Sea Level (meters)		<input type="text"/>	<input type="text"/>	
			Min		Max

5	Total Area proposed for the Project (in ha.)	<input type="text"/>
6	Nature of Terrain	<input type="text"/>
7	Nature of Soil (Clayey, Sandy, silty, loam etc)	<input type="text"/>
8	Permeability along the route in various Sections	<input type="text"/>

**II. Current land use of the proposed project site Area (in ha.)**

A.	Agricultural	
1.	Irrigated	<input type="text"/>
2.	Unirrigated	<input type="text"/>
B.	Homestead	<input type="text"/>
C.	Forest	<input type="text"/>
D.	Notified Industrial Area/Estate	<input type="text"/>
E.	Grazing	<input type="text"/>
F.	Fallow	<input type="text"/>
G.	Mangroves	<input type="text"/>
H.	Orchards	<input type="text"/>
I.	Sand dunes	<input type="text"/>
J.	No development zone	<input type="text"/>
K.	Marshes	<input type="text"/>
L.	National Park/Sanctuary	<input type="text"/>
	Total	<input type="text"/>



**III. Alternate Routes/Alignments considered**

- A. \_\_\_\_\_
- B. \_\_\_\_\_
- C. \_\_\_\_\_
- D. \_\_\_\_\_

**IV. Reason for selecting the proposed Route/Alignment:**

**V. Land use plan**

- A. Does the proposed project conform to the approved land use all along the route/alignment? (To be certified by the concerned Department of State Government).

Yes  No

- B. If not, clearly indicated, which of the stretches are not as per approved land use.

- C. Does it conform to the Regional Development Plan?

Yes  No

**VI. Site Preparation**

- A. Is the proposed route/alignment located in low- lying area?

Yes  No

- B. Level before filling (above MSL in m)

- C. Level after filling (above MSL in m)

D. Details of fill material required

Quantity of Fill Material required (in cu.m)	Source

E. Gradient details

F. Would the above filling result in complete/partial filling of water Bodies?

G. Does the site involve stripping?

Yes

No

If yes, provide the following details:

1. Size of the area to be stripped.
2. Location
3. Soil type
4. Volume and quantity of earth to be removed
5. Location of dump site
6. Proposal for utilisation of removed topsoil.

H. Does it involve cutting?

Yes

No

If yes, please furnish the following details:

1. Size of the area to be cut.

2. Depth of cut
3. Location
4. Soil type
5. Volume and quantity of earth and other material to be removed
6. Location of dump site.

I. Does it involve tunneling?

Yes  No

If yes, please furnish the following details:

1. Lithology
2. Geological structural fraction
3. Diameter (meters.)
4. Length (kilometer.)
5. Location

J. Does the site preparation require cutting of trees?

Yes  No

If yes, please furnish the following details:

1. How many trees are proposed to be cut?
2. Species of the above trees
3. Are there any protected/endangered species?

Yes  No

If yes, provide details

**VII. In case the route/alignment falls totally or partially in the CRZ area**

A. What is the categorization of the area (as per approved CZMP)?

CRZ-I	<input type="text"/>	CRZ-II	<input type="text"/>
CRZ-III	<input type="text"/>	CRZ-IV	<input type="text"/>

B. Does the proposed activity qualify under the category of permissible activity?

Yes	<input type="text"/>	No	<input type="text"/>
-----	----------------------	----	----------------------

C. If yes, under what provision is it permitted?

Sl. No.	Provision No.

D. In case the road passes through a flood plain of a river, please furnish:

1. Detailed micro-drainage
2. Flood passages
3. Flood periodicity in the area

E. Does the proposed project involve construction on any sandy stretch?

Yes	<input type="text"/>	No	<input type="text"/>
-----	----------------------	----	----------------------

If yes, please furnish detail

F. Height (above MSL in metres.)

G. Does the project involve extraction of sand, leveling or digging of sandy stretches within 500 mts of high tide line?

Yes  No

If yes, mention the activity involved and area.

1. Stretch

2. Area (sq. metre)

H. Does the project involve any dredging?

Yes  No

If yes, please provide the following details (capital/maintenance):

Extent of dredging, disposal of dredged material etc.

I. Is any sand proposed to be removed from sand dunes?

Yes  No

J. Does the project involve cutting/destroying of mangroves?

Yes  No

If yes, give detail

1. Area

2. Species

3. Existing health

**VIII. Details of the location:**

	Sea	Other Water Bodies River/Creek/Lake, etc (Please specify)
Distance of seaward boundary from the edge of the alignment (in m.)		
Distance of seaward boundary of construction (in m)		

**IX. Does the proposed project site involve any breeding or nesting ground?**

Yes  No

If yes, provide the following details

- A. Name of the aquatic organism
- B. Type of habitat
- C. Period of year in which activity takes place
- D. Independent report of biohabitat study may be furnished.

**X. Does the project have any adverse effect on biodiversity?**

If so, details of flora and fauna so affected:

**XI. Does the project involve any land reclamation?**

Yes  No

If yes, please provide the following details

- A. Activity for which land to be reclaimed
- B. Area of land to be reclaimed (Hectares)

**XII. Whether there will be any change in the drainage pattern after the proposed activity?**

Yes  No

If yes, what are the changes?

A. What is the maximum extent?

B. Is any additional area to be flooded

**XIII. Does the proposed alignment/route involve migratory path of animals?**

Yes  No

If yes, please provide the following:

- A. Name of fauna
- B. Habitat
- C. Period of the year in which activity take place

**XIV. Project Details (A summary of project proposal shall be enclosed).**

- A. Length of New alignment proposed (kms)
- B. Width of the new alignment (metres)
- C. Length of existing alignment proposed to be Strengthened/widened (kilometers.)
- D. Width of the existing alignment (metres)
- E. Width of the existing alignment after

	widening (metres)		
F.	Total length of the alignment (kilometres)		<input type="text"/>
G.	No. of Bridges	Major	<input type="text"/>
		Minor	<input type="text"/>
H.	Length of Bridges (metres)		<input type="text"/>
I.	Width of Bridges (metres)		<input type="text"/>
J.	No. of Culverts		<input type="text"/>
K.	Length of Culverts (metres)		<input type="text"/>
L.	Number and distance (metres) between underpasses		<input type="text"/>
M.	No. of intersections		<input type="text"/>
N.	Length of Intersection (metres)		<input type="text"/>
O.	No. of Railway crossings		<input type="text"/>
P.	Length of Railway crossings (metres)		<input type="text"/>
Q.	No. of Villages through which Alignment passes through		<input type="text"/>
R.	Population of the villages		<input type="text"/>

**XV. Raw material required during construction**

S.No	Item	Quantity (Tonnes)	Mode of Transport	Source
1	Bluemetal			
2	Bricks			



S.No	Item	Quantity (Tonnes)	Mode of Transport	Source
3	Sand			
4	Cement			
5	Bitumen			
6	Diesel			
7	Others (Please specify)			

**XVI. Water required during construction:**

A. Water Requirements (cu.m./day)

S.No	Purpose	Average Demand	Peak Demand	Source	Type Treated/ Untreated/ Fresh/ Recycled	Remarks
1	Road making					
2	Dust Suppression					
3	Drinking					
4	Others (Please specify)					
TOTAL						

B. Source of Raw Water Supply (Net)

S.No	Source	Cu.m/hr	Cu.m./day
1	Sea		
2	River		

S.No	Source	Cu.m/hr	Cu.m./day
3	Groundwater		
4	Rainwater harvesting		
5	Municipal water supply		
6	Others (Please specify)		

**XVII. Whether there will be any ingress of saline water into ground water due to project?**

Yes  No

**XVIII. Whether any of the following exist within 7 km of the project site.**

**If so, Please indicate aerial distance and the name of the site.**

S. No	Item	Name	Aerial Distance (in km)
1	National Park		
2	Marine Park		
3	Sanctuary/Tiger Reserve/Elephant Reserve/Turtle resting ground		
4	Core Zone of Biosphere Reserve		
5	Reserved Forest		
6	Wildlife Habitat		
7	Habitat of endangered/exotic species		
8	Coral Reef		
9	Mangroves		
10	Lakes/Reservoirs/Dams		

S. No	Item	Name	Aerial Distance (in km)
11	Breeding Site		
12	Nesting Site		

**XIX. Ambient Air Quality (for RPM, SPM, SO<sub>2</sub>, NO<sub>x</sub>, CO)**

Procedures adopted should be as per guidelines of CPCB and should cover one full season (Locations should be so selected to represent the varying geographical locations and sensitive receptors)

S.No	Stretch of the road	Date, Time & Location	Concentration as monitored (in mg/m <sup>3</sup> ) SPM, SO <sub>2</sub> , NO <sub>x</sub> , CO	Permissible Standard (As per SPCB guidelines)	Remarks (Name of the instrument and sensitivity)

**XX. Solid Waste**

A. Solid Waste generated during Road Construction (Tonnes/Day)

1. Top Soil

2. Overburden

3. Others (Please specify)

Total

B. Possible users of Solid Waste

C. Method of disposal of solid waste

- | Method  | Quantity (TPM)          |
|---|-------------------------|
| 1. Landfill                                       | <input type="text"/>    |
| 2. Others (Please specify)                        | <input type="text"/>    |
| 3. In case of landfill                            |                         |
| a) Is solid suitable for landfill                 |                         |
| Yes <input type="text"/>                          | No <input type="text"/> |
| b) Dimensions                                     | <input type="text"/>    |
| c) Life of landfill                               | <input type="text"/>    |
| d) Proposed precautionary and mitigation measures |                         |
| e) Other alternative proposed along with details  |                         |

**XXI. Noise level (dB)**

S.No	Stretch of the Road (Locations should be so selected to represent the varying geographical locations and sensitive receptors)	Noise before Construction	Noise after Construction	Abatement Measures
1				
2				
3				

**XXII. Projected Air Quality (taking into account the traffic projections on this road). (SPM, SO<sub>2</sub>, NO<sub>x</sub>, CO in mg/m<sup>3</sup>)**

S. No	Pollutant	Before Constructions	After Construction
1	SPM		
2	SO <sub>2</sub>		

S. No	Pollutant	Before Constructions	After Construction
3	NO <sub>x</sub>		
4	CO		

**XXIII. Storage (of inflammable/ explosive/ hazardous/ toxic substances)**

S. No	Name	Consumption (in TPD)	Maximum Quantity at any point of time (tonnes)	Means of transportation
1	Bitumen			
2	Diesel			
3	Others (please specify)			

**XXIV. Occupational Health**

- A. What are the major occupation health and safety hazards anticipated including due to use of explosives, if any?
- B. What provisions have been made/proposed to be made to conform to health/safety requirements?
- C. Details of personal protective equipment provided/to be provided to the workers

**XXV. Green Belt**

- A. Total area of project (in ha.)
- B. Area already afforested (for existing projects), in ha.
- C. Area proposed to be afforested (in ha.)
- D. Width of green belt (minimum, in m.) along the alignment
- E. Trees planted and proposed

Nos.

