

भारतीय गैर न्यायिक

पचास
रुपये
₹.50

FIFTY
RUPEES
Rs.50

भारत
सत्यमेव जयते
INDIA

INDIA NON JUDICIAL

असम ASSAM
Certified to be True Copy

Regd./SINO.....
Date..... 12/08/2021

A 751335

Certified to be True Copy

CONTRACT FOR CONSULTANT'S SERVICES

TABLE OF CONTENTS

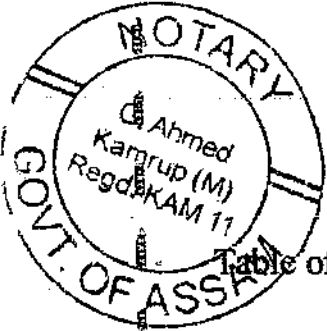
Table of Contents

CONTRACT FOR CONSULTANT'S SERVICES

Page No

I.	CONTRACT	
II.	GENERAL CONSITONS OF THE CONTRACT	3
1.	GENERAL PROVISIONS	3
1.1	Definitions	3
1.2	Relation between the Parties	4
1.3	Law Governing Contract	4
1.4	Language	4
1.5	Headings	4
1.6	Notices	4
1.7	Location	5
1.8	Authority of Member in Charge	5
1.9	Authorized Representatives	5
1.10	Taxes and Duties	5
1.11	Monitoring by JICA	5

Continued



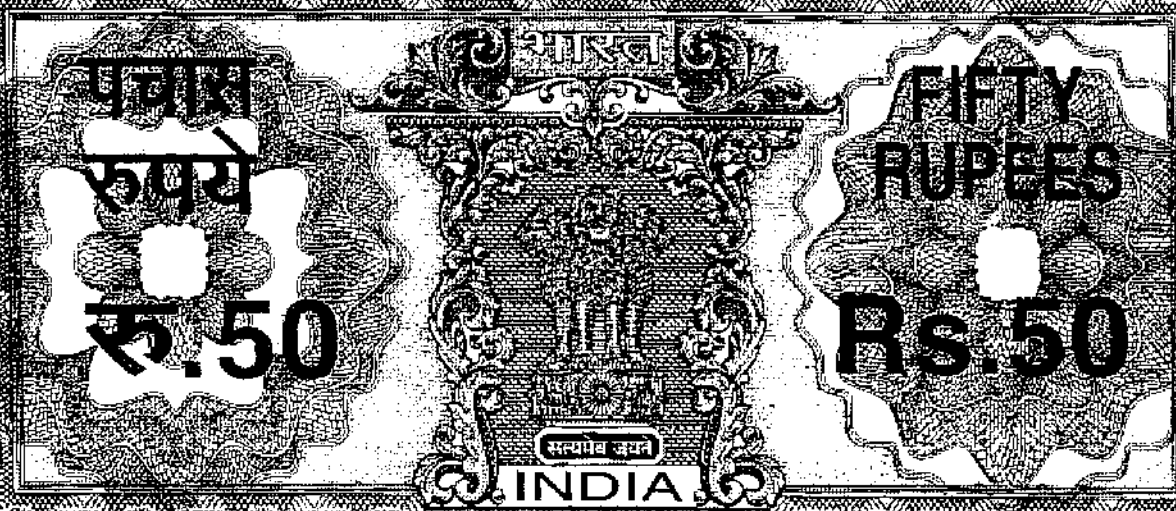
(Giasuddin Ahmed)
NOTARY
Kamrup (M) Guwahati

[Handwritten signature]



[Handwritten initials]
Chief Executive Officer
Guwahati Metropolitan Dev. Authority

भारतीय गैर न्यायिक



INDIA NON JUDICIAL

असम ASSAM

Certified to be True Copy

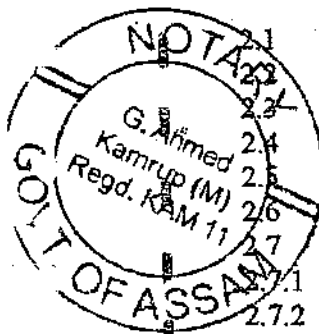
Regd./SI No. 07

Date 12/08/11

A 751334

Certified to be True Copy

2.	COMMENCEMENT, COMPLETION, MODIFICATION AND TERMINATION OF CONTRACT	
	Effectiveness of Contract	6
	Termination of Contract for Failure to Become Effective	6
	Commencement of Services	6
	Expiration of Contract	6
	Entire Agreement	6
	Modification	6
	Force Majeure	7
	Definition	7
2.7.1	No Breach of Contract	7
2.7.2	Measures to Be Taken	7
2.7.3	Extension of Time	8
2.7.4	Payments	8
2.7.5	Consultation	8
2.7.6	Suspension	8
2.8	Termination	8
2.9	By the Employer	8
2.9.1	By the Consultants	9
2.9.2	Cessation of Rights and Obligations	10
2.9.3	Cessation of Services	10
2.9.4	Payment upon Termination	10
2.9.5	Disputes about Events of Termination	10
2.9.6		



(Giasuddin Ahmed)
NOTARY
Kamrup (M) Guwahati

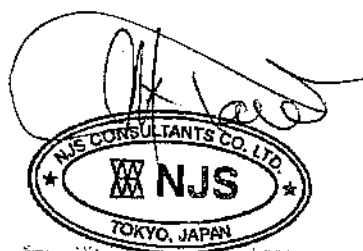
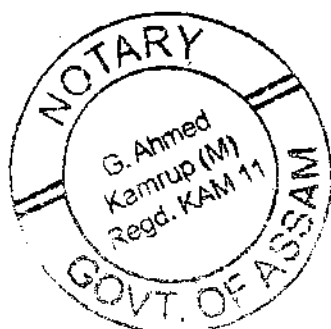
[Handwritten Signature]



Plus no
Chief Executive Officer
Guwahati Metropolitan Dev. Authority

Certified to be True Copy

3.	OBLIGATIONS OF THE CONSULTANTS	11
3.1	General	11
3.1.1	Standard of Performance	11
3.1.2	Law Governing Services	11
3.2	Conflict of Interests	11
3.2.1	Consultants Not to Benefit from Commissions, Discounts, etc.	11
3.2.2	Procurement Rules of Funding Agencies	11
3.2.3	Consultants and Affiliates Not to Engage in Certain Activities	12
3.2.4	Prohibition of Conflicting Activities	12
3.3	Confidentiality	12
3.4	Liability of the Consultants	12
3.5	Insurance to Be Taken out by the Consultants	12
3.6	Accounting, Inspection and Auditing	12
3.7	Consultants' Actions Requiring Employer's Prior Approval	13
3.8	Reporting Obligations	13
3.9	Documents Prepared by the Consultants to Be the Property of the Employer	13
3.10	Equipment and Materials Furnished by the Employer	13
3.11	Serious Hindrances	14
4.	CONSULTANTS' PERSONNEL	14
4.1	General	14
4.2	Description of Personnel	14
4.3	Approval of Personnel	15
4.4	Working Hours, Overtime, Leave, etc.	15
4.5	Removal and/or Replacement of Personnel	15
4.6	Resident Project Manager	16
5.	OBLIGATIONS OF THE EMPLOYER	16
5.1	Assistance and Exemptions	16
5.2	Access to Land	17
5.3	Change in the Applicable Law	17
5.4	Services, Facilities and Property of the Employer	17
5.5	Payment	17
5.6	Difference of Opinion	18
6.	PAYMENTS TO THE CONSULTANTS	18
6.1	Cost Estimates; Ceiling Amount	18
6.2	Remuneration and Reimbursable Expenditures	18
6.3	Currency of Payment	19
6.4	Mode of Billing and Payment	19
7.	FAIRNESS AND GOOD FAITH	20
7.1	Good Faith	20
7.2	Operation of the Contract	20
8.	SETTLEMENT OF DISPUTES	21
8.1	Amicable Settlement	21
8.2	Dispute Settlement	21
III.	SPECIAL CONDITIONS OF THE CONTRACT	22

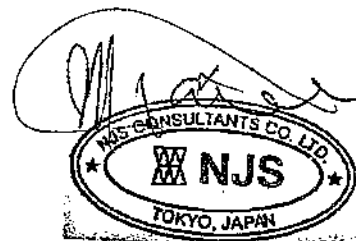
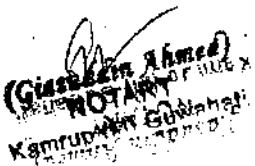
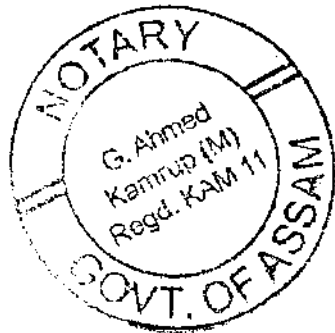


iii

Chief Executive Officer
Guwahati Metropolitan Dev. Authority

IV. APPENDICES

APPENDIX A - DESCRIPTION OF THE SERVICES	A-1
APPENDIX B - REPORTING REQUIREMENTS	B-1
APPENDIX C - KEY PERSONNEL	C-1
APPENDIX D - MEDICAL CERTIFICATE – Not. Applicable	D-1
APPENDIX E - HOURS OF WORK FOR KEY PERSONNEL	E-1
APPENDIX F - DUTIES OF THE EMPLOYER	F-1
APPENDIX G - COST ESTIMATES IN INTERNATIONAL CURRENCY	G-1
APPENDIX H - COST ESTIMATES IN LOCAL CURRENCY	H-1
APPENDIX I - FROM OF BANK GUARANTEE FOR ADVANCE PAYMENTS	I-1



iv

Chief Executive Officer
Guwahati Metropolitan Dev. Authority

Certified to be True Copy

CONTRACT

This CONTRACT (hereinafter called the "Contract") is made the 16th day of the month of August 2011, between, on the one hand, Guwahati Metropolitan Development Authority (GMDA), Government of Assam (hereinafter called the "Employer") and on the other hand, NJS Consultants Co, Ltd., with registered office at NJS Tomihisa Bulding, 6-8, Tomihisa-cho, Shinjuku-ku, Tokyo, 162-0067, Japan, in association with ExeIdea Ltd., Tokyo, Japan, and NJS Engineers India Pvt. Ltd., Pune, India (hereinafter called the "Consultants").

WHEREAS

- (a) the Employer has requested the Consultants to provide certain consulting services as defined in the General Conditions of Contract attached to this Contract (hereinafter called the "Services");
- (b) the Consultants, having represented to the Employer that they have the required professional skills, and personnel and technical resources, have agreed to provide the Services on the terms and conditions set forth in this Contract;
- (c) The cost of the consulting services will be financed out of the proceeds of an ODA Loan extended by Japan International Cooperation Agency (hereinafter referred to as JICA). The Consultants to be employed will be selected in accordance with the Guidelines for the Employment of Consultants under JICA ODA Loans, October 1999 (hereinafter referred as "Consultant Guidelines of JICA ODA Loans").

NOW THEREFORE the parties hereto hereby agree as follows:

1. The following documents attached hereto shall be deemed to form an integral part of this Contract:

- (a) The General Conditions of Contract;
- (b) The Special Conditions of Contract;
- (c) The following Appendices:

G. Ahmed
NOTARY
Kamruo (M) Guwahati

[Handwritten Signature]



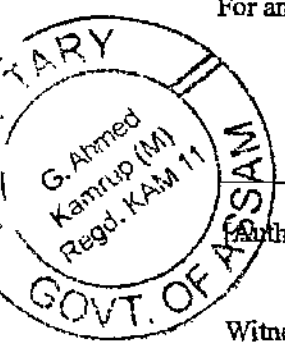
[Handwritten Signature]
Chief Executive Officer
Guwahati Metropolitan Dev. Authority

- Appendix A: Description of the Services
- Appendix B: Reporting Requirements
- Appendix C: Key Personnel
- Appendix D: Medical Certificate – Not Applicable
- Appendix E: Hours of Work for Key Personnel
- Appendix F: Duties of the Employer
- Appendix G: Cost Estimates in International Currency
- Appendix H: Cost Estimates in Local Currency.
- Appendix I: Form of Bank Guarantee for Advance Payments.

2. The mutual rights and obligations of the Employer and the Consultants shall be as set forth in the Contract, in particular:
- (a) the Consultants shall carry out the Services in accordance with the provisions of the Contract; and
 - (b) the Employer shall make payments to the Consultants in accordance with the provisions of the Contract.

IN WITNESS WHEREOF, the Parties hereto have caused this Contract to be signed in their respective names as of the day and year first above written.

For and on behalf of GMDA



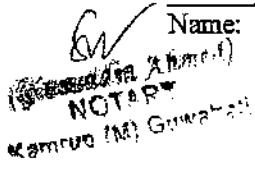
Prateek Hajela

[Authorized Representative]

Witness By

Prateek Hajela

Name: PRATEEK HAJELA



For and on behalf of NJS Consultants Co. Ltd., Japan

Masayoshi Takeuchi

Masayoshi Takeuchi
[Authorized Representative]



C. K. Bhuyan

Name: C. K. BHUYAN

Prateek Hajela
Chief Executive Officer
Guwahati Metropolitan Dev. Authority

Certified to be True Copy

II. GENERAL CONDITIONS OF CONTRACT

1. GENERAL PROVISIONS

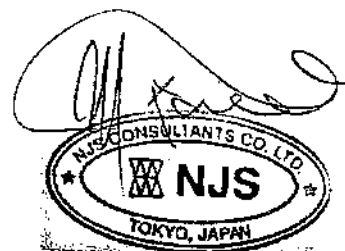
1.1 DEFINITIONS

Unless the context otherwise requires, the following terms whenever used in this Contract have the following meanings:

- (a) "Applicable Law" means the laws and any other instruments having the force of law in the Employer's country (or in such other country as may be specified in the Special Conditions of Contract (SC) as they may be issued and in force from time to time;
- (b) "JICA" means Japan International Cooperation Agency (JICA);
- (c) "Contract" means the Contract signed by the Parties, to which these General Conditions of Contract (GC) are attached, together with all the documents listed in Clause 1 of such signed Contract;
- (d) "Effective Date" means the date on which this Contract comes into force and effect pursuant to Clause GC 2.1;
- (e) "International Currency" means any currency other than the currency of the Employer's country;
- (f) "GC" mean these General Conditions of Contract;
- (g) "Local Currency" means the currency of the Employer's country;
- (h) "Member", in case the Consultants consist of a joint venture of more than one entity, means any of these entities; and "Members" means all these entities;
- (i) "Party" means the Employer or the Consultants, as the case may be, and "Parties" means both of them;
- (j) "Personnel" means persons hired by the Consultants as employees and assigned to the performance of the Services or any part thereof; "International Personnel" means such persons who at the time of being so hired had sufficient experience on International projects and "Key Personnel" means the Personnel referred to in Clause GC 4.2 (a);
- (k) "SC" means the Special Conditions of Contract by which the GC may be amended or supplemented;



(Giasuddin Ahmed)
NOTARY
Kamrup (M) Guwahati



3

PKS
Chief Executive Officer
Guwahati Metropolitan Dev. Authority

Certified to be True Copy

- (l) "Services" means the work to be performed by the Consultants pursuant to this Contract, as described in Appendix A hereto;
- (m) "Sub Consultant" means any person or entity to whom/which the Consultants subcontract any part of the Services in accordance with the provisions of Clause GC 3.7
- (n) "Third Party" means any person or entity other than the Employer, or the Consultants.

1.2 Relation between the Parties

Nothing contained herein shall be construed as establishing a relation of master and servant or of principal and agent as between the Employer and the Consultants. The Consultants, subject to this Contract, have complete charge of Personnel and Sub-Consultants, if any, performing the Services and shall be fully responsible for the Services performed by them or on their behalf hereunder.

1.3 Law Governing Contract

This Contract, its meaning and interpretation, and the relation between the Parties shall be governed by the Applicable Law of India.

1.4 Language

This Contract has been executed in the language specified in the SC, which shall be the binding and controlling language for all matters relating to the meaning or interpretation of this Contract.

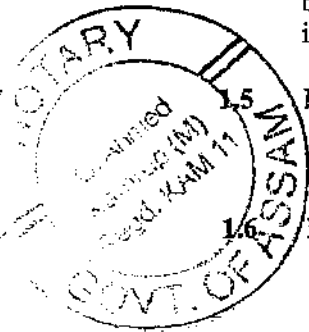
Headings

The headings shall not limit, alter or affect the meaning of this Contract.

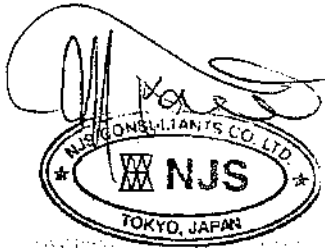
1.6 Notices

1.6.1 Any notice, request or consent required or permitted to be given or made pursuant to this Contract shall be in writing. Any such notice, request or consent shall be deemed to have been given or made when delivered in person to an authorized representative of the Party to whom the communication is addressed, or when sent by registered mail, telex, telegram or facsimile to such Party at the address specified in the SC.

1.6.2 A party may change its address for notice hereunder by giving the other Party notice of such change.



(Signature)
 Kamrup (M) Guwahati
 NOTARY



(Signature)
 Chief Executive Officer
 Guwahati Metropolitan Dev Authority

Certified to be True Copy

1.7 Location

The Services shall be performed at such locations as are specified in Appendix A hereto and, where the location of a particular task is not so specified, at such locations, whether in the Employer's country or elsewhere, as the Employer may approve.

1.8 Authority of Member in Charge

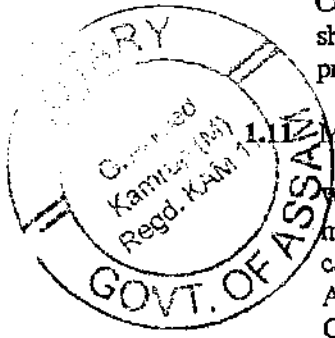
In case the Consultants consist of a joint venture of more than one entity, the Members hereby authorize the entity specified in the SC to act on their behalf in exercising all the Consultants' rights and obligations towards the Employer under this Contract, including without Limitation the receiving of instructions and payments from the Employer.

1.9 Authorized Representatives

Any action required or permitted to be taken, and any document required or permitted to be executed, under this Contract by the Employer or the Consultants may be taken or executed by the officials specified in the SC.

1.10 Taxes and Duties

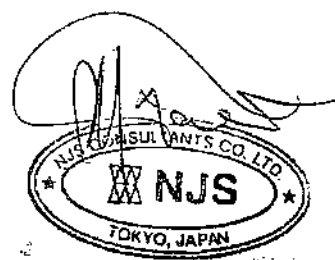
The Employer shall reimburse Consultants the Service Tax arising out of the said project and paid to the Indian authorities under laws and regulations of the Central and State Government in India on production of documentary evidence. TDS on account of Corporate Tax, mentioned in the invoices raised by Consultants shall be directly paid by the Employer to the Tax Authorities as the payments to Consultants are net of all Indian taxes (except personnel income tax). Consultants shall be responsible for the personal income tax of its employees working on the project and shall pay such tax directly to the tax authorities.



1.11 Monitoring by JICA

Without assuming the responsibilities of the Borrower or the Consultant, JICA may monitor the services as necessary in order to satisfy itself that they are being carried out in accordance with appropriate standards and based on acceptable data. As appropriate, JICA may take part in discussions between the Employer and the Consultants. However, JICA shall not be liable in any way for the performance of the Services by reason of such monitoring or participation in discussions. Neither the Employer nor the Consultants shall be released from any responsibility of this Contract by reason of JICA's monitoring or participation in discussions.

Handwritten signature
NOTAR
Guwahati



5

Handwritten signature
Chief Executive Officer
Guwahati Metropolitan Dev. Authority

Certified to be True Copy

2. Commencement, Completion, Modification and Termination of Contract

2.1 Effectiveness of Contract

This Contract shall come into force and effect on the date of the Employer's notice to the Consultants instructing the Consultants to begin carrying out the Services. This notice shall confirm that the effectiveness conditions, if any, listed in the SC have been met.

2.2 Termination of Contract for Failure to Become Effective

If this Contract has not become effective within such time period after the date of the Contract having been signed by the Parties as shall be specified in the SC, either Party may, by not less than four (4) weeks' written notice to the other party declare this Contract to be null and void, and in the event of such a declaration by either Party, neither Party shall have any claim against the other Party with respect hereto.

2.3 Commencement of Services

The Consultants shall begin carrying out the Services at the end of such time period after the Effective Date as shall be specified in the SC.

2.4 Expiration of Contract

Unless terminated earlier pursuant to Clause GC 2.9 hereof, this Contract shall terminate at the end the such time period after the Effective Date as shall be specified in the SC.

2.5 Entire Agreement

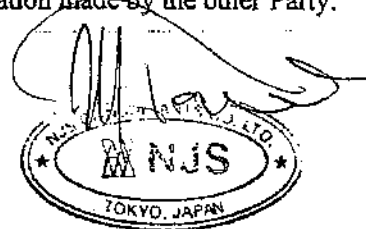
This Contract contains all covenants, stipulations and provisions agreed by the Parties. No agent or representative of either Party has authority to make, and the Parties shall not be bound by or be liable for, any statement, representation, promise or agreement not set forth herein.

2.6 Modification

Modification of the terms and conditions of this Contract, including any modification of the Scope of the Services, may only be made by written agreement between the Parties and shall not be effective until the consent of JICA has been obtained. However, any change which does not constitute an important modification of the Contract and which does not affect the contract price approved by JICA shall not require a new consent of JICA for effectuation. Pursuant to Clause GC 7.2 hereof, however, each Party shall give due consideration to any proposals for modification made by the other Party.



(Giasuddin Ahmed)
NOTARY
Kamrup (M) Guwahati



6
PKS
Chief Executive Officer
Guwahati Metropolitan Dev. Autho

2.7 Force Majeure

2.7.1 Definition

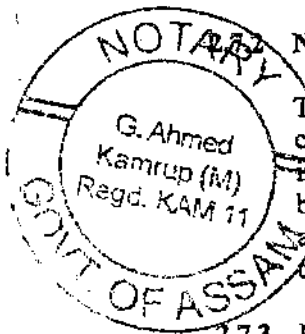
- (a) For the purposes of this Contract, "Force Majeure" means an event which is beyond the reasonable control of a Party, and which makes a Party's performance of its obligations hereunder impossible or so impractical as reasonably to be considered impossible in the circumstances, and includes, but is not limited to, war, riots, civil disorder, earthquake, fire, explosion, storm, flood or other adverse weather conditions, strikes, lockouts or other industrial action (except where such strikes, lockouts or other industrial action are within the power of the party invoking Force Majeure to prevent), confiscation or any other action by Employer agencies.
- (b) Force Majeure shall not include (i) any event which is caused by the negligence or intentional action of a Party or such party's, sub consultants or agents or employees, nor (ii) any event which a diligent Party could reasonably have been expected to both (a) take into account at the time of the conclusion of this Contract and (b) avoid or overcome in the carrying out of its obligations hereunder.
- (c) Force Majeure shall not include insufficiency of funds or failure to make any payment required hereunder.

No Breach of Contract

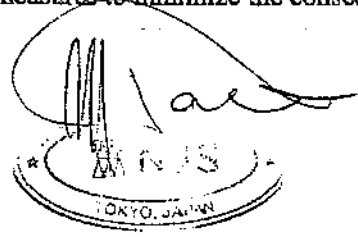
The failure of a Party to fulfill any of its obligations hereunder shall not be considered to be a breach of, or default, under this Contract insofar as such inability arises from an event of Force Majeure, provided that the Party affected by such an event has taken all reasonable precautions, due care and reasonable alternative measures, all with the objective of carrying out the terms and conditions of this Contract.

2.7.3 Measures to be Taken

- (a) A Party affected by an event of Force Majeure shall take all reasonable measures to remove such Party's inability to fulfill its obligations hereunder with a minimum of delay.
- (b) A Party affected by an event of Force Majeure shall notify the other Party of such event as soon as possible, and in any event not later than fourteen (14) days following the occurrence of such event, providing evidence of the nature and cause of such event, and shall similarly give notice of the restoration of normal conditions as soon as possible.
- (c) The Parties shall take all reasonable measures to minimize the consequences of any event of Force Majeure.



Ghasubaran Ahnand,
NOTARY
STATE OF ASSAM, Guwahati



PKS
Chief Executive Officer
Guwahati Metropolitan Dev. Auth

Certified to be True Copy

2.7.4 Extension of Time

Any period within which a Party shall, pursuant to this Contract, complete any action or task, shall be extended for a period equal to the time during which such party was unable to perform such action as a result of Force Majeure.

2.7.5 Payments

During the period of their inability to perform the Services as a result of an event of Force Majeure, the Consultants shall be entitled to continue to be paid under the terms of this Contract as well as to be reimbursed for additional costs reasonably and necessarily incurred by them during such period for the purposes of the Services and in reactivating the Services after the end of such period.

2.7.6 Consultation

Not later than thirty (30) days after the Consultants, as the result of an event of Force Majeure, have become unable to perform a material portion of the Services, the Parties shall consult with each other with a view to agreeing on appropriate measures to be taken in the circumstances.

2.8 Suspension

The Employer may, by written notice of suspension to the Consultants, suspend all payments to the Consultants hereunder if the Consultants fail to perform any of their obligations under this Contract, including the carrying out of the Services, provided that such notice of suspension (i) shall specify the nature of the failure, and (ii) shall request the Consultants to remedy such failure within a period not exceeding thirty (30) days after receipt by the Consultants of such notice of suspension.

2.9 Termination

2.9.1 By the Employer

The Employer may, by not less than thirty (30) days' written notice of termination to the Consultants (except in the event listed in paragraph (f) below, for which there shall be a written notice of not less than sixty (60) days), such notice to be given after the occurrence of any of the events specified in paragraphs (a) through (f) of this Clause GC 2.9.1, terminate this Contract:

- (a) if the Consultants fail to remedy a failure in the performance of their obligations hereunder, as specified in a notice of suspension pursuant to Clause 2.8 hereinabove, within thirty (30) days of receipt of such notice of suspension or within such further period as the Employer may have subsequently approved in writing;

(Signature)
 G. Ahmed
 Kamrup (M)
 Regd. KAM 11
 NOTARY
 COURT OF ASSAM

(Signature)
 Chief Executive Officer
 Guwahati Metropolitan Dev. Authority

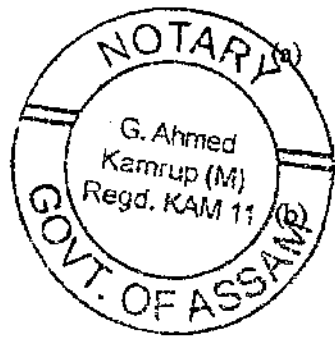


Certified to be True Copy

- (b) if the Consultants become (or, if the Consultants consist of more than one entity, if any of their Members becomes) insolvent or bankrupt or enter into any agreements with their creditors for relief of debt or take advantage of any law for the benefit of debtors or go into liquidation or receivership whether compulsory or voluntary;
- (c) if the Consultants fail to comply with any final decision reached as a result of arbitration proceedings pursuant to Clause GC 8 hereof;
- (d) if the Consultants submit to the Employer a statement which has a material effect on the rights, obligations or interests of the Employer and which the Consultants know to be false;
- (e) if, as the result of Force Majeure, the Consultants are unable to perform a material portion of the Services for a period of not less than sixty (60) days; or
- (f) if the Employer, in its sole discretion and for any reason whatsoever, decides to terminate this Contract.

2.9.2 By the Consultants

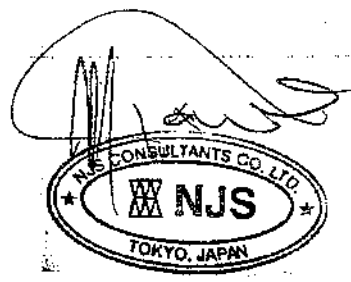
The Consultants may, by not less than thirty (30) days' written notice to the Employer, such notice to be given after the occurrence of any of the events specified in paragraphs (a) through (d) of this Clause GC 2.9.2, terminate this Contract:



- (a) if the Employer fails to pay any money due to the Consultants pursuant to this Contract and not subject to dispute pursuant to Clause GC 8 hereof within forty-five (45) days after receiving written notice from the Consultants that such payment is overdue;
- (b) if the Employer is in material breach of its obligations pursuant to this Contract and has not remedied the same within forty five (45) days (or such longer period as the Consultants may have subsequently approved in writing) following the receipt by the Employer of the Consultants' notice specifying such breach;
- (c) if, as the result of Force Majeure, the Consultants are unable to perform a material portion of the Services for a period of not less than sixty (60) days; or
- (d) if the Employer fails to comply with any final decision reached as a result of arbitration pursuant to Clause GC 8 hereof.

(Signature)
 NOTARY
 Kamrup (M) Guwahati

(Signature)
 Chief Executive Officer
 Guwahati Metropolitan Dev. Authority



9
 Chief Executive Officer
 Guwahati Metropolitan Dev. Au

Certified to be True Copy

2.9.3 Cessation of Rights and Obligations

Upon termination of this Contract pursuant to Clauses GC 2.2 or GC 2.9 hereof, or upon expiration of this Contract pursuant to Clause GC 2.4 hereof, all rights and obligations of the Parties hereunder shall cease, except (i) such rights and obligations as may have accrued on the date of termination or expiration, (ii) the obligation of confidentiality set forth in Clause GC 3.3 hereof, (iii) the Consultants' obligation to permit inspection, copying and auditing of their accounts and records set forth in Clause GC 3.6 (ii) hereof, and (iv) any right which a Party may have under the Applicable Law.

2.9.4 Cessation of Services

Upon termination of this Contract by notice of either Party to the other pursuant to Clauses GC 2.9.1 or GC 2.9.2 hereof, the Consultants shall, immediately upon dispatch or receipt of such notice, take all necessary steps to bring the Services to a close in a prompt and orderly manner and shall make every reasonable effort to keep expenditures for this purpose to a minimum. With respect to documents prepared by the Consultants and equipment and materials furnished by the Client, the Consultants shall proceed as provided, respectively, by Clauses GC 3.9 or GC 3.10 hereof.

2.9.5 Payment upon Termination

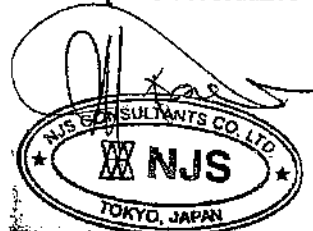
Upon termination of this Contract pursuant to Clauses GC 2.9.1 or GC 2.9.2 hereof, the Employer shall make the following payments to the Consultants:

- (a) Remuneration pursuant to Clause GC 6 hereof for Services satisfactorily performed prior to the effective date for termination;
- (b) Reimbursable expenditures pursuant to Clause GC 6 hereof for expenditures actually incurred prior to the effective date of termination; and
- (c) Except in the case of termination pursuant to paragraphs (a) through (d) of Clause GC 2.9.1 hereof, reimbursement of any reasonable cost incidental to the prompt and orderly termination of the Contract including the cost of the return travel of the Personnel and their eligible dependents.

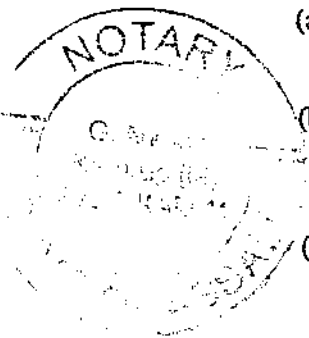
2.9.6 Disputes about Events of Termination

If either Party disputes whether an event specified in paragraphs (a) through (e) of Clause GC 2.9.1 or in Clause GC 2.9.2 hereof has occurred, such Party may, within sixty (60) days after receipt of notice of termination from the other Party, refer the matter to arbitration pursuant to Clause GC 8 hereof, and the Contract shall not be terminated on account of such event except in accordance with the terms of any resulting arbitration award.