1. Planted

2. Proposed

3. List of species

F. Proposal for maintenance of plantation

**XXVI. Construction Phase**

A. Estimated duration of construction

B. Number of persons to be employed for construction

1. Peak

2. Average

C. Proposal for employment of local people.

D. What provision has been made for the sanitation for the construction workers ?

E. How the fuel (kerosene/wood, etc) requirement of labour force will be met to avoid cutting of trees from the adjoining areas.

F. Measures for Health care with emphasis on protection from endemic diseases.

**XXVII. Socio-economic profile**

A. Human Settlement

	Aerial distance from the periphery of the site		
	Upto 500 m From the Periphery	500 m to 3000 m From the Periphery	3000 m to 7000 m From the periphery
Population			
Of which SC/ST			

	Aerial distance from the periphery of the site		
	Upto 500 m From the Periphery	500 m to 3000 m From the Periphery	3000 m to 7000 m From the periphery
Number of Houses			
Present Occupational Pattern			

B. Economic activity

S No.	Population	Occupation(Agriculture/ Horticulture/Fishing/ Tourism/Transport /construction)	Average Income per annum

**XXVIII. Rehabilitation & Resettlement Plan including vocational training and other avenues of employment**

A. Population to be displaced

S.No	Name of Village	Population		
		Land Oustees only	Homestead Oustees only	Land + Homestead Oustees
1				
2				
3				

- B. Rehabilitation Plan for Oustees
- C. Site where the people are proposed to be resettled
- D. Compensation package
- E. Agency/Authority responsible for their resettlement.

**XXIX. Does it involve displacement of ethnic minority**

Yes

No

If yes, please furnish details

S.No	Name of the community	Number of Males	Number of Females	Total

A. Please specify any special measures for their rehabilitation.

**XXX. Pollution Control**

A. Details of Pollution Control Measures/Environmental safeguards:

S.No.	Parameter	Existing	Proposed to be installed
1.	Air		
2.	Water		
3.	Noise		
4.	Solid Waste		

B. Protection of Forest/National Park./Sanctuary/Mangroves

1. Agricultural land
2. Grazing land
3. Top soil
4. Natural resources
5. Sand dunes and mudflats
6. Hill feature
7. Reclaiming borrow areas
8. Low-lying areas
9. Soil and slope stabilization
10. Preventing siltation
11. Archaeological and other Heritage sites

**XXXI. Expenditure on Environmental Measures:**

A. Capital cost of the project (as proposed to the funding agency/financial institutions

(Rs.Lakhs)



B. Cost of environmental protection measures (Rs. Lakhs)

S.No	Environmental Protection Measure	Recurring Cost per annum	Capital Cost
1	Pollution Control		
2	Pollution Monitoring		
3	Solid Waste Management		
4	Green Belt		
5	Others (Please Specify)		
Total			

**XXXII. Public Hearing**

- A. Date of Advertisement
- B. Newspapers in which the advertisement appeared
- C. Date of Hearing
- D. Panel Present
- E. List of Public present along with addresses and occupation

S.No	Summary/details of public hearing Issues raised	Recommendation of panel	Response of Project Proponents
1			
2			
3			
4			

The data and information given in this Performa are true to the best of my knowledge and belief

**Date:**

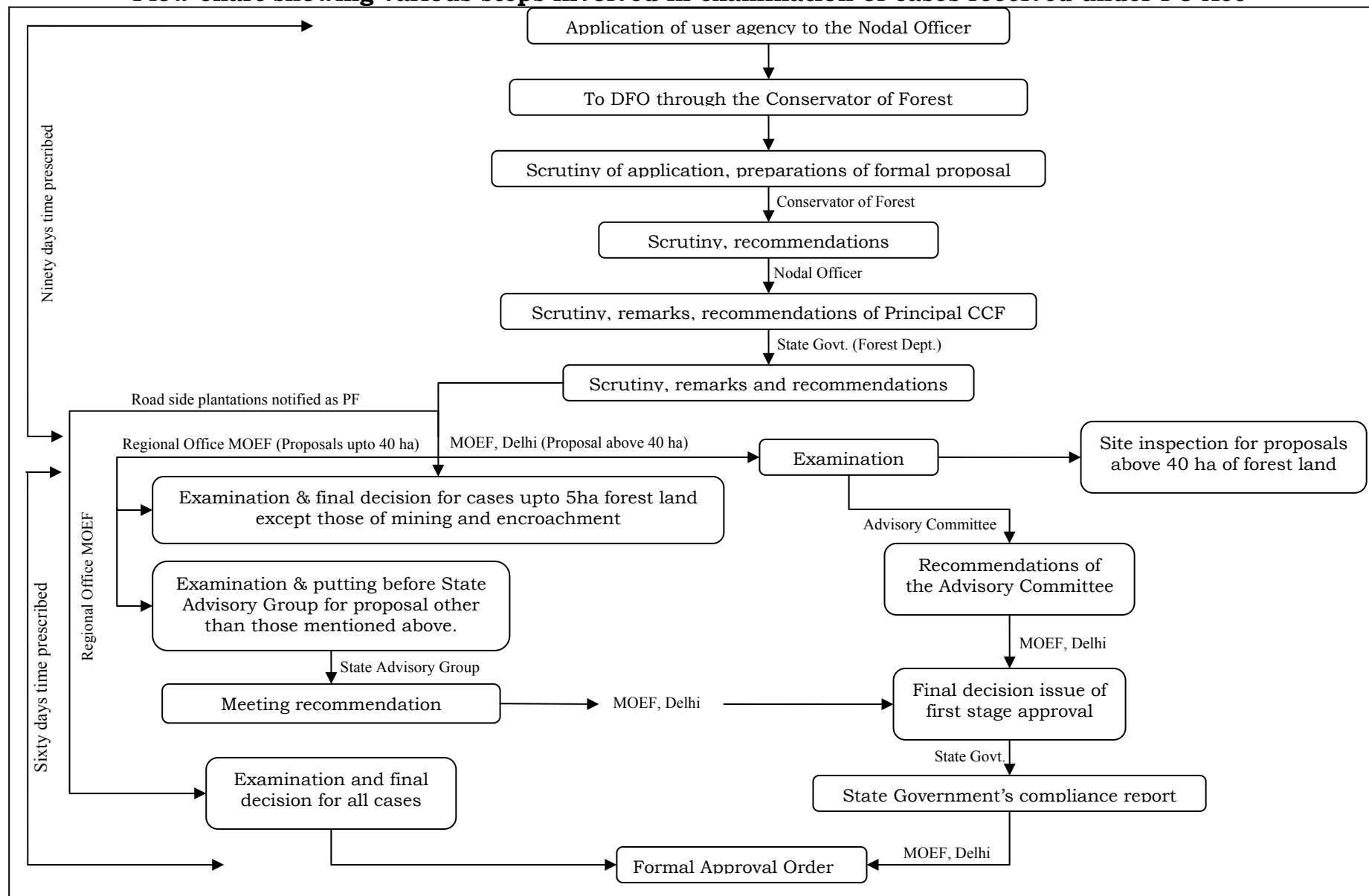
Signature of the Applicant with full name and address.

**Place:**

Given under the seal of organisation on behalf of whom the applicant is signing.

**Flowchart for Obtaining Forest Clearance** (Ref: Para 11.5.1)

**Flow chart showing various steps involved in examination of cases received under FC Act**



**Application Forms**

(Ref: Para 11.5.3)

As per Rule 6 of the Forest (Conservation) Rules, 2003, every user agency, who wants to use any forest land for non-forest purposes shall make its proposal in the appropriate Form appended to these rules, i.e. Form 'A' for proposals seeking first time approval under the Act and Form 'B' for proposals seeking renewal of leases where approval of the Central Government under the Act had already been obtained earlier, to the concerned nodal officer authorized in this behalf by the State Government, alongwith requisite information and documents, complete in all respects, well in advance of taking up any non-forest activity on the forest land.

**FORM - 'A'**

**Form for seeking prior approval under section 2 of the proposals by the State Governments and other Authorities**

**PART-I**

(to be filled up by user agency)

1. Project details:
  - (i) Short narrative of the proposal and project/scheme for which the forest land is required
  - (ii) Map showing the required forest land, boundary of adjoining forest on a 1:50,000 scale map
  - (iii) Cost of the project
  - (iv) Justification for locating the project in forest area
  - (v) Cost-benefit analysis (to be enclosed)
  - (vi) Employment likely to be generated
2. Purpose-wise break-up of the total land required:
3. Details of displacement of people due to the project, if any:
  - (i) Number of families
  - (ii) Number of Scheduled Castes/Scheduled Tribe families
  - (iii) Rehabilitation plan. (to be enclosed)
4. Whether clearance under Environment (Protection) Act, 1986 required ? (Yes/No).

5. Undertaking to bear the cost of raising and maintenance of compensatory afforestation and/or penal compensatory afforestation as well as cost for protection and regeneration of Safety Zone, etc. as per the scheme prepared by the State Government (undertaking to be enclosed).
6. Details of Certificates/documents enclosed as required under the instructions.

Signature

(Name in Block letters)

Designation

Address (of User Agency)

Date:-\_\_\_\_\_

Place:-\_\_\_\_\_

State serial No. of proposal\_\_\_\_\_

(To be filled up by the Nodal Officer with date of receipt)

## **PART-II**

(To be filled by the concerned Deputy Conservator of Forests)

State serial No. of proposal\_\_\_\_\_

### 7. Location of the project/Scheme:

- (i) State/Union Territory
- (ii) District.
- (iii) Forest Division
- (iv) Area of forest land proposed for diversion (in ha.)
- (v) Legal status of forest
- (vi) Density of vegetation.
- (vii) Species-wise (scientific names) and diameter class-wise enumeration of trees (to be enclosed. In case of irrigation / hydel projects enumeration at FRL, FRL-2 meter & FRL-4 meter also to be enclosed.)
- (viii) Brief note on vulnerability of the forest area to erosion.
- (ix) Approximate distance of proposed site for diversion from boundary of forest.

- (x) Whether forms part of National Park, wildlife sanctuary, biosphere reserve, tiger reserve, elephant corridor, etc. (If so, the details of the area and comments of the Chief Wildlife Warden to be annexed).
  - (xi) Whether any rare/endangered/unique species of flora and fauna found in the area- if so details thereof.
  - (xii) Whether any protected archaeological/heritage site/defense establishment or any other important monument is located in the area. If so, the details thereof with NOC from competent authority, if required.
8. Whether the requirement of forest land as proposed by the user agency in col. 2 of Part-I is unavoidable and barest minimum for the project. If no, recommended area item-wise with details of alternatives examined.
  9. Whether any work in violation of the Act has been carried out (Yes/No). If yes, details of the same including period of work done, action taken on erring officials. Whether work in violation is still in progress.
  10. Details of compensatory afforestation scheme:
    - (i) Details of non forest area/degraded forest area identified for compensatory afforestation, its distance from adjoining forest, number of patches, size of each patch.
    - (ii) Map showing non-forest/degraded forest area identified for compensatory afforestation and adjoining forest boundaries.
    - (iii) Detailed compensatory afforestation scheme including species to be planted, implementing agency, time schedule, cost structure, etc.
    - (iv) Total financial outlay for compensatory afforestation scheme.
    - (v) Certificates from competent authority regarding suitability of area identified for compensatory afforestation and from management point of view. (To be signed by the concerned Deputy Conservator of Forests).
  11. Site inspection report of the DCF (to be enclosed) especially highlighting facts asked in col. 7 (xi, xii), 8 and 9 above.
  12. Division/District profile:
    - (i) Geographical area of the district.
    - (ii) Forest area of the district.
    - (iii) Total forest area diverted since 1980 with number of cases.
    - (iv) Total compensatory afforestation stipulated in the district/division since 1980 on (a) forest land including penal compensatory afforestation, (b) non-forest land.
    - (v) Progress of compensatory afforestation as on (date) \_\_\_\_\_  
on
      - (a) forest land
      - (b) non-forest land.