PKS
Chief Executive Officer
Guwahati Metropolitan Dev. Authority



Giasuddin Ahmed
NOTARY
Kamrup (M) Guwahati



Certified to be True Copy

3. Obligation of the Consultants

3.1 General

3.1.1 Standard of Performance

The Consultants shall perform the Services and carry out their obligations hereunder with all due diligence, efficiency and economy, in accordance with generally accepted professional techniques and practices, and shall observe sound management practices, and employ appropriate advanced technology and safe and effective equipment, machinery, materials and methods. The Consultants shall always act, in respect of any matter relating to this Contract or to the Services, as faithful advisers to the Employer, and shall at all times support and safeguard the Employer's legitimate interests in any dealings with Sub Consultants or Third Parties.

3.1.2 Law Governing Services

The Consultants shall perform the Services in accordance with the Applicable Law and shall take all practicable steps to ensure that any Sub-Consultants, as well as the Personnel of the Consultants and Sub-Consultants, comply with the Applicable Law. The Employer shall notify the Consultants in writing of relevant local customs, and the Consultants shall, after such notification, respect such customs.

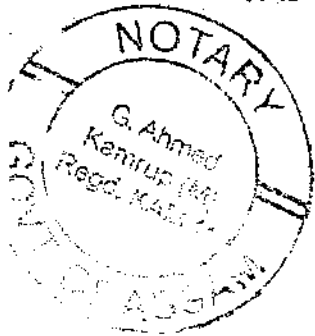
3.2 Conflict of Interests

3.2.1 Consultants not to Benefit from Commissions, Discounts, etc.

The remuneration of the Consultants pursuant to Clause GC 6 thereof shall constitute the Consultants' sole remuneration in connection with this Contract or the Services and, subject to Clause GC 3.2.2 hereof, the Consultants shall not accept for their own benefit any trade commission, discount or similar payment in connection with activities pursuant to this Contract or to the Services or in the discharge of their obligations hereunder, and the Consultants shall use their best efforts to ensure that any Sub-Consultants, as well as the Personnel and agents, similarly shall not receive any such additional remuneration.

3.2.2 Procurement Rules of Funding Agencies

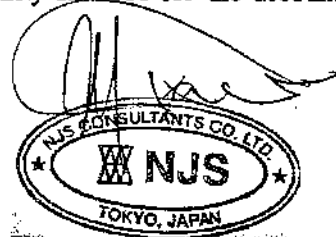
If the Consultants, as part of the Services, have the responsibility of advising the Employer on the procurement of goods, works or services financed by JICA ODA Loans, the Consultants shall comply with Guidelines for Procurement under JICA ODA Loans and shall at all times exercise such responsibility in the best interest of the Employer. Any discounts or commissions obtained by the Consultants in the exercise of such procurement responsibility shall be for the account of the Employer.



Handwritten signature and notes in the left margin.

Handwritten signature of the Chief Executive Officer.

Chief Executive Officer
Guwahati Metropolitan Dev. Author...



Certified to be True Copy

3.2.3 Consultants and Affiliates Not to Engage in Certain Activities

The Consultants agree that, during the term of this Contract and after its termination, the Consultants and any entity affiliated with the Consultants, shall be disqualified from working in any other capacity on the same project (including bidding relating to any goods and services for any part of the project) other than the Services and any continuation thereof.

3.2.4 Prohibition of Conflicting Activities

The Consultants shall not engage, and shall cause their Personnel as well as their Sub Consultants and their Personnel not to engage, either directly or indirectly, in any of the following activities:

- (a) during the term of this Contract, any business or professional activities in the Employer's country which would conflict with the activities assigned to them under this Contract; and
- (b) after the termination of this Contract, such other activities as may be specified in the SC.

3.3 Confidentiality

The Consultants, their Sub Consultants and the Personnel shall not, either during the term or within two (2) years after the expiration of this Contract, disclose any proprietary or confidential information relating to the Services, this Contract or the Employer's business or operations without the prior written consent of the Employer.

3.4 Liability of the Consultants

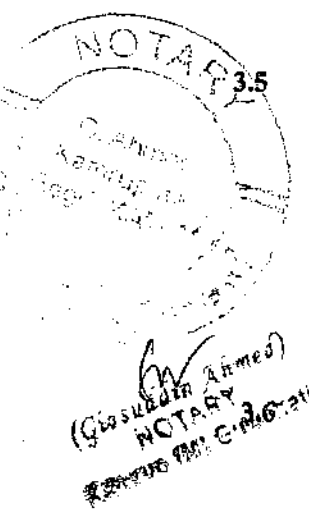
Subject to additional provisions set forth in the SC, the Consultants' liability under this Contract shall be up to one year after the completion of this Contract.

3.5 Insurance to Be Taken Out by the Consultants

The Consultants (i) shall take out and maintain, and shall cause any Sub Consultants to take out and maintain at their (or the Sub Consultants', as the case may be) own cost but on terms and conditions approved by the Employer, insurance against the risks and for coverage as shall be specified in the SC, and (ii) at the Employer's request, shall provide evidence to the Employer showing that such insurance has been taken out and maintained and that the current premiums thereof have been paid.

Accounting, Inspection and Auditing

The Consultants (i) shall keep accurate and systematic accounts and records in respect of the Services hereunder, in accordance with internationally accepted



[Handwritten Signature]
 Chief Executive Officer
 Guwahati Metropolitan Dev. Authority



Certified to be True Copy

accounting principles and in such form and detail as will clearly identify all relevant time charges and costs, and the bases thereof (including such bases as may be specifically referred to in the SC), and (ii) shall permit the Employer or its designated representative periodically, and up to one year from the expiration or termination of this Contract, to inspect the same and make copies thereof as well as to have them audited by auditors appointed by the Employer.

3.7 Consultants' Actions Requiring Employer's Prior Approval

The Consultants shall obtain the Employer's prior approval in writing before taking any of the following actions:

- (a) Appointing such members of the Personnel as are listed in Appendix C merely by title but not by name;
- (b) Entering into a Sub Contract for the performance of any part of the services, it being understood (i) that the selection of the Sub Consultant and the terms and conditions of the Sub Contract shall have been approved in writing by the Employer prior to the execution of the Sub Contract, and (ii) that the Consultants shall remain fully liable for the performance of the Services by the Sub Consultant and its Personnel pursuant to this Contract.
- (c) any other action that may be specified in the SC.

3.8 Reporting Obligations

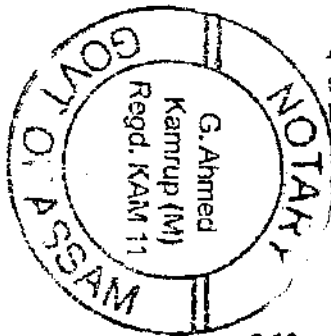
The Consultants shall submit to the Employer the reports and documents specified in Appendix B hereto, in the form, in the numbers and within the time periods set forth in the said Appendix.

3.9 Documents Prepared by the Consultants to Be the Property of the Employer

All plans, drawings, specifications, designs, reports, other documents and software prepared by the Consultants for the Employer under this Contract shall become and remain the property of the Employer, and the Consultants shall, not later than upon termination or expiration of this Contract, deliver all such documents to the Employer, together with a detailed inventory thereof. The Consultants may retain a copy of such documents and software. Restrictions about the future use of these documents and software, if any, shall be as specified in the SC.

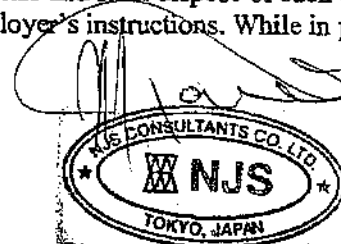
3.10 Equipment and Materials Furnished by the Employer.

Equipment and materials made available to the Consultants by the Employer, or purchased by the Consultants with funds provided by the Employer, shall be the property of the Employer and shall be marked accordingly. Upon termination or expiration of this Contract, the Consultants shall make available to the Employer an inventory of such equipment and materials and shall dispose of such equipment and materials in accordance with the Employer's instructions. While in possession



Giasuddin Ahmed
NOTARY
Kamrup (M) Guwahati

PKS
Chief Executive Officer
Guwahati Metropolitan Dev. Authority



of such equipment and materials, the Consultants, unless otherwise instructed by the Employer in writing, shall insure them at the expense of the Employer in an amount equal to their full replacement value.

3.11 Serious Hindrances

The Consultants shall report to the Employer and JICA promptly the occurrence of any event or condition, which might delay or prevent completion of any significant part of the project in accordance with the schedules and to indicate what steps shall be taken to meet the situation. Where the Employer receives such a report from the Consultants, the Employer shall immediately forward a copy to JICA, together with its comments on the report and an outline of the steps the report proposes shall be taken.

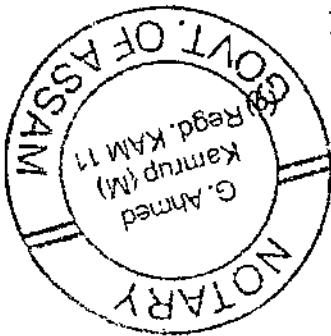
4. Consultants' Personnel

4.1 General

The Consultants shall employ and provide such qualified and experienced Personnel and Sub Consultants as are required to carry out the Services.

4.2 Description of Personnel

- (a) The title and estimated period of engagement in the carrying out of the Services of each of the Consultants' Key Personnel are described in Appendix C. If any of the Key Personnel has already been approved by the Employer, his/her name is listed as well.



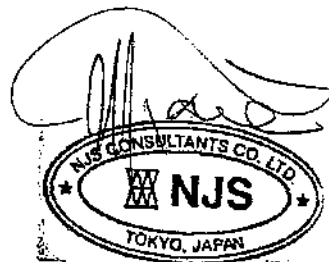
If required to comply with the provisions of Clause GC 3.1.1 hereof, adjustments with respect to the estimated periods of engagement of Key Personnel set forth in Appendix C may be made by the Consultants by written notice to the Employer, provided (i) that such adjustments shall not alter the originally estimated period of engagement of any individual by more than 10% or one week, whichever is larger, and (ii) that the aggregate of such adjustments shall not cause payments under this Contract to exceed the ceilings set forth in Clause GC 6.1 (b) of this Contract. Any other such adjustments shall only be made with the Employer's written approval.

- (c) If additional work is required beyond the scope of the Services specified in Appendix A, the estimated periods of engagement of Key Personnel set forth in Appendix C may be increased by agreement in writing between the Employer and the Consultants, provided that any such increase shall not, except as otherwise agreed in writing, cause payments under this Contract to exceed the ceilings set forth in Clause GC 6.1(b) of this Contract.

(Signature)
 G. Ahmed
 NOTARY
 Kamrup (M) 11, Assam, India

(Signature)
 PKG

Chief Executive Officer
Guwahati Metropolitan Dev. Authority



4.3 Approval of Personnel

The Key Personnel and Sub Consultants listed by title as well as by name in Appendix C are hereby approved by the Employer. In respect of other Key Personnel which the Consultants propose to use in carrying out of the Services, the Consultants shall submit to the Employer for review and approval a copy of their biographical data. If the Employer does not object in writing (stating the reasons for the objection) with twenty-one (21) calendar days from the date of receipt of such biographical data, such Key Personnel shall be deemed to have been approved by the Employer.

4.4 Working Hours, Overtime, Leave, etc.

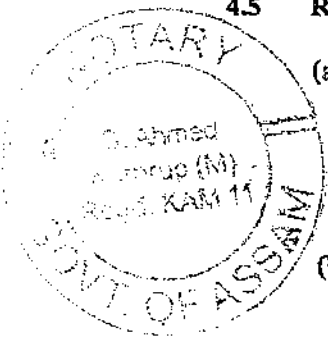
- (a) To account for travel time, International Personnel carrying out Services inside the Employer's country shall be deemed to have commenced (or finished) work in respect of the Services such number of days before their arrival in (or after their departure from) the Employer's country as is specified in Appendix E hereto.
- (b) The Key Personnel shall not be entitled to be paid for overtime nor to take paid sick leave or vacation leave. The Consultants' remuneration shall be deemed to cover these items. All leave to be allowed to the Personnel is included in the staff-months of services set forth in Appendix C. Any taking of leave by Personnel shall be subject to the prior approval by the Consultants who shall ensure that absence for leave purposes will not delay the progress and adequate supervision of the Services.

4.5 Removal and/or Replacement of Personnel

- (a) Except as the Employer may otherwise agree, no changes shall be made in the Key Personnel. If, for any reason beyond the reasonable control of the Consultants, it becomes necessary to replace any of the Personnel, the Consultants shall forthwith provide as a replacement a person of equivalent or better qualifications subject to approval of the Employer.

- (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 cause to be dissatisfied with the performance of any of the Personnel, then the Consultants shall, at the Employer's written request specifying the grounds therefore, forthwith provide as a replacement a person with qualifications and experience acceptable to the Employer.

Any of the Personnel provided as a replacement under Clause (a) and (b) above, the rate of remuneration applicable to such person as well as any reimbursable expenditures (including expenditures due to the number of eligible dependents) the Consultants may wish to claim as a result of such



(Giasuddin Ahmed)
 NOTARY
 Kamrup (M) Guwahati

PKLD

Chief Executive Officer
 Guwahati Metropolitan Dev. Authority



Certified to be True Copy

replacement, shall be subject to the prior written approval by the Employer. Except as the Employer may otherwise agree, (i) the Consultants shall bear all additional travel and other costs arising out of or incidental to any removal and/or replacement, and (ii) the remuneration to be paid for any of the Personnel provided as a replacement shall not exceed the remuneration which would have been payable to the Personnel replaced.

4.6 Resident Project Manager

The Consultants shall ensure that at all times during the Consultants' performance of the Services in the Employer's country a resident project manager or other designated person, shall take charge of the performance of such Services.

5. Obligations of the Employer

5.1 Assistance and Exemptions

Unless otherwise specified in the SC, the Employer shall use its best efforts to ensure that it shall:

(a) provide the Consultants, Sub Consultants and Personnel with work permits and such other documents as shall be necessary to enable the Consultants, Sub Consultants or Personnel to perform the Services;

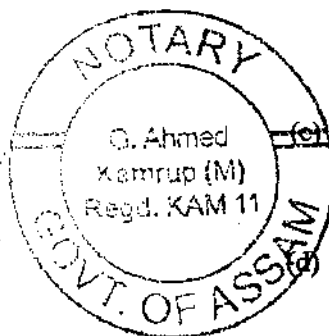
(b) arrange for the Personnel and, if appropriate, their eligible dependents to be provided promptly with all necessary entry and exit visas, residence permits, exchange permits and any other documents required for their stay in the Employer's country.

(c) facilitate prompt clearance through customs of any property required for the Services and of the personal effects of the Personnel and their eligible dependents.

(d) issue to officials, agents and representatives of the Employer all such instructions as may be necessary or appropriate for the prompt and effective implementation of the Services;

(e) exempt the Consultants and the Personnel and any Sub Consultants employed by Consultants for the Services from any requirement to register or obtain any permit to practice their profession or to establish themselves either individually or as a corporate entity according to the Applicable Law;

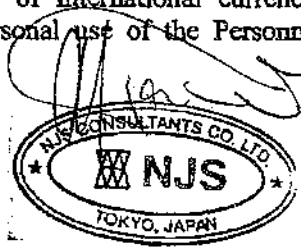
(f) grant to the Consultants, any Sub Consultant and the Personnel of either of them the privilege, pursuant to the Applicable Law, of bringing into the Employer's country reasonable amounts of International currency for the purposes of the Services or for the personal use of the Personnel and of



Handwritten signature and stamp of the notary.

Handwritten signature of the Chief Executive Officer.

Chief Executive Officer
Guwahati Metropolitan Dev. Authority



to be True Copy

withdrawing any such amounts as may be earned therein by the Personnel in the execution of the Services; and

- (g) provide to the Consultants, Sub Consultants and Personnel any such other assistance as may be specified in the SC.

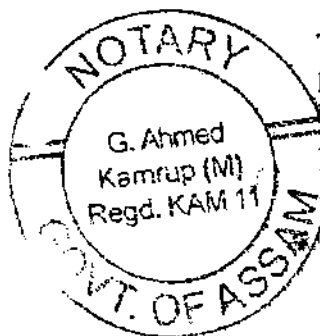
5.2 Access to Land

The Employer warrants that the Consultants shall have, free of charge, unimpeded access to all land in Employer's country in respect of which access is required for the performance of the Services subjected to restrictions imposed by the Applicable Law. The Employer will be responsible for any damage to such land or any property thereon resulting from such access and will indemnify the Consultants and each of the Personnel in respect of liability for any such damage, unless such damage is caused by the default or negligence of the Consultants or any Sub Consultants or the personnel of either of them.

5.3 Change in the Applicable Law

If, after the date of this Contract, there is any change in the Applicable Law with respect to taxes and duties which increases or decreases the cost incurred by the Consultants in performing the Services, then the remuneration and reimbursable expenses otherwise payable to the Consultants under this Contract shall be increased or decreased accordingly by agreement between the Parties hereto, and corresponding adjustment shall be made to the ceiling amounts specified in Clause GC 6.1 (b).

5.4 Services, Facilities and Property of the Employer



The Employer shall make available to the Consultants and the Personnel, for the purpose of the Services and free of any charge, the services, facilities and property described in Appendix F at the times and in the manner specified in said Appendix F, provided that if such services, facilities and property shall not be made available to the Consultants as and when so specified, the Parties shall agree on (i) any time extension that it may be appropriate to grant to the Consultants for the performance of the Services (ii) the manner in which the Consultants shall procure any such services, facilities and property from other source, and (iii) the additional payments, if any, to be made to the Consultants as a result thereof pursuant to Clause GC 6.1 (c) hereinafter.

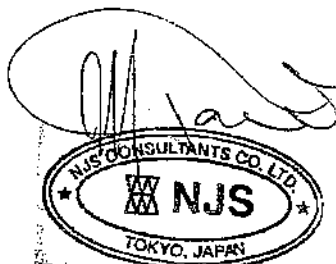
5.5 Payment

55
 (G. Ahmed)
 NOTARY
 Kamrup (M)

In consideration of the Services performed by the Consultants under this Contract, the Employer shall make to the Consultants such payments and in such manner as is provided by Clause GC 6 of this Contract.

PKSO

Chief Executive Officer
Guwahati Metropolitan Dev. Authority



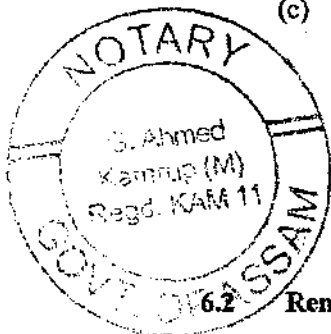
5.6 Difference of Opinion.

In the case of a difference of opinion between the Employer and the Consultants on any important matters involving professional judgment that might affect the proper evaluation or execution of the project, the Employer shall allow the Consultants to submit promptly to the Employer a written report and, simultaneously, to submit a copy to JICA. The Employer shall forward the report to JICA with its comments in time to allow JICA to study it and communicate with the Employer before any irreversible steps are taken in the matter. In case of urgency, the Consultants have the right to request the Employer and /or JICA that the matter be discussed immediately between the Employer and JICA.

6. Payments to the Consultants

6.1 Cost Estimates; Ceiling Amount

- (a) An estimate of the cost of the Services payable in International currency is set forth in Appendix G. An estimate of the cost of the Services payable in local currency is set forth in Appendix H.
- (b) Except as may be otherwise agreed under Clause GC 2.6 and subject to Clause GC 6.1(c), payments under this Contract shall not exceed the ceilings in International currency and in local currency specified in the SC. The Consultants shall notify the Employer as soon as cumulative charges incurred for the Services have reached 80% of either of these ceilings.
- (c) Notwithstanding Clause GC 6.1(b) hereof, if pursuant to any of the Clauses GC 5.3, 5.4 or 5.6 hereof, the Parties shall agree that additional payments in local and/or International currency, as the case may be, shall be made to the Consultants in order to cover any necessary additional expenditures not envisaged in the cost estimates referred to in Clause GC 6.1(a) above, the ceiling or ceilings, as the case may be, set forth in Clause GC 6.1(b) above shall be increased by the amount or amounts, as the case may be, of any such additional payments.

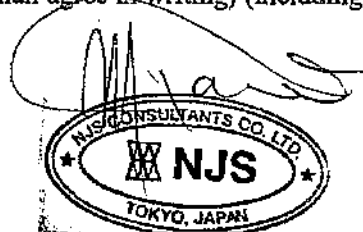


6.2 Remuneration and Reimbursable Expenditures

- (a) Subject to the ceilings specified in Clause GC 6.1(b) hereof, the Employer shall pay to the Consultants (i) remuneration as set forth in Clause GC 6.2(b), and (ii) reimbursable expenditures as set forth in Clause GC 6.2(c). If specified in the SC, said remuneration shall be subject to price adjustment as specified in the SC.
- (b) Remuneration for the Personnel shall be determined on the basis of time actually spent by such Personnel in the performance of the Services after the date determined in accordance with Clause GC 2.3 and Clause SC 2.3 (or such other date as the Parties shall agree in writing) (including time for

(Signature)
 (Giasuddin Ahmed)
 NOTARY
 Kamrup (M) Guwahati

(Signature)
 Chief Executive Officer
 Guwahati Metropolitan Dev. Authority



necessary travel via the most direct route) at the rates referred to, and subject to such additional provisions as are set forth, in the SC.

- (c) Reimbursable expenditures actually and reasonably incurred by the Consultants in the performance of the Services, as specified in Clause SC 6.3(b).

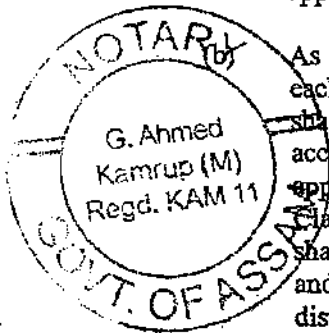
6.3 Currency of Payment

- (a) International currency payments shall be made in the currency or currencies specified as International currency or currencies in the SC, and local currency payments shall be made in the currency or currencies in the SC.
- (b) The SC shall specify which items of remuneration and reimbursable expenditures shall be paid, respectively, in International and in local currency.

6.4 Mode of Billing and Payment

Billing and payments in respect of the Services shall be made as follows:

- (a) The Employer shall cause to be paid to the Consultants an interest free advance payment as specified in the SC, and as otherwise set forth below. The advance payment will be due after provision by the Consultants to the Employer of a bank guarantee by a bank acceptable to the Employer in an amount (or amounts) and in a currency (or currencies) specified in the SC, such bank guarantee (i) to remain effective until the advance payment has been fully set off as provided in the SC, and (ii) to be in the form set forth in Appendix I hereto or in such other form as the Employer shall have approved in writing.



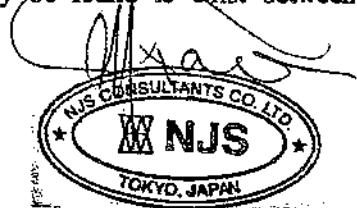
As soon as practicable and not later than fifteen (15) days after the end of each calendar month during the period of the Services, the Consultants shall submit to the Employer, in duplicate, itemized statements, accompanied by copies of receipted invoices, vouchers and other appropriate supporting materials, of the amounts payable pursuant to Clauses GC 6.3 and 6.4 for such month. Separate monthly statements shall be submitted in respect of amounts payable in International currency and in local currency. Each such separate monthly statement shall distinguish that portion of the total eligible costs which pertains to remuneration from that portion which pertains to reimbursable expenditures.

(Signature of G. Ahmed Kamrup)
 NOTARY
 Kamrup (M) Gmwa (M)

The Employer shall cause the payment of the Consultants' monthly statements within sixty (60) days after the receipt by the Employer of such statements with supporting documents. Only such portion of a monthly statement that is not satisfactorily supported may be withheld from payment. Should any discrepancy be found to exist between actual

PKS

Chief Executive Officer
 Guwahati Metropolitan Dev. Authority



Certified to be True Copy

payment and costs authorized to be incurred by the Consultants, the Employer may add or subtract the difference from any subsequent payments. Interest at the annual rate specified in the SC shall become payable as from the above due date on any amount due by, but not paid on such due date.

- (d) The final payment under this Clause shall be made only after the final report and a final statement, identified as such, shall have been submitted by the Consultants and approved as satisfactory by the Employer. The Services shall be deemed completed and finally accepted by the Employer and the final report and final statement shall be deemed approved by the Employer as satisfactory ninety (90) calendar days after receipt of the final report and final statement by the Employer unless the Employer, within such ninety (90) days period, gives written notice to the Consultants specifying in detail deficiencies in the Services, the final report or final statement. The Consultants shall thereupon promptly make any necessary correction, and upon completion of such correction, the foregoing process shall be repeated. Any amount which the Employer has paid or caused to be paid in accordance with this Clause in excess of the amounts actually payable in accordance with the provisions of this Contract shall be reimbursed by the Consultants to the Employer within thirty (30) days after receipt by the Consultants of notice thereof. Any such claim by the Employer for reimbursement must be made within twelve (12) calendar months after receipt by the Employer of a final report and a final statement approved by the Employer in accordance with the above.

- (e) All payments under this Contract shall be made to the accounts of the Consultants specified in the SC.

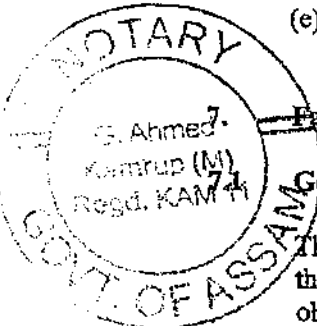
Fairness and Good Faith

Good Faith

The Parties undertake to act in good faith with respect to each other's rights under this Contract and to adopt all reasonable measures to ensure the realization of the objectives of this Contract.

7.2 Operation of the Contract

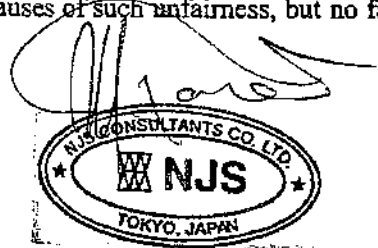
The Parties recognize that it is impractical in this Contract to provide for every contingency which may arise during the life of the Contract, and the Parties hereby agree that it is their intention that this Contract shall operate fairly as between them, and without detriment to the interest of either of them, and that, if during the term of this Contract either party believes that this Contract is operating unfairly, the Parties will use their best efforts to agree on such action as may be necessary to remove the cause or causes of such unfairness, but no failure



Handwritten signature and notes:
 1/12/2010
 NC 2010
 2010/12/10

Handwritten signature:
 P. S. S.

Chief Executive Officer
 Guwahati Metropolitan Dev. Authority



Certified to be True Copy

to agree on any action pursuant to this Clause shall give rise to a dispute subject to arbitration in accordance with Clause GC 8 hereof.

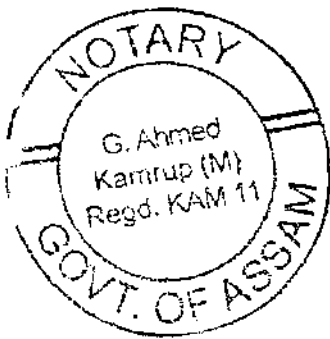
8. Settlement of Disputes

8.1 Amicable Settlement

The Parties shall use their best efforts to settle amicably all disputes arising out of or in connection with this Contract or the interpretation thereof.

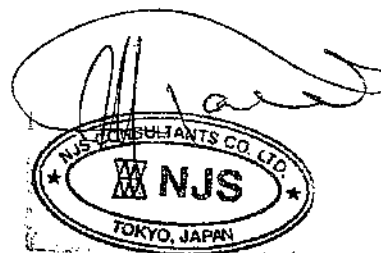
8.2 Dispute Settlement

Any dispute between the Parties as to matters arising pursuant to this Contract which cannot be settled amicably within thirty (30) day after receipt by one Party of the other Party's request for such amicable settlement may be submitted by either Party for settlement in accordance with the provisions specified in the SC.



(Giasuddin Ahmed)
NOTARY
Kamrup (M) Guwahati

[Signature]
Chief Executive Officer
Guwahati Metropolitan Dev. Authority



Certified to be True Copy

III. SPECIAL CONDITIONS OF CONTRACT

Number of Amendments of, and Supplements to, Clauses in the General Conditions of GC Clause Contract

1.4 The language is English.

1.6.1 The addresses are:

Employer The Guwahati Metropolitan Development Authority (GMDA)
Attention Project Director, Project Implementation Unit
Address: JICA Assisted Water Supply Project
 Saikia Commercial Complex, Christian Basti
 G. S. Road, Guwahati 781 005
Telephone: +91-361-2346-211 and 2346-212
Facsimile: +91-361-2346-213
Email: piujicagwsp@gmail.com

Consultants NJS Consultants Co. Ltd.
Attention Masayoshi Takeuchi, Chairman
Address: NJS Tomihisa Building, 6-8, Tomihisa-cho
 Shinjuku-ku, Tokyo, Japan 162-0067
Telephone: 81-3-5919-7451
Facsimile: 81-3-5919-7454
Email: Masayoshi_Takeuchi@njs.co.jp

Copy to NJS Consultants Co. Ltd.
 Uday G. Kelkar, Manager India Operations
Address: 18 Shailesh Society, Karvenagar, Pune 411052
Telephone: 91-20-2544-7304
Facsimile: 91-20-2544-7303
Email: uday@njsei.com, delhioffice@njsei.com

1.8 The Member in Charge is

NJS Consultants Co. Ltd., Japan

1.9 The Authorized Representatives are:

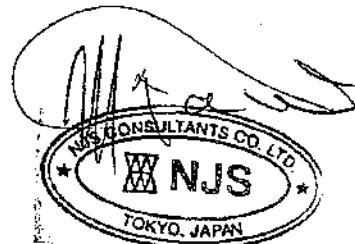
For the Employer: Project Director, Project Implementation Unit

For the Consultants: Project Manager

(Glossed in front)
 NOTARIAL
 Kamrup (M) Guwahati

Pics

Chief Executive Officer
 Guwahati Metropolitan Dev. Authority



Certified to be True Copy

2.1 The effectiveness conditions are the following:

Review and concurrence of the Contract by JICA,

2.2 The time period shall be Two Months or such other time period as the parties may agree in writing.

2.3 The time period shall be One Month or such other time period as the parties may agree in writing.

2.4 The time period shall be Five Years or such other time period as the parties may agree in writing.

3.4 Limitation of the Consultants' Liability towards the Employer

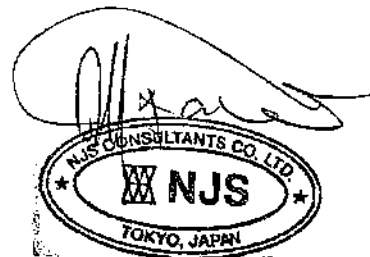
(a) Except in case of gross negligence or willful misconduct on the part of the Consultants or on the part of any person or firm acting on behalf of the Consultants in carrying out the Services, the Consultants, with respect to damage caused by the Consultants in carrying out the Services, the Consultants, with respect to damage caused by the Consultants to the Employer's property, shall not be liable to the Employer:

(i) for any indirect or consequential loss or damage; and

(ii) for any direct loss or damage that exceeds (A) the 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 or (A) or (B) is higher.

(b) This limitation of liability shall not affect the Consultants' liability, if any, for damage to Third Parties caused by the Consultants or any person or firm acting on behalf of the Consultants in carrying out the Services."