13. Specific recommendations of the DCF for acceptance or otherwise of the proposal with reasons.

Signature

Name

Official Seal

Date:-\_\_\_\_\_

Place:-\_\_\_\_\_

### **PART-III**

(To be filled by the concerned Conservator of Forests)

14. Whether site, where the forest land involved is located has been inspected by concerned Conservator of Forests (Yes/No). If yes, the date of inspection & observations made in form of inspection note to be enclosed.
15. Whether the concerned Conservator of Forests agree with the information given in Part-B and the recommendations of Deputy Conservator of Forests.
16. Specific recommendation of concerned Conservator of Forests for acceptance or otherwise of the proposal with detailed reasons.

Signature

Name

Official Seal

Date:-\_\_\_\_\_

Place:-\_\_\_\_\_

**PART-IV**

(To be filled in by the Nodal Officer or Principal Chief Conservator of Forests or Head of Forest department)

17. Detailed opinion and specific recommendation of the State Forest Department for acceptance of otherwise of the proposal with remarks.

(While giving opinion, the adverse comments made by concerned Conservator of Forests or Deputy Conservator of Forests should be categorically reviewed and critically commented upon).

Signature

Name & Designation

(Official Seal)

Date:-\_\_\_\_\_

Place:-\_\_\_\_\_

**PART- V**

(To be filled in by the Secretary in charge of Forest Department or by any other authorised officer of the State Government not below the rank of an Under Secretary)

18. Recommendation of the State Government:

(Adverse comments made by any officer or authority in Part-B or Part-C or Part-D above should be specifically commented upon)

Signature

Name & Designation

(Official Seal)

Date:-\_\_\_\_\_

Place:-\_\_\_\_\_

### **INSTRUCTIONS (for Part-I):-**

1. The project authorities may annex a copy of the approved project/plan in addition to filling Col. 1 (i) e.g. IBM approved mining plan for major minerals/CMPDI plan with subsidence analysis reports, etc.
2. Map has to be in original duly authenticated jointly by project authorities and concerned DCF – Col. 1 (ii).
3. Complete details of alternative alignments examined especially in case of project like roads, transmission lines, railway lines, canals, etc. to be shown on map with details of area of forest land involved in each alternative to be given - Col. 1 (iii).
4. For proposals relating to mining, certificate from competent authority like District Mining Officer about non-availability of the same mineral in surrounding/nearby non-forest areas.
5. In case the same company/individual has taken forest land for similar project in the State, a brief detail of all such approvals/leases be given as an enclosure along with current status of the projects.
6. The latest clarifications issued by the Ministry under Forest (Conservation) Act, 1980 may be kept in mind. In case such information do not fit in the given columns, the same shall be annexed separately.

### **GENERAL INSTRUCTIONS:-**

1. On receipt of proposal, Nodal Officer shall issue a receipt to the user agency indicating therein the name of the proposal, user agency, area in hectare, serial number and date of receipt.
2. If the space provided above is not sufficient to specify any information, please attach separate details/documents.
3. While forwarding the proposal to the Central Government, complete details on all aspects of the case as per Form prescribed above read with the clarifications issued by the Ministry of Environment and Forests, Government of India, New Delhi should be given. Incomplete or deficient proposals shall not be considered and shall be returned to the State Government in original.
4. The State Government shall submit the proposal to the Central Government within stipulated time limits. In case of delay while forwarding, the reasons for the same to be given in the forwarding/covering letter.



**FORM – ‘B’**

**(See Rule 6)**

**Form for seeking prior approval under section 2 of the proposals by the State Governments and other authorities in respect of renewal of leases, which have been earlier granted clearance under Forest (Conservation) Act, 1980**

**PART-I**

(to be filled up by user agency)

1. Letter No. & date vide which clearance under Forest (Conservation) Act, 1980 accorded by the Central Government (copy to be enclosed):
2. Project details:
  - (i) Short narrative of the proposal and project/scheme for which the forest land is required.
  - (ii) Map showing the required forest land, boundary of adjoining forest on a 1:50,000 scale map.
  - (iii) Cost of the project:
3. Purpose-wise break-up of the total land required (already broken & to be broken):
4. Details of Certificates/documents enclosed as required under the instructions.

Signature

(Name in Block letters)

Designation

Address (of User Agency)

Date:- \_\_\_\_\_

Place:- \_\_\_\_\_

State serial No. of proposal \_\_\_\_\_

(To be filled up by the Nodal Officer with date of receipt)

## PART-II

(To be filled by the concerned Deputy Conservator of Forests)

State serial No. of proposal\_\_\_\_\_

5. Location of the project/Scheme:
  - (i) State/Union Territory
  - (ii) District.
  - (iii) Forest Division
  - (iv) Area of forest land proposed for diversion (in ha.)
  - (v) Legal status of forest
  - (vi) Density of vegetation.
  - (vii) Species-wise (scientific names) and diameter class-wise enumeration of trees in unbroken area.
  - (viii) Whether forms part of National Park, wildlife sanctuary, biosphere reserve, tiger reserve, elephant corridor, etc. (If so, the details of the area and comments of the Chief Wildlife Warden to be annexed).
6. Whether any work in violation of the Act has been carried out (Yes/No). If yes, details of the same including period of work done, action taken on erring officials. Whether work in violation is still in progress.
7. Site inspection report of the DCF (to be enclosed) in respect to status of compliance of conditions stipulated during earlier approval.
8. Division/District profile:
  - (i) Geographical area of the district.
  - (ii) Forest area of the district.
  - (iii) Total forest area diverted since 1980 with number of cases.
  - (iv) Total compensatory afforestation stipulated in the district/division since 1980 on (a) forest land including penal compensatory afforestation, (b) non-forest land.
  - (v) Progress of compensatory afforestation as on (date) \_\_\_\_\_  
on

- (a) forest land
- (b) non-forest land.

9. Specific recommendations of the DCF for acceptance or otherwise of the proposal with reasons.

Signature

Name

Official Seal

Date:-\_\_\_\_\_

Place:-\_\_\_\_\_

### **PART-III**

(To be filled by the concerned Conservator of Forests)

- 10. Whether site, where the forest land involved is located has been inspected by concerned Conservator of Forests (Yes/No). If yes, the date of inspection & observations made in form of inspection note to be enclosed.
- 11. Whether the concerned Conservator of Forests agree with the information given in Part-B and the recommendations of Deputy Conservator of Forests.
- 12. Specific recommendation of concerned Conservator of Forests for acceptance or otherwise of the proposal with detailed reasons.

Signature

Name

Official Seal

Date:-\_\_\_\_\_

Place:-\_\_\_\_\_

**PART-IV**

(To be filled in by the Nodal Officer or Principal Chief Conservator of Forests or Head of Forest department)

13. Detailed opinion and specific recommendation of the State Forest Department for acceptance or otherwise of the proposal with remarks.

(While giving opinion, the adverse comments made by concerned Conservator of Forests or Deputy Conservator of Forests should be categorically reviewed and critically commented upon).

Signature

Name & Designation

(Official Seal)

Date:-\_\_\_\_\_

Place:-\_\_\_\_\_

**PART- V**

(To be filled in by the Secretary in charge of Forest Department or by any other authorised officer of the State Government not below the rank of an Under Secretary)

14. Recommendation of the State Government:

(Adverse comments made by any officer or authority in Part-B or Part-C or Part-D above should be specifically commented upon)

Signature

Name & Designation

(Official Seal)

Date:-\_\_\_\_\_

Place:-\_\_\_\_\_

### **INSTRUCTIONS (for Part-I):-**

1. The project authorities may annex a copy of the approved project/plan in addition to filling Col. 2 (i) e.g. IBM approved mining plan for major minerals/CMPDI plan with subsidence analysis reports, etc.
2. Map has to be in original duly authenticated jointly by project authorities and concerned DCF – Col. 2 (ii).
3. In case the same company/individual has taken forest land for similar project in the State, a brief detail of all such approvals/leases be given as an enclosure along with current status of the projects.
4. Item-wise requirement (Col. 3) should be separately shown for broken up and fresh areas.
5. The latest clarifications issued by the Ministry under Forest (Conservation) Act, 1980 may be kept in mind. In case such information do not fit in the given columns, the same shall be annexed separately.

### **GENERAL INSTRUCTIONS:-**

1. On receipt of proposal, Nodal Officer shall issue a receipt to the user agency indicating therein the name of the proposal, user agency, area in hectare, serial number and date of receipt.
2. If the space provided above is not sufficient to specify any information, please attach separate details/documents.
3. While forwarding the proposal to the Central Government, complete details on all aspects of the case as per Form prescribed above read with the clarifications issued by the Ministry of Environment and Forests, Government of India, New Delhi should be given. Incomplete or deficient proposals shall not be considered and shall be returned to the State Government in original.
4. The State Government shall submit the proposal to the Central Government within stipulated time limits. In case of delay while forwarding, the reasons for the same to be given in the forwarding/covering letter.

**Enclosure-VI**

**Proposal for Investigation and Survey in the National Park/Sanctuary – (Ref: Para 11.6.2)**

**PART – I**

(Details to be provided by the Applicant)

1. Name of the Organisation
  
2. Aims and Objectives of the Proposed Project
  
3. Location and Map (1:150000 Scale) of the area to be investigated/surveyed, duly authenticated by the competent authority
  
4. Whether investigation/survey requires clearing of vegetation
  
5. If yes, please specify the extent (in Ha.)
  
6. Opinion of the Officer In Charge of the N.P./WLS (Attach signed copy)
  
7. Opinion of the Chief Wild Life Warden (Attach signed copy)

Signed

Signed

Signed

Project Head  
Name  
Organisation

The officer in Charge of  
the N.P./WLS  
Office Seal

The CWLW  
Office Seal

Date of submission to Govt. of India by the CWLW –

## **PART – II**

(To be filled in by the Applicant)

1. Project Details:

- (i) Copy of the Investigation and Survey report

(The report should include the dates of survey and the names of the investigators, surveyors and all officials of the concerned NP/WLS who remained present during the period)

- (ii) Self contained and factual project report for which NP/WLS area is required

(Enclose copy of the Project Appraisal document)

- (iii) Map (Duly authenticated by the Divisional/District Head of the Department dealing with Forests and Wild Life) on a scale of 1:150000 showing the boundaries of the NP/WLS, delineating the area in question in red color).

- (iv) Self contained and factual report of at least two alternatives considered by the project authorities along with technical and financial justification for opting national park/sanctuary area.

- (v) Copy of the Bio-diversity Impact Assessment report in case the proposal involves diversion of more than 50 Ha. NP/WLS area.