(c) Substantial failure to adhere to the work plan, methodology and approach will attract maximum penalty of 10% of the cost of the component wherein errors have occurred. Substantial failure on the part of the consultants in any one of the following: errors in Net-work survey, , defective design, over or under estimation of items of works, , defective specifications, defects in tender conditions, defective pre-qualification, mistakes in tender evaluation, lapses in supervision and quality and monitoring will attract a maximum penalty at 10% on the total cost of consultancy or the actual loss caused due to his negligence whichever is more and shall be recovered from his pending payment and insurance provided for the project. However, the overall penalty to be imposed to the Consultants for any reason whatsoever will not exceed 10% of the contract amount.



3.5 The risks and the coverage shall be as follows:

- (a) Third Party motor vehicle liability insurance in respect of motor vehicles operated in the Employer's country by the Consultants or their Personnel or any sub consultants or their Personnel, will be covered as applicable under General Insurance Act, 1938 and Motor Vehicle Act, 1939 of India as amended from time to time.
- (b) Third Party liability insurance, General Insurance Act, 1938 and Motor Vehicle Act, 1939 of India as amended from time to time.
- (c) Professional liability insurance, as applicable under General Insurance Act of 1938, India as amended from time to time.
- (d) Employer's liability and workers' compensation insurance in respect of the Personnel of the Consultants and of any Sub-Consultants, in accordance with the relevant provisions of the Applicable Law, as well as, with respect to such Personnel, any such life, health, accident, travel or other insurance as may be applicable; and
- (e) Insurance against loss of or damage to (i) equipment purchased in whole or in part with funds provided under this Contract, (ii) the Consultants' property used in the performance of the Services, and (iii) any documents prepared by the Consultants in the performance of the Services.

3.7(e) The other actions are:

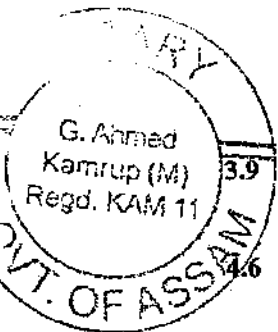
- "(i) Taking any action under a civil works contract designating the Consultants as "Engineer," for which action, pursuant to such civil works contract, the written approval of the Employer is required".

"The Consultants shall not use these documents for purposes unrelated to this Contract without the prior written approval of the Employer."

The person designated as resident project manager shall serve in that capacity, as specified in Clause GC 4.6

6.1(b) The ceiling in International currency is JPY 334,373,973 (Japanese Yen Three hundred thirty four million three hundred seventy three thousand nine hundred seventy three only). The ceiling amount in local currency is: INR 283,597,444 (INR two hundred eighty three million five hundred ninety seven thousand four hundred forty four only)

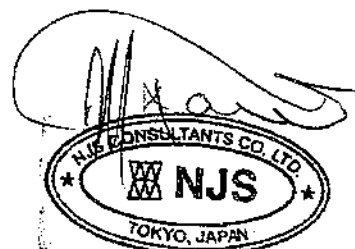
6.2(a) "Payments for remuneration made in accordance with Clause GC 6.2(a) in foreign and local currency shall be adjusted as follows:



Giasuddin Ahmed
 NOTARY
 Kamrup (M) Guwahati

P. K. Saha

Chief Executive Officer
 Guwahati Metropolitan Dev Authority



Certified to be True Copy

- (i) Remuneration paid in foreign currency pursuant to the rates set forth in Appendix G shall be adjusted every 12 months (and, the first time, with effect for the remuneration earned in the 13th calendar month after the date of Contract) by applying the following formula

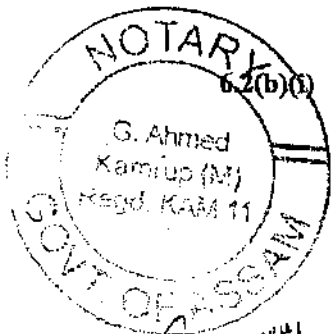
$$R_f = R_{fo} \times \frac{I_f}{I_{fo}}$$

where R_f is the adjusted remuneration, R_{fo} is the remuneration payable on the basis of the rates set forth in Appendix G for remuneration payable in foreign currency, I_f is the official index for salaries in the country of the foreign currency for the first month for which the adjustment is supposed to have effect, and I_{fo} is the official index for salaries in the country of the foreign currency for the month of the date of the Contract.

- (ii) Remuneration paid in local currency pursuant to the rates set forth in Appendix H shall be adjusted every 12 months (and, for the first time, with effect for the remuneration earned in the 13th calendar month after the date of the Contract) by applying the following formula

$$R_l = R_{lo} \times \frac{I_l}{I_{lo}}$$

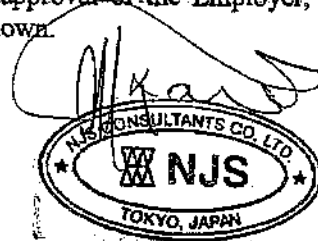
where R_l is the adjusted remuneration, R_{lo} is the remuneration payable on the basis of the rates set forth in Appendix H for remuneration payable in local currency, I_l is Consumer Price Index for non-manual labor as published by the Reserve Bank of India for the first month for which the adjustment is to have effect and, I_{lo} is the Consumer Price Index for non-manual labor as published by the Reserve Bank of India for the month of the date of the Contract.



(Giasuddin Ahmed)
NOTARY
Kamrup (M) Guwahati

1. It is understood (i) that the remuneration rates shall cover (A) such salaries and allowances as the Consultants shall have agreed to pay to the Personnel as well as factors for social charges and overhead based on the Consultants' average costs, as represented by the financial statements of the Consultants' latest three fiscal years, (B) the cost of backstopping by home office staff not included in the Personnel listed in Appendix C, and (C) the Consultants' fee (ii) that bonuses or other means of profit-sharing shall not be allowed as an element of overhead, and (iii) that any rates specified for persons not yet appointed shall be provisional and shall be subject to revision, with the written approval of the Employer, once the salaries and allowances are known.

PKC
Chief Executive Officer
Guwahati Metropolitan Dev. Authority



2. Remuneration for periods of less than one month shall be calculated on an hourly basis for actual time spent in the Consultants' home office and directly attributable to the Services (one hour being equivalent to 1/240th of a month) and on a calendar-day basis for time spent away from home office (one day being equivalent to 1/30th of a month)
3. The remuneration rates have been agreed upon based on the representations made by the Consultants during the negotiations of this Contract.

6.2(b)(ii) The rates for Professional A Personnel are set forth in Appendix G and the rates for Professional B Personnel in Appendix H.

6.3(a) Foreign Currency payments shall be in Japanese Yen
Local Currency payments shall be in Indian Rupees

6.3(b)(i) Remuneration for Professional A Personnel shall be paid in International currency (Japanese Yen) and remuneration for Professional B Personnel shall be paid in local currency (Indian Rupees).

6.3(b)(ii) The reimbursable expenditures in Local currency and or Foreign currency as appropriate shall be the following:

(a) per diem allowance in local currency for each of the Professional A or Professional B Personnel for every day in which such Personnel shall be absent from his home office and shall be outside the country of the Employer for the purpose of the Services at the daily rate specified in Appendix H;

(b) The following transportation costs:

(i) the cost of international transportation of the Professional A Personnel by the most appropriate means of transport and the most direct practicable route to and from the Consultants' home office; in the case of air travel, this shall be by less than first class (in international currency);

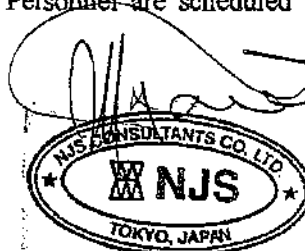
(ii) for any Professional A Personnel spending twenty four (24) consecutive months or more in the Employer's country, one extra round trip will be reimbursed for every twenty four (24) months of assignment in the Employer's country. Such personnel will be entitled to such extra round trip (in international currency) only if upon their return to the Employer's country, such Personnel are scheduled to serve



(Giasuddin Ahmed)
NOTARY
Kamrup (M) Guwahati

[Signature]

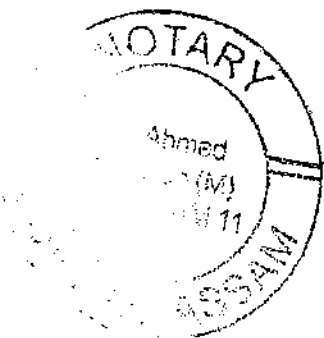
Chief Executive Officer
Guwahati Metropolitan Dev. Authority



Certified to be True Copy

for the purposes of the Project for a further period of not less than six (6) consecutive months;

- (iii) miscellaneous travel expenses such as the cost of transportation to and from airports, airport taxes, passport, visas, travel permits, vaccinations, etc., at a fixed unit price per round trip as specified in Appendix G (international currency);
- (c) the cost of communications (other than those arising in the Employer's country) reasonably required by the Consultants for the purposes of the Services;
- (d) the cost of printing, reproducing and shipping of the documents, reports, drawings, etc, specified in Appendices A and B hereof as set forth in Appendix H;
- (e) the cost of acquisition, shipment and handling of the equipment, instruments, materials and supplies required for the Services.
- (f) the cost of programming and use of, and communication between, the computers for the purposes of the Services at the rate set forth in Appendix G;
- (g) the cost of training of the employer's personnel outside the employer's country, as specified in Appendix G and the cost of training of the employer's personnel inside the employer's country as specified in Appendix H;
- (h) the cost of laboratory tests on materials, model tests and other technical services authorized or requested by the Employer, as specified in Appendix H;
- (i) the cost of items not covered in the foregoing but which may be required by the Consultants for completion of the Services, subject to the prior authorization in writing by the Employer; and
- (j) any such additional payments in foreign currency for properly procured items as the Parties may have agreed upon pursuant to the provisions of Clause GC 6.1(c).



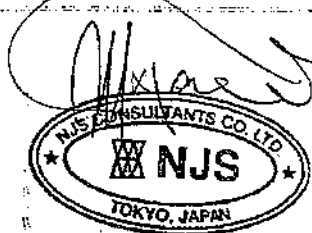
6.3(b) (iii)
 (Gadusuan Ahmed)
 NOTARY
 Khasan, M. Guwahati

The reimbursable expenditures in local currency shall be the following:

- (a) a per diem allowance for each of the Professional A Personnel and Professional B Personnel for each day during which such Personnel shall be in the Employer's country at the fixed rates specified in Appendix H;

PKS

Chief Executive Officer
Guwahati Metropolitan Dev. Authority



Certified to be True Copy

- (b) the cost of following locally procured items, local transportation, office accommodations, camp facilities, camp services, soil testing, equipment rentals, supplies, utilities and communication charges arising in the Employer's country, all if any to the extent required for the purpose of the Services, at rates specified in Appendix-H;
- (c) the cost of equipment, materials and supplies to be procured locally in the Employer's country as specified in Appendix H;
- (d) any such additional payments in local currency for properly procured items as the parties may have agreed upon pursuant to the provisions of Clause GC 6.1(c); and
- (e) the cost of such further items as may be required by the Consultants for the purpose of the Services, as agreed in writing by the Employer.
- (f) the local currency cost of any sub contract required for the services and approved in writing by the employer

6.4(a)

The following provisions shall apply to the advance payment and the advance payment guarantee:

- (i) A total interest free advance payment of 10% of ceiling price specified in SC 6.1 (b), shall be made within 60 days after the Effective Date. The advance payment will be set off by the Employer starting from the invoice statement for the eleventh month of the Services in equal installments against the statements for the next 20 months of the Services until the advance payment has been fully set off.
- (ii) Bank guarantee shall be in the amount and in the currency of the local currency portion of the advance payment.

The interest rate is 0.75% per annum is chargeable on late payment of invoices.

The accounts are:

For International currency:

Account Name: NJS Consultants Co., Ltd.

Bank Name: The Bank of Tokyo-Mitsubishi UFJ, Ltd.

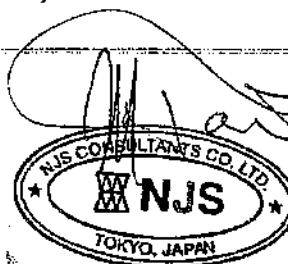
Branch Name: Shimbashi Branch

Bank Address: 12-11, Shimbashi 2-chome, Minato-ku, Tokyo 105-0004,

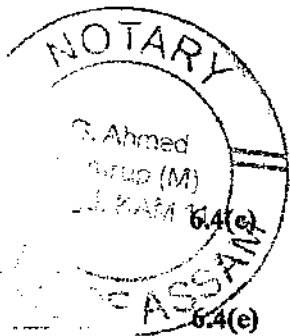
Account number: 4496847 (current account)

Cable address: BOTKJPJT

PKS
Chief Executive Officer
Guwahati Metropolitan Dev. Authority



28



Giasuddin Ahmed,
NOTARY
Kamrup (M) Guwahati

Certified to be True Copy

For Local currency:

Account Name: NJS Consultants Co. Ltd.

Bank Name: To be provided

Branch Name: To be provided

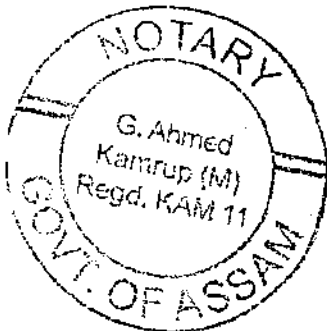
Branch Address: To be provided

Account No.: To be provided

8.2

Disputes shall be settled by arbitration in accordance with the following provisions:

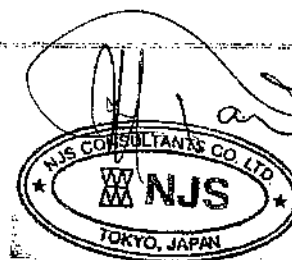
1. Selection of Arbitrators: Each dispute submitted by a Party to arbitration shall be heard by a sole arbitrator or an arbitration panel composed of three arbitrators, in accordance with the following provisions:
 - a. Where the Parties agree that the dispute concerns a technical matter, they may agree to appoint a sole arbitrator.
 - b. Where the Parties do not agree that the dispute concerns a technical matter, the Employer and the Consultants shall each appoint one arbitrator, and these two arbitrator shall jointly appoint a third arbitrator, who shall chair the arbitration panel.
2. Rules of Procedures: All rules will be based on The Indian Arbitration & Conciliation Act, 1996.
3. Substitute Arbitrators: If for any reason an arbitrator is unable to perform his function, a substitute shall be appointed in the same manner as the original arbitrator.
4. Qualifications of Arbitrators: The sole arbitrator or the third arbitrator appointed pursuant to paragraphs (a) through (c) of Clause SC 8.2 1 hereof shall be an internationally recognized legal or technical expert with extensive experience in relation to the matter in dispute .
5. Miscellaneous: In any arbitration proceeding hereunder:
 - a. Proceedings shall, unless otherwise agreed by the Parties, be held in Guwahati;
 - b. The English language shall be the official language for all purposes; and
 - 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



(Giasuddin Ahmed)
NOTARY
Kamrup (M) Guwahati

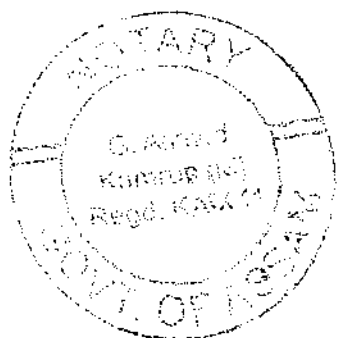
P. K. Saha

Chief Executive Officer
Guwahati Metropolitan Dev. Authority



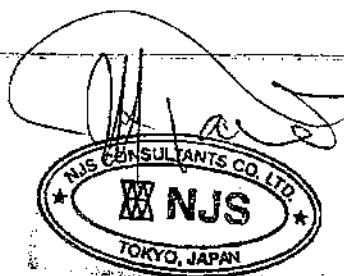
Certified to be True Copy

competent jurisdiction, and the Parties hereby waive any objections to or claims of immunity in respect of such enforcement.



(G. Anand Kumar IAS)
NOTARY
Kamrup (M) Guwahati

[Signature]
Chief Executive Officer
Guwahati Metropolitan Dev. Authority

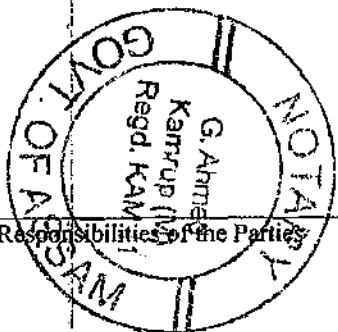


Request for Review of Contract for Consulting Services
ATTACHMENT I: Analysis on Compliance with JICA Guidelines for the Employment of Consultants and Appropriateness of Contract

Country: India Loan Agreement No.: ID-P201
 Project Name: Guwahati Water Supply Project
 Procurement Lot No. and Description: Institutional Capacity Development Consultancy

Chief Executive Officer
Guwahati Metropolitan Dev. Authority

JICA Guidelines		Relevant Clauses in the Contract	Observations and Recommendations	GMDA Response
Part IV. Contract				
4.01	General	SC 6.1 (b)	A typographical error of the ceiling amount in letter was observed. (INR two eighty three million...) <i>GMDA is recommended to correct it:</i> (INR two hundred eighty three million...)	Accepted and Changed
4.04	Validity of Contract	SC 2.1 GC 2.11, 4.3	According to SC 2.1, an Employer's approval of appointment of specified key staff members is stated as one of the effectiveness conditions of this Contract. However, GC 4.3 states that the proposed and listed key staff members in Appendix C was already approved by the Employer. <i>GMDA is recommended to delete the Employer's approval from the effectiveness conditions stated in SC 2.1.</i>	Accepted and Changed
4.05	Responsibilities of the Parties	SC 3.4 (a), (b), (c), 3.7, 3.9, 4.6 GC 1.2, 3, 4, 5	SC 3.4 (c) describes the type of failure which will attract penalty toward the Consultant, and stipulates that the overall penalty to be imposed to the Consultants for any reason what so ever will not exceed 10% of the contract amount. However, such definition of penalties which may be imposed to the Consultant is not observed in the Sample Documents. GMDA is requested to clarify this clause.	Such definition exists in the sample documents. As GMDA is executing such a project for the first time, GMDA would want to have such penalty clause included in the contract.



(Signature)
NOTARY
Kamrup (M) Guwahati



Certified to be True Copy

JICA Guidelines	Relevant Clauses in the Contract	Observations and Recommendations	GMDA Response
		<p><u>Insurances</u> According to SC 3.5, the coverage for Third Party motor vehicle liability insurance, for Third Party liability insurance and for Professional liability insurance shall be as applicable under the prevailing Indian Act, 1938 and 1939.</p> <p>However, no minimum coverage amounts are stated, while they are required in the Sample Documents' corresponding clause.</p> <p>GMDA is recommended to <i>state specifically the minimum coverage amounts</i> required for these three insurance policies, under the prevailing Indian Act, 1938 and 1939.</p>	<p>No such minimum coverage amounts are required as per the sample documents. The insurance settlement shall be made as per the prevailing Insurance Act, 1938 (as amended).</p>
<p>4.07 Consultant's Costs and Fees</p>	<p>SC 6.2 (a) GC 6.2 (a) Appendix G, H</p>	<p><u>Price Adjustment</u> Payments for remuneration shall be adjusted with fixed annual rates to the remuneration at:</p> <ul style="list-style-type: none"> - 2.5% over the previous year's rate for the Yen remuneration and - 10% over the previous year's rate for the Rupee remuneration <p>GMDA is recommended to <i>clarify this discrepancy and apply the price adjustment formula stated in SC 6.2 (a) of the Sample Documents.</i></p>	<p>Accepted and amended accordingly.</p>
<p>4.09 Conditions and Methods of payment</p>	<p>SC 6.4 (e)</p>	<p>The bank accounts in which the payments (for local and foreign currencies) shall be made are not specified in SC 6.4 (e).</p> <p>GMDA is recommended to <i>specify the bank accounts for local and foreign currencies in SC 6.4 (e).</i></p>	<p>Accepted. Bank information for the Foreign component has been added. The Consultant intends to open a separate account in India for this project. As signed contract is required to open INR bank account as per RBI guidelines, the same can be intimated only after signing the contract.</p>

(Giasudin Ahmed)
 NOTARY
 Kamrup (M) Guwahati



[Handwritten Signature]

Scanned to the True Copy

Certified to be True Copy

Appendix A

Appendix A
Description of the Services

1. Background

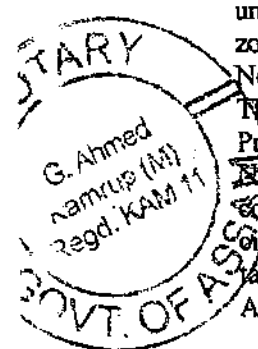
Guwahati is the largest city in Assam and in the North Eastern region of India. The city has a well-developed connectivity with the rest of the country and acts as the gateway to the entire North Eastern India. Its population in 2001 was about 0.89 million and it has increased by 25% to about 1.11 million in 2007. It is estimated to further increase to around 2.80 million in 2025, and to 3.23 million in 2040, which are twice and three times more than the current level. With the rapid growth of urban population and economy, the gap between water demand and water supply has been widening.

The current public water supply within Guwahati covers only about 30% of the city area, mostly South Central. Even within this area due to the degraded Water Treatment Plants and the High Water Leakage rate (around 38% in 2008), the provision of water at individual households is limited to 2 to 3 hrs a day. Those citizens without access to pipe water rely on ground water, but the water quality is inadequate for drinking, with high content rate of iron or fluorine.

At present, there are three agencies which provide water supply in Guwahati city, namely Guwahati Municipal Corporation (GMC), Public Health and Engineering Department (PHED), and Assam Urban Water Supply & Sewerage Board (AUWSSB). In total, the three agencies cover about 30% of the population in this city. Most of these water facilities have outlived their lives as a result of budget deficiency for repair or replacement as well as poor maintenance.

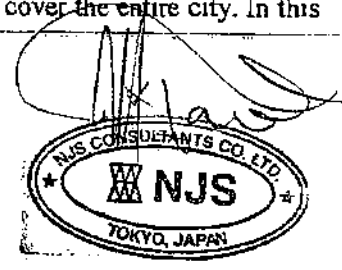
The Master Plan for Guwahati Metropolitan Area 2025 sets the target of "100% houses will be supplied with piped filtered water by the year 2025". Guwahati city is divided into four zones for water supply project. The zones under JICA funding are South Central Zone and North Zone. South Central zone is the centre of the city with the highest population among the four zones. North Zone is less populated where most of the area is under agricultural use. The South Guwahati Central & North Guwahati Drinking Water Supply Project aims to construct water works facilities in the South Central and Northern part of Guwahati city to achieve potable water supply with 100% coverage of the citizens within the above area and thus leading to upgrading of citizen's living standard. Under JNNURM funding water supply Project will be taken up in South West Zone of the Guwahati city. Also, the city is seeking ADB's assistance for South East Zone.

Guwahati Water Supply Project also aims to support establishment of the Guwahati Metropolitan Drinking Water and Sewerage Board, which is to take over the existing water supply schemes and to cover the entire city. In this



Handwritten notes and signatures in the bottom left corner.

Chief Executive Officer
Guwahati Metropolitan Dev. Authority



A-1

Certified to be True Copy

regard The Guwahati Metropolitan Drinking Water and Sewerage Board Act, 2009 has been passed by the Assam Legislative Assembly, making way for the establishment of the Board and the Water Regulatory Authority.

2. Location

Guwahati City, State of Assam, India

3. Project Description

Tentative Scope of the Project, which can vary at site after detail field investigations, is proposed as follows:

Items	Original
Intake Facility	South Central: 1 intake point North: 1 intake point (both will be intake tower and pump station in one structure)
Water Treatment Plant	South Central: 192MLD North: 38MLD
Reservoirs	South Central: 6 North: 1
Distribution Networks	South Central: 890 km North: 86 km
Consulting Services	Support for Project implementation and capacity building

4. Project Objective

To construct waterworks facilities in the South Central and North Zones of Guwahati city to achieve potable water supply with 100% coverage of the citizens within the above area, leading to upgrading the citizen's living standards.

5. Objective of Consulting Services

The main objectives of ICDC will be preparation of the plan for the development of Operation agency's institutional capacities as well as plan and service connection program. The activities will include the development of both regulatory function and operating functions.

6. Scope of Services

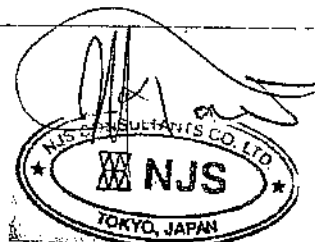
For Guwahati Jal Board, ICDC will prepare plan for its institutional capacity as well as plan and supervise connection program. The scope of services will include following:

Basic Survey:

- Undertake the comprehensive survey of potential customers;
- Develop a customer Database linked with locational information on GIS.

19/06/2011
NOTARY
Guwahati

PLS
Chief Executive Officer
Guwahati Metropolitan Dev. Authority



A-2

Certified to be True Copy

Service Connection Plan:

- Prepare an overall management plan for service connection and meter installation;
- Assist the PIU to set up a coordination method with PMC and contractor to monitor the progress of distribution networks and service connections.

Tender Document Preparation and Evaluation for Meter Procurement and Service Connection Work:

- Starting with a small area and gradually scaling up, prepare timely implementation program;
- Monitor the progress of distribution main construction work and prepare service connection contract tenders on area wise and phase wise;
- Assist the Jal Board to evaluate the capacities of vendors (plumbers) in installation work in bidding in terms of workmanship and price.

Supervision Meter Procurement and Service Connection Work:

- Supervision the work progress installation and service connections
- Recommend to the Jal Board Appropriate countermeasures if there is delay and malfunctioning in the connections and meters.
- Evaluate the work of each contractor for the subsequence contractual evaluation.

Development of Planning and Monitoring Function:

- Assist the Jal Board with the establishment of water meter testing laboratory.
- Assist the Jal Board with the establishment of social survey and environment monitoring department.
- Assist the Jal Board with the establishment of MIS department
- Assist the Jal Board with the establishment of Water Auditing cell within the department.
- Assist the Jal Board with the development of specifications for SCADA/PLC.
- Integration of different database under strategic planning purpose.

Development of Human Resource Development Function:

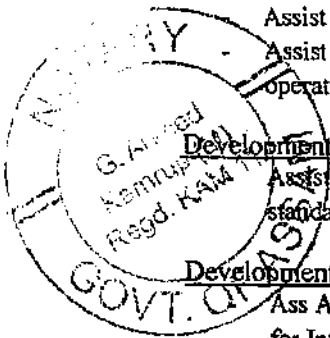
- Assist the Jal Board with the development of recruitment and promotion policy
- Assist the Jal Board with the development of performance incentive policy and schemes
- Assist the Jal Board with the development of exposure and study tour for advanced operations within and outside India.

Development of Quality Assurance and Environmental Survey Safety Function:

- Assist the Jal Board with the development of Water quality testing manuals and standards;

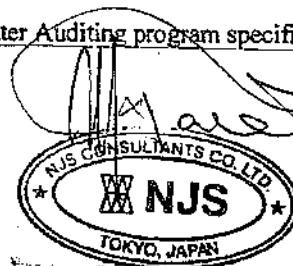
Development of MIS:

- Ass Assist the Jal Board with the development of database and application specifications for Internal performance Auditing to monitor major operation and maintenance activities in a cost efficient manner;
- Assist the Jal Board with the development of GIS database specifications;
- Assist the Jal Board with the development of Customer Billing and collection Database Specification
- Assist the Jal Board with the development of Water Auditing program specifications.



(Giasuddin Ahmed)
NOTARY
Kamrup (M) Guwahati

Chief Executive Officer
Guwahati Metropolitan Dev. Authority



A-3

Certified to be True Copy

Development of Maintenance Function:

- Assist the Jal Board with the establishment of plumber certification program for service connection work;
- Assist the Jal Board With the development of Procedures for routine and emergency maintenance procedure;
- Assist the Jal Board with the development of GIS database for pipes, valves, reservoirs and other major facilities.

Procurement/ Inventory/Stores:

- Assist the Jal Board with the development of testing procedure for meters;
- Assist the Jal Board with the development of standards for flow meters(bulk and domestic);
- Assist the Jal Board with the development of chemical and other consumables procurement/ procurement policy;
- Assist the Jal Board with the development of procedure for requisition from stores and inventory management procedure;
- Assist the Jal Board with the development of reordering levels and minimum stock levels.

Finance Accounting and Budgeting:

- Assist the Jal Board with the development of procurement for budgeting and reviewing budget and manual;
- Assist the Jal Board with the development of double entry accounting system and manual;
- Assist the Jal Board with the development of billing and recovery procedure;
- Assist the Jal Board with the development of tariff setting and revision procedure.

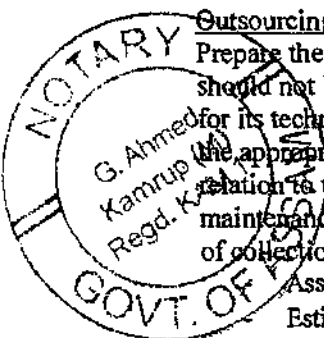
There are areas that require close coordination between the contracts such as SCADA/PLC and flow meter installations within networks, and distribution network connection and service connections. Although it is one idea to give the entire work to one vendor but adjustments and quality checking may become more difficult.

Outsourcing:

Prepare the bidding document for the operation to be outsourced if any. The bidding should not be done casually on a proposal basis. The private vendor needs to be assessed for its technical capacity from their plans for investment and staffing. At the same time, the appropriate actual fees to be paid out of tariff collection needs to be assessed in relation to the needs for proper investment needs for service connections and maintenance. Specification of performance targets in water quality, availability, number of collections to be achieved and UFWs by areas.

- Assist the Jal Board to prepare an overall strategy for outsourcing;
- Estimate the financial simulation of needed costs for target outsourcing jobs;
- Estimate the financial and other benefits for outsourcing;
- Prepare the draft tender document for outsourcing;
- Prepare the evaluation criteria for the selection of vendors;

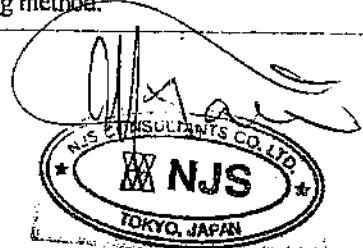
Assist the Jal Board in selection the vendors;
Prepare the performance targets and monitoring method.



(Giasuddin Ahmed)
Kamrup (M) Guwahati
2000/11/01/001/51

pkc no

Chief Executive Officer
Guwahati Metropolitan Dev. Authority



A-4

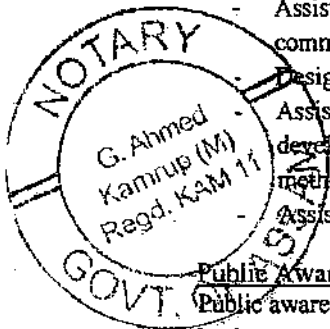
Certified to be True Copy

Development of Customer Relations

- Assist the Jal Board with the development of customer database.
- Assist the Jal Board with the development of marketing strategies.
- Assist the Jal Board with the development of Streamlined connection application procedure.
- Assist the Jal Board with the development of manuals for sanctioning tampering and illegal connections.
- Assist the Jal Board with the development of meter reading system including procurement of billing machines
- Assist the Jal Board with the development of bill collection system including bank deposits and electronic Kiosk systems.
- Assist the Jal Board with the development of customer satisfaction survey procedure.

Development of Social Development Function:

- Assist the Jal Board with the establishment of social development Division;
- Assist the Jal Board with the development of alternative and more affordable service connection options other than standard individual house connection system;
- Assist the Jal Board with the development of an overall poverty pocket connection program;
- Conduct Poverty Pocket Identification survey and find out the desires of each communities in terms of connection options.
- Identify the communities that have selected standard individual connection system and notify PMC and Contractors;
- Choose 3-4 pilot communities with inclination of differing connection options;
- Assist the Jal Board to organize Community Based Organization(CBO) to assume communal financial responsibilities for wholesale delivery of water to the community;
- Design the layout of service connection in the pilot communities;
- Assist the Jal Board to organize a city wide NGO to promote and support the development of CBOs for all the communities that have chosen the alternative connection method;
- Assist the Jal Board with the development of social awareness Program.



Public Awareness Raising Campaign:

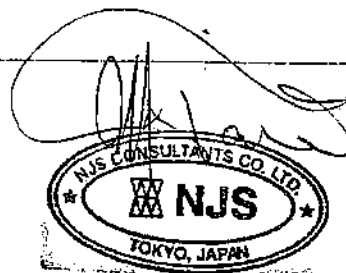
Public awareness campaign will cover all areas of the Project and continue until the end of the Project. ICDC will assist SDC in selecting local NGO and overseeing its activities. The activities under public awareness raising campaign will include:

- Assist in detailed socio-economic survey;
- Prepare monthly action plans with targets in consultation with Social Development Expert;
- Hold awareness raising campaign, which would include, but not limited to, socio-economic survey, group discussions, transect walks, workshops, roadside shows, preparation of pamphlets, posters etc.

G. Ahmed Kamrup (M) Regd. KAM 11

plw

Chief Executive Officer
Guwahati Metropolitan Dev. Authority



A-5

Coordination with PMC and Main Contractors:

- Assist the Jal Board to organize a system for communicating with PIU, PMC and Contractors on the progress and coordination needs.

For Water Regulatory Authority, ICDC will build monitoring and regulatory functions, which will include following main tasks:

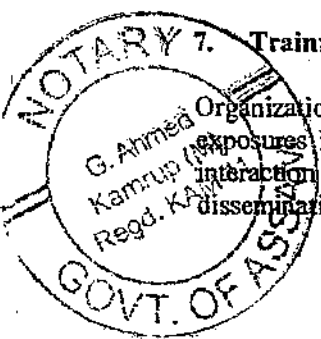
- To assist with the Regulatory Authority to establish performance targets to monitor the operation of water supply;
- To assist with the Regulatory Authority to establish the procedure for performance auditing of the water supply operators;
- To assist with the Regulatory Authority to establish public information disclosure and its methodology including WEB Servers;
- To assist with the Regulatory Authority to establish an overall framework for consumer interest protection and public health;
- To assist with the Regulatory Authority to establish the procedure for tariff revision;
- To assist with the Regulatory Authority to establish the procedure for financial auditing;
- To assist with the Regulatory Authority with the development of the procedure for environment monitoring;
- To assist with the Regulatory Authority to establish a mid-term plan for the development of the regulatory functions.

Note:

The above Scope of Services are further modified to the extent mentioned as part of the Technical Proposal already submitted by the Consultants in response to the Terms of Reference (TOR).

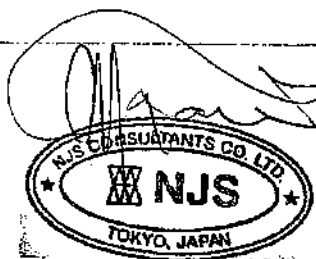
Training

Organization of training programmes and study tours overseas for providing International exposures in the advanced operations within and outside India. Organization of regular interaction meeting with PIU and Jal Board and conducting seminars and workshops for dissemination of information and capacity development.



G
(Giasuddin Ahmed)
NOTARY
Kamrup (M) Guwahati

puh
Chief Executive Officer
Guwahati Metropolitan Dev. Authority



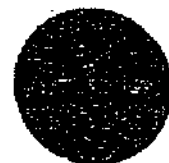
5D. APPROACH PAPER ON METHODOLOGY AND WORK PLAN FOR PERFORMING THE ASSIGNMENT

i) Methodology

1. Understanding of the Project

1.1 Water Sector Problems in India

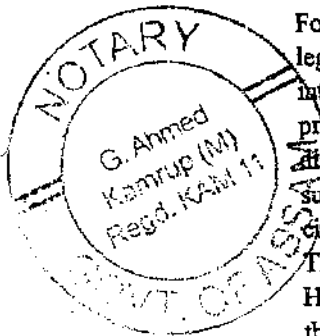
In Indian cities, prolonged neglects in the maintenance of water distribution networks have led to the irrevocable deterioration of the service quality in water supply. Deteriorations in the pipe networks have led to high levels of leakages and contamination, and low pressures. The only option remaining for water supply agencies was to adopt short hours of supply. Naturally, the public has lost the confidence on the capacities of the water supply agencies. Loss of confidence has manifested itself as low rates of bill payment, illegal connections, and in some cases staunch protests to tariff revisions. Dwindling revenue bases further have further deprived the water delivery agencies of much needed money for maintenance.



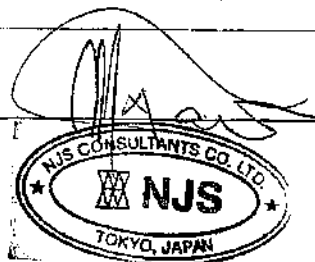
1.2 Challenge of Guwahati Jal Board

It must be recognized that the new Jal Board is going to start at this low point to regain the confidence of the public by maintaining or improving the service levels. In addition, the new Jal Board has another challenge of converting fixed tariff in the old parts of Guwahati to a volumetric tariff system. The Jal Board cannot cope with such challenges without quick but meaningful institutional capacity development.

Fortunately, the new Jal Board to be established will not inherit any of the negative legacies of the past. The Project will provide a brand new set of facilities from the intake to service connections. As a plan it is a perfect scenario. However, in terms of project management, the enormous expanse of project scope including 1000 km of distribution main-pipes and 1.2 lac service connections imply that there are large risks such as delays in completion, the disruptions of water, traffic and other urban life to the citizens. One of the most difficult elements is the coordination with external agencies. The Project brings no merit to those outgoing agencies, rather negative impacts. However, during the transition period of switching services from the old to the new, they will be obliged to maintain the operation of the production and distribution facilities as before while the revenue basis is continuously dwindling. Thus it is important to make the switching period to a minimum. Another difficult element is the protection of public amenities. In Guwahati 30% of the city population receives water from existing networks. Cutting off water supply for more than a day will cause serious problems to their regular life and would only undermine public confidence.



Handwritten signature and text: 'G. Ahmed', 'NOTARY', 'Kamrup (M) Guwahati'.



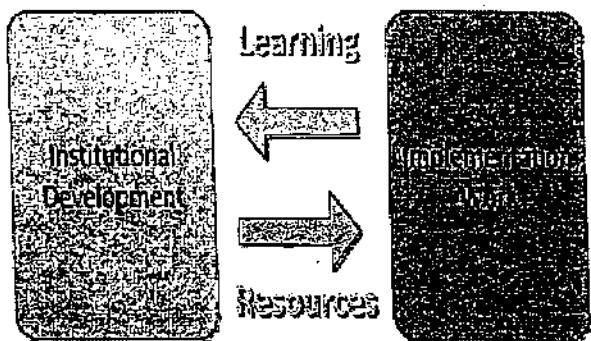
1.3 The Guwahati Metropolitan Drinking Water and Sewerage Board Act No.LGL102/2008/95, published on 27/9/2009)

The Guwahati Metropolitan Drinking Water and Sewerage Board Act (Water Act), has become effective on February 27, 2009. The law gives the underpinnings to the foundation of the two core institutions in water sector, i.e., Guwahati Metropolitan Drinking Water and Sewerage Board(Jal Board) and the Regulatory Authority. While the Jal Board assumes an integrated function from construction to operation of water supply to the entire city of Guwahati and beyond, the Regulatory Authority will serve to provide transparency and accountability to the tariff revision process, evaluation of the performances of water company and the safety of the delivered water. We understand that the Jal Board is to be initiated at the start of ICDC and the Regulatory Authority prior to the start of the operation of new water supply schemes.

2. Basic Understanding of TOR

2.1 Coupling of Institutional Work and Engineering Work

Guwahati Jal Board is a new institution to be given a birth to, and to be raised to be a India's top-notch water service company.

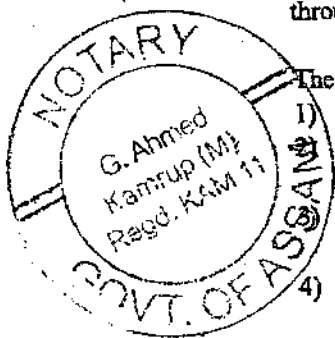


The scope of work is comprised of two parts, one is pure institutional building and the other is implementation work including the creation of customer database(GIS based) and planning and supervision of service connections and meter installations. These two elements should be designed to progress hand in hand to reinforce each other. Implementation requires good organization to provide resources while

implementation strengthens institution and increase institutional knowledge-base through learning-by-doing.

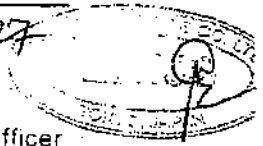
The ICDC's basic roles are;

- 1) to prepare plans for the development of the Jal Board and Regulatory Authority; to develop IT infrastructure with cutting edge technology in MIS, GIS, SCADA and water auditing;
- 2) to develop management skills, knowhow and culture to provide 24x7 safe water to all the citizens;
- 3) to create more inclusive and accountable corporate structure through the development of Social Development Division and Public Relations as well as public awareness campaigns; and,
- 4) to take a full role in surveying, planning, and supervising the undertaking of customer database development, service connections, and meter installations for the north and south-central water zones.



Giasuddin Ahmed
 NOTARY
 Kamrup (M) Guwahati

[Signature]



2.2 Geographical Boundary for Institutional Development and Engineering Works

While the engineering such as service connections are limited to the boundaries of Northern and South-Central Zones only, institutional work on the Jal Board cannot confine itself to this boundary. It has to include the South Western Zone and South Eastern Zone in its full operation. As the next table shows, according to the DPR, the Jal Board has to provide and administer approximately twice the size of the customer base of the Project according to the population projection of 2010. In terms of the distribution pipes, 1700 km length of pipes will come under the jurisdiction of the Jal Board, roughly 70% more than the scope of the JICA funded project. Furthermore the city is expected to grow by 75% between 2010 and 2025. The Jal Board has to face the challenge of accommodating the urban growth constantly. Also institutional development requires coordination among the developments of other zones, particularly Western Zone whose construction is already underway with JNNURM funding.

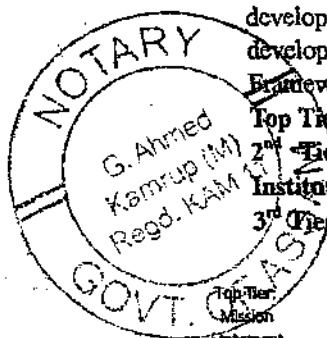
		North	South			Total
			West	Central	East	
Population	2010	79,429 (6%)	324,666 (26%)	597,359 (48%)	244,629 (20%)	1,246,082
	2025	147,809 (7%)	582,749 (27%)	1,004,604 (46%)	445,121 (20%)	2,180,283
Distribution Pipe Length (Km)		86 (5%)	450 (26%)	890 (52%)	280 (16%)	1,706
Hydraulic Zones		1	8	12	5	26

3. Basic Approach

3.1 Establishment of Institutional Framework Plan

We recognize that ICDC requires an overall framework for institutional capacity development beyond sets of guidelines and regulations to effectively funnel development efforts. We would like to call this set of documents as "Institutional Framework Plan." It is comprised of three levels;

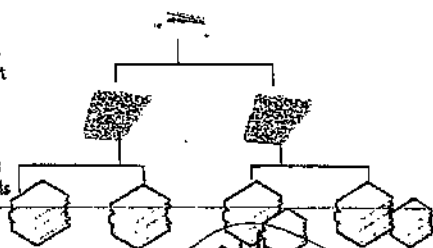
- 1st Tier: Mission Statement
- 2nd Tier: Jal Board Institutional Development Plan, Regulatory Authority Institutional Development Plan, Institutional Transition Plan
- 3rd Tier: Guidelines and Manuals



Top Tier: Mission Statement

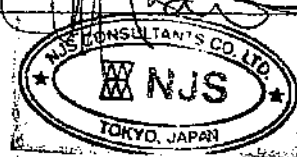
Second Tier: Development Plans

Third Tier: Guidelines and Manuals



The Mission Statements are the constitution of companies which defines the goals and commitments of the organization. All other 2nd tier plans and 3rd tier rules and guidelines for implementation must comply with the mission statement. Though the TOR only refers to the need for some framework as requirement for the inception report, clearly this work has a

Form - SD



Page 110 of 827

Chief Executive Officer
Guwahati Metropolitan Dev. Authority

far reaching impact in shaping organizations. Naturally, the plans should evolve over the time to adapt itself to the new requirements. Ultimately it is the new Jal Board management that has to commit to these fundamental frameworks. ICDC's role is to provide assistance in the creation.

ICDC' responsibilities transcend the boundary of one water supply company. One of the key challenges at the time of implementation is the timing of phasing out of the authorities of the existing water supply agencies, i.e. GMC, AUWSSB, PHED. Since the switch from the old network to the new network cannot take place within a single day, there will be time when redundant operations are required. Workloads on distribution network may be gradually reduced as the existing network shrink its size, the HQ, water treatment and transmission work stay the same till the final closure. Given the reduced revenue bases, the existing agencies will need some financial assistance to sustain the required redundancy. Institutional Transition Framework should provide the roadmap through the transition to the final closure. On the other hand, the institutional transfer is predicated on the progress of pipe laying and service connection work. Therefore, institutional work and engineering work is tightly interlinked. An option for the temporary use of the existing distribution network to precipitate the institutional transitions is recommended in Basic Approach below.

3.2 Development of New Corporate Culture

Customer-First Culture

Given the local monopoly of water supply service, in addition to the status of governmental agencies, the basic undertone of the corporate culture has been that of supply-oriented and inward-looking. We propose that the new Jal Board should approach its duties with outward-looking "Customer First" principle.

ICDC proposes to establish a Customer Call Center at the beginning of its operation. The complex and large operations of the Project as well as the change of service operators are expected to cause some inconveniences and frustrations on the part of the existing and potential customers. Responding to the complaints and finding best solutions are important work to sustain the public support for the Project. At the same time, the complaints are valuable source of feedback that the project managers can acquire directly for reality-check on the course of implementation. The manager of the call center should be linked with all the concerned positions of the Project including PUs, PMCs and contractors in addition to the Jal Board and ICDC

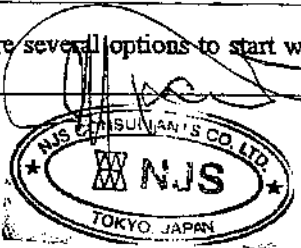
Competition, Meritocracy, and Incentives

Public sector work is usually known to lack in efficiency and often too focused on the procedure than the actual outputs. Ultimately public management is based on rules and regulations and not the outputs. ICDC needs to usher in output-oriented work ethics and system to a new Jal Board. There should be recognition for the good output and efficiency, together with rewards. Understanding the new game plan, the workers will be more motivated to work harder and honestly and use their innovative thinking for improvements at work.



(Giasuddin Ahmed), NOTARY Kamrup (M) Guwahati

Internally, there are several options to start with. A performance incentive scheme



Chief Executive Officer Guwahati Metropolitan Dev. Authority



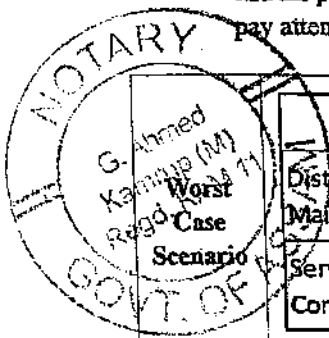
may be initiated to increase competition and productivity of the workers. Externally, it is possible to use performance-based contract schemes. Or the work of plumbers can be-monitored and awarded on a regular basis. Finance Department can indicate the achievements of work targets by zones, departments or even by individual workers with the introduction of new MIS.

3.3 Bringing Water ASAP: Coordination with Engineering Contractors

We understand that the tendering process for the distribution pipes is now progressing fast. There are some concerns regarding the coordination of works between service connection and distribution pipe installation. For ICDC it is more important to bring water to the consumer as quickly as possible from political and social welfare perspectives. In order to do so, there is a great need for well-coordinated contract packaging and work scheduling for the synchronization between distribution mains and service connection works are needed.

As the comparison of the three case scenarios in the Work Schedule Chart below clearly shows, if the coordination between distribution pipe laying and service connection work is not secured by the contracts, the worst case scenario shows the completion time of the end of the year 2016 assuming all the works are carried out in time. The second scenario shows the mid case of service connection work starting halfway of the distribution pipe laying completed with the completing time of mid-2015. The best case scenario is the one with the best coordination and bringing water to everyone in the city by late 2014.

Now it is pertinent to examine whether the contract for the distribution pipes is constructed in such a manner that the contractor strives to bring water as quickly or to end the pipe laying work as quickly as possible. Usually, the contractor is not obliged to pay attention to any needs outside their realm of control.

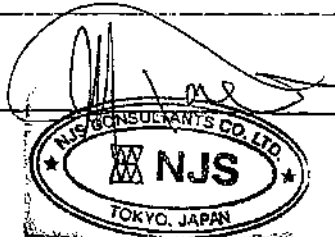


	2011	2012	2013	2014	2015	2016
Distribution Mains and Pipes	[Progress bar from 2011 to 2014]					
Service Connections				[Progress bar from 2014 to 2016]		

	2011	2012	2013	2014	2015	2016
Distribution Mains and Pipes	[Progress bar from 2011 to 2014]					
Service Connections		[Progress bar from 2012 to 2015]				

Standard Case Scenario

R
(Giasuddin Ahmed)
NOTARY Guwahati



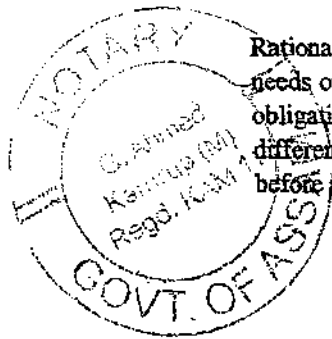
		2011	2012	2013	2014	2015	2016
Best Case Scenario	Distribution Mains and Pipes	[Shaded bar]					
	Service Connections		[Shaded bar]				

Figure Work Schedule Chart for Distribution Pipes and Service Connections

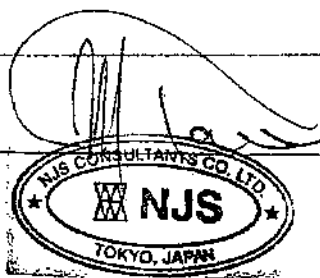
Should it be the case where the contracts for the distribution pipes be solidified before the initiation of ICDC, we propose to include the following clauses within the contract for the distribution main to facilitate coordination retrospectively;

- 1) Sequence of Work: the sequence of pipe laying may be altered by the instruction of the PIU
- 2) Designation of "Service Pipe": The distribution pipes to be connected with the service connection pipes to the customer shall be designated as "Service Pipes"; which will require coordination with service connections and meter installation;
- 3) Synchronization with Service Connection Work: The work on the Service Pipes on each Service Block shall be carried out only with one month prior notice to the Service Connection Contractor and ICDC and carried out at the same time with the service connection works ; and
- 4) Declaration of Completion: work on the pipes designated as "Service Pipes" will be declared as complete only with the signed acceptance by the Service Connection Contractor and ICDC for the transfer of the Service Pipes.

Rationally speaking, it is not possible to expect the main pipe contractor to accommodate the needs of service connections on a good will basis. Therefore, it is necessary to include legal obligations for that effect before hand. Coordination is the most difficult task between different agencies which have different priorities. Thus it is bet to pay a special attention before any work starts.

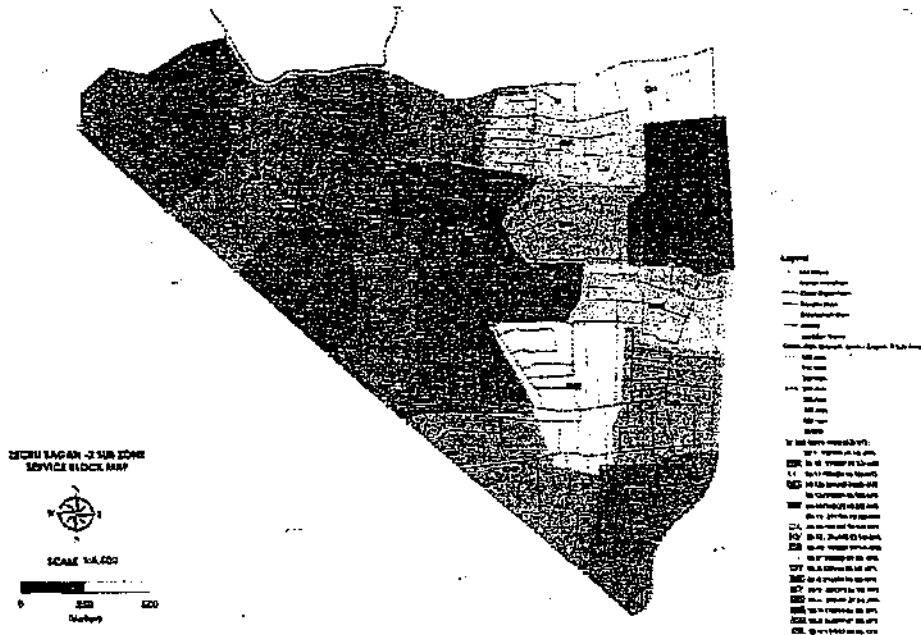


Giasuddin Ahmed
NOTARY
Kamrup (M) Guwahati



3.4 Block-Module Based Division of Work

For the engineering components of the ICDC, we propose the adaption of Service Block

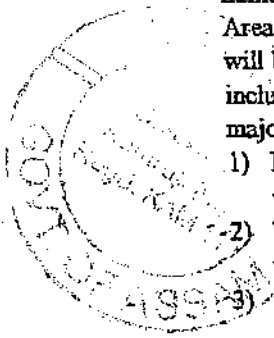


Service Block Divisions for Lechu Bagan-2

System for all the customer related works. We have defined the Service Block as a minimum segment of the distribution network which could be hydraulically isolated with a minimum number of valves, servicing 300-1000 service connections as an example for Lechu Bagan-2 Area below. The Project area will be divided into over 200 such blocks. The Service Block will be more than an area identifier. We will conduct all the work on a Service Block basis, including the basic surveys, service connection plans, and actual connections. There are three major merits in using this module approach;

- 1) Each succeeding work in a sequence can be initiated after the completion of the previous work on a Service Block thereby reducing the idle time,
- 2) The initial few modules can serve as pilot projects, therefore giving invaluable lessons for work improvements in the succeeding Service Blocks, and
- 3) The Project will be decomposed into smaller units which are much more manageable.

Each Service Block will be coded with unique and easy-to-remember identifier. Service Blocks will be used later for water auditing as well as maintenance. Therefore, the segmentation will incorporate hydraulic isolation for water auditing application from the beginning. For the first module Service Block, we expect the entire sequence of potential customer survey - location identification by GPS - GIS based customer database as well as service connection planning can be completed within one month. For the balance of the blocks, it is possible to accelerate the work by increasing the number of teams.



Giasuddin Ahmed
NOTARY
Kamrup (M) Guwahati



3.5 Temporary Use of Existing Distribution Networks During Construction: Clear-cut Exist Plan

If it is the case that the current plan for switching from the existing distribution system to a new one is carried out sequentially in a fashion of WTP - CRW - distribution main - secondary lines - service connections, one of the two inconveniences will be bound to happen for the areas currently supplied by the existing systems;

- 1) Two systems of old and new have to be run until the last customer is converted to the new network, or
- 2) If we close the old system prior to the full completion of the new network, some customers will be left with no access to water while waiting for the new service connection.

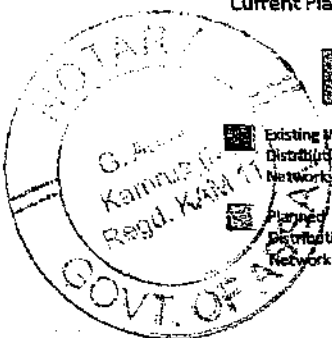
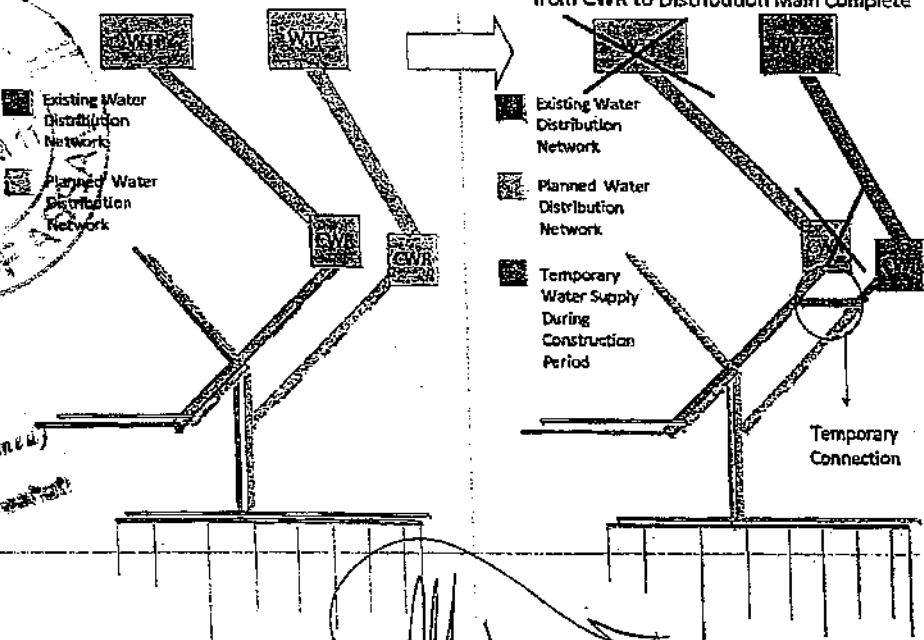
Neither situation is quite acceptable. The first situation is quite costly for both the old and new operations since the revenue has to be split during the period. Also, institutionally it is very difficult to manage dual operations for a prolonged period. The second situation is quite risky. It is necessary to organize a convoy of water tankers. The sufferings of the people may be directed to the Project, further complicating the transition process.

It is very difficult to predict the completion times of distribution pipes or service connections due to influences of various external social factors. Thus waiting for the completion of the entire sequence will not allow setting the target date for the closure of the existing agencies and transferring their authorities.

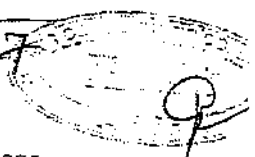
The above situations can be avoided if some provisions are made at the planning stage. The next schematic plan of the temporary use of the existing distribution networks suggests an option for an immediate institutional transfer of the network operations. If temporary connections between the new CWR and the old distribution mains are constructed, the new system can start the production of water and distribute water to the existing customers by utilizing the existing distribution networks immediately.

Current Plan For New Distribution Network

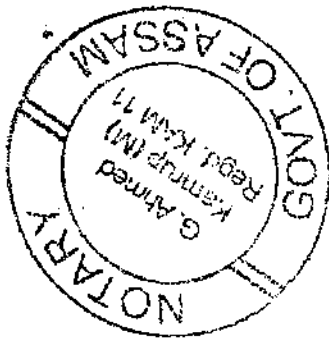
Takeover of Existing Network After Connection from CWR to Distribution Main Complete



G. Anwar Kaimuddin
NOTARY
Guwahati (M) Guwahati



This issue needs to be discussed and agreed within PIU and PMC for actual implementation. Though the transition works would require additional work, the merits to the public and public expenditure appear to override the additional work load.



Handwritten signature and text below the notary stamp.

Handwritten signature of the Chief Executive Officer.



4. Terms of Reference and Detailed Methodologies

The TOR basically stipulates the outputs or outcomes to be produced by the Consultant. Given the diverse scope of the work to build a new institution over six year term, the specification of the goals for each activity and function is more relevant rather the description of the duties for the consultant. In the following sections, we offer more detailed methodologies in order to generate the anticipated results.

4.1 Basic Survey

Scope of Services:

- Undertake the comprehensive survey of potential customers
- Develop a customer Database linked with locational information on GIS

Outputs:

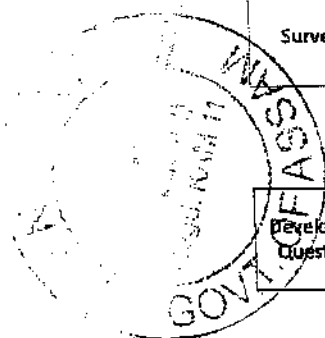
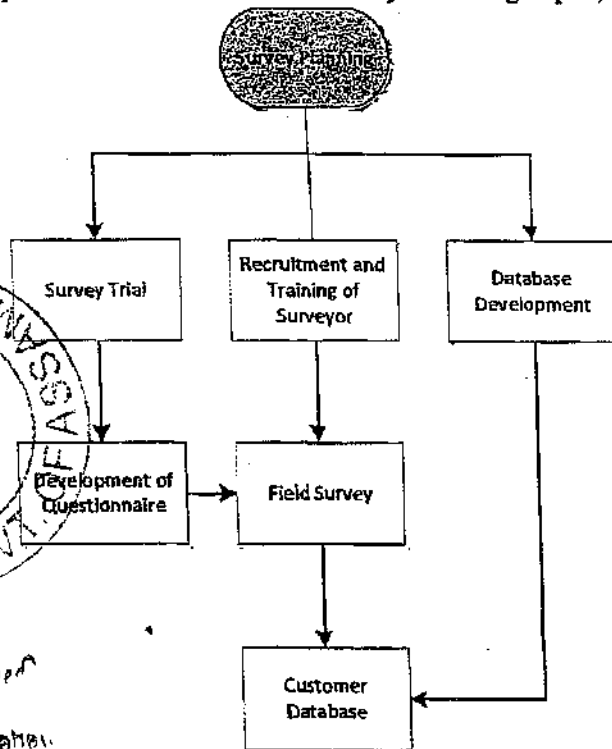
- GIS-based Customer Database
- Poverty Pocket Database

1) Customer Database:

Methodology

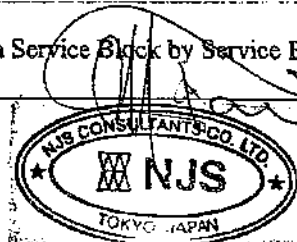
We propose to conduct this basic survey under the direct control of ICDC without subcontracting out the work to the outside agencies, mainly in order to maintain the accuracy of the data and also maintain the traceability of the data. The Customer Department of the Jal Board assisted by Marketing Expert, will be in charge of the survey

since the aim is not only to develop the potential customer database, but also to encourage them to sign on the application form for a new connection. At the same time, the location data from the survey will become the basis for the Service Connection Plan to be produced. The MIS Department assisted by MIS Expert will provide the GPS and train its proper use to the surveyors. The questionnaire will address some basic questions such as the number of family members and the need for the special use of water such as garden irrigation, cottage industry use etc. The survey will cover the entire



(Giasuddin Ahmad) NOTARY Guwahati

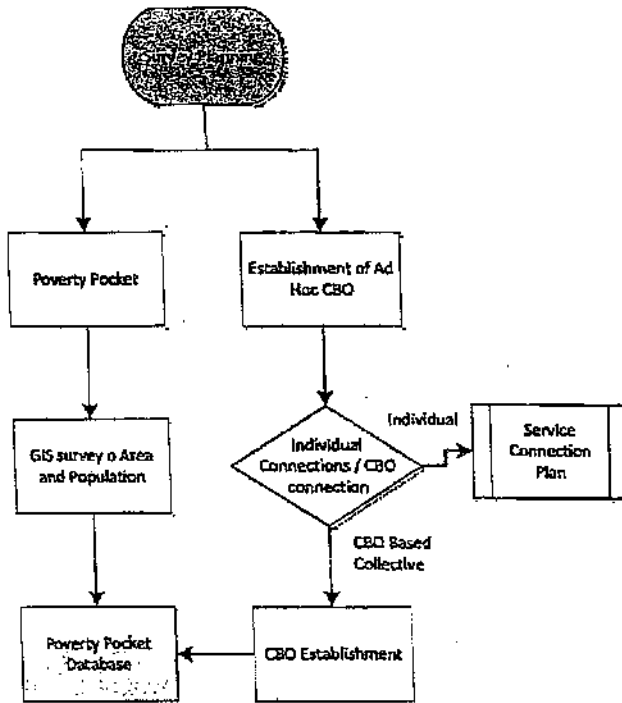
potential customers on Service Block by Service Block.