2. Location of the Project/Scheme

- (i) State/Union Territory  
(ii) District  
(iii) Name of the National Park/Sanctuary

3. Details of the area required (In Hectares only)

(Provide break up of the land use under the project e.g. construction of dam, submergence, housing for staff, road, etc.)

4. Details of displacement of people, if any, due to the project

- (i) Total number of families involved in displacement  
(ii) Number of Scheduled Caste/Scheduled Tribe families involved in displacement

(iii) Detailed rehabilitation plan

5. Any other information relevant to the proposal but not covered in any of the columns above.

Signed by

Project Head :  
Name :  
Organisation :

Date of submission to the Head of the National Park/Sanctuary

### **PART – III**

(To be completed by the Officer-in-Charge- of the National Park/Sanctuary completed and submitted to the Chief Wild Life Warden or Officer authorized by him in this behalf within **30 days** of the receipt of Part-II)

1. Date of receipt of the PART-II
2. Total area (Ha.) of National Park/Sanctuary
3. Total area (Ha.) diverted from the NP/WLS so far for development purposes.
4. List the past projects and the area (Ha.) diverted

Name of Project	Area diverted	Year of diversion
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5. Positive impact/s due to the diversion of area for the projects referred to in column 4 above.

Name of the Project/s	Positive Impact	Scientific Basis of Assessment
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(attach separate document, if required)



6. Negative impact/s due to the diversion of area for the projects referred to in column 4 above.

Name of the Project/s	Positive Impact	Scientific Basis of Assessment
-----------------------	-----------------	--------------------------------

(attach separate document, if required)

7. Management Plan Period

(Attach copy of the Management Plan/Management Scheme/Recommendation of Chief Wild Life Warden)

8. List Management actions taken/proposed to be taken in the whole Block/Zone in which the proposed area is located.

9. Type of forest in which the proposed area falls.

10. Location of the proposed area w.r.t. the critical/intensive wildlife management areas/wildlife habitats. (attach Map to Scale)

11. List the Likely POSITIVE AND NEGATIVE impact/s of the proposed project giving scientific and technical justification for each impact.

12. Provide COMPREHENSIVE details of the impact of the proposal in terms of Sections 29 and/or section 35 (6) of the Wild Life (Protection) Act, 1972 as the case may be.

13. Whether the project authorities have ever committed violation of the Wild Life (Protection) Act, 1972 or Forest Conservation Act, 1980. If yes, provide the EXHAUSTIVE details of the offence and the present status of the case.

(Concealing or misrepresenting the facts will lead to rejection of the case in addition to any other penalty as prescribed under Law)

14. Have you examined the Project Appraisal document and the alternatives as provided in PART-II.

15. Have you examined the Bio-diversity Impact Assessment Report.

16. If yes, please give your comments on the recommendations given in the report.

17. Dates and durations of your field visits to the proposed site.
18. Do you agree that the present proposal of diversion of NP/WLS area is the best or only option and is viable.
19. Any other information that you would bring to the notice of the State Board, National Board or its Committee that may be relevant and assist in decision making.
20. Do you recommend the project.

(Please provide full justification to support your recommendations)

Signed by

The Officer-In-Charge of the N.P./WLS

Official Seal

Date of submission to the Chief Wild Life Warden or any other officer authorized by him in this regard.

#### **PART – IV**

(To be completed by the Chief Wild Life Warden within 15 days of the receipt of PART- II and III)

1. Date of RECEIPT of PART II and III by the Chief Wild Life Warden or the officer authorized by him in this regard.
2. Do you agree with the information and recommendations provided by the Officer-in-Charge in PART-III.
3. If not, please provide the reasons.
4. Have you visited the site yourself and held discussions with the applicant.

5. Do you agree that the present proposal for permitting use of NP/WLS area is the best option or only option and is viable.
6. Any other information that you would bring to the notice of the State, Board, National Board or its Committee that may be relevant and assist in decision making.
7. Do you recommend the project.  
  
(Please provide full justification to support your recommendations)
8. Conditions, if any, to be ensured in the interest of wildlife for allowing use of the area.

Signed by

The Chief Wild Life Warden

Name

State

Official Seal

Date of submission to the State Government.

#### **PART – V**

(To be completed by the Department in Charge of Forestry and Wild Life in consultation with the State Board for Wild Life within 30 days of the receipt of PART-II, III and IV)

1. Date of RECEIPT of PART II, III and IV by the Department
2. Do you agree with the recommendation/s of the Chief Wild Life Warden.
3. If not, please provide the reasons
4. Did you provide PART II, III and IV to the members of the State Board for Wild Life.
5. Attach copy of the opinion of the State Board for Wild Life.

6. Give details of the recommendations of the State Government.

Signed by

The Principal Secretary

Name

State

Official Seal

Date of submission to the Central Government

## **PART – VI**

(To be placed by the Member Secretary, Standing Committee of National Board in the subsequent meeting of the Standing Committee)

### **Guidelines for Site Inspection by the Expert Committee of NBWL**

1. Site inspections, if required, shall be completed within the inter sessional period of the two consecutive meetings.
2. The applicant will deposit a processing fee for with the NBWL Secretariat. The processing fee will be utilized for providing secretarial assistance to the members, coordinating their program, meeting the travel and stay cost of inspection team, Bio-diversity Impact assessment and related issues. The Standing Committee shall decide the amount of processing fees on case-by-case basis. The unutilized amount will be refunded to the applicant along with the details of expenditure.
3. Chairperson of the Standing Committee may include other members of the Board for site inspection at his discretion.
4. Site inspections will not be required for proposals where Bio-diversity Impact Assessment has been carried out.
5. In case the project is of critical nature and cannot be delayed then the opinion of the members of the Standing Committee shall be taken by circulation.

## Chapter 12

### DISPUTE RESOLUTION

#### 12.1 Dispute

Disputes are germane to any contract. A 'dispute' implies an assertion of a right or a claim by one party and repudiation thereof by the other party, either expressed or implied, and may be by words or by conduct. A mere 'difference' is not necessarily a dispute; when the parties fail to resolve it, the difference culminates in dispute.

#### 12.2 Dispute Resolution in a Construction Contract

Since arbitrations are fairly time consuming, it is always advisable to sort out the disputes mutually through the mechanism of adjudication (Dispute Review Expert/ Board), which is a sort of voluntary arbitration. Arbitration can be resorted to if the adjudication decision is not forthcoming or is not acceptable to any party. For dispute resolution following procedure will be followed:

##### 12.2.1 Dispute Resolution Expert/ Board (DRE/DRB)

- (a) A formal clause of obtaining dispute resolution through DRE/DRB will be inserted in the conditions of the contract. A separate Dispute Resolution Agreement will also be drawn up, detailing therein provisions like:
- (b) Eligibility of Members, date of commencement, manner of entry on the reference by the Members and their resignation; obligation of the Members, the Employer and the Contractor; terms of payment (monthly retainer ship fee, daily fee for travel & site visits, out-of-pocket expenses); manner of sharing the fees and expenses and of making payments; arrangements of site visits and their frequency; conduct of hearings; termination/ phasing out the activities of DRE/ DRB; default of the Member, and action to be taken in case of dispute in relation to DRB Agreement, etc.
- (c) DRE/ DRB should be put in place within one month of Letter of Acceptance.
- (d) Sole DRE will be set up for works up to Rs. 100 crore, and DRB for works costing more than Rs. 100 crore.
- (e) Sole DRE will be appointed by mutual agreement between the parties. Failing an agreement, appointment will be made by Chairman:
- (f) The Board will comprise three Members, one each to be appointed by the Employer and the Contractor and approved by the other.

The third Member, who will also act as the presiding Member, will be selected by the first two Members and approved by the parties. If either of the first two Members is not so selected and approved, or the parties fail to reach an agreement on the third Member then on request of either or both parties, appointment will be made by the Director General (Road development) and Special Secretary, MOSRTH, New Delhi.

- (g) The Expert/Members to be appointed should be experienced with the type of construction actually involved and the interpretation of contractual documents, and be persons of repute and integrity.
- (h) If any dispute arises at any stage between the Employer and the Contractor in connection with, or arising out of the Contract or the execution of the Works, including any disagreement by either party with any action, inaction, opinion, instruction, determination, certificate or valuation of the Engineer, the matter in dispute shall, in the first place, be referred to Dispute Review Expert/Dispute Review Board, as the case may be.
- (i) Both parties shall promptly make available all information, access to the site, and appropriate facilities, as the DRE/DRB may require for the purposes of making a recommendation on such dispute.
- (j) Within 56 days after receiving such reference, or within such other period as may be proposed by the DRE/DRB and approved by both parties, the DRE/DRB shall give its recommendation with reasons. The recommendation shall be binding on both parties, who shall promptly give effect to it unless and until it shall be revised in an amicable settlement or an arbitral award as described below. Unless the Contract has already been abandoned, repudiated or terminated, the Contractor shall continue to proceed with the works in accordance with the Contract.
- (k) If either party is dissatisfied with the recommendation, then either party may, within 28 days after receiving the recommendation, or if the DRE/DRB fails to give its recommendation within 56 days (or as otherwise approved), within 28 days after the said period of 56 days has expired, give notice to the other party, with a copy to the Engineer, of its intention to commence arbitration proceedings.
- (l) If the DRE/DRB has given its decision within the stipulated period, and no notice of intention to commence arbitration as to such dispute has been given by either party within 28 days of the said decision, then the decision of DRE/DRB shall become final and binding.
- (m) Appointment of Sole DRE or Member of DRB will be made by the Chairman.

### **12.2.2 Arbitration**

- (a) Any dispute in respect of which the recommendations (if any) of DRE/ DRB has not become final and binding, shall be finally

- settled by arbitration in accordance with the Indian' Arbitration and Conciliation Act, 1996', or any statutory amendment thereof.
- (b) The arbitral tribunal will comprise three Members, one each to be appointed by the Employer and the Contractor. The third Member, who will also act as the presiding Member, will be appointed by mutual consent of the first two Members. If these two Members fail to reach an agreement on the third Member then, on request by either or both parties, appointment will be made by the Director General (Road development) and Special Secretary, MOSRTH, New Delhi
  - (c) The tribunal shall have full power to open up, review and revise any certificate, determination, instruction, opinion or valuation of the Engineer, and any decision of the DRE/DRB, relevant to the dispute.
  - (d) Neither party shall be limited in the proceedings before the tribunal to the evidence or arguments previously put before the DRE/DRB to obtain its decision, or to the reasons for dissatisfaction given in its notice of dissatisfaction,
  - (e) Arbitration may be commenced prior to or after completion of the works. The obligations of the Parties, the Engineer and the DRE/DRB shall not be altered by reason of any arbitration being conducted during the progress of the Works.