2) Poverty Pocket Database :

According to the SAPROF, approximately 17 lac population reside in over 90 poverty pockets in Guwahati, accounting for more than 20%. Since the target of water supply is to cover all the population, water has to be delivered to these pockets as well. At present, these poverty pockets are equipped with public stand posts which create large burdens of waiting and transporting water on the consumer, depriving much needed productive hours. From a social development standpoint, a more accessible system needs to be introduced. One optimal way is to switch to the individual connections. We

will seek this option as a priority since it gives more freedom and equitable payment to the consumer. If the poverty pocket is not suited to individual connections, then, a shared metering system to be run by a Community-Based Organization(CBO) will be examined.



The Poverty Pocket Survey focuses on the clear counting of the number of residents which is the most fundamental parameter for demand estimation, followed by the residential locations which is the base for basic pipe layout planning.

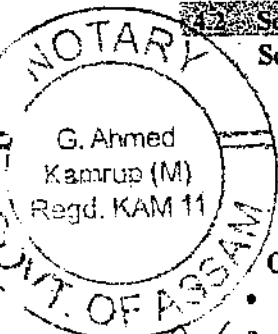
4.2 Service Connection Plan

Scope of Services:

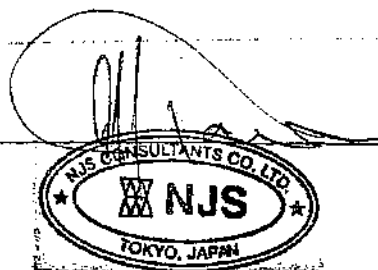
- Prepare an overall management plan for service connection and meter installation;
- Assist the PIU to set up a coordination method with PMC and contractor to monitor the progress of distribution networks and service connections.

Outputs:

- New Service Connection Plan
 - Service Switching Plan
- Poverty Pocket Service Connection Plan



Handwritten signature and notary stamp.



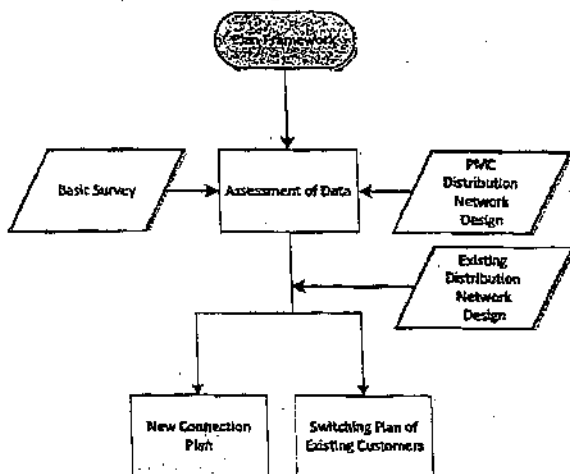
1) Service Connection Plans

Methodology

According to the SAPROF, the South Central Zone has a population of about 600,000 and the Northern Zone has about 70,000 in 2010. The estimated connections are 126,709 for the South-Central and 15,255 for the Northern Zone. The total number of connections to be planned is therefore approximately 1.4 lac connections under ICDC. The Connection Expert with the assistance of GIS and Social Expert will carry out the planning exercise for the service connections.

Action Plan

The Connection Expert will examine the distribution pipe layouts to be provided by the



PMC and the data on population and existing customers to be provided by the Basic Survey. Based on the future target connection plans for each Service Block, with close referencing to the existing network layouts, the Service Switching Plan will be created. For green field areas, new connection plan will be created. Both plans will include connection work schedules and manpower requirement estimates. Every plan will be created for Service Block by Block as explained in the Basic Approach above.

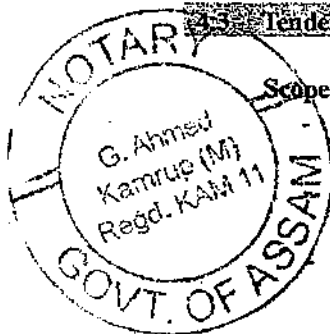
Tender Document Preparation for Meter Procurement and Services

Scope of Services:

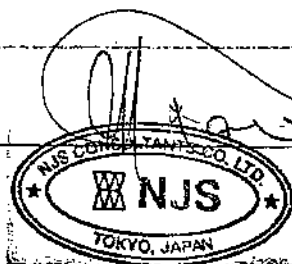
- Starting with a small area and gradually scaling up, prepare timely implementation program;
- Monitor the progress of distribution main construction work and prepare service connection contract tenders on area wise and phase wise;
- Assist the Jal Board to evaluate the capacity of vendors (plumbers) in installation work in bidding in terms of workmanship and price.

Outputs:

- Tender Documents of Meters
- Tender Documents of Service Connection Contracts



(Handwritten signature)
 NJS
 Guwahati

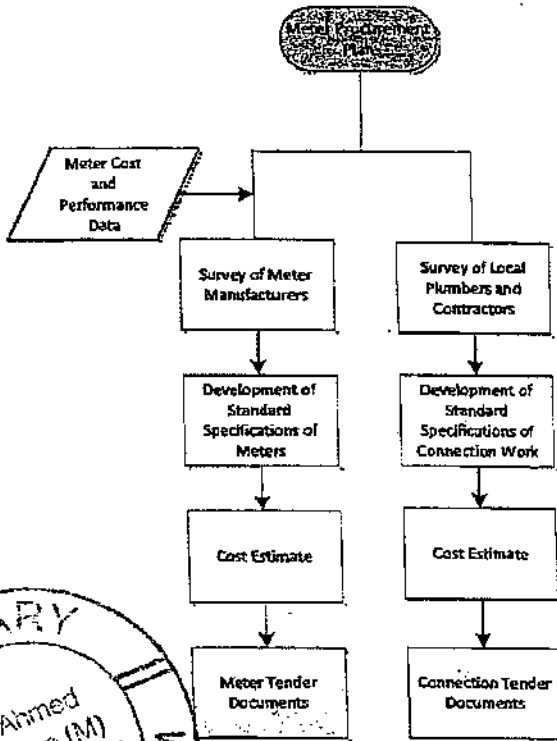


1) Meter and Service Connection Tender Documents

Methodology

There are not so many cities that have meters that are fully functional in India. In Mumbai 70% and in Mysore, 60% of the meters are dysfunctional. In terms of service connection, it is estimated that nearly 50% of leakages may take place at the service connection. Often plumbers in India use a brute method of hammer and chisel to crack the distribution pipe and connect the service pipe by tying them with bicycle tubes. These deficiencies owe to the

use of poor quality materials and also to the lack of standard work procedure. Therefore, it is the most important to specify the bottom line in terms of quality for the procurement of the meters and service pipes. It is also equally important to specify the work process in the contract.



Action Plan

Based on the quick surveys of meter manufacturers and local plumbers and contractors, the Connection Expert and the Contract Specialist shall determine the standards and specifications for the meters as well as work procedures for the service connection. Based on these, the Bill of Quantities will be developed and cost estimates will be undertaken. The Contract Specialist will formulate the tenders for the procurement of meters and service connections with all the above information. The Contract Specialist will the strategies work supervision for service

connections by appropriately packaging of service connection contracts.

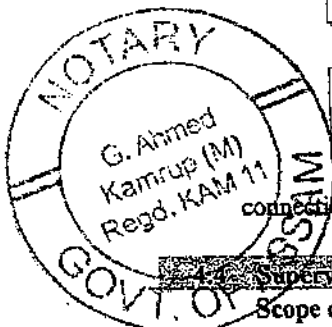
Supervision of Meter Procurement and Service Connection Work

Scope of Services:

- Supervision the work progress installation and service connections
- Recommend to the Jal Board Appropriate countermeasures if there is delay and malfunctioning in the connections and meters.
- Evaluate the work of each contractor for the subsequence contractual evaluation.

Outputs:

- Service Connection Supervision System



(Giasuddin Ahmed)
NOTARY
Kamrup (M) Guwahati

[Handwritten Signature]



Certified to be True Copy

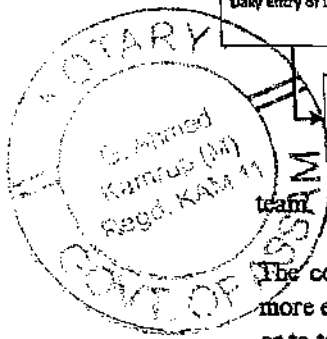
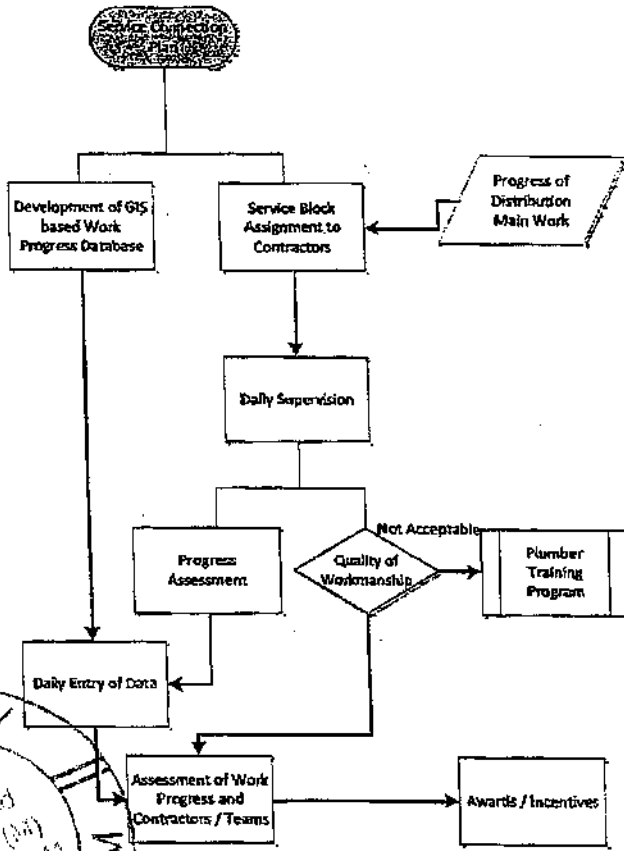
1) Service Connection Supervision System

Methodology

As explained in the Basic Approach, we propose to employ two notable features in the management of service connections, first, the Service Block-based management, the second, "Meritocracy and Competition".

The supervision system will be designed to monitor the progress and quality of work on the individual plumbing team level. To incorporate the meritocracy, monthly awards for best teams and individuals may be announced. For low quality workmanship, the Connection Managers will give a yellow card and guidance on the spot. For untrained or informed workers will be ordered to go through re-training for certification.

In order to monitor the progress of work by the Service Block, the progress data shall be compiled on a daily basis to the Work Progress Database. The MIS Experts will develop the database and reporting formats together with GIS Expert. The database will be constructed to allow the retrieval and compilation of data according to the contractor, each work



The contractual agreement will be designed to be time- and output-bound so that the more efficient contractors will be given a chance to replace the teams progressing slowly, or to take over a larger number of Service Blocks on the second phase.

Action Plan

MIS Experts will develop the Work Progress Database prior to the start of the connection work and train the Connection Managers for the use on the data entry and analytical work. The Connection Managers will acquire the information on the progress of the distribution main works on a daily basis and direct the contractors for work assignments. On the daily basis the Connection Managers will supervise each assigned plumbing teams. They monitor the quality of workmanship in accordance to the set protocols and give proper guidance and instructions. The monitored data are compiled and fed into the

(Signature)
(Giasuddin Ahmed)
NOTARY
Kamrup (M), Guwahati



database on the daily basis. On a monthly basis, all the contracting teams will be evaluated for the progress and its work and awarded accordingly.

(Continued to be True Copy)

4.5. Development of Planning and Monitoring Function

Scope of Services:

- Assist the Jal Board with the establishment of water meter testing laboratory.
- Assist the Jal Board with the establishment of social survey and environment monitoring department.
- Assist the Jal Board with the establishment of MIS department.
- Assist the Jal Board with the establishment of water Auditing cell within the department.
- Integration of different database under strategic planning purpose

Outputs:

- Water Bench (testing laboratory)
- Institutional Development Plans
- Institutional Transition Plan

1) Meter Bench

Methodology

Having an internal testing facility will send a clear message to the manufacturer that the Jal Board is serious about the quality. Random sampling and checking the quality of meters will create knowledge on the actual capacity of the manufacturers. Later, the facility will be used for the validation of the old meters for the replacement or repairs.

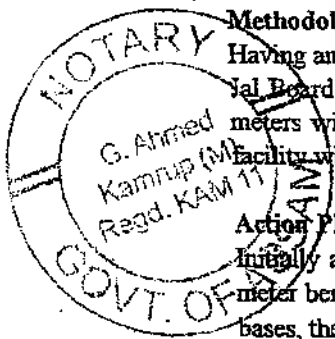
Action Plan

Initially a suitable location for the setting up of large tanks and pumps together with meter bench will be identified, together with the meter inventory space. On a shopping bases, the Connection Experts will procure the necessary equipment including a testing equipment, pumps, tanks and generators. From every lot of meters, a specified number of meters will be taken out randomly for testing. If the testing fails, the lot will be returned to the manufacturer for the replacement.

2) Institutional Framework Plans

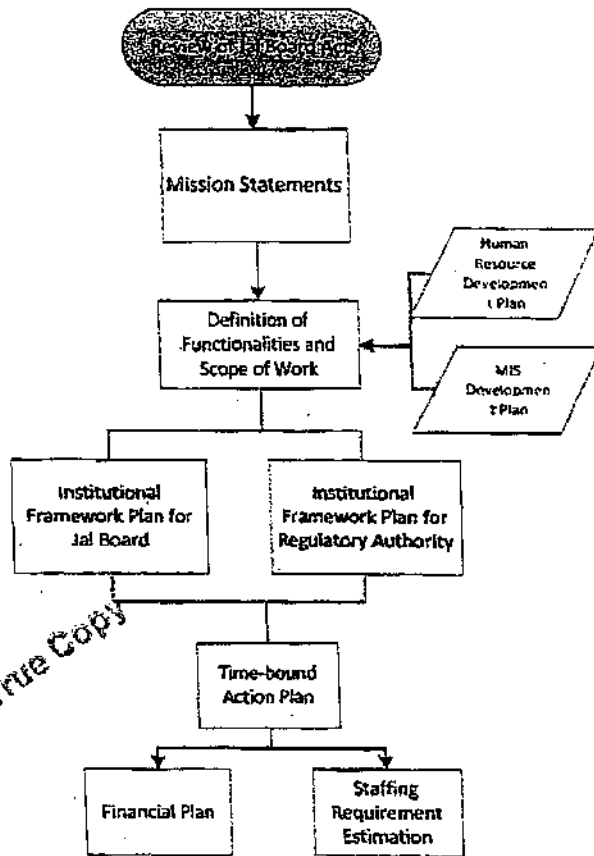
Methodology

As explained in Basic Approach, a broad framework for institutional development is necessary. The Institutional Framework Plans are documents to define the scope of responsibilities of the Jal Board and Regulatory Authority over a mid- to long-term.



(Giasuddin Ahmed)
NOTARY
Kamrup (M) Guwahati





Action Plan

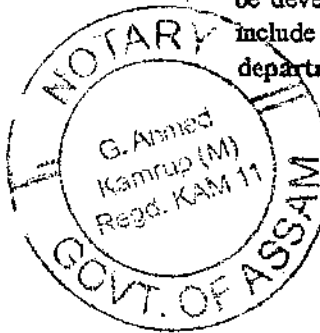
Based on the thorough review of the Guwahati Metropolitan Drinking Water and Sewerage Board Act, we shall assist the development of mission statements by the heads of the organizations. The mission statements may include a new notion of "Customer Orientation". It may be released at some relevant juncture to the inauguration of the organizations. Together with Human Resource Development Plan, MIS Plan, all the functions of the Jal Board and Regulatory Authorities are examined from the standpoint of effectiveness and efficiency. The scopes for internal work and outsourcing will be defined. Based on the scoping definitions, the Institutional Framework Plans will be developed including Time-bound Action Plans, Financial Plans and Staffing Requirement Estimation for all the departments. Planning and monitoring related functions will

be developed in the beginning to internalize the development experiences. These functions include water meter testing laboratory, social survey and environment monitoring department, MIS department, water auditing cell.

2) MIS linked Planning and Monitoring Functions

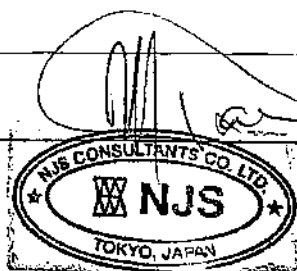
Many Indian water supply operators do not have well-recorded data on its operations or assets or transaction with the customers. Planning can be done only if there are accurate data readily available. Thus planning exercises do not go beyond educated guesses.

One of the major tasks of ICDC with regard to the planning and monitoring function is to develop the advanced MIS for the integration of planning functions. And ICDC is to familiarize the staff of Jal Board with the new information technologies and demonstrate the potentials as management tools.



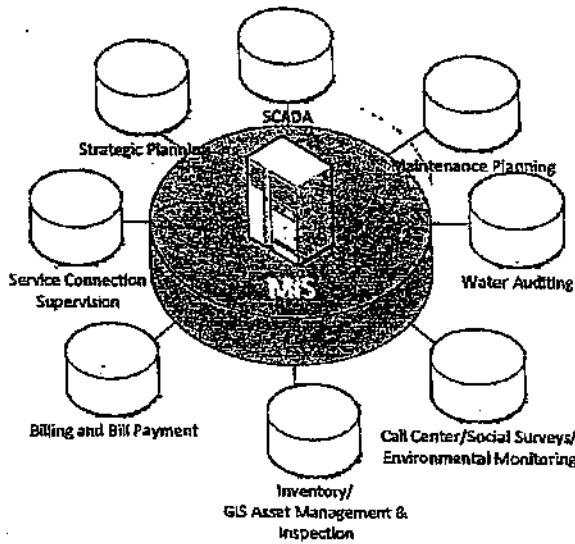
(Signature)
 G. Ahmed Kamrup (M)
 NOTARY
 Kamrup (M) Guwahati

(Signature)
 Chief Executive Officer
 Guwahati Metropolitan Dev. Authority



(Handwritten mark)

The database for each function needs to be interlinked with another to allow flexible

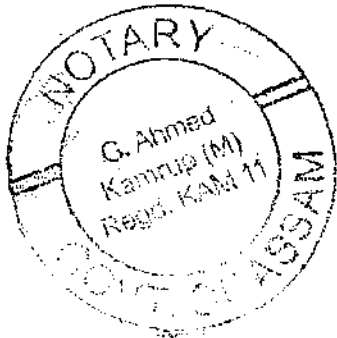
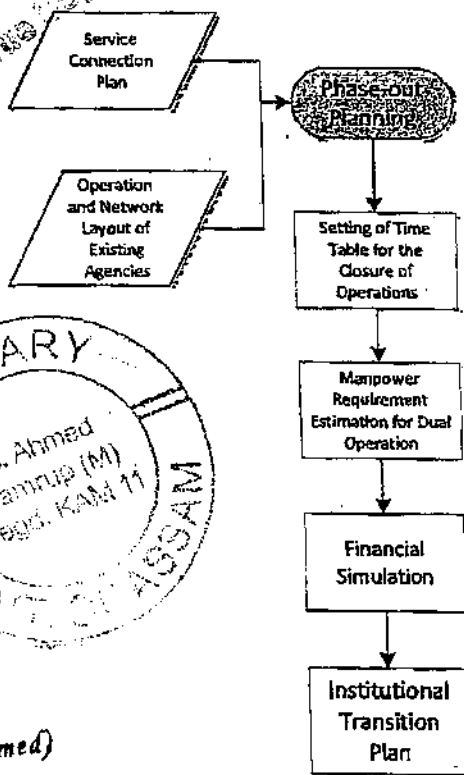


strategic analyses. Since the use of the MIS will require compliance to standard procedures in record taking and data entry to ensure the data consistency and accuracy, the process itself is believed to reinforce the planning and monitoring capacities of scientific management. One of the key forward-looking planning is water auditing and leakage detection. Combining the customer complaints on pressures or foul water on digital maps with flow monitoring records may lead to the detection of leakages. Likewise there are more innovate approach to the improvement of operation efficiencies.

3) Institutional Transition Plan:

Methodology

Retreating is the most difficult task in the war front. And so is the case for public administration. As suggested in the Basic Approach, the agencies to be terminated have to have a definite timeline to transfer their personnel to other posts and agencies while maintaining the operation of the water supply until the new system goes in a full motion. The revenue to be collected from the existing customers stay almost the same while the costs for dual operations of the old and new systems could double the present operation costs. The shorter the period of the dual operation, the less are the operation losses. If there is a serious short fall, the government may have to prepare to fill the gap. The Jal Board will be expected to be staffed with a much smaller number of professionals and workers. Thus the transfer of the workers from the old to the new will be so much the less.



Giasuddin Ahmed
NOTARY
Kamrup (M) Guwahati

The timeline, finance, and manpower are the three major issues to be discussed and agreed upon among the existing agencies and the Jal Board. The plan for phasing out the existing agencies will hinge on the service connection plan and its expected progress. As explained in the Basic Approach, it is quite risky to have dual operation till the last conversion is complete. A pragmatic transitional plan with every stakeholder's consensus is needed as is the alternative recommended in the Basic Approach.



Action Plan

After reviewing the Service Connection Plan and the current distribution networks, the Institutional Expert, together with the Human Resource Development and Financial Experts will develop a time table for the closure of the present operations. After setting up the transitional period, the team shall estimated the manpower and financial requirements for the dual operations.

4.6 SCADA/PLC Implementation

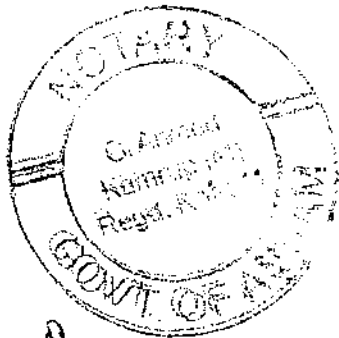
Scope of Services:

- Assist the Jal Board with the establishment of specifications for SCADA/PLC.
- Assist the Jal Board with Tender Evaluation and Implementation of SCADA/PLC

Outputs:

- SCADA Tender Documents
- Water Audit/SCADA Program

Certified to be True Copy



(Signature)
 (Masudul Ahmed)
 NOTARY
 Lamrup (M) Guwahati



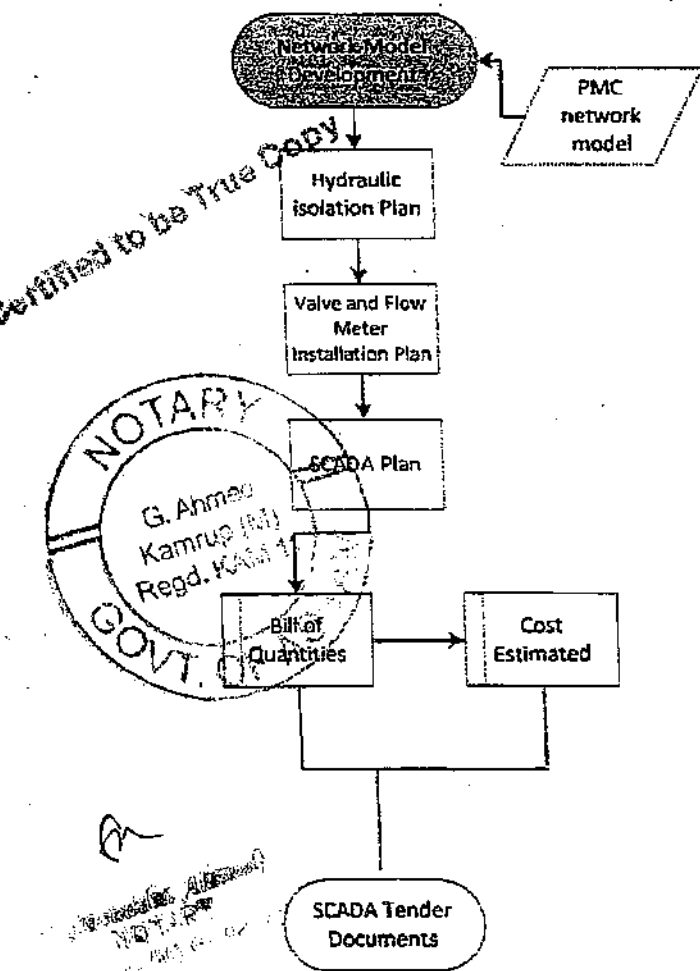
1) SCADA Tender Documentation

Methodology

SCADA is a system of centralized monitoring and control system of the distribution networks. The SCADA will allow the monitoring of water flow and pressures at major nodes and the operation of pumps and gate valves. If there is a major fault in the distribution system, the closure of some valves and operation of pumps can be controlled from the PLC center.

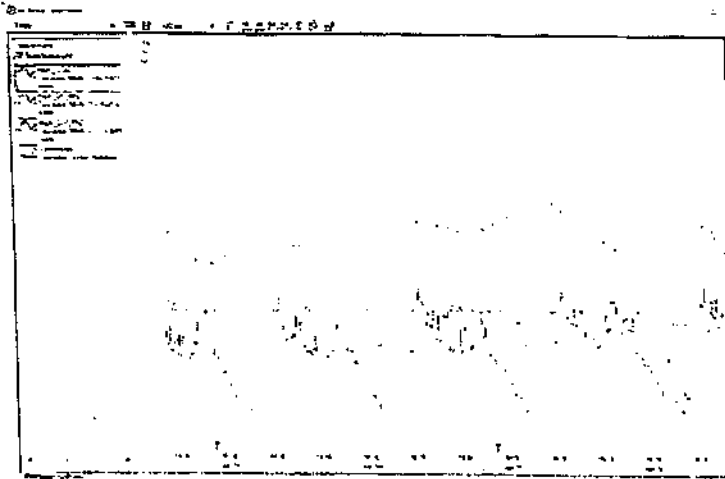
Action Plan

The Water Auditing Expert first will examine the network model developed by the PMC and modify it to suit to define the hydraulically isolated District Metered Areas for the application of water auditing and leakage detection at the time of operation. After completing the hydraulic isolations, the Water Engineer shall develop a plan to install actual valves and flow meters for the isolation. Together with the operation plan, he shall develop a SCADA Plan accompanied by Bill of Quantities and Cost Estimates. Based on these data, examining the work progress of the service connections, the Contract Specialist shall develop the the tender documents for SCADA. ICDC will assist



2) Water Audit/SCADA

The new SCADA system properly planned and designed will be like taking pulses and



blood pressures at every part of a human body. Together with the properly calibrated the Network Model to be incorporated, the operator can sense any aberration from the planned states or regular states on a real-time basis. The operator can re-adjust the operation protocols to fix the anomalies from the planned states to protect the system. The gaps with the regular states may

imply the incidence of a pipe burst. As explained in O & M section, water auditing techniques can be brought in to detect leakages in a more proactive fashion.

4.7. Development of Human Resource Development Function

Scope of Services:

- Assist the Jal Board with the development of recruitment and promotion policy.
- Assist the Jal Board with the development of performance incentive policy and schemes.
- Assist the Jal Board with the development of exposure and study tour for advanced operations within and outside India.

Outputs:

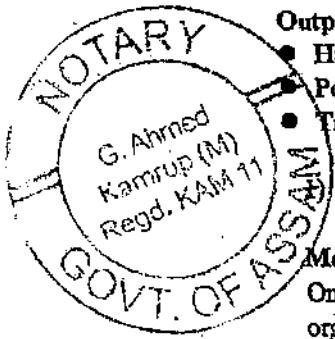
- Human Resource Development Plan: Recruiting and Outsourcing Policy
- Performance Measurement and Incentive Schemes.
- Training and Exposure Tours

Human Resource Development Plan

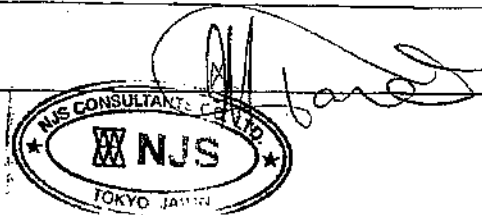
Methodology

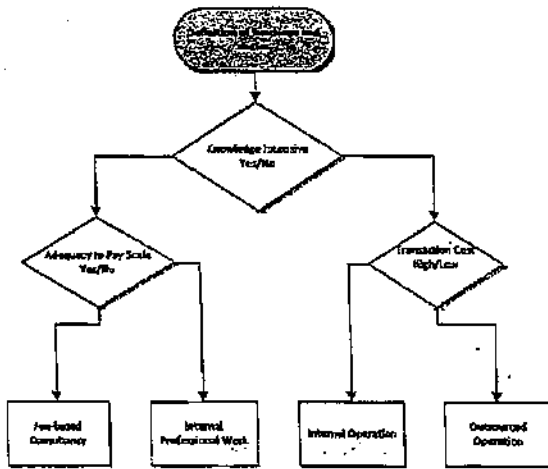
One of the major tasks of ICDC is to define the size and functionality of the organizations, i.e. primarily Jal Board and secondly Regulatory Authority. Many public organizations in India suffer from very low productivities with excess workers while lacking in skilled and professional staff. The new organization has to be structured to achieve the optimal efficiency in productivity and effectiveness in maintaining the service quality. The optimality must be sought through the best mix of permanent staff, contract-based professionals, and outsourced work and workers.

2000-01-15 10:30 AM



B
G. Ahmed
Kamrup (M)
Regd. KAM 71
Govt. of Assam





Action Plan

Based on the Institutional Framework Plans, the Human Development Expert together with PPP Expert will recommend the scope of internal work and outsourcing. The screening is whether the work is closely related to operation knowhow of water supply. If it is yes, the particular function should stay in-house. After determining the internal jobs, the second screening hinges on whether qualified personnel can be acquired by the public salary and also the job is required on a constant basis. If the answer is no, it is

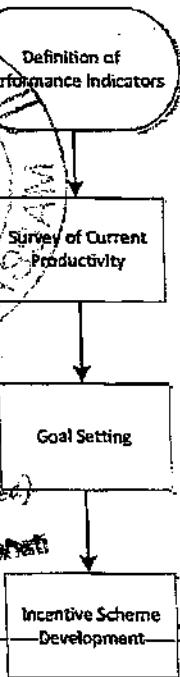
better to hire these professional on a fixed-term contract basis. For non-professional jobs, the inside or outside is determined whether the transaction costs justify the outsourcing or not. If not, it is better to keep the job for permanent workers. Then within the permanent staff, the Human Resource Development Expert shall recommend on the recruitment strategies.

2) Performance Measurement and Incentive Schemes :

Methodology

The introduction of meritocracy in a public agency is a difficult task but is possible. However, the bonus system can only be introduced within the bounds of the public regulations.