### **12.2.3 Procedure for Preparation of Reply/Defence**

- (a) Immediately after receipt of notice of dispute, Project Director (PD) will send a copy of notice to the concerned CGM/GM and DR&QA Cell at Headquarter and the Engineer of the project.
- (b) The PD, who will be the Presenting Officer, should carefully go through the claims, and prepare a suitable draft reply in consultation with the Engineer, as per terms and conditions of the contract and facts of the case. The draft reply along with supporting documents should be sent to the Headquarters for vetting.
- (c) At Headquarters, the concerned Division should, within 7 days, send back the reply, duly vetted, to PD for submission before DRE/DRB/Arbitrators. He will attend all the hearings.
- (d) Copy of any specific order by DRE/DRB/Arbitrators should be sent by PD to the concerned CGM and DR&QA Cell at Headquarters.
- (e) DRE/DRB would be making site visits periodically. Observations, if any, made by them during these site visits, should be promptly brought by PD to the Headquarters notice, along with report of any action taken or decision needed.
- (f) Settlement of disputes will be constantly monitored by PD, DR&QA Cell, and the respective GMs.
- (g) In arbitration cases involving complex legal issues, or where stakes are considered to be high (such as claims of the order of Rs. 5 crore or more), NHAI may, with the approval of the Chairman,

engage "the services of a counselor a techno-legal expert. The PD should get into touch with the counsel so appointed, and furnish to him all the documents along with a written note and draft reply/counterclaims. Final reply/counterclaims will be prepared with the help of the counsel.

#### **12.2.4 Language**

All proceedings before DRE/DRB/arbitral tribunal shall be in English.

#### **12.2.5 Procedure for referring the decisions of DRE/DRB to Arbitration, Acceptance of DRE/DRB Recommendations and Arbitration Awards**

12.2.5.1 PD (GM in disputes of design consultancy) presenting the case before" DRE/DRB/arbitral tribunal should give his comments on factual findings of the award by reference to various documents, and arguments advanced in the course of the hearings and send his recommendations to Headquarters. In an arbitration case, the counsel, if engaged, should examine the record of proceedings for evidence of record claim-wise, the comments of PD, and various other techno-legal aspects on which the award can be challenged

12.2.5.2 The matter regarding referring the decisions of Dispute Review Expert (DRE)/ Dispute Review Board (DRB) to Arbitration/ acceptance of DRE/ DRB Recommendations and acceptance/ Challenging of Arbitration Awards shall be considered by a committee consisting of the following officials.

- (a) Member of the Concerned Zone in which the DRE/DRB decision falls.
- (b) Member (Finance)
- (c) Member/CGM of any other Technical Zone.

12.2.5.3 The Committee will examine the matter and recommend whether the decision of DRE/DRB is acceptable on merits. On the basis of the recommendation of the Committee it will be decided whether matter needs to be referred further to Arbitration or not.

12.2.5.4 In case the matter has been referred to the arbitration, the award of the Arbitration Tribunal shall also be referred to the Committee for the view before challenging the award in a court of law. In case, the Committee feel that the Arbitral Award is acceptable based on its merits, the same will be agreed by NHAI without challenging in the court.

12.2.5.5 It will be the responsibility of the concerned technical division to submit the matter to the above committee within the period of limitation so that the cases are not barred for approaching the court



of law or for arbitration. Since the decisions of DRE/DRB have to be appealed against within a prescribed time limit, as provided in the contract agreement for referring to the Arbitration, these meetings should be held in time and decision on these issues should not be delayed on this account.

- 12.2.5.6 If Chairman is out of office on tour or on any account, action should be taken as per the recommendations of the Committee. Approval of Chairman may be obtained subsequently.
- 12.2.5.7 Recourse to court against an arbitral award can be made only for reasons defined in Section 35 of the Act, within three months from the date of receipt of award (or disposal of application for correction or interpretation of award or supplementary award on any claims presented in the proceedings but left out in the award). If the award suffers from any infirmity or sufficient grounds exist for challenging it, PD should, on receiving directions to this effect from Headquarters, take the requisite action, well before the limitation expires.
- 12.2.5.8 If the award is contested by NHAI in the court, PD should keep a close liaison with the counsel, keep track of the case, and ensure that the case is not lost by default.
- 12.2.5.9 In complex cases, opinion of techno-legal expert may be obtained.
- 12.2.5.10 Chairman has got full powers to accept an award.

### **12.3 Disputes in Supervision Consultancy/Design Consultancy Service**

Dispute shall be settled by arbitration in accordance with the following provision.

- (a) Arbitration proceedings shall be conducted in accordance with procedure of the Arbitration and conciliation Act, 1996.
- (b) Where the parties agree that the dispute concerns a technical matter, the dispute may be settled through a sole arbitrator to be appointed by mutual consent of the parties, failing which the sole arbitrator shall be appointed by the Director General (Road Development) and Special Secretary, Ministry of Shipping, Road Transport & Highways, on a reference to be made in this behalf by either party.
- (c) When the parties do not agree that the dispute concerns a technical matter the dispute shall be settled by an arbitral tribunal which will comprise three Members, one each to be appointed by the Employer and the Consultant. The third Member, who will also act as the presiding Member, will be appointed by mutual consent of the first two Members. If these two Members fail to reach an agreement on the third Member then, on request by either or both parties, appointment will be made by the Director

- General (Road Development) and Special Secretary, Ministry of Shipping, Road Transport & Highways,
- (d) The sole arbitrator or the third arbitrator appointed hereof shall be an internationally recognized legal or technical expert with extensive experience in relation to the matter in dispute.
  - (e) In any arbitration proceeding
  - (f) (a) Proceedings shall, unless otherwise agreed by the Parties, be held in DELHI.
  - (g) (b) the English language shall be the official language for all purposes; and
  - (h) (c) the decision of the sole arbitrator or of a majority of the arbitrators (or of the third arbitrator if there is no such majority) shall be final and binding and shall be enforceable in any court of competent jurisdiction, and the Parties shall waive any objections to or claims of immunity in respect of such enforcement.
  - (i) The procedure of: (i) appointment of Members of arbitral tribunal; (ii) conduct of proceedings and (iii) acceptance or otherwise of recommendations/awards will be the same as in case of construction disputes.
  - (j) The basic responsibility for preparation of reply and defense in the case of disputes with Consultants will lie with the PD.

#### **12.4 Guidelines for Handling Disputes**

Following guidelines shall be followed to avoid/minimise the incidence of disputes and their adverse consequences:

- (a) It is necessary to carry out proper pre-planning investigations and detailing to obtain sound design and realistic specification and drawings, including land acquisition. Inconsistencies/contradictions between various documents should be avoided.
- (b) Access to land should be provided as per schedule given in the Contract.
- (c) In the case of consultancy assignments, the TOR and output expected should be clearly specified.
- (d) Decision making should be quick. Objectives of the project, considering quality, time and cost should be the guiding criteria.
- (e) Correspondence with the Contractor should be carefully handled.
- (f) Daily reports of resources (men, materials, and machinery in working order) deployed by the Contractor, his handicaps and reasons thereof should be documented to present Employer's case on basis of facts.
- (g) Steering Committee should be constituted to take important decisions on behalf of the Employer, to avoid complications arising out of a single individual (acting as the Employer) feeling hesitant or handicapped to take decisions.
- (h) In case of construction disputes, PD should keep a separate file regarding the disputes that crop up during the progress of the work. In case of his transfer or relinquishment of charge due to any reason, he should hand over to his successor a self-contained note

on the file, giving full background of all the disputes, various developments thereon, and decisions taken with reference to the connected files. Suitable method and procedure should be devised in the office of PD so that all files, records, reports, registers, drawings, contract agreements etc. are carefully preserved and become available at a later stage to the successor who is required to defend the case.

- (i) The arbitration cases should not be regarded as a thankless task or bad legacy of defunct decisions, but instead should be given due importance, and dealt at all levels with high priority, till they are finally disposed of
- (j) CGM should exercise a quarterly review of all disputes, whether relating to construction works or consultancy services, and ask for requisite steps for their expeditious disposal.
- (k) It should be the responsibility of the supervision consultant to:
  - (i) assist the Employer in DRE/DRB/arbitration cases which may arise up to the defect liability period;
  - (ii) give, on expiry of defects liability period, complete handing over notes regarding any disputes, differences, claims;
  - (iii) to appear, on payment of expenses, as witness if and when summoned; and
  - (iv) provide on mutually agreed terms, additional services if required.

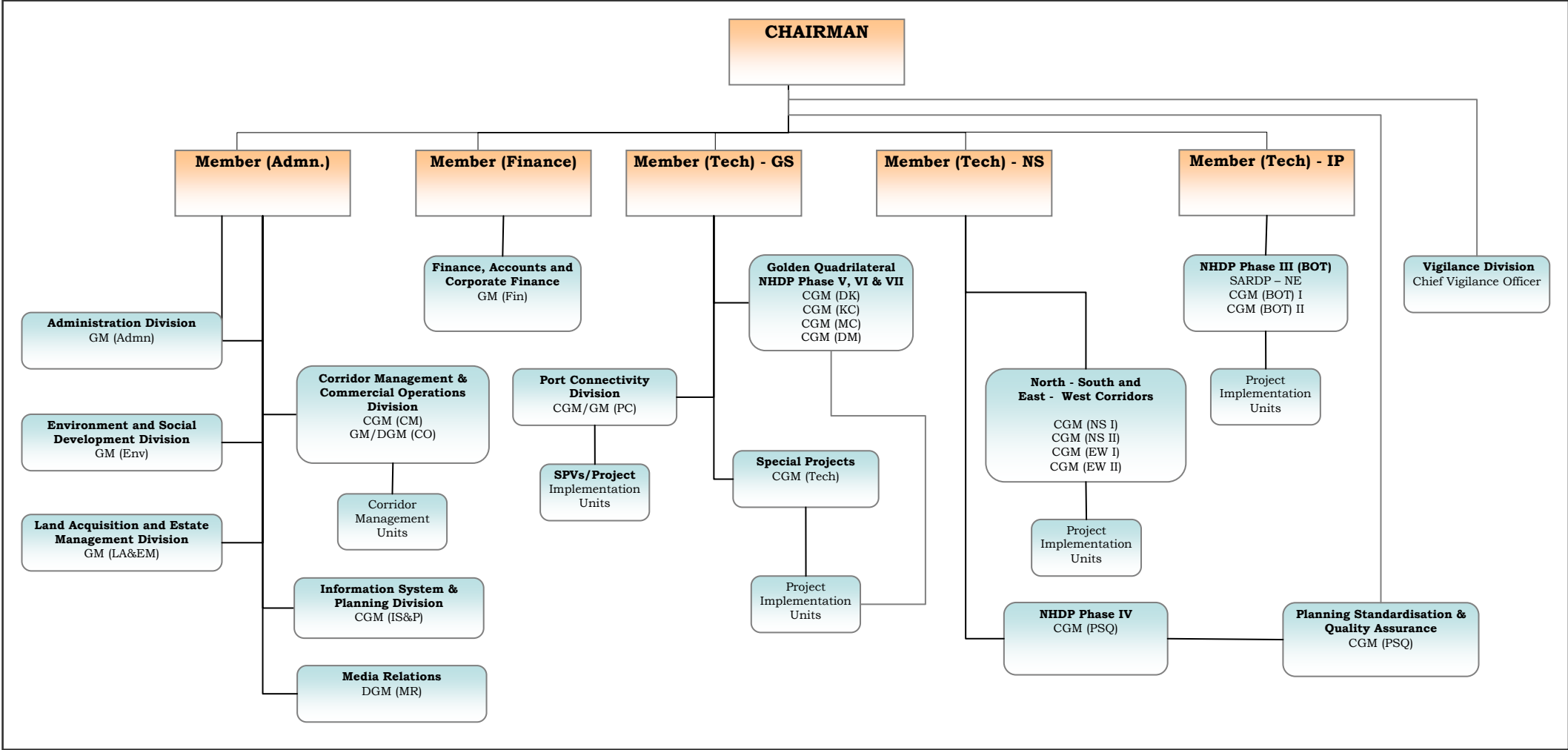
## **12.5 Fee of Arbitrators**

The fee of Arbitrators in case of civil engineering construction contracts/consultancies shall be as notified by the NHAI from time to time. Since the fee structure has to be agreed by both the parties i.e. NHAI and Contractor/Consultant, the fee structure may also be got accepted by the respective Contractor/Consultants. In the contracts the fee structure may be included as part of the bidding documents/contract documents and the acceptance of the fee structure by the Contractors/Consultants may be kept as a pre-condition for signing the contract.