Action Plan



HR Expert will find the target performance indicators such as overall staffing per 1000 service connections, maintenance crew per km of pipe length, or revenue collected per bill collectors. Secondly, the survey of the current productivity is to be done. By looking at some best practices in the world the target goals will be set. The benefits for the achievement such as cost saving or revenue increases should be measured. The incentive schemes can be devised as a way of benefit-sharing mechanism.

For back-office staff, there is no clear indicator. From an equity standpoint, the benefits should be partially shared with the back-office staff as well. Finally, the bonus scheme should be recommended for validation under the restrictions of civil servants.

Notified to be True Copy



(Giasuddin Ahmed)
NOTARY
Kamrup (M) Guwahati



3) Training Program Development

Methodology

Training is crucial to maintain the skill levels of the staff. Even the experienced staff will leave the job sometimes, the new entrants have to learn the skill and knowhow in a more efficient systematic way.

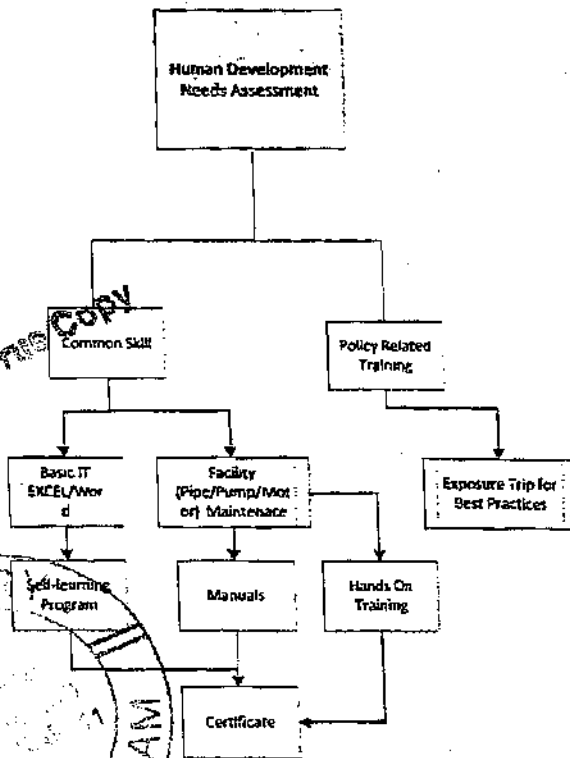
Action Plan

After the assessment of overall human resource development needs, there will be two major components needed for the upgrading of the common skills and knowledge. Given the scale of MIS development, it is an imperative for the majority of the staff to acquire IT skills. The program can be set up to teach the basics of computer operation. There are an infinite number off self-learning programs and web sites to be wisely utilized without

in-house development. For hard core technical knowhow, the manuals and on-the-job training are best suited for this purpose. The certification program may be designed to give incentives for learning. On the policy front, exposure trips to see best practices are planned. Tentative candidate cities for exposure trips are Tokyo, Fukuoka, Manila, Singapore, and Phunon Pem.

Each experts of ICDC will be mandated to leave the record of work, guidelines and manuals. Also, the prospective Jal Board professional and technicians will be guided on the job to acquire the proper knowledge on the work, including planning and monitoring. The key is to have the staff of the Jal Board to be motivated and engage in the work themselves, not ICDC consultants to develop the best practices. ICDC's role is to provide

such opportunities for the young talents of the Jal Board.



Development of Quality Assurance and Environmental Safety Function

Scope of Services:

- Assist the Jal Board with the development of water quality testing manuals and standards;

Outputs:

- Water Quality Testing Standards

1) Water Quality Testing Standards

The most common standards used in India to assess water quality relating to drinking



Copied to be this COPY

SAMSAM

NOTARY
GMDA (M) Guwahati

Q

water are the standards given by Central Public Health and Environmental Engineering Organization (CPHEEO) and Bureau of Indian Standards (BIS).

The common contents of the above three water quality characteristics are given below:

- i) Chemical Contents: Hardness (calcium + magnesium), metals (iron, manganese, arsenic etc), nutrients (nitrogen and phosphorus), chloride, sodium, organic compounds, etc.
- ii) Physical Contents: Turbidity, Total Suspended Solids, colour, odour, etc.
- iii) Biological Contents: Faecal coliform, total coliform, viruses, etc.

Safe quality (potable) drinking water may retain naturally occurring minerals and chemicals such as calcium, potassium, sodium or fluoride which are actually beneficial to human health. Good quality drinking water is free from disease-causing organisms, harmful chemical substances and radioactive matters, tastes good, is aesthetically appealing and is free from objectionable colour or odour. The quality of water needs to be checked periodically to ascertain the required standards prescribed by CPHEEO and BIS.

Methodology: Quality Management Approach

A key aspect of this approach is monitoring programs to verify that the barriers and the system as a whole are working effectively to deliver safe water. The project includes 4 water treatment plants distributing water to 26 hydraulic zones. We propose the following monitoring and disinfection program.

- 1) Monthly water sampling and quality analyzing at least at inlet and outlet of water treatment plants and reservoirs.
- 2) Weekly monitoring of the level of disinfectant (i.e. residual chlorine) randomly at different receiving ends.
- 3) Quarterly monitoring of the consumers satisfaction which is an assessment of the consumers comments and complaints.
- 4) Developing program for routine pipeline flushing to avoid the bacterial growth.

Action Plan

A monitoring program shall be developed, detailing the strategies and procedures to follow for monitoring the various aspects of the water supply system. The monitoring plans shall be designed by personnel experienced in the assessment of water quality, and shall be fully documented. The plans shall include the following information:

- parameters to be monitored
- sampling location and frequency
- sampling methods and equipment
- schedules for sampling
- methods for quality assurance and validation of sampling results
- requirements for checking and interpreting results
- responsibilities and necessary qualifications of staff
- requirements for documentation and management of records, including how monitoring results will be recorded and stored
- requirements for reporting and communication of results.

Monitoring programs and the key characteristics to be monitored shall be reviewed periodically, and altered where necessary.

4. Development of MIS

Scope of Services:

- Assist the Jal Board with the development of database and application specifications for internal performance Auditing to monitor major operations and maintenance activities in a cost efficient manner;
- Assist the Jal Board with the development of GIS database specifications;
- Assist the Jal Board with the development of Customer Billing and Collection Database Specification;
- Assist the Jal Board with the development of Water Auditing program specifications

Outputs:

- MIS Plan
- Finance/Human Resource Management Database
- Customer Relationship Management System(CRM)
- GIS –based Service Connection Supervision System
- GIS-based CRM
- Integration of OM operation database into CRM
- Web-based CRM
- Government System

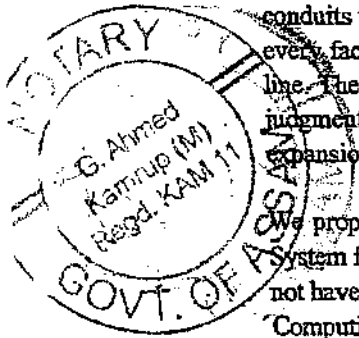
1) MIS Plan

Methodology

MIS is the future backbone of the Jal Board for communication / command/control from monitoring, to supervision, from customer complaints to public relations. Scientific management becomes a reality only if all the relevant data are recorded and easily analyzed for the improvement of the operation. Therefore all the aspects of operations will be recorded into the database.

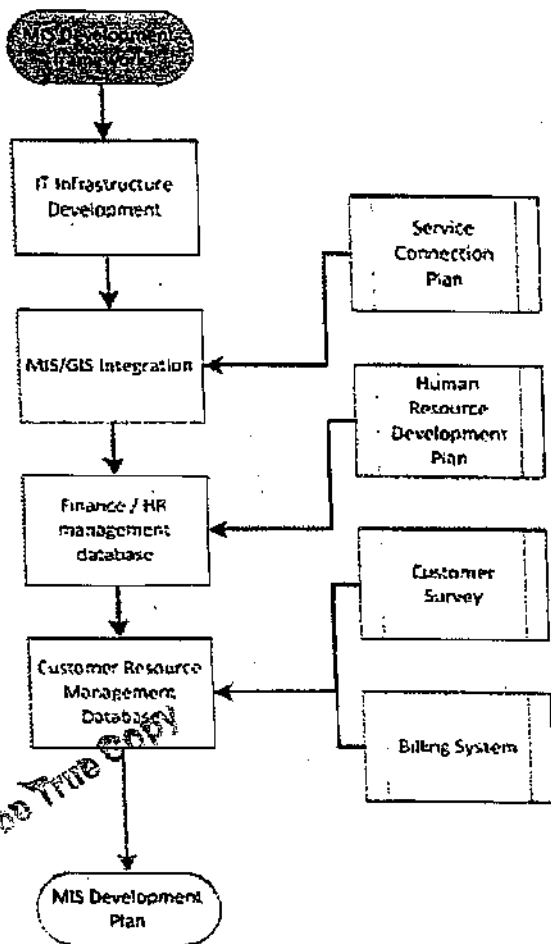
The IT infrastructure should be capable of providing instantaneous and fast communication conduits to every staff with an access to the aggregated data for validation and analyses on every facet of operation. The communication channel should be a broadband on a secured line. The management information system to be created should be designed from practical judgments on maintenance, security and operation. The design needs to incorporate future expansion as well.

We propose to have the system to be created on the Virtual Server or Cloud Computing System for ease of maintenance and scalability. Under such a system, the new Jal Board will not have a physical system of servers or data storage or installed applications of itself. Cloud Computing will endow full scalability and also cost effectiveness for an organization that is to grow in size quickly.



G. Yasuddin Ahmed
NOTARY
Kamrup (M) Guwahati





Action Plan

In order to develop a large scale IT systems for water supply control and command, first, MIS experts will evaluate several options for broadband communication for large scale data transfer and server systems(stand alone/virtual server/Cloud Computing). MIS

MIS Experts shall examine the system requirements by examining the requirements of each function of the Jal Board including Service Connection Supervision Program, Human Resource Development, Customer Database and Billing System.

Based on the examination, MIS Experts will evaluate the options for internal development or outsourcing.

MIS Experts will examine the immediate and future needs for data management and recommend the overall design of the database and its linkages. Finally, MIS Experts will integrate all the options and compile them into MIS Development Plan.

2) MIS Development:

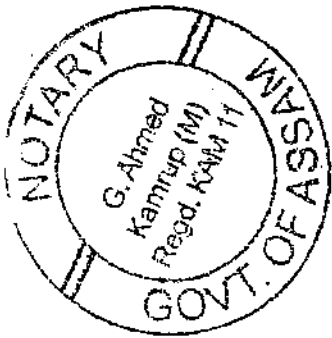
The development of Finance/Human Resource Management Database, Customer Relationship Management System(CRM), GIS –based Service Connection Supervision System, GIS-based CRM, Integration of OM operation database into CRM, Web-based CRM, E-Government System will be sequenced from the most essential system to more advanced and integrated system as described in the MIS Development Flowchart below. As shown in the MIS Development Flowchart, The initial MIS development will take place to cater for the immediate requirements to set up a voice-mail based Call Center for customer grievances. Then quickly MIS Experts have to develop Service Connection Supervision System to monitor the progress of the work and evaluate the performance of contractors and plumbers. The personnel size of the Jal Board is very small for some time to come. Starting with some rudimentary system, MIS Experts have to develop a prototype for the inventory control, operation monitoring, financial and human resource management databases for the future full operation. The large system that is required first is the Customer Relationship Management System (CRM) which integrates information on water consumption, billing, and complaints. In the third stage, MIS Experts will integrate the Service Connection



Handwritten notes and stamps: 'Govt. of Assam', 'NOT COPY', 'Kamrunnabi Guwahati', and a circular stamp from 'GOVT. OF ASSAM'.

Supervision System, CRM, and OM logs with GIS to allow map interface for easy location identification. Finally, the MIS Experts will develop web portals for all the external transactions including billing and payment, making transition to e-government.

Certified to be true copy



G. Ahmed
(Giasuddin Ahmed)
NOTARY
Kamrup (M) Guwahati

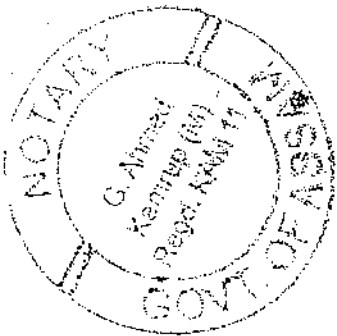
Form - 5D



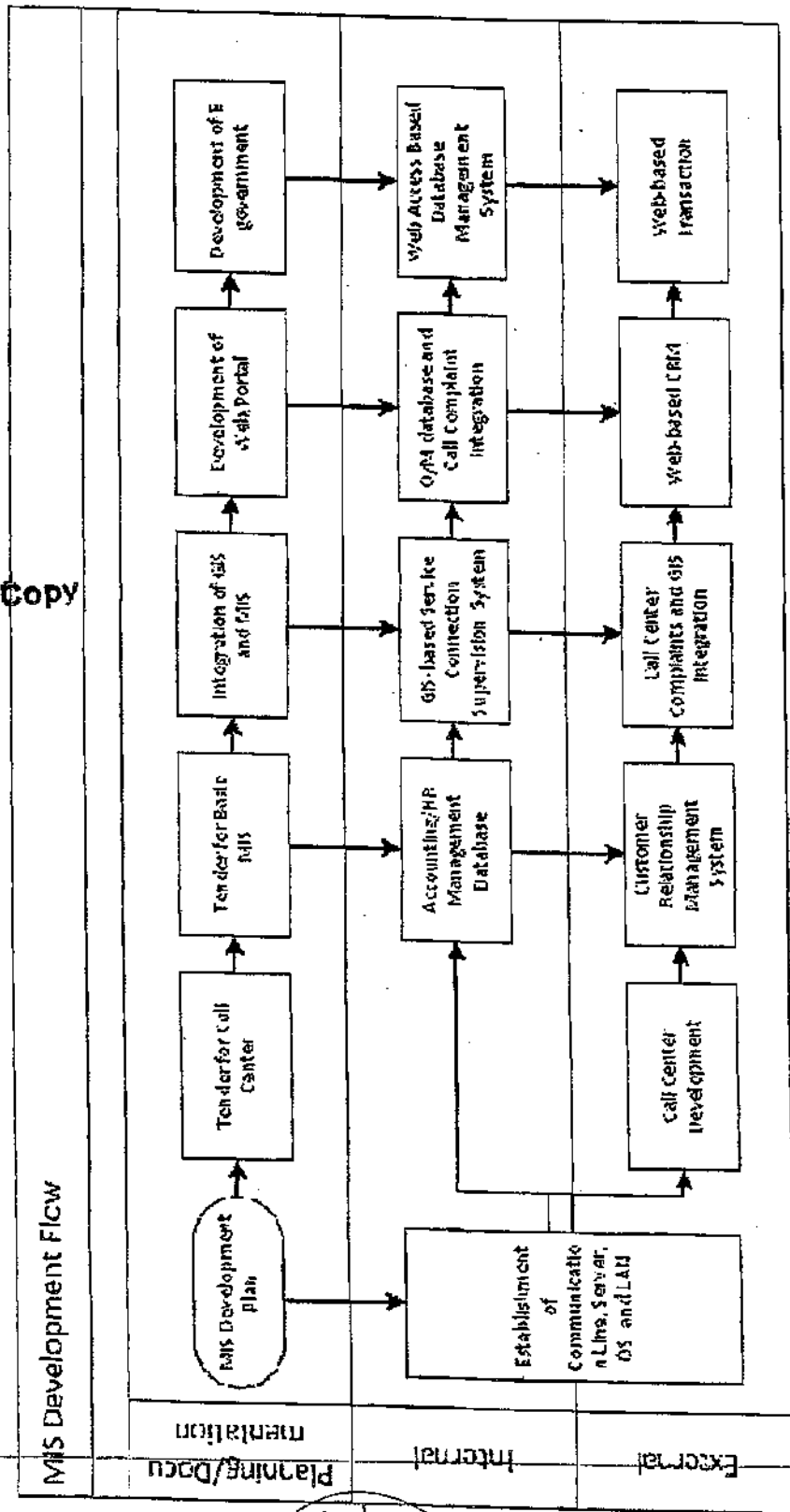
Page 133 of 327

Chief Executive Officer
Guwahati Metropolitan Dev. Authority

Certified to be True Copy



Handwritten signature and text: (Signature) Notary Public Guwahati



4.10 Development of Maintenance Function

Scope of Services:

- Assist the Jal Board with the establishment of plumber certification program for service connection work;
- Assist the Jal Board with the development of procedures for routine and emergency maintenance procedure;
- Assist the Jal Board with the development of GIS database for pipes, valves, reservoirs and other major facilities;

Outputs:

- Plumber Certification Program
- Operation Guidelines and Manual
- Maintenance Guidelines and Manual
- Leakage Detection and Repair Team
- Water Audit with SCADA

1) Plumber Certification Program:

Methodology

In most of Indian cities, the service connection is a responsibility of a customer. A poor workmanship in service connection work is one of the main sources of the leakages in the distribution network. Often illegal connections are carried out under the disguise of official connections. A new water law of Guwahati declares the facility up the flow meter is the asset of the Jal Board, making illegal to work on service connections without the approval of the Jal Board. The main aim of such legal provision is to improve the workmanship of the service connection work. The other side of the equation is to educate and improve the workmanship of the private plumbers through the certification program.

Certified to be true copy

Action Plan

A temporary location, possibly near the meter testing laboratory, is searched for the site for training and certification. The training center should be equipped with a room, audio-visuals, Another shaded ground with buried pipes for training on connection and meter fitting. The Connection Managers will develop training programs and certification procedure.

2) Maintenance Guidelines and Manual

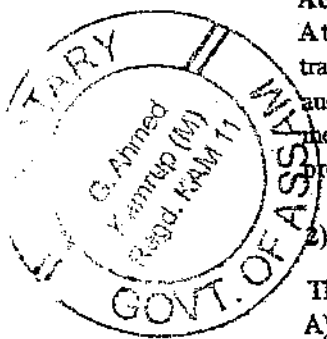
There are three broad categories of maintenance;

- A) Regular Maintenance
- B) Preventive Maintenance
- C) Emergency Maintenance (Risk Management)

The ICDC shall establish the guidelines for all the categories.

Regular Maintenance

Regular maintenance is a standard routine work. For each activity of production, transmission, and distribution, the standard procedure will be defined and detailed.



(Giasuddin Ahmed)
NOTARY
 Kamrup (M) Guwahati



[Handwritten Signature]
 Page 135 of 327

Preventive Maintenance

With the introduction of SCADA system, the monitoring the health of the distribution network becomes a possibility. The flows and pressures at major nodal points are sent to the control room on a real-time basis. It clearly sends signals indicating the health of the system. Leakage detection is one of the concerted effort utilizing this modern technology. The guideline and manual will be developed to detail the methodology of the use of the SCADA for preventive maintenance.

Emergency Manuals

There are different levels of emergencies that the Jal Board has to deal with. Those are,

- Accident level,
- Calamity level,
- Disaster level

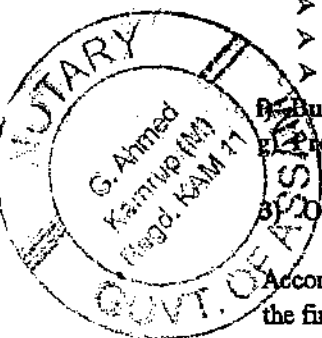
Depending on the levels of emergencies, the response measures do differ. A pipe burst at service pipe belongs to the accident level since the affected population may be relatively small. A shut down of transmission line may belong to the calamity level, affecting a large number of people. A flooding damage to the intake facilities may belong to the disaster level.

ICDC will prepare the emergency manual with the following components by reviewing the best practices in the world.

- a) Anticipated Risks
- b) Preventive Measures
- c) Person to be directly in charge
- d) Security of command and communication channel
- e) Response measures including;
 - Location identification and causal detection
 - Relief measures (deployment of water tankers)
 - Permanent measures
 - Public notification and relations
- f) Budgetary allocations
- g) Preparatory Trainings

2) Operation Guidelines and Manuals

According to the design of the Project, the contractors will operate the major facilities for the first few years. The contractors should provide the standard manuals for the operation of the main facilities. The ICDC will review these manuals and after the investigating the actual operations, shall provide some addendum to provide practical tips for the actual operation.



(Giasuddin Ahmed)
NOTARY
Kamrup (M) Guwahati

Form – 5D

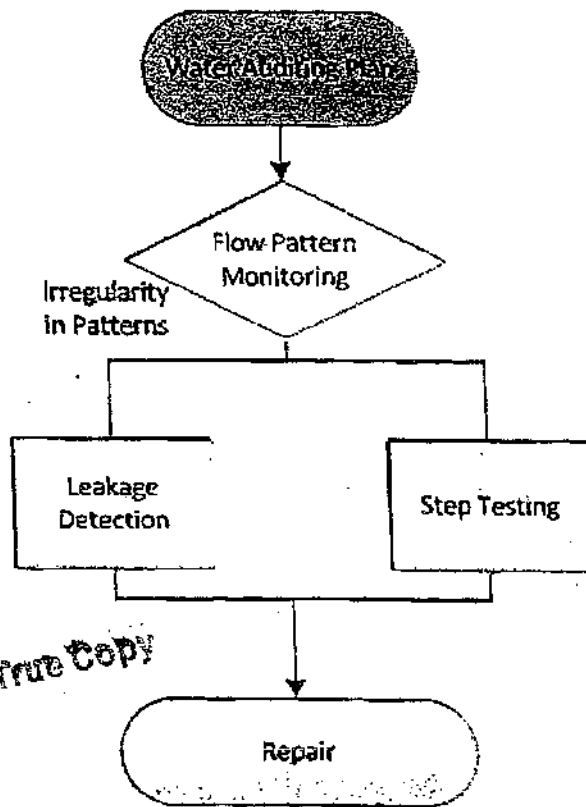


Page 136 of 397

Chief Executive Officer
Guwahati Metropolitan Dev. Authority

4) Leakage Detection

One proactive approach to reducing leakages is water auditing and leakage detection whereas the customer complaints based repairs are more reactive. In order to have full water auditing system, it is necessary to have well-defined District Metered Areas (DMA). DMA is a area defined by bulk flow meters and valves by which the entry and exit of water is measured exactly, which is termed as “hydraulic isolation”. Hydraulic isolation needs to be planned and coordinated at the time of the distribution network construction to reduce retrofitting work.



Action Plan

Based on the water auditing plan, the operator in the PLC center will supervise the flow and pressure patters at major nodes on a 24x7 basis. When they find some irregularities in the patterns, they call for more

localized auditing called “Step Testing.”

A investigation team will be sent to the DMA to undertake local hydraulic isolation and use of flow meters to find out the particular Service Block with irregularities. Then leakage detection experts will conduct acoustic leakage detection to find the exact locations of leakages. This whole sequence of water auditing to leakage detection would require serious skill development trainings. Our Connection Managers are skilled enough to provide trainings to the local staff.

to be True Copy



4.1.5 Development of Procurement and Inventory Function

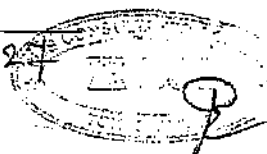
Scope of Services:

- Assist the Jal Board with the development of testing procedures for meters;
- Assist the Jal Board with the development of standards for flow meters(bulk and domestic);
- Assist the Jal Board with the development of chemical and other consumables procurement / procurement-policy;
- Assist the Jal Board with the development of procedure for requisition from

NOTARY
KAMRUP (M) Guwahati



Page 137 of 324
 Chief Executive Officer
 Guwahati Metropolitan Dev. Authority



- stores and inventory management procedures;
- Assist the Jal Board with the development of reordering levels and minimum stock levels.

Outputs:

- Establishment of Inventory Administration Protocols
- Development of Optimal Inventory Management

1) Establishment of Inventory Administration Protocols

One of the key objectives in inventory management is to ascertain the security of the valuable assets in the process of receiving, storing and shipping. In this Project, like the engineering components, a large number of meters and pipe fixtures will be procured from the beginning under the purview of the ICDC. Therefore, it is one of key work to establish the inventory administration protocols at an early stage. The key objective of the protocol is to maintain the following two points;

- Identification of the product and person responsible
- Traceability of transactions

The protocols to be established are as follows;

Acquisition

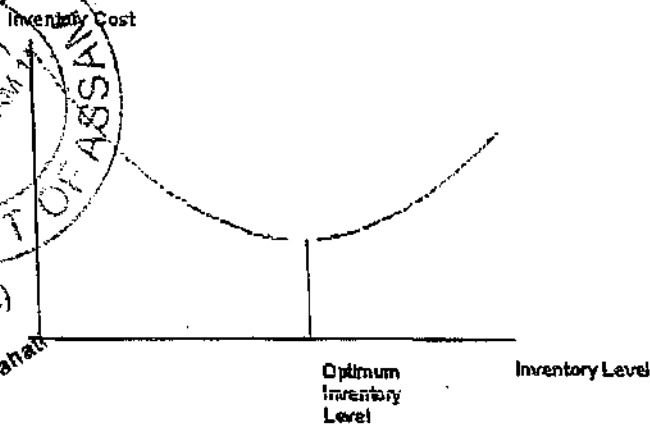
- Standard Specifications (pipes, fittings, meters, and chemicals)
- Testing Procedures and Inspection
- Recording Procedure

Requisition

- Identification of Use and Recipient
- Recording Procedure

Together with the MIS and Financial Experts, the Inventory Expert shall establish an Inventory Database System linked with the double entry financial accounting.

2) Development of Optimal Inventory Management:



The level of inventory needs to be optimized. In Indian water supply operation, often the material stock is hardly sufficient when there is a need. Non-availability of the material would cause a prolonged delay in repair work, thus causing much inconvenience to the consumer. On the other hand, having a high level of stocks will incur large expenses due

to the space requirement, handling costs as well as the associated financial costs. Analyzing the data from the inventory database and OM database should allow the ICDC to obtain the optimum level of the inventories. The optimum inventory management system will be



(Signature)
 Chief Executive Officer
 Metropolitan Dev. Authority

(Signature)
 (Giasuddin Ahmed)
 NOTARY
 Kamrup (M) Guwahati

another management tool that the ICDC shall provide to the Jal Board.

4.1.2 Development of Financial Accounting and Budgeting Function

Scope of Services:

- Assist the Jal Board with the development of procurement for budgeting and reviewing budget and manual;
- Assist the Jal Board with the development of double entry accounting system and manual;
- Assist the Jal Board with the development of billing and recovery procedures;
- Assist the Jal Board with the development of tariff setting and revision procedure.

Outputs:

- Budget Formation Guideline
- Development of Double Entry Accounting System and Manual
- Billing and Recovery Accounting System
- Financial Performance Review

1) Budget Formation:

The budgets are formulated usually on the previous year's actual outcomes. The budgeting has two major components;

- Revenue Projection
- Expenditure Projection

The revenue projection is carried out by the expected number of customers, water consumption, and expected tariff. This is a relatively straight forward work. However if there is a large proportion of NRW or arrears in bill payments, the projection may become dependent on the extent of the efforts to increase the revenues.

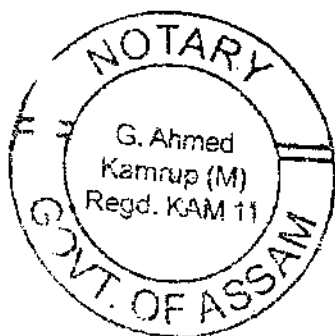
After arriving the unit prices for each activity, the next year's work volume together with the budget estimate will be collected from each department. After some discussion, the expenditure estimates for each department is completed.

As suggested in the "Tariff Setting Mechanisms" below, also the projection of productivity increases should be estimated as well. As is the case in the private sector, the productivity is not a constant parameter but a variable to be improved every year. To come up with a realistic projection of the productivity increases is a difficult task. Overshooting may cause a cost-overrun while undershooting may be penalized by the Regulatory Authority.

2) Double Entry Accounting System and Manual

There are very few government authorities which had moved into double entry accounting system in spite of general acknowledgement of the supremacy. One of the main reasons is the difficulty of the migration and transition. Since the Jal Board is a

certified to be true copy



*Giasuddin Ahmed
NOTARY
Kamrup (M) Guwahati*

Form - 5D



Page 139 of 227

Chief Executive Officer
Guwahati Metropolitan Dev. Authority

new entity and there is almost no assets to inherit. Moreover, the inventory of the assets and its locations are well-documented in the D/D and as-built designs. Combined with the acquisition and requisition data from the Inventory Database, and also work records on GIS, it is even possible to establish automatic linkages with the balance sheet accounts. In principle, there is no major obstacle in introducing the balance sheet accounts to the new Jal Board. Rather, the integration with other MIS databases will greatly enhance its productivity and speed in accounting.

3) Billing and Recovery Accounting System

Billing and Recovery System will become the domain of the Customer Department of the Jal Board. However, the transactions should be verified with actual deposits in financial accounts. The transactions should be summarized in the monthly financial accounts linked with HR database or GIS to reveal the performances in the bill collection by area or person in charge.

4.13 Outsourcing / PPP

Scope of Services: Prepare the bidding document for the operation to be outsourced if any. The bidding should not be done casually on a proposal basis. The private vendor needs to be assessed for its technical capacity from their plans for investment and staffing. At the same time, the appropriate actual fees to be paid out of tariff collection needs to be assessed in relation to the needs for proper investment needs for service connections and maintenance. Specification of performance targets in water quality, availability, number of collections to be achieved and UFWs areas.

- Assist the Jal Board to prepare an overall strategy for outsourcing;
- Estimate the financial simulation of needed costs for target outsourcing jobs;
- Estimate the financial and other benefits for outsourcing;
- Prepare the draft tender document for outsourcing;
- Prepare the evaluation criteria for the selection of vendors;
- Assist the Jal Board in selection the vendors;
- Prepare the performance targets and monitoring method.

Outputs:

- Outsourcing Strategy and Cost-Benefit Analysis
- Tender Documentation for Outsourcing Works and Tender Evaluation
- Outsourcing Performance Monitoring System

1) Outsourcing Strategy and Guidelines :

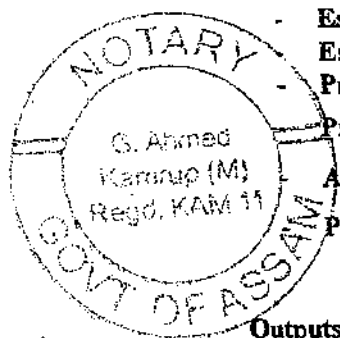
Broadly speaking, the operations of water supply can be divided into the following categories;

- Production
- Pumping and Transmission
- Distribution network operation and maintenance
- Meter reading and billing

Form – 5D



Page 140 of 307
 Chief Executive Officer
 Guwahati Metropolitan Dev. Authority



All of these activities can be managed singly or wholly by private operators on service management contract basis. The first two activities will be managed by the contractor for the first few years. Whether the continuation of the operation by the contractor or another private vendor needs to be quickly assessed by the PPP Expert by applying cost benefit analyses approach. The benefit of internal operation may be the accumulation of operation knowhow, retention of full control, etc. The benefit of the private operation is no union strike, no need for internal human resource development, etc. In carrying out the cost comparison, the cost estimate by the private sector shall be obtained from the potential vendors. The cost estimate for the internal operation shall include the cost for human resource development, overhead as well as the direct operation costs.