## **12.6 Terms and conditions for engagement of DRE/DRB Member and Chairman**

The terms and conditions including the remuneration of DRE/DRB shall be as notified by the NHAI from time to time.

**Organizational Structure - NHAI**  
(Ref. Para 2.3.6)



## **DUTIES & FUNCTIONS OF OFFICERS AT HEADQUARTERS**

(Ref. Para 2.3.6)

1. The functions of the Authority are laid down in Section 16 of the National Highways Authority of India Act, 1988 (Para 1.6 refers).

2. Under the Act, all the powers are vested with the Authority (Board). The Authority has, however, delegated substantially its powers relating to administrative and financial matters. It has also delegated powers relating to cost estimates, procurement of contracts and approval of variations etc.

### **3. Duties - Headquarters**

#### **(i) Administration Division**

- (a) Framing/amending rules & regulations and policy guidelines/instructions.
- (b) Recruitments, personnel management & training.
- (c) General administration.
- (d) Management of the Secretariat of the Authority (Board).
- (e) Parliamentary matters/Annual Reports.
- (f) Various other miscellaneous duties like security, housekeeping and functions which are not covered any other Division of the Authority.

#### **(ii) Finance Division**

- (a) Financial management.
- (b) Audit.
- (c) Issue of bonds/market borrowings.

#### **(iii) Environment & Social Development Unit**

- (a) Social development and environmental issues.
- (b) Land acquisition & issue of notifications.

#### **(iv) Corridor Management Division**

- (a) Corridor Management

#### **(v) Technical Division**

- (a) Feasibility studies and DPR.
- (b) Procurement of contracts.
- (c) Monitoring of projects.

#### **(vi) Information Technology Division**

- (a) Matters relating to Information Technology, advertisements and publicity.
- (b) Management Information System.

- (vii) **Vigilance Division**
  - (a) Discipline & Vigilance.
  
- (viii) **Planning Standardization and Quality Assurance**
  - (a) Policy Planning
  - (b) Standardization of Documents
  - (c) Establishing and Implementation of Procedure for Quality Assurance.

The officers posted in the Headquarters are expected to perform duties related to powers to the above as pertaining their respective divisions. They exercise administrative and financial powers to the extent delegated to them. Wherever required, they will obtain the approval of Chairman/Authority (Board).

**EXTRACT FROM NHAI (TRANSACTION OF BUSINESS) REGULATIONS, 1997**

(Ref. Para 2.4)

**Meetings of the Authority:**

- (1) Ordinary meetings of the Authority shall be held at least once in three months.

Provided that Chairman by himself or on a request in writing made by at least two Members may arrange to convene a special meeting of the Authority to consider any special issue of an immediate nature.

- (2) The Chairman shall cause to circulate the notice of every ordinary meeting along with the agenda notes so as to reach the Members at least seven days before the date fixed for such meeting.
- (3) On receipt of a request referred to in the proviso to sub-regulation (1), the Chairman shall fix a date for the special meeting, such date not being later than three days from the date of the notice and cause to be sent notices for such meeting along with the agenda at least twenty-four hours before such date.
- (4) Notice for all meetings of the Authority may be served upon a member by sending them to their official and also to their residential addresses.

**Quorum:**

- (1) The quorum for every meeting of the Authority shall not be less than four.
- (2) If at any time, the number of Members present at a meeting is less than the number specified in sub-clause (1) above, the Member presiding shall adjourn the meeting to a date not later than three days from the date of such meeting after informing the Members of the date, not earlier than 24 hours, time and place of the adjourned meeting to dispose of the business intended to be presented at the original meeting, irrespective of the number of members present.

**Matters to be considered in any ordinary meeting of the Authority:**

The Authority shall consider and take a decision in any ordinary meeting on all or any of the following matters, namely:

- (a) Any decision in connection with entering into any contract necessary for the discharge of its functions under the Act;
- (b) Any decision in discharge of its functions to develop, maintain and manage any National Highway or any other highway vested in or entrusted to it;
- (c) Any decision relating to the utilization of the National Highways Authority of India Fund constituted under section 18 of the Act;
- (d) Examination of the budget proposals for the next financial year before it is forwarded to the Central Government;
- (e) Any decision relating to investment of funds (including any reserve fund) in the securities of the Central Government or any other manner as may be prescribed by the Central Government;
- (f) Exercise of the borrowing powers of the Authority under section 21 of the Act;
- (g) Preparation of the Annual Report of the Authority under section 22 of the Act;
- (h) Consideration of the audited accounts of the Authority and the auditor's report thereon;
- (i) Delegation of Powers of the Authority to the Chairman or any Member or to any officer of the Authority, under section 25 of the Act;
- (j) Authorizing any person to enter upon any land or premises as required under section 30 of the Act;
- (k) Exercise of powers under section 35 of the Act to make or to amend regulations and forwarding copies of the same to the Central Government for being laid before the Parliament.



**GUIDELINES REGARDING FORMULATION, APPRAISAL AND APPROVAL OF PLAN SCHEMES AND PROJECTS [Copy of letter no. F.No.1 (3)/PF.II/2001 dated 18<sup>th</sup> February, 2002 of Ministry of Finance, Deptt. of Expenditure (Plan Finance-II Division)]**

(Ref. Para 2.7.1)

**Subject: Public Investment/Expenditure - Guidelines for appraisal and approval-**

A need has been felt to prioritize the projects/schemes and take-up only such projects/schemes, which are financially and economically viable and have higher returns. There is also a need to avoid thin spreading of resources and multiplicity of schemes with similar objectives. Therefore, it is necessary to strengthen decision making process for investments. At the same time, the process should be simple and quick so that the challenges of the competitive economic environment can be met effectively. These considerations will require optimum level of delegation in the system for appraisal and approval of the proposals. Accordingly, the following guidelines/financial limits for appraisal and approval of public investments/expenditure are being prescribed:

**2. Appraisal of Plan schemes/projects: -**

	<b>Financial limits of Plan scheme/project</b>	<b>Appraisal Forum</b>
(a)	Upto Rs.5.00 crores	Ministry/Department concerned, in normal course.
(b)	Above Rs. 5.00 crores but less than Rs.25 crores	Standing Finance Committee of the Department concerned under the Chairmanship of Secretary with Financial Adviser and Joint Secretary/Director of the concerned Division as members with provision for inviting representatives of the Planning Commission, D/o Expenditure and any other Department that Secretary or Financial Adviser may suggest.
(c)	Rs. 25 crores and above but less than Rs. 100 crores	Departmental Expenditure Finance Committee (EFC). Departmental EFC will be chaired by Secretary of the Administrative Department. It will include the Financial Adviser, as the Member Secretary, and the representatives of Planning commission and D/o Expenditure as members.
(d)	Rs. 100 crores and above but less than Rs. 200 crores	Main Expenditure Finance Committee (EFC). Main EFC will consist of Secretary (Expenditure) who will chair the meeting,

	<b>Financial limits of Plan scheme/project</b>	<b>Appraisal Forum</b>
		Secretary (Planning commission) and Secretary of the Administrative Department. FA will be the Secretary of this EFC.
(e)	Rs.200 crores and beyond.	Public Investment Board (PIB)/Main EFC Chaired by Secretary (Expenditure). Projects/ schemes where financial returns are quantifiable will be considered by PIB, others by the EFC.

(i) It is clarified that SFC/EFC/PIB will be the appraisal forum for any scheme/project. Their recommendations will require approval of competent authority as indicated in para 3 below.

(ii) In respect of Scientific Ministries/Departments, the appraisal forum (EFC) will continue to be chaired by the concerned Administrative Secretary irrespective of the outlay.

(iii) Navratna and Miniratna PSUs have enhanced powers for taking investment decisions as per guidelines issued by the Department of Public Enterprises. This delegation will be continued.

(iv) For schemes/projects involving setting up of new Autonomous Organizations, EFC will be chaired by Secretary (Expenditure) irrespective of their outlays or nature of the Ministry/Department.

(v) Specific approval of Department of Expenditure for creation of new posts in relaxation of standing economy orders will be necessary irrespective of the recommendations of EFC/PIB.

(vi) At present all projects being posed to pm are considered in the pre-PIB meeting. Pre-PIB process in respect of projects with outlay upto Rs.500 crores has been dispensed with and the proposals will be considered by PIB directly.

### **3. Authority for approval**

#### **(a) Original Cost Estimates**

<b>Project/Scheme Outlay</b>	<b>Approval Authority</b>
Less than Rs.50 crores	Minister in-charge of Administrative Ministry
Rs.50 crores and above but less than Rs. 100 crores	Minister of Administrative Ministry and the Finance Minister
Rs.100 crores and above	Cabinet /CCEA

<b>Project/Scheme Outlay</b>	<b>Approval Authority</b>
Proposals for new autonomous organizations irrespective of outlay	Cabinet/CCEA

**(b) Revised Cost Estimates:**

**(b)(1) RCE cases less than Rs. 100 crores:**

(i) RCE cases with outlay of less than Rs.100 crores arising due to change in statutory levies, exchange rate variations and price escalation within the approved project time cycle and the cases involving further cost increase upto 20% can be approved by the authority as per para 3(a) above in consultation with the Planning Commission.

(ii) RCE cases involving increase of more than 20% after excluding the increase due to change in statutory levies, exchange rate variations and price escalation within the approved project time cycle will require appraisal at the forum as per para 2 above and approval as per para 3(a) above.

**(b) (2) RCE cases of Rs.100 crores and above:**

(i) Revised Cost Estimate (RCE) which arises entirely due to change in statutory levies, exchange rate variations and price escalation within the originally approved project time cycle will be approved by the administrative Ministry/Department concerned in consultation with the Planning Commission.

(ii) The First RCE, which is upto 10% of the originally approved cost estimates (after excluding the increase within the originally approved project time cycle due to three factors mentioned in (i) above) will be approved by the Administrative Ministry in consultation with the Planning Commission.

(iii) First RCE, which exceeds 10% but are upto 20% of the originally approved cost estimates (after excluding increase within originally approved project time cycle due to three factors mentioned in (i) above) shall be appraised by the Planning Commission and will be approved by the Administrative Minister and the Finance Minister.

(iv) First RCE which exceeds 20% of the originally approved cost estimates (after excluding increase within originally approved project time cycle due to three factors mentioned in (i) above) due to reasons such as time overrun, change in scope, underestimation, etc. shall be posed to EFC/PIB for appraisal and thereafter to CCEA for approval.