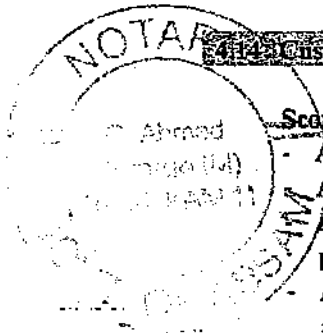
2) Tender Documentation for Outsourcing Works and Tender Evaluation

Normally, the tender contract will detail the obligations of the Jal Board and contractor in undertaking the tasks defined under the contract. Thus the contract is bound by rules and obligations. The control mechanism is penalty. This traditional system has not performed well in India as manifested in the workmanship level of pipe laying work. However, there is another contractual system, Performance-based Contract. This system aims at measuring the performance of the set target. The performance linked bonuses are paid as additional incentives for the improvement of productivity. The PPP Expert shall prepare the draft tender documents for outsourcing work by choosing either system that fit the characteristics of the work.

3) Outsourcing Performance Monitoring System

With or without performance incentives, some performance indicators should be set up for the evaluation of outsourcing. The evaluation provides the termination of the contract or contract system and provides rational options for improvements in management.

certified to be true copy



4.4.2 Customer Relations

Scope of Services:

- Assist the Jal Board with the development of customer database.
- Assist the Jal Board with the development of marketing strategies.
- Assist the Jal Board with the development of Streamlined connection application procedure.
- Assist the Jal Board with the development of manuals for sanctioning tampering and illegal procedure.
- Assist the Jal Board with the development of meter reading system including procurement of billing machines.
- Assist the Jal Board with the development of bill collection system including bank deposits and electronic Kiosk systems.
- Assist the Jal Board with the development of customer satisfaction survey procedure.

6/
Kamruddin Ahmed
NOTARY
Kamruddin (M) Guwahati

Outputs:

Form - 5D



Page 141 of 327

Chief Executive Officer

Amalakar Mohapatra, Gen. Authority

- Customer Database
- Marketing Strategy and Customer Registration
- Connection and Disconnection Program
- Metering / Billing /Bill Collection System
- Customer Satisfaction Survey
- Customer Call Center
- Public Relations

1) Customer Database

Since the service connection work needs to be started as soon as possible to bring water as quickly to the residents of Guwahati, the creation of the customer database has be quickly done. In collaboration with MIS Experts, a proto type version of the database will be adopted in the beginning that accommodate the field work of customer registration and maintain the accuracy. A full-scale version of Customer Relation Management system will be constructed from the field experiences and upgrading of the prototype.

2) Marketing Strategy and Customer Registration

Prior to the implementation of service connections, each customer has to apply for the connection to receive water from the Jal Board with their commitment to the payment of the tariff. For the first batch of customers, the service will only start after a few years. To obtain the application for the service that starts some years away may be a difficult task. The Marketing Strategy has to be established before the registration drive. The strategy may include some incentive schemes may be required beyond the cooperation of the citizens.

3) Connection and Disconnection Program

After water supply is started, there will be some small percentage of customers who are late in payment or cannot afford. Some may connect to the system illegally. There should be some rules for the penalty and disconnection that are politically acceptable. The Regulatory Authority and Jal Board have to discuss the issue and determine the rules.

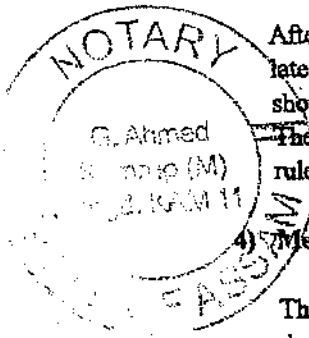
4) Metering / Billing /Bill Collection System

There are some advanced meter reading system and also bill collection system that does not rely on cash payment. There is a large room for human errors and misconducts with regard to billing, the system without non-human intervention is a preferred trend in the world. We will study and these advanced systems and recommend the options.

5) Customer Satisfaction Survey

Since it is difficult to have first hand responses for the management, the ICDC will undertake a survey on customer satisfaction after the full operation of WTPs. MIS will also provide the statistics on the complaints from the customers on a regular basis.

Deemed to be true copy



(G. Ahmed, Notary Public, Guwahati, Assam)



Page 142 of 347
 Chief Executive Officer
 Guwahati Metropolitan Dev. Authority

6) Customer Call Center

One of the first functions to be emphasized is the establishment of customer service function. Addressing to the complaints by the customer should start as soon as any construction work starts. Since pipe laying, in particular, will cause some kind of disturbances to traffic, private functions at home, etc, wishes of customers need to be respected and optimal solutions need to be sought on a case-by-case basis. The crews of the contractors in the field have to address a large percentage of complaints but when there is no immediate solution on the spot, the customer should be given a channel to search a solution directly to Jal Board. Though attending every problem is a tedious work, it is necessary to win the confidence of the customer at large.

7) Public Relations

The first step in establishing public confidence is to face the public and not to hide from them. Successful public relations should aim at giving correct information about the Project, its progress and its potential promises. The establishment of the Call Center is the first step toward that direction. On the other hand, there should be more proactive work to be done. Those proactive measures would include;

Mass Media

- News Release of Major Events
- Participating in Public Events such as "Earth Day",
- Holding of Public Events such as "Water Day".

Public Consultation Level

- Public Consultation on Application for New Connections

Door-to-Door Level

- Door-to-door Promotion of New Connections
- Video and Photo Footage Collections

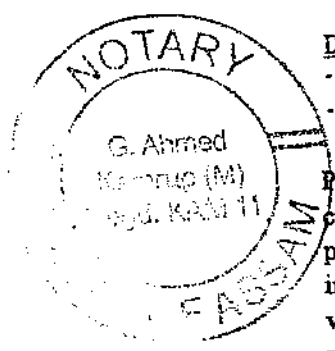
Public consultation and Door-to-door promotion both aims at the consolidation of customer base prior to the commencement of the service connection work so as to urge public cooperation on the service connections which will be bound to cause some inconveniences to the lives of the citizens. Proper planning and recording of photo and video footages will provide great materials for news release as well as the use for other public relation purposes. Since the ICDC will be heavily involved in the poverty pocket water supply schemes, the activities should be record to show proactive nature of project development.

Social Development Functions

Scope of Services:

- Assist the Jal Board with the establishment of social development Division;
- Assist the Jal Board with the development of alternative and more affordance service connection options other than standard individual house connection

Certified to be True Copy



(G. Ahmed Kamrup) NOTARY Kamrup (M) Guwahati



system;

- Assist the Jal Board with the development of an overall poverty pocket connection program;
- Conduct Poverty Pocket Identification survey and find out the desires of each community in terms of connection options.
- Identify the communities that have selected standard individual connection system and notify PMC and Contractors;
- Choose 3-4 pilot communities with inclination of differing connection options;
- Assist the Jal Board to organise Community Based Organisation(CBO) to assume communal financial responsibilities for wholesale delivery of water to the community;
- Design the layout of service connection in the pilot communities;
- Assist the Jal Board to organize a city wide NGO to promote and support the development of CBO's for all the communities that have chosen the alternative connection method;
- Assist the Jal Board with the establishment of social awareness program.

Outputs:

- Baseline Survey
- Poverty Pocket Survey
- Development of Poverty Pocket Alternative Connection System /Pilot Survey
- Development of Community-based Organizations for Alternative Connections
- Management of NGOs for Public Awareness Raising Campaign
- Development of Social Development Division

1) Baseline Survey

Since the Project is developing an entirely new water supply scheme, it is not fair to compare the two systems. However, it is important to measure the public sentiment and confidence toward the institutions prior and ex-post. A simple and quick survey format to conduct longitudinal surveys on the water service levels.

2) Poverty Pocket Survey

The government of Assam conducted a survey on slums in 2008 to indentify 90 poverty pockets in the city. The total population in these poverty pockets comprises 21% of the city population. On the other hand, 30% of the city population has incomes below a poverty line, indicating the measures for the poor should be not only to the poverty pockets but also to the city as a whole.

The survey would require some concentrated efforts. Therefore, it would be more efficient to employ NGO for the task, asking the community leaders and sampled residents on their situation on water delivery as well as their wishes for water delivery methods.

Since the new tariff to be adopted in the future may not be determined at this point, the questionnaire to address their wishes may be addressed on the conditional grading of tariffs for alternative systems.

Form – 5D



Page 144 of 327
Chief Executive Officer
Guwahati Metropolitan Dev. Authority

certified to be True COPY

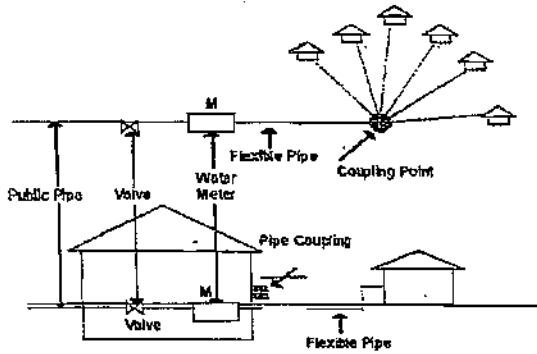
NOTARY

G. Ahmed
Notary (M)
11/11/2011

(Giosuddin Ahmed)
NOTARY
Guwahati, Assam

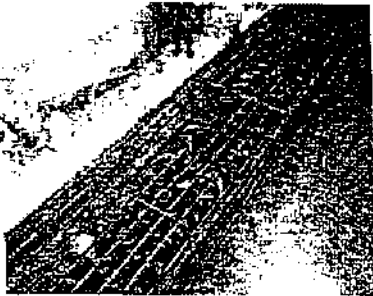
3) Development of Alternative Delivery Method

Methodology



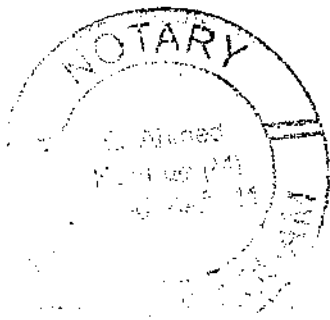
There are several options to provide water in a more inexpensive way to the residents in the poverty pocket by cultivating on its high density. The diagram in the left shows the case of delivering water with a flexible hose to each resident from a centrally metered coupling point. The system requires a community manager to administer metering and bill collection on behalf of the beneficiaries. The next photo is a system of individual metering but modified to suite to cramped space available in slums. The connection pipes may be laid over ground if there is no automobile traffic, rendering the work more inexpensive. The acceptability of the system depends on the cost and willingness of the residents to cooperate.

Clustered Private Meters (Manila Water)



In any case, these experimental methods cannot be deployed in a large scale without testing. Therefore it would require a pilot project with careful monitoring.

Certified to be True Copy



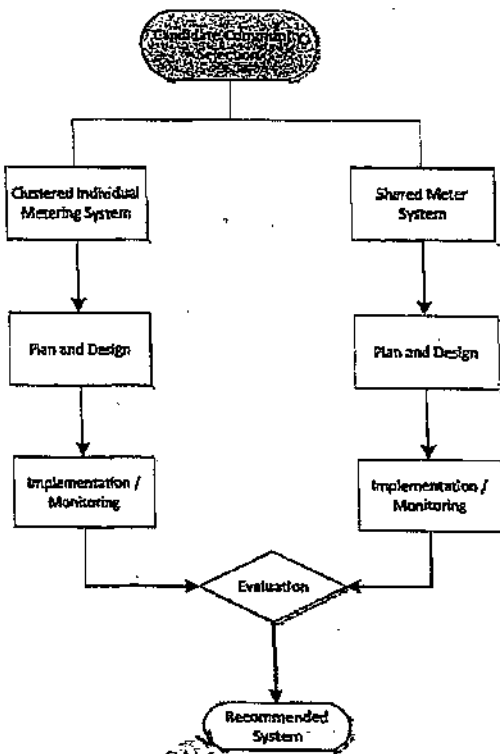
(G. Ahmed)
NOTARY
 Kamrup (M) Guwahati

Form - 5D



Page 145 of 327

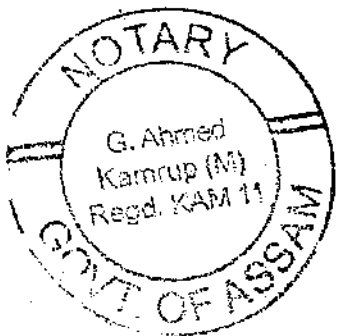
PKS
 Chief Executive Officer
 Guwahati Metropolitan Dev. Authority



Action Plan

The pilot plan starts with the selection of candidate communities which shown more cooperative gesture and also has technical merits in the experiment. The pilot test should at least test two cases of individual metering and shared metering to see which has more potential for a wide scale implementation. The initial funds will be small scale, therefore it is better to be allocated from the expenses of ICDC.

Certified to be True COPY



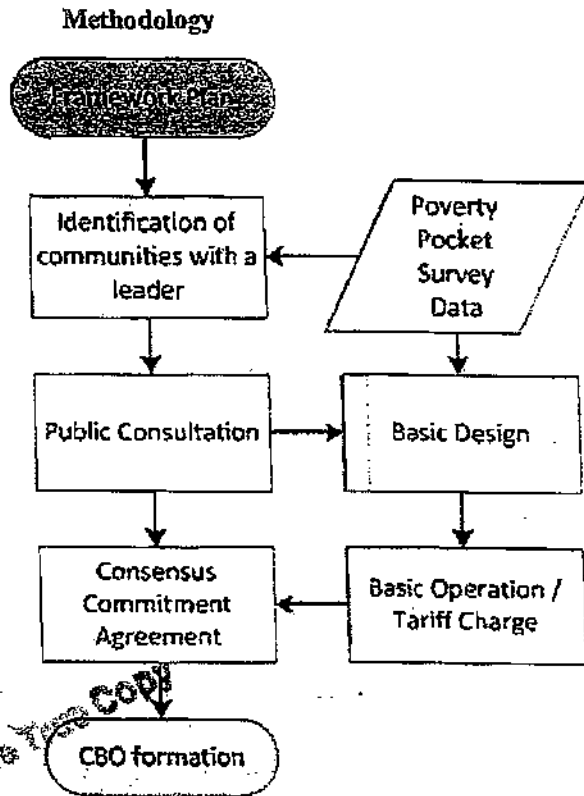
G. Ahmed
 NOTARY
 KAM-102 (M), Guwahati



pkns
 Chief Executive Officer
 Guwahati Metropolitan Dev. Authority

[Handwritten mark]

4) Development of Community-based Organizations for Alternative Connections



One crucial element that is required for collective action is the existence of a leader. A leader who is willing to commit self-sacrifice can organize and sustain the community organization. Most of the members of the poor community are struggling just to make the ends meet on a daily basis. Even if they agree on the concept of shared meters or other forms, they cannot volunteer. However, there are always some local people who are seeing their problems beyond their daily constrictions. Finding such a potential leader is the key to the success of establishing Community-Based Organization (CBO).

Action Plan

There are two main jobs in the poverty pocket connection. One is the community based consensus building starting with the identification of the

leader then finally setting up the CBO. On the other side of work is to be carried out by the Community Connection Managers by first investigating the layout of the community and then to create the basic design with the specification of pipes and connection to the main etc. Based on the basic design, the basic operation plan should be discussed with the residents on the issue of the supply hours, expected available volume, a delivery method to the house as well as the tariff. After the improvements based on the feedback, there should be a community based agreement. The operation, tariff, organization and service level should be all incorporated into the initial plan to serve as the basis for the formation of CBO.

5) Management of NGOs for Public Awareness Raising Campaign

Social Experts together with Community Connection Manager shall manage the structuring of the tender/contracting, supervision of the NGOs on their methodologies and performances.

Development of Social Development Division

The development of Social Development Division can only come from the commitment of the Jal Board's willingness to take part in social development by giving 100% access to water to its citizens. We may propose to promote one of the Public Relation Officers to head the activity of social development forward the end of the ICDC.

certified to be true copy

(G) (S) (D) (M) (A) (F) (M) (E) (N) (T) (S) (E) (G) (U) (A) (H) (A) (T) (I)



Chief Executive Officer
Guwahati Metropolitan Dev. Authority

Q

4.16 Public Awareness Raising Campaign / NGO

Scope of Services:

Public awareness campaign will cover all areas of the Project and continue until the end of the Project. ICDC will assist SBC in selecting local NGO and overseeing its activities. The activities under public awareness raising campaign will include:

- Assist in detailed socio-economic survey;
- Prepare monthly action plans with targets in consultation with Social Development Expert;
- Hold awareness raising campaign, which would include, but not limited to, socio-economic survey, group discussions, transect walks, workshops, roadside shows, preparation of pamphlets, posters etc.

Outputs:

- **Public Campaign on Illegal Connection Eradication / Volumetric Tariff Promotion / Hygiene and Water Conservation**

- 1) **Public Campaign on Illegal Connection Eradication / Volumetric Tariff Promotion / Hygiene and Water Conservation**

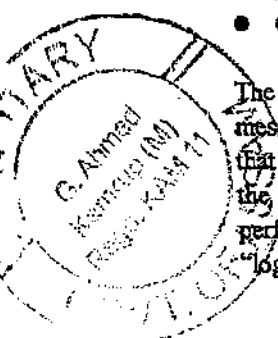
Methodology

Some large proportions of the residents are still illiterate. The conventional paper mass media does not serve as a communication channel. Therefore, we need to use some grass-root level dialogue through the engagement of the NGO. The basic messages to be sent across are as follows;

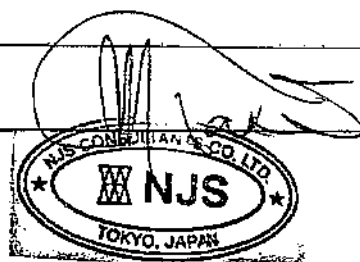
- **Problem with illegal connections and promotion of regular connections,**
- **Promotion of volumetric tariff system and its impact on the conservation of water, and**
- **Causes of water contamination and best prevention method.**

The Social Experts will engage a NGO to find the venue to send cross the important messages described as above and ask for the ideas at the time of Tender Proposal. The NGO that has come up with the most appealing ad copies and communication method will win the project. Instead of the methodology based tendering, we will introduce the performance-based tendering such as the presentation of "advertising copy," and/or "logo."

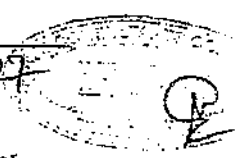
entitled to be True Copy



Giasuddin Ahmed,
NOTARY
Kamrup (M) Guwahati

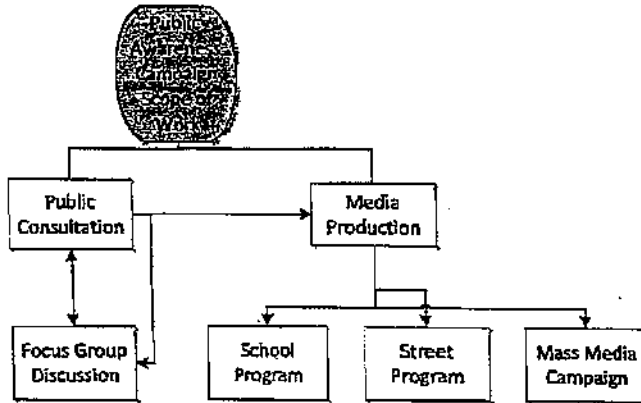


Chief Executive Officer
Guwahati Metropolitan Dev. Authority



Action Plan

The selected NGO will work on the above target public awareness raising through various media including person-to-person, forum, school, ad hoc street level performance and mass media.



The feedback from various events will be logged and evaluated by the Social Expert to continue and expand to increase its impacts or terminate and search for other options.

4.17 Development of Regulatory Authority - Tariff Setting Mechanism

Scope of Services:

For Water Regulatory Authority ICDC will build monitoring and regulatory functions which will include following main tasks:

- To assist the Regulatory Authority to establish performance targets to monitor the operation of water supply;
- To assist the Regulatory Authority to establish the procedure for performance auditing of the water supply operators;
- To assist the Regulatory Authority to establish the procedure for tariff revision;
- To assist the Regulatory Authority to establish the procedure for financial auditing;

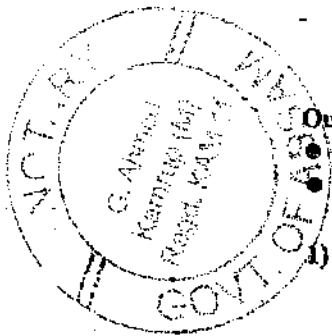
Outputs:

- Tariff Setting Mechanism
- Performance Auditing

1) Tariff Setting Mechanism

One of the important tasks in modern water service is to de-politicize the tariff setting process to the extent possible. Excessive politicization of water in India has rendered even an inflation adjustment in the tariff almost impossible. Thus the price of water always lagged with general inflation. The consequential revenue shortfall had led to insufficient maintenance of the facilities. The new Water Law for Guwahati has created a new institution of Water Regulatory Authority. By decoupling the tariff setting mechanism from the Jal Board, now there is a third party which evaluates the rationale for the tariff revision and also serves as a watchdog for any monopolistic misbehavior.

Another step forward is to have a scientific price examination process and make public known the process itself. After going through several rounds of the dialogue with the public, the public approval of a new tariff should increase.



(Signature)
 (Giasuddin Ahmed)
 NO. 287
 Kanchan Barua Guwahati



As the market determine the price of a commodity by the supply and demand, optimally, the price of water should be set to equilibrate the two forces of supply and demand. Since there is no market for the local monopoly of water supply, the most rational method is to simulate the market. Therefore, the ICDC shall conduct two types of surveys, one from the Jal Board and another on the public.

- Performance Auditing of Jal Board
- Affordability-To-Pay / Willingness-To-Pay Survey

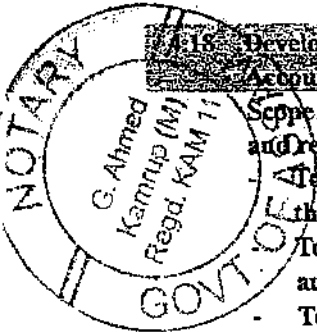
2) Performance Auditing of Jal Board

The Jal Board will submit the detailed financial accounts every year. The financial analyst of the Regulatory Authority will analyze the data and derive the unit cost of water delivery in terms of rupee per kilo-liter. The Regulatory Authority will estimate the price escalation for the coming years by investigating the CPI index etc and set the general price escalation for water at designated X% per annum. At the same time, the Regulatory Authority to produce annual productivity improvement targets of Y%. After the investigation and discussion among the two, the Regulatory Authority should come up with a formula of ;

Annual Increase % = X % - Y %.

Affordability-To-Pay / Willingness-To-Pay Survey

The ICDC will conduct the affordability-to-pay and willingness-to-pay surveys with the volunteering citizens selected during the Baseline Survey. Both surveys are determined to determine the affordable monthly budget for water usage. The affordability-to-pay survey should be used to determine the tariff for the first block of water usage, e.g., 10 kl per household per month. The tariff can be structured in a telescopic way to allow some cross-subsidization by the rich to the poor.

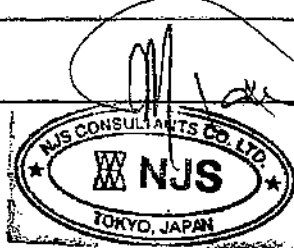


(Giasuddin Ahmed)
NOTARY
Kamrup (M) Guwahati

18. Development of Regulatory Authority, Performance Monitoring and Public Accountability

Scope of Services: For Water Regulatory Authority ICDC will build monitoring and regulatory functions which will include following main tasks:

- To assist the Regulatory Authority to establish performance targets to monitor the operation of water supply;
- To assist the Regulatory Authority to establish the procedure for performance auditing of the water supply operators;
- To assist the Regulatory Authority to establish the procedure for public information disclosure and its methodology including Web Servers;
- To assist with the Regulatory Authority to establish an overall framework for consumer interest protection and public health;
- To assist the Regulatory Authority with the development of the procedure for environmental monitoring;
- To assist the Regulatory Authority to establish a mid-term plan for the development of the regulatory functions.



PK610
Chief Executive Officer
Guwahati Metropolitan Dev. Authority

Outputs:

- Annual Report on Drinking Water
- Mid-term Strategy

Certified to be True Copy

1) Annual Report on Drinking Water

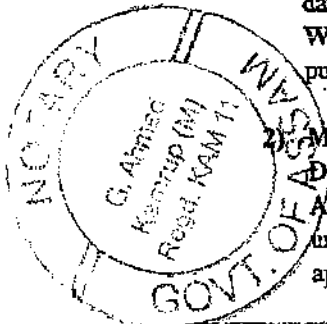
Another important role for the Regulatory Authority to play is to provide objective accounts of the performance of the Jal Board to the public as a third party. The Authority can engage the Public Relation Department of the Jal Board for this purpose to produce an annual report. The major performance indicators to be included in the annual report would be:

- Total water produced
- Total water delivered
- Water Quality and Public Health
- Water Supply Disruption Hours and Affected Consumers
- Non-Revenue Water
- Estimated Leakage
- Financial Account Summary of Jal Board
- Bill Recovery
- Status of Illegal Connections and Regularization

The Authority can monitor these indicators directly or through the verification of the data from the Jal Board. The results should be published in "Annual Report on Drinking Water in Guwahati." The objectivity of the data will enhance the public confidence on both Jal Board and Regulatory Authority. The more detailed and up to date information and tariff revision report will be posted for public disclosure on the Web site that the ICDC will establish in order to maintain the public accountability and public health.

2) Mid-term Strategy

During the ICDC, we expect that there will be three annual cycles for the Regulatory Authority to perform its responsibilities. ICDC will collect the public impression and understanding of the work by the Regulatory Authority and give feedback and appropriate recommendations for improvement of the operation on a mid-term basis.



4.19 Coordination with PMCs and Main Contractors

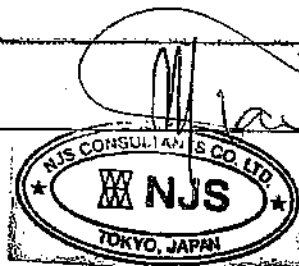
Scope of Services:

- Assist the Jal Board to organize a system for communicating with PIU, PMC and Contractors on the progress and coordination needs.

Outputs:

- Earliest Delivery of Water
- Minimum Disruption of Water Supply

(Giasuddin Ahmed)
NOTARY
Kamrup (M) Guwahati



PW/2
Chief Executive Officer
Guwahati Metropolitan Dev. Authority

Certified to be True Copy

1) Earliest Delivery of Water

As explained in Basic Approach, the final goal of the Project should be set at "bringing water at the earliest date" for all the potential customers. In order to achieve this goal, the following three elements of coordination are necessary;

- Goal-oriented Plan Adjustments
- Contractual Accommodation for Service Connection
- Coordination Committee on Work Progress

Very often than not, unexpected incidents happen during the implementation stage. The Coordination Committee should rein in to have proper adjustments to all the concerned bodies if some incidence happens.

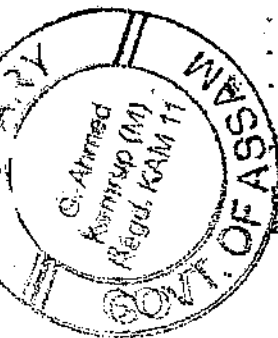
2) Minimum Disruption of Water Supply or Other Urban Services

People who suffer most from the anticipated and unanticipated disturbances to be caused by pipe laying works are the residents in the old urban cores. Since they are already have piped water services, the additional benefits are less than the new customers in suburbia. At the same time, the suffering is greater because the streets in the old section are narrower and have more traffic. Traffic control alone presents a major obstacle to the Project.

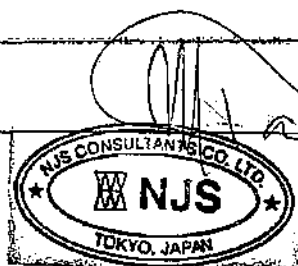
As explained in Basic Approach, the temporary use of the existing network may be a good option to be considered seriously. To realize that, it would require additional parties cooperation, i.e,

- AUWSSB
- GMC and
- PHED.

They have even less incentives to cooperate with the Project since they are simply going away. Nevertheless, their cooperation is an imperative. A high level committee as well as working relationship should be established at the earliest stage.



G. Ahmed Karmajit (M)
 Kamrup (M) Guwahati

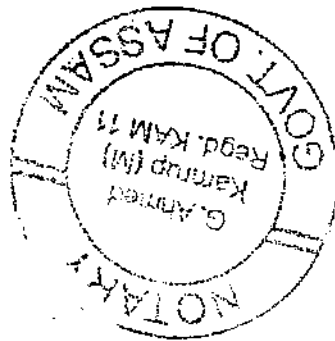


Chief Executive Officer
 Guwahati Metropolitan Dev. Authority

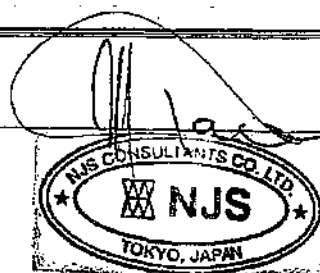
Certified to be True Copy

FORM -5D : APPROACH AND METHODOLOGY

(i) b (i) : Training Approach and Methodology and
Qualification of Experts and Trainers



(Giasuddin Ahmed)
NOTARY
Kamrup (M) Guwahati



Page 153 of 327

Chief Executive Officer
Guwahati Metropolitan Dev. Authority

b) Training Section

Certified to be True Copy

1. Approach & Methodology

Introduction

The proposed project of Institutional and Capacity Development for Greater Guwahati Water Supply System is a massive undertaking by GMDA and other allied organizations, that involves a large investment by any standards and it is absolutely essential to ensure that the project is planned, designed, implemented and commissioned scientifically. In addition, it is essential that PIU (Project Implementation Unit) staff equips itself with the necessary skills to effectively and efficiently manage the newly formed entity "Gowahati Metropolitan Drinking Water and Sewage Board", in providing its services of the entire scheme to the citizens of Metropolitan Guwahati. The above is possible when the PIU staff is oriented by a suitable Training Program and put the same in practice by gaining hands on experience with the implementation of various project phases and components.

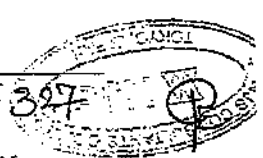
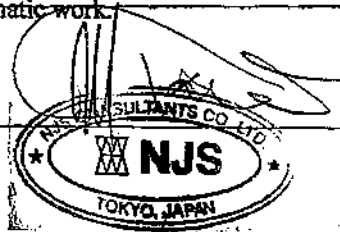
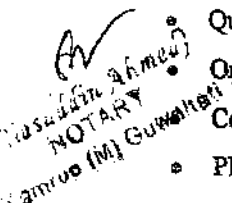
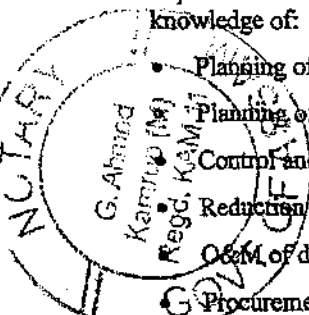
Skills transfer is essential primarily to meet the operational needs of the newly formed entity and to enable them perform their work with maximum efficiency. As a major factor in the transfer process, training requires different levels of management to be involved in decision making, from overall policy to the identification of genuine needs, and to agreeing methodologies for meeting these needs.

A successful Skills Transfer Programme will benefit not only the newly formed entity and PIU but also the individual employee, since when an employee performs his work more efficiently his sense of job satisfaction and motivation is increased. In the longer term, appropriate follow-on training will permit employees to develop their skill base and allow them to take on greater responsibilities.