(v) Second or subsequent RCE less than 5 % of the latest approved cost (First or previous RCE) (after excluding increase due to changes in statutory levies, exchange rate variation and price escalation within the existing approved

project time cycle) will be appraised by the Planning Commission and decided with the approval of the Administrative Minister,

(vi) Second or subsequent RCE involving increase of 5% or more of the latest approved cost (first or previous RCE) (after excluding increase due to changes in statutory levies, exchange rate variation and price escalation within the approved project time cycle) will require appraisal by EFC/PIB and approval of the CCEA.

**(b)(3):** Criterion for appraisal forum and level of authority for approval of RCE will be cost overrun and not time overrun.

**(b)(4):** The existing procedure prescribes that RCE cases should be decided by the same authority, which had approved the original proposal notwithstanding any "subsequent delegation of powers. This applies to RCE cases of the Ministries as well as Navratna and Miniratna CPSUs also even though they have powers, subject to certain conditions, to decide new investments. It is now decided that powers for deciding RCE cases are delegated to the authorities as per powers for fresh approvals.

**(b)(5):** Where the revised/firmed up cost estimates of scheme/project exceeds the limit of competent authority who approved the original cost of the scheme, the approval of higher competent authority will be obtained.

**(b)(6):** While processing the RCE cases the contents of Planning Commission's D.O. No. 0-14015/2/98-PAMD dated 19.8.1998 regarding consideration of cost & time overruns and fixation of responsibility by the Standing Committee may be kept in mind.

#### **4. Expenditure on pre-investment activities etc.**

(a) The delegation of powers for sanctioning pre-investment activity like preparation of Detailed Feasibility/Project Reports will be as follows:

<b>Expenditure /Financial limit</b>	<b>Appraisal/approval authority</b>
Upto Rs.2.00 crores for preparation of DFR and pre-investment activities (including detailed study for preparation of Feasibility Report but excluding land acquisition/ infrastructure facilities) subject to availability of budget/ plan funds.	Secretary, Ministry/Department concerned.
Proposals of PSU upto Rs. 10 crores for preparation of DFR and pre-investment activities excluding land acquisition /infrastructure facilities, if not funded from Budget and PSU is profit making.	Ministry/ Department concerned.

<b>Expenditure /Financial limit</b>	<b>Appraisal/approval authority</b>
All other cases	Appraisal by Committee of PIB (CPIB) and approval by the authority as per para 3( a) above

(b) For projects of Ministries of Coal and Road Transport & Highways expenditure on pre-investment activities beyond Rs.20 crores only will require consideration by Committee of PIB.

(c) The delegation of powers to Ministry of Power to sanction estimates for pre-construction works and for development of infrastructure facilities in respect of Hydro Electric Project will be governed by the Ministry of Power letter No.16/31/2000-DO (NHPC) dated 8.6.2001.

## **5. COSTING OF THE PROJECT/SCHEME:**

(a) The cost of the proposal will be inclusive of all components under which expenditure is required, to be incurred (like revenue, capital and loans etc.). At present, the costing of the project is done at constant prices. It has now been decided to make it obligatory for the Department to compute the project cost both on constant prices and completion cost basis so that IRR/ERR can be calculated for both scenarios.

(b) The completion cost may be worked out by taking into account the average rate of inflation in the following manner:-

(i) Labour component of the project cost may be updated using the average (of 12 months) of consumer price index for industrial workers.

(ii) For all other components of cost, except labour, the average (of 12 months) of wholesale price index for all commodities may be used.

6. The delegation of financial powers contained in this OM will be exercised only where necessary/requisite funds are available in the Annual Plan and the Five Year Plan outlay as per phasing of the project/scheme. The powers will further continue to be governed by procedural and other instructions issued by Government from time to time like general economy instructions etc. This order supersedes this Department's OM No. 1 (5)-PF II/96 dated 6.8.1997. This order will not supersede any specific relaxation granted to a Ministry/Department by the Cabinet/CCEA.

This order will be effective from the date of issue.

This has the approval of the Finance Minister.

**(R.N. Choubey)**  
**Joint Secretary (PF.II)**

Secretaries of all Ministries/Departments.

F.A.s of all the Ministries/Departments.

Copy to:

- 1) Adviser, PAMD, Planning Commission
- 2) Cabinet Secretariat, (Shri N.S.Sisodia, Addl.Secy.)
- 3) Prime Minister's Office

**GUIDELINES REGARDING FORMULATION, APPRAISAL AND APPROVAL OF PLAN SCHEMES AND PROJECTS [Copy of M/o Finance CA, D/O Exp. U.O. No. 24(16)/PFII/2000 dated 31.7.2002]**

(Ref. Para 2.7.1)

The Ministry of Shipping, Road Transport & Highways have asked for clarification about their powers for appraisal and approval of their Plan schemes. Copies of the letters allowing for enhanced delegation have also been received on 19.7.2002 from the Administrative Ministry.

2. The matter has been examined in the Department of Expenditure. Accordingly, it is clarified as follows:

- (i) For the appraisal and approval of original cost estimates for National Highways Projects of the Ministry of Shipping, Road Transport & Highways, the circular issued by them in their No. RW/NH-11029/97/-D.1 dt. 4.1.1999 (Road Wing) will continue to hold good.
- (ii) As far as revised cost estimates are concerned, the instructions issued in Department of Expenditure O.M.No. 1(3)/PF.II/2002 dt. 18.2.2002 will be applicable with the modification that in paras 3(a) 3(b)(1) and 3(b)(2), wherever the figure of Rs.50 crores appears, it will be substituted by Rs. 200 crores. Similarly, wherever the figure of Rs. 100 crores appears, it will be substituted by Rs. 500 crores. The remaining part of O.M. No. 1(3)/PF.II/2002 dt. 18.2.2002 will continue to be applicable without modification.

**(Atanu Chakraborty)**  
**Director (PF II)**

Shri K.R.Bhati, M/o Road Transport and Highways, Transport Bhawan, New Delhi

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M/o Finance CA, D/O Exp. U.O. No. 24(16)/PFII/2000 dated 31.7.2002

**GUIDELINES REGARDING FORMULATION, APPRAISAL AND APPROVAL OF PLAN SCHEMES AND PROJECTS [Copy of Ministry's (now MOSRTH) Letter No. RW/NH -11029/1/97-DO. I dated 12 November, 1997]**

(Ref. Para 2.7.1)

Consequent upon the Cabinet Committee on Infrastructure having approved delegated powers of the Ministry of Surface Transport up to Rs. 200 crore, and in the light of the Ministry of Finance (Department of Expenditure) O.M. No. 1(5) PF II/96 dated 8<sup>th</sup> August, 1997, regarding additional guidelines in respect of EFC/PIB procedures and delegation of financial powers, the existing EFC/PIB procedures applicable to the Ministry of Surface Transport for National Highway Projects shall be as under:

1.1 **ENHANCED DELEGATION OF FINANCIAL POWERS**

<b>Cost of Plan Scheme</b>	<b>Competent Authority to approve the scheme</b>
(a) Up to Rs. 100 crore	Ministry of Surface Transport (RW) in normal course.
(b) Beyond Rs. 100 crores and less than Rs. 200 crores	Expenditure Finance Committee of the Ministry of Surface Transport under the Chairmanship of Secretary (Surface Transport) with representatives of Planning Commission, Ministry of Finance and any other related Ministry.
(c) Rs. 200 crores and beyond but less than Rs. 500 crore	Expenditure Finance Committee chaired by Secretary (Expenditure).
(d) Rs. 500 crore and beyond	Projects/schemes where financial returns are not quantifiable will be considered by the EFC chaired by Secretary (Expenditure). Projects/schemes where returns are quantifiable will be considered by the PIB. In these cases the approval of the recommendations of the EFC would be accorded by the Minister of Ministry of Surface Transport and also the Finance Minister and CCEA approval would be necessary.



1.2 Investment proposals involving outlays of Rs. 500 crores and above would be required to be posed to the Public Investment Board but all proposals costing Rs. 200 crore and above would be posed to the CCEA.

1.3 The above powers will be exercised only where necessary/requisite funds are available in the Annual Plan and the Five Year Plan Outlay as per phasing of the project/scheme. The powers will further continue to be governed by procedural and other instructions issued by Government from time to time, like general economy instruction. Ministry of Finance (Department of Expenditure) O.M.No. F.1 (12)-E.II (A)/92 dated 6<sup>th</sup> November, 1992 has been superseded vide their O.M dated 6.8.1997 mentioned in para 1.1 above. These orders will not supersede any specific relaxation granted to a Ministry/Department by the Cabinet/CCEA.

## 2. **Costing of the Project**

2.1 At present, the costing of the project is done at constant prices. It has now been decided to make it obligatory for the Department to compute the project cost both on fixed cost and completion cost basis so that IRR/ERR can be calculated for both scenarios.

2.2 The completion cost may be worked out by taking into account the average rate of inflation in the following manner

- (i) Labour component of the project cost may be updated using the average (of 12 months) of consumer price index for industrial workers.
- (ii) For all other components of cost, except labour, the average (of 12 months) of wholesale price index for all commodities may be used. [Ministry of Finance (Department of Expenditure) O.M. No. 1(5) PF II dated 6.8.97]

## 3. **Revised Cost Estimates (RCEs)**

3.1 As far as RCEs are concerned, increase in cost will be approved by Secretary (Surface Transport) if the increase is within 25% of updated cost of the project.

3.2 Where the revised/firmed up cost estimates of scheme/project exceeds the limit of competent authority who approved the original cost of the scheme, the approval of higher competent authority will be obtained. [Ministry of Finance (Department of Expenditure) OM No. 1(5) PF II dated 6.8.97]

## 4. **Committee of PIB**

4.1 Powers for preparation of Feasibility Report is being delegated to the Ministry of Surface Transport except where the cost of the project is Rs. 500 crore or more and cost of the preparation of DPR is Rs. 20 crore or more.

4.2 To avoid delays in implementation of project it has been decided to allow initiation of procedure for land acquisition at the Committee of PIB stage on a case to case basis. It is, however, to be noted that normally any payment towards compensation etc. will be made only after CCEA approves the project. The Committee of PIB Memo should clearly indicate (i) the area of land required for acquisition and the estimated cost of land are indicated by District/State authorities (ii) The urgency for initiating land acquisition may be indicated. [Ministry of Finance (Department of Expenditure) O.M.No. 1 (5) PF II dated 6.8.97]

## **5. Project Viability**

In the case of projects, in which institutional financing is contemplated, the appraisal report of the financial institutions should also be submitted along with the PIB proposals so that it is available before the PIB at the time of the consideration of the proposal. In addition to calculating IRR/ERR on firmed cost, the IRR/ERR may also be calculated on the likely completion cost of the project. [Ministry of Finance (Department of Expenditure) O.M.No.1 (5) PF II dated 6.8.97]

## **6. Project Implementation Schedule**

Every proposal should indicate in detail the Project Implementation Schedule (PIS) giving all important milestones following the approval such as various clearances, preparation of DPR, calling and approval of tenders, major construction works, procurement and installation of plant and machinery etc. It should be certified that the PIS is consistent with the projected phasing of expenditure. The PIS programme would be part of the PIB approval. [Ministry of Finance (Department of Expenditure) O.M.No.1 (5) PF II dated 6.8.97]

## **7. Project Implementation Team**

For all major projects, a project implementation team should be established and it should be held fully responsible for project execution within the approved time and cost. The team should not have any concurrent responsibility and its continuity during the project implementation period must be ensured. The PIB Memo should bring this out clearly. No project would be considered without such arrangements being clearly established. [Ministry of Finance (Department of Expenditure) O.M.No.1 (5) PF II dated 6.8.97]

## **8. Resettlement Cost**

If the project involves dislocation of human settlements, the resettlement costs should be included fully in the project cost. The resettlement Plan should also be indicated in the Project Implementation Schedule. The resettlement cost may be worked out on the following basis:

- (i) The cost of land required to resettlement would be as indicated by the District/State authorities.
- (ii) The compensation to be paid to the displaced persons. This compensation cost is dependent on the rates indicated by District/State authorities. Thus the total compensation cost may be worked out on the basis of these rates. [Ministry of Finance (Department of Expenditure) O.M.No.1 (5) PF II dated 6.8.97]

**9. PIB Meeting**

To ensure that the PIB considers projects in a time-bound manner, the project may be considered after providing a period of 4 weeks after receipt of PIB Memo. It is reiterated that all the time limits specified in The Ministry of Finance (Department of Expenditure) O.M. No. 1(2) PF II/94 dated 25.4.1994 may be strictly adhered to. The Planning Commission is requested to ensure that the project appraisal is completed in a time-bound manner. [Ministry of Finance (Department of Expenditure) O.M.No.1 (5) PF II dated 6.8.97]

10. These orders will be effective from the date of issue.

11. This has the approval of the AS & FA and Secretary (SFT).

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Note: - Paras 1.1 (a), (b), (c) and (d) have been substituted by Ministry of Surface Transport (Road wing) letter NO. RW/NH-11029/1/97-DO 1 dated 4.1.1999 (as per Appendix-D/3)

**GUIDELINES REGARDING FORMULATION, APPRAISAL AND APPROVAL OF PLAN SCHEMES AND PROJECTS [Copy of Ministry's (now MOSRTH) Letter No. RW/NH -11029/1/97-DO. I dated 4 January, 1999]**

(Ref. Para 2.7.1)

In partial modification of the guidelines issued vide this Ministry's O.M. of even number dated 12.11.1997 on the subject mentioned above (copy enclosed), it has been decided to substitute para 1.1 (a), (b), (c) and (d) as under:

<b>Cost of Plan Scheme</b>	<b>Competent Authority to approve the Scheme</b>
(a) Upto Rs. 15 crores	Ministry of Surface Transport (RW) in normal course.
(b) Beyond Rs. 15 crores and less than Rs. 200 crores	Expenditure Finance Committee of the Ministry of Surface Transport under the chairmanship of Secretary (SFT), with representatives of Planning Commission, Ministry of Finance and any other related Ministry. In these cases the approval of the recommendations of the EFC would be accorded by the Ministry (SFT).
(c) Rs. 200 crores and beyond but less than Rs. 500 crores	Expenditure Finance Committee chaired by Secretary (Expenditure). In these cases the Finance Minister would accord the approval of the recommendations of the EFC.
(d) Beyond Rs. 500 crores	Expenditure Finance Committee/PIB chaired by Secretary (Expenditure) and should be submitted for approval of Cabinet/appropriate Cabinet Committee.

2. This is issued under Cabinet decision dated 30<sup>th</sup> July 1997, on the subject relating to Development of National Highways –Policy Issues.

(V.O. Koshy)

Under Secretary to the Government of India

Encls: As above

## **METHODS STATEMENT**

(Ref. Para 5.10.2)

The Methods Statement to be furnished by the Contractor in respect of each major activity shall be step-wise sequencing of tasks, and should be detailed and meaningful. The Engineer shall either straightaway give his consent or ask for modification, before acceptance. The following lists out some important activities, and details out what would be expected.

(a) Major Earthwork Operations

- (i) Tests of borrow areas;
- (ii) Type and number of excavation plant, transportation machinery and their anticipated outputs;
- (iii) Method of working in cut and fill sections;
- (iv) Type and number of spreading plant for filling and anticipated outputs;
- (v) Testing and layer approval;
- (vi) Type and number of compaction plant and anticipated outputs;
- (vii) Method of working for site clearance and dealing with trees and vegetation;
- (viii) Setting out and control of levels and batters;
- (ix) Details of disposal areas for unsuitable material;
- (x) Details of suitable borrow areas for imported fill;

(b) Bridgeworks

- (i) Details of all temporary works for construction of substructure and superstructure including any cofferdam;
- (ii) Details of piling, well-sinking method, open foundation, bed protection;
- (iii) Details of proposed formwork and false work requirements.
- (iv) Reinforcement, duct fixing and threading of cables;
- (vi) Concreting and curing;
- (vii) Stressing, anchorages, and grouting;
- (viii) Manufacture of bearings, their testing and installation;
- (ix) Parapet rail fabrication and fixing;
- (x) Back filling.

(c) Pavement Works

For flexible and/or rigid construction including sub-base, road base, DBM and asphaltic layers or DLC and pavement concrete;

- (i) Proposed method of working e.g. preparation of surface, control of levels, etc.;

- (ii) Type and number of laying plant and anticipated outputs;
- (iii) Type and number of compaction plant and anticipated outputs.

(d) Environmental safeguards

The measures to be taken by the contractor shall be addressed to the prevention of any damage or pollution to the environment at the site and adjoining area, viz.

- (i) Disposal of waste materials and construction equipment on completion of works;
- (ii) Air and noise pollution from construction activities;
- (iii) Labour camp;
- (iv) Effluent treatment and waste disposal;
- (v) Social disturbance caused by the presence of the temporary labour force;
- (vi) Effects on navigation and water flow at bridge crossings;
- (vii) Restoration of quarry areas.

(e) Temporary Traffic Diversions and Traffic Management

- (i) Details any temporary traffic diversions that may be required in order to execute the works safely;
- (ii) Proposed length of diversion;
- (iii) Duration of operation of diversion;
- (iv) Constructional details of diversion including signages;
- (v) Details of proposed traffic management, including liaison with the police and concerned authorities.

(f) Concrete Production and Transport

Detail proposed set-ups for the production and transport of asphaltic and bituminous concrete product:

- (i) Location and layout of batching plants;
- (ii) Details of plant size, type and estimated outputs;
- (iii) Details of cement storage and handling;
- (iv) Details of aggregate stockpiles and storage capacities;
- (v) Details of water supply and chilling arrangements;
- (vi) Details of proposed transport of concrete.

(g) Asphaltic Concrete Production and Transport

Details of proposed set-up for the production and transport of asphaltic and bituminous paving products:

- (i) Location and layout of asphalt plant;
- (ii) Details of plant size, type and estimated outputs;
- (iii) Details of aggregate stockpiles, handling etc.;

- (iv) Details of bitumen storage, heating facilities etc.;
- (v) Details of proposed transport of mixed materials;
- (vi) Details of preventing dust nuisance.

(h) Quarrying and Crushing Operations

Details of proposed set-ups for the production of aggregates and other stone products to be incorporated in the works:

- (i) Location of proposed quarry;
- (ii) Details of proposed method of operation of quarry i.e. development and operation of quarry face, outputs etc.;
- (iii) Details of proposed plant installations giving type and size of main items and layout of crushing operations showing production flow through to final products.

(i) Control and Administration Systems

This will give details of the following:

- (i) Codes of Practice to be used for the design of temporary or permanent works for which the contractor is responsible, and copies of codes that will be kept in the site library;
- (ii) Inventory of standard specifications covering every element of the works and copies of which will be held in the site library;
- (iii) Drawing management system;
- (iv) Establishment and checking procedures for main survey beacons and bench marks;
- (v) Routine for checking and calibration of surveying instruments;
- (vi) Layout of laboratory and inventory of materials testing equipment;
- (vii) Statutory laws, acts and Regulations that relate to any operations that will be performed, specifically relating to control and use of explosives and detonators, operation of machinery, health and safety on site, environmental safeguards, etc.;
- (viii) Fire prevention and fighting measures;
- (ix) Safety measures;
- (x) First aid facilities and procedures to be adopted in the event of accidents to personnel;

**EXISTING ACTS AND REGULATIONS RELEVANT TO ROAD CONSTRUCTION**

(Ref. Para 5.14.1)

**A. LABOUR LAWS AND REGULATIONS**

1. Industrial Disputes Act, 1947
2. Minimum Wages Act, 1948
3. Payment of Wages Act, 1936
4. Provident Funds Acts, 1956
5. Workmen's Compensation Act, 1923
6. Contract Labour (Regulation and Abolition) Act, 1970
7. Children (Pledging of Labour) Act, 1983
8. Employment of Children Act, 1938
9. Employment Exchange (Compulsory Notification of Vacancies) Act, 1959
10. Industrial Employment (Standing Order) Act, 1946
11. Employers' Liability Act, 1938
12. Employees' State Insurance Act, 1948
13. Employees' Provident Funds and Miscellaneous Provisions Act, 1952
14. Payment of Gratuity Act, 1972
15. Apprenticeship Act, 1961 [applicable if road construction is a "Designated Trade" under Section 2 (ii) (e)]
16. Equal Remuneration Act, 1979
17. Payment of Bonus Act, 1965
18. Weekly Holidays Act, 1942
19. The Inter-State Migrant Workmen ( Regulation of Employment and Conditions of Service) Act, 1979
20. Public Liability Insurance Act, 1991
21. Maternity Benefit Act. 1951
22. Building and other Construction Workers (Regulation of Employment & Conditions of Service) Act, 1996
23. The Factories Act, 1948

**B. OTHER LAWS & REGULATIONS**

1. Industries ( Development and Regulation) Act, 1951
2. National Highways Act, 1956
3. The Government Building Act, 1899
4. Telegraph Act, 1885
5. Tolls Act, 1888
6. Treasure -Trove Act, 1878
7. Air (Prevention and Control of Pollution) Act, 1981
8. Customs Act, 1962



9. Contract Act,
10. The Indian Explosives Act, 1884
11. Imports & Exports (Control) Act, 1947
12. Land Acquisition Act, 1894
13. State Acquisition Lands for Union Purposes (Validation) Act, 1954
14. Northern India Canal and Drainage Act, 1873
15. Obstructions in Fairways Act, 1881
16. Prevention of Damage to Public Property Act, 1984
17. River Boards Act, 1956
18. Arbitration and Conciliation Act, 1996
19. Collection of Statistics Act, 1953
20. The Motor Vehicles Act, 1988
21. The Indian Electricity Act, 1919 and Rules 1956
22. Mines Act, 1959
23. The National Highways Authority of India Act, 1988
24. Water (Prevention and Control of Pollution) Act, 1974
25. Environment (Protection) Act, 1986
26. Forest (Conservation) Act, 1980

**C**     **RELEVANT STATE LAWS** (These laws shall be as in force in the State in which the works are situate).

**D.**     **RELEVANT LOCAL LAWS**