Objectives of the Training Program

Training is not an end in itself but is a means to an end, namely improved performance to meet new challenges. The key objective of the training, technology transfer and development programme is to put in place a sustainable system to build on the existing skills in PIU, and to introduce the new skills required for the changing working environment. This would be achieved by strengthening staff knowledge of:

- Planning of water systems – treatment plant and distribution system processes;
- Planning of computer aided design of Distribution Network modeling – flow and pressure;
- Control and monitoring of water quality within the distribution system
- Reduction measures of unaccounted for water
- O&M of distribution system and development of routine flushing programs
- Procurement methods
 - Financial accounting and budgeting
 - Human Resource Development Function
 - Quality assurance and environment safety function
- Organisation and administration of water works and water systems
- Computerised project monitoring and management systems (MIS).
 - Planning, design, documentation & monitoring of various components of the project.
 - Computers to help them perform their routine and special tasks more efficiently and to provide them satisfaction of doing systematic work.



- Application of Artificial Intelligence Techniques for Distribution system monitoring and delivery of water to its consumers
- The conditions of contract and specification so that they are able to take up a full and meaningful role in the construction supervision or implementation of the Project
- And finally to develop policy and frame work on training for the newly developed staff and a strategy for implementation of a training programme to ensure continued development of the skills needed for the successful long-term operation of the agency.

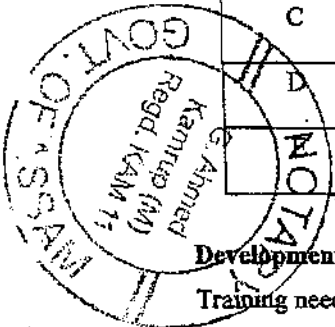
Document to be True Copy

Beneficiaries of the Training and Site-visits Program

The transfer of skills will involve all members of the Consultant's planning and Distribution system site supervision team working closely with the appropriate staff from PIU, who will ultimately become responsible for operation and maintenance of the new works. These skills are required to be transferred at several levels, depending on the individual's seniority and functions. These levels will range from a basic awareness of the purpose of the new works, which is a skill all staff should possess, up to more crucial aspects (such as the management of a team with a range of skills) which are more appropriate to senior engineers and managers.

NJS-Team will group PIU into several broad bands to help to customise the training programme. We aim to use the following staff groupings:

Grouping	Staff Category	Organisation
A	Chief Engineers, Policy Makers	PIU
B	Addl. Chief Engineers, Executive Engineers, Asst. Executive Engineers	PIU
C	Operations and Maintenance Staff for maintenance of the Distribution system,	PIU
D	Laboratory Staff for maintenance of water quality within the System in meeting the finished water quality goals	PIU
	Local and new recruit staff in the team who may be finally transferred to Jal Board after completion of project	ICDC

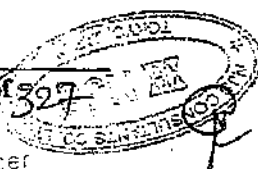
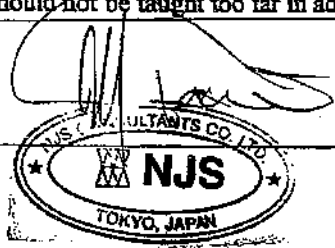


Development of a Training Programme

Training needs will be subdivided into:

- Site visit of existing plants and distribution systems in both International as well as in Developing Countries
- Professional training: development of management and commercial skills e.g. contract administration, project management, and use of up-to-date computer systems and software.
- Technical training: laboratory procedures, transmission and distribution systems, pumping stations. Training will include that needed to operate the new systems (including the level of automation adopted), quality issues, environmental issues and safe working practices.

We recognise that customising the programme to the present situation in PIU and for the newly formed distribution systems will require careful thought and discussion with PIU. It will take some time to achieve the full overall objectives of the training programme as staff must continue their present duties at the same time. In addition, new skills should be learnt at the time that opportunities arise for them to be applied. They should not be taught too far in advance of the need.



With this in mind, we will develop the Training and Development programme in the following manner:

- Preliminary training – on site during design and assessment phase;
- Assess existing levels of skills and knowledge.
- Assess level of skill required.
- Define the Training programme.
- Implement the Training programme.
- Training methods.
- Operations and maintenance Training.

Certified to be True Copy

These activities and their relationship with the Project Tasks are described in detail in the following sections.

Preliminary Training

The starting point for the Skills Transfer Programme is to equip and prepare the staff for planning, monitoring, quality control and supervisory duties.

Whilst many of the counterpart personnel are well qualified and experienced engineers and operators, it is possible that some of them will not have sufficient experience of working with International consultants and contractors using different Conditions of Contract.

It is essential that all staff involved in the design phase and preliminary phases are familiar with latest design and implementation approaches and tools while the staff involved with the distribution system construction management of the Project are familiar with Conditions of Contract. This will allow for greater flexibility in the deployment of personnel resources as Project work progresses.

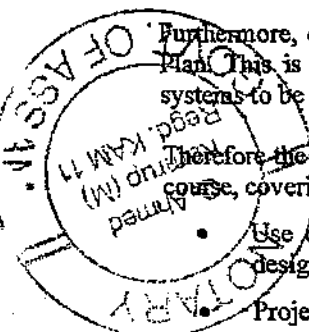
Furthermore, our overall approach to the assignment is systematic, within the context of a Quality Plan. This is an important concept and all new and existing staff should be fully briefed on the systems to be used and the methods of reporting of all phases of activities.

Therefore the first stage of the Skills Transfer Programme will be the development of a short training course, covering:

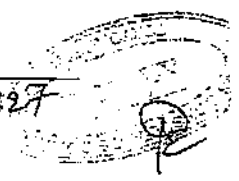
- Use of computers for designs and project planning, use of variety of distribution system design and networking and water quality management software(s)
- Project component planning, design and implementation
- Conditions of Contract;
- Measurement of Works;
- Supervision and Reporting.

Assess Existing Level of Skills and Knowledge

This activity involves the identification of the shortfall between the requirements of the key competencies to be achieved and the current level of skills and knowledge possessed by the staff. This is often referred to as "The Training Gap" and it represents the training that the staff require to perform effectively. This assessment will also include the staff / the individual's self development aspirations in line with the newly formed entity in its overall skills requirements.



Handwritten notes: 'G. Sada...', 'NOT A...', 'Kamran (M)'



Assess level of Skill Required

Certified to be True Copy

The Skills required by the staff to successfully manage the project are classified in two phases :

- to provide personnel with the skills necessary to ensure adequate Planning and design and supervision for implementation;
- to ensure that the appropriate personnel are suitably prepared to undertake operation and maintenance of the works after they have been handed over.

To succeed with the first phase aim, the preliminary training outlined above must be followed by continuous side-by-side training, involving transfer of the benefits of previous experience from the Consultant's own staff to the all the agency personnel.

For the second phase training, it is essential that the proposed existing or newly appointed O &M staff are involved with project planning and implementation so as to be able to appreciate function and set up of Project Components.

Define the Training Program.

This process involves a rigorous analysis of needs, discussion on the most appropriate methods of meeting those needs and an agreed action plan. In addition to acting as a means through which genuine training shortfalls are identified and met, the analysis will act as a focal point for discussion of self development priorities.

The process is designed in the form of a cascade with each organisational layer helping to identify the needs of the layer below. This will maintain the accuracy of the resultant data and also ensure that, in addition to the gathering of written information; discussion takes place between managers and subordinates thereby confirming that ownership of the training needs rests firmly with management.

This analysis must also include the possibility that training of existing staff will not meet the appropriate level of skill requirements, in which case recruitment of external personnel may have to be considered.

Implement the Training Programme

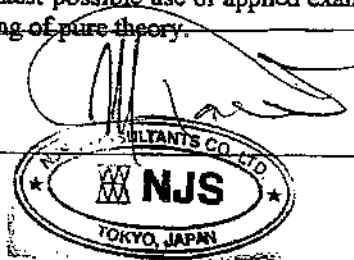
To achieve this, it will be necessary for our HRD Expert to work closely with PIU to develop an appropriate organisation structure for the effective long-term management, operation and maintenance of the works to be built under the Project and under the jurisdiction of the newly formed entity.

Once such a structure has been agreed, the skill requirements for each position in the structure can be established and measures put into place to ensure that suitable staff are selected, and trained as necessary to be fully competent in the performance of the duties to be assigned to them. The training would encompass visits to the plant manufacturers for witness testing and to be present on site throughout the commissioning process.

Training Methods

Training activity is designed to improve the quality and output of work performance rather than the depth of theoretical knowledge. It will consist of "on-the-job" training, workshops, and seminars which focus on the actual work to be undertaken. In this respect, all training programmes will be commissioned and will make the greatest possible use of applied examples, case studies and practice in methodology rather than the teaching of pure theory.

Yusuddin Ahmed
NOTARY
Kamrup (M) Guwahati



Short term training and study tours. These may take place in India and overseas as appropriate. We have made a preliminary provision in our proposal which can be discussed with PIU.

Long term training. These again may take place in India and overseas and we are fortunate in being able to call upon and manage the training available in Japan, USA, UK, Philippines and Singapore.

The overseas training programme will cover the following :

- Planning of water resources and distribution systems for optimized performance;
- Planning of computer aided design network systems and network modeling and supply components;
- Control and monitoring of water quality and pressure within the distribution systems;
- Reduction measures of unaccounted for water;
- O&M of each facility and development of routine maintenance and uni-directional flushing programme;
- Organisation and administration of water distribution enterprises;
- Computerised project monitoring and management systems for effective maintenance of water distribution system.

To supplement training courses, seminars and study tours, we shall make the greatest possible use of practical examples and case studies of other major cities in Asia, USA, Japan & Europe. These events will be highly participatory and delegates will be expected to interact.

Operation & Management Training

We advocate the introduction of specific Operation & Management Training to supplement normal training. This would cover training on components such as System Control Treatment, Pumping facilities, transmission and distribution systems, Leak detection and metering and management of other major water utilities overseas.

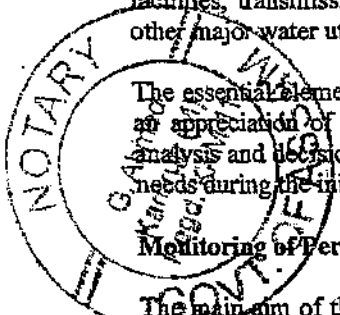
The essential element under lining these tours is "hands on experience" whereby participants acquire an appreciation of technologies, methodologies and strategies and exposure to day-to-day problem analysis and decision making. Operation & Management training will be customised to the meet the needs during the initial planning and development phase

Monitoring of Performance

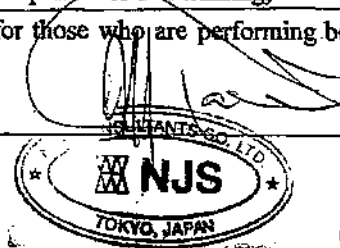
The main aim of the Performance Review System is to improve existing performance by improving individual's performance. From the newly formed entity's perspective, it is important that some measure is acquired as to how well or otherwise an individual is performing in his or her job.

From the individual's perspective, it is important that they understand the value of their contribution and that they receive feedback as to "how well they are doing" within the parameters of their own jobs and in relation to the newly framed business objectives. The recommended approach involves a meeting between manager and subordinate where they openly discuss past performance and future objectives. This is an opportunity for both sides to talk about any problems that have impeded performance and to agree how they can be overcome. Within this scenario, Performance Reviews are essentially a means of:

- assessing the value of previous experiences and training;
- agreeing on individual plans for those who are performing below the requirements of their job;



G. A. S. Kamrup (M) Guwahati, Assam, India



- identifying further training and development experiences, as a means of improving performance;
- giving praise for exceptional performance;
- encouraging continuous improvement in everyone's performance;
- establishing individual objectives against which all future performance can be measured.

Certified to be True Copy

Responsibility for the Training and Technology Transfer Programme

The Training and Technology Transfer Programme can only succeed, if there is close co-operation and commitment between PIU staff and the NJS-team members, with all parties fulfilling their respective responsibilities.

On the Consultant's (NJS Team – both local and international staff) side, the following personnel have been identified as having special responsibilities for the Training and Technology Transfer Programme:

- The Team Leader
- The Deputy Team Leader
- Connection Management Expert
- Network and water Audit expert
- Institutional/Training Management Expert
- HRD Expert
- Training Experts

Training Plan

We offer the following suggestions and plans for training :

a) Suggested location for training :

(International) – USA, Japan, UK, Singapore, Philippines

(Domestic) – Mumbai, Delhi/Agra, Chennai, Hyderabad

b) Suggested training sites / visit locations:

(International) – Distribution system projects in the above countries & university training or specialized training companies offering residential courses in the above countries.

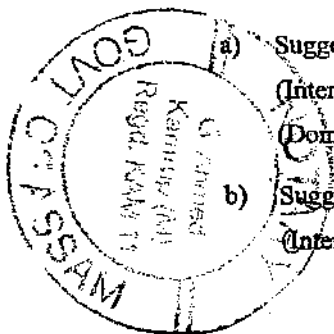
(Domestic) –

- Bombay Corporation Training Institute
- Chennai Metro Water Training Institute
- Various IITs or Universities
- AIPHE (Kolkata), Administrative Staff College India (Hyderabad).
- AILSG (Mumbai)

c) Suggested level of PIU Engineers for training

International Training – Executive Engineer & Above, Manager & Sr. Finance Officers involved in IICA project.

Domestic Training – O&M Staff, Lab Staff & routine staff, LD staff.



(Giasuddin Ahmed)
NOTARY
Kamrup (M) Guwahati

Form – 5D



Page 159 of 327

Chief Executive Officer
Guwahati Metropolitan Development Authority

- d) We also suggest setting up of a training centre for training of plumbers and other technicians and Suggested level of PIU Engineers for training.
- e) We also would like to impart training to the local staff and new recruits in the ICDC team mainly as support staff. They will be provided on job training and at a later stage after the completion of the ICDC they may be suitable inducted in the Jal Board so as to multiply the skills gained within the organization.

HUMAN RESOURCE DEVELOPMENT

Certified to be True Copy

Previous Training Programs and Outcomes including Training Strategy

The existing organizational structure and staffing patterns, will serve as the basis for ascertaining the skills and qualifications that have been developed under previous training programs. These will include but not be limited to technical, management and supervisory, organizational development, computer skills development, consumer relations, and operations and maintenance. An assessment will be made to determine the extent to which previous training programs have developed the necessary skills and qualifications.

Additional Training Needs

The training needs will be identified and an inventory of training programs that should be provided will be developed, with a brief description of each program.

Human Resource Development Strategy

A Human Resources Development Strategy will be prepared within 6 months after commencement and will identify the specific training programs that should be provided, together with the number of participants and the probable location for each major program. The Plan will be incorporated in the Human Resource Development Evaluation Report together with details of the analysis and criteria used in developing the Plan.

Annual Training Plans

Annual training plans will be prepared. The preferred sources for each of the major areas of training will be identified. Consideration will be given to the following:

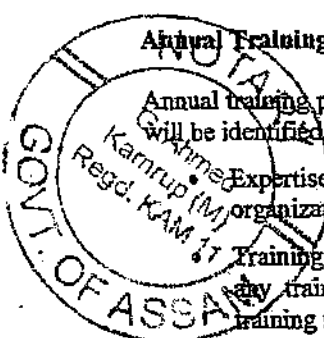
Expertise at the PIU staff that can be harnessed to provide training to colleagues within the organization. This may require some assistance in how to train others.

Training that can be provided from existing resources within India. A survey will be made of any training facilities, such as computer technical training schools, that could meet the training needs of the staff.

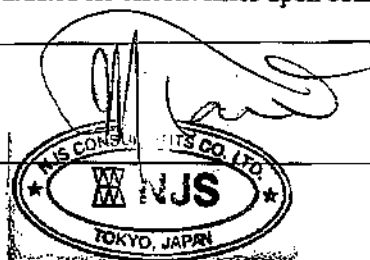
- Training that can best be provided by having the trainers brought to Guwahati. This could be in such areas as organizational development where the training requires the participation of the total management team of the organization, assuming that a need for such training exists.

Training that is not available within India, but could be obtained through overseas visits of key management staff.

All training conducted will be evaluated for effectiveness upon completion.



(Sd/- Kamrup (M) Guwahati)



Human Resource Information System**Certified to be True Copy**

Based on the training assessments, strategies, and programs developed as mentioned above, Consultant will develop a comprehensive Human Resource Information System. Scope of the system would include the following elements:

- Preparation of human resource development strategy, reviewing training conducted in the past and updating Human Resource Development (HRD) and training strategy prepared
- Preparation of annual human resource development plans for the newly formed agency
- Appointment of full-time HRD Manager and creation of 4 member HRD cell consisting of HRM Manager, training co-ordinator, human resource officer and assistant
- Provision of office with computer networks and other equipment
- Establishment of HRD system
- Preparation, implementation and evaluation of training program
- Establishment of HRD system implementation training and monitoring

Human Resource Development Cell

Primary functions of the HRD Cell are as follows:

- Preparation of the Annual Human Resource Development Plan
- Maintenance and improvement of the Human Resource Information System for all employees of the newly formed agency
- Planning, co-ordination implementation and evaluation of all Human Resource Development activities
- Maintenance and improvement of all process and procedures required in the efficient operation of the Human Resource Development cell
- Establishment, monitoring, maintenance of all budgetary and actual costs relative to the operation of the Human Resource Development Cell
- Preparation of quarterly reports on the progress of human resource development activities and other functions assigned by PIU

Human Resource Development Evaluation Reports

Near the completion of services of the Human Resource Development Expert, the Draft Human Resource Development Evaluation Report will be prepared. The report will rely upon agreed performance indicators to measure the degree of success of activities undertaken by the HRD Cell.

PUBLIC RELATIONS**Public Relations Practices for the newly formed Agency**

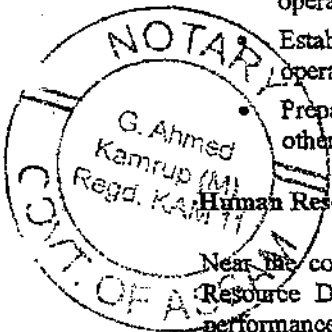
The primary purpose of the initial review will be areas of activity of the PIU and experience of staff as part of the newly formed agency, and their capacities, capabilities and past performances in the area of public relations. Areas to be addressed will include the following:

- Public understanding and acceptance of activities
- Water and health
- The public's responsibility to prevent water wastage
- The cost of water versus the price of water
- Ongoing and planned water supply and sewerage projects (if any) that are linked to distribution system

Form – 5D



Page 16 of 327
 PLS
 Chief Executive Officer
 Guwahati Metropolitan Dev. Authority



G. Ahmed
 NOTARY
 Kamrup (M) Guwahati

Public Relations Strategy

Certified to be True Copy

The objectives of implementing a public relations strategy are:

- To ensure that customers, together with the staff become active and responsible partners in bringing about a better community with improved public utility services.
- To increase the trust, understanding, co-operation and participation of customers in order to gain their support for the necessary investments and eventual tariff increases which may be necessary to achieve the transformation of local water and sewerage services.
- To change the perception in the eyes of its customers to one that creates a professional image, invests wisely, protects the environment and is continuously striving to improve the public water and sewerage services.

A Public Relations Strategy will be prepared within 6 months after commencement and will identify the specific training programs that should be provided, together with the number of participants and the probable location for each major program. The Plan will be incorporated in the Public Relations Report together with details of the analysis and criteria used in developing the Plan.

Public Awareness and Understanding Services

In implementing this task, the Consultants (NJS-Team) would suggest a "welcome-based" public relationship model where a Public Relations Unit acts as the 'front office' and is the interface between the customer and the authority.

In this model, all customer contacts are handled initially by the staff in the Customer Liaison Unit. They take 'ownership' of the problem on behalf of the customer and, if further support is required from 'back office' departments, the Customer Liaison Unit will take responsibility for finding a solution. The net result is that the customer can readily see a professional and efficient resolution to his/her problem.

Information strategies considered will include the following:

- Leaflets: A series of leaflets could be prepared and circulated in the Guwahati City (or within the jurisdiction of the newly formed Agency). The leaflets would primarily target urban users, and be illustrated by a graphic artist. A single leaflet could contain all the concepts listed under each component. Leaflets could also be circulated at manned mobile displays.
- Posters: Posters depicting concepts of the components of the corresponding infrastructure improvement program could be drawn and used in the following situations: as illustrations in mobile displays; as an educational resource in primary schools; and as an award or gift to individuals.
- Manned Mobile Displays: Displays using photographs and posters of each of the infrastructure improvements as they progress could be mounted in Guwahati City at appropriate sites. Each display would be manned by a representative of the project to provide answers to inquiries. The mobile displays would not be left unmanned at any site, except during storage, and would be put in place in the morning and removed at the end of the day.
- Seminar Modules: Training media to be used would likely consist of video and external sources. A wide range of such material exists, designed for use in the Indian context. A portable video cassette player and power supply would be required.
- Media: Where available, the appropriate media (Local TV, Press and Radio) could be employed.

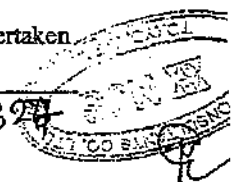
A press release would be issued, describing the infrastructure improvement projects being undertaken

Form - 5D

Chief Executive Officer
Guwahati Metropolitan Dev. Authority



Page 162 of 327



G. Ahmed
NOTARY
Kamruh (M) Guwahati

in Guwahati and the expected benefits. The emphasis on the press release would be that "your help is needed to make these projects a success". Certified to be True Copy

The types of messages to be conveyed would be geared specifically to the particular needs and available means of education/public information for Guwahati. This welcome-based approach will result in the following advantages: consistency and a clear identity for the newly formed Agency's public relations; introduction of control over customer activities; presentation of a helpful, courteous and professional image to customers; developing a process based approach to the relationship with customers; and improvement in internal efficiency and customer satisfaction.

Public Relations is a particularly sensitive activity that can have a significant impact on the functionality of the newly formed agency and, for this reason, should preferably report directly to key management personnel of the agency. Responsibility for implementation of the agreed recommendations will then rest primarily with a designated manager of the agency, supported by a nominated Public Relations Officer within the enterprise.

The Public Relations Officer would be responsible for:

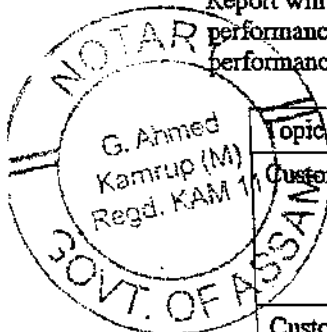
- Developing a public relations program for the coming year (using some of the ideas discussed below)
- Co-ordination of all resources required to implement the plan
- Arranging for media coverage (to be delivered by senior managers)
- Reviewing the success of each event and revising the public relations program as necessary
- Liaison with the public relations or press office of the authority on routine matters

Physical resources needed to establish the Public Relations Cell (e.g., a computer with e-mail and internet access, printer, fax machine, telephone, photocopier) would also be determined, and assistance provided to undertaking the necessary procurement.

Public Relations Evaluation Report

Near the completion of services of the Public Relations Expert, the Public Relations Evaluation Report will be prepared and submitted to the newly formed agency. The report will rely upon agreed performance indicators to measure the success of the various public relations initiatives. Typical performance indicators that could be used are listed below.

Topic Area	Performance Indicator
Customer Information	No. of different leaflets produced Volume of leaflets circulated No. of leaflets for children produced No. of specific campaigns initiated
Customer Feedback	Regular monthly report produced analysing complaints No. of customer feedback calls made No. of formal customer surveys carried out
Public Participation	No. of public participation events held % compliance with program



(Signature)
NOTARY
Kamrup (M) Kamrup

(Signature)



Topic Area	Performance Indicator
Media Relations	No. of new stories published % compliance with program No. of incidents attracting positive media coverage No. of incidents attracting negative media coverage
Corporate Image	Survey carried out (100% compliance) % compliance with program
Customer Water Committee	No. of meetings held

Continued to be True Copy

Some examples and photographs of training and capacity building exercises carried out by NJS staff in some of the ongoing institutional and capacity development projects in India are shown below:

Agra Water Supply Project

Some photographs of various training and capacity building program executed by NJS team and imparted to various categories of staff of Agra Jal Sansthan like engineers, technicians etc.



Plumbers Training on best international 1



Valve Repack Training



Lead joint training



Public Awareness Campaign

Some comments of appreciation from PIU on the training and capacity building exercises by NJS

6/
(Giasuddin Ahmed)
NOTARY
Kemra (M) Guwahati

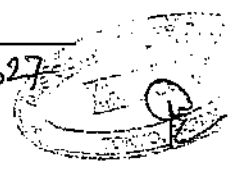
The training exercises conducted by NJS team has started to show good improvements in the operational practices of Agra Jal Sansthan and I am sure by the end of the project we will have substantial improvement in operational efficiency of Agra Jal Sansthan and finally improve the water supply situation in the city of Agra" Mr. A. K. Rakesh Project Manager - Agra Water Supply Project, Uttar Pradesh Jal Nigam)

Form - 5D



Page 164 of 327

Chief Executive Officer
Guwahati
Dev. Authority



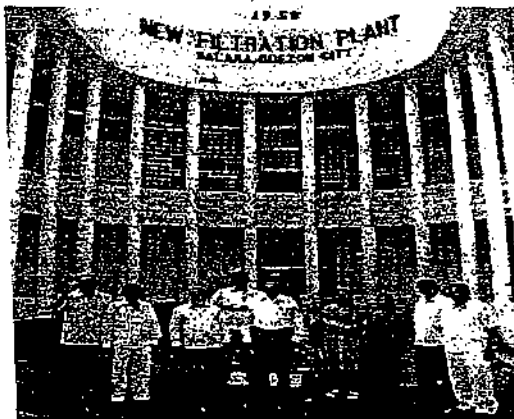


Network Management Training



Flow and Pressure Measurement Training

to be True Copy



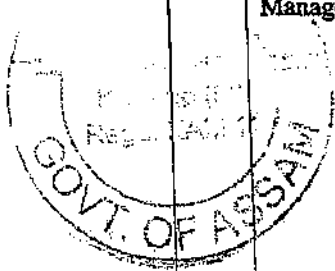
International Training by NJS



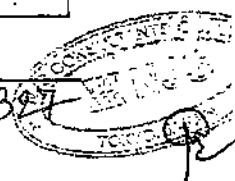
BWSSB Training at Manila 1

2. Qualification of Experts & Trainers

Sr. No.	Experts/Trainers	Name	Qualification and Experience
1	Project Manager /Public Management Expert	Mr Hiroshi Nishimaki	PhD City Planning, MA Economics, Ms Public Administration, Bsc Social Engineering with 25 years to experience in total in managing large water infrastructure projects and more than 15 years as Project Manager in national and international community water.
2	PPP Expert	Mr Wilfredo C Barreiro	MBA , MSc(Civil) & Bsc(Civil) with 40 years of total experience and over 15 years experience in developing countries and managing projects in PPP mode.



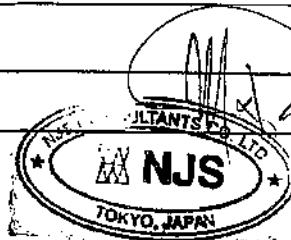
Handwritten signature and text: (Signature) NOTARY KOKOYO (M) Guwahati



Sr. No.	Experts/Trainers	Name	Qualification and Experience
3	Water Audit Expert	Mr E Novarro	Msc. Water Resource & Bachelor in Civil Engineering with 25 years experience in total with 14 years in large water supply projects.
4	Water Quality and Distribution System Training Specialist	Dr. Uday G. Kelkar, P.E., BCEE	Dr. Kelkar brings more than 20 Years of experience in water and wastewater profession. Over these years he has conducted a number of training programs for engineers and operators both for plant and distribution systems. He was regular instructor for short courses for Professional Engineering Licensing courses for University of Wisconsin, Madison, University of Massachusetts, at Amherst, and Rutgers University, New Jersey. On water side, his expertise include distribution system management, routine maintenance and uni-directional flushing and maintenance of water quality (physical, chemical and bacteriological) within the distribution system.
5	Connection Management Expert	Mr Stephen Boone	Post Graduate in Water Supply & Sanitation & Bachelor in Civil Engineering with 44 years of total experience and 20 years in maintenance of large water supply and distribution system.
6	Institutional Expert	Mr Promod C Rath	ME Public Health, Civil & BE Civil, Municipal with more than 40 years experience in total with 12 years Institutional strengthening experience in water supply system.
	Operation and Management Expert	Mr Manmohan Singh Sikand	Graduate in Civil Engineering with 36 years experience in total with more than 20 years experience in operation and maintenance of water supply system.

Confirmed to be TRUE Co.

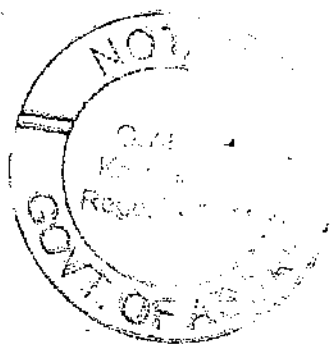
NOTARY
Guwahati



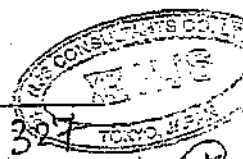
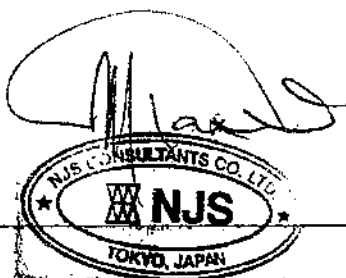
Sr. No.	Experts/Trainers	Name	Qualification and Experience
8	Financial Expert	Mr Punit Mathur	Chartered accountant and PGDBM, MA with 20 years of experience in total with 12 years experience in large infrastructure projects with 6 years in water sector and has got experience in project funded by International Funding agency.
9	Trainer	Mr Kuldeep Mathur	PhD & MA, Retired Academic Director JNU and has worked as consultant and trainer with World Bank, ADB and other financial and municipal organizations.

However a detailed plan of training will be provided during execution of the actual project.

Certified to be true copy

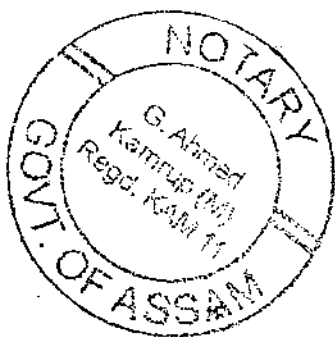


Giasuddin Ahmed
 NOTARY
 Kamrup (M) Guwahati

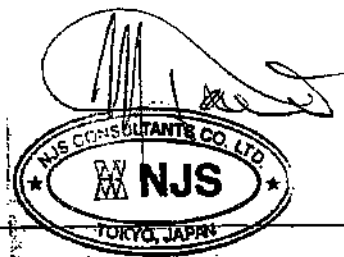


FORM - 5D : APPROACH AND METHODOLOGY (ii) : Work Plan

Certified to be True Copy



G. Ahmed
NOTARY
Kamrup (M) Guwahati



Page 168 of 209

P.L.S.
Chief Executive Officer
Guwahati Metropolitan Dev. Authority

5D. APPROACH PAPER ON METHODOLOGY AND WORK PLAN FOR PERFORMING THE ASSIGNMENT

ii) WORK PLAN

Certified to be True Copy

Mobilisation and Inception Report Preparation

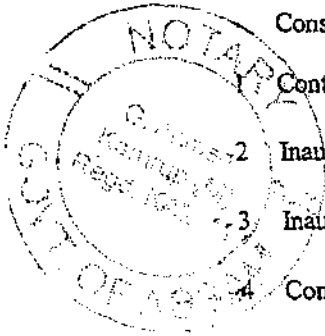
The consultants will mobilize relevant team members to Guwahati and set up the fully furnished project office with equipments such as broadband and communication line, computers, printers, plotter, UPS, EPBX, telephones etc. The data available such as Detailed Project Documents; SAPROF Reports; hydraulic network models, detail designs, tender and contract documents carried out by the PMC; MOD with JICA etc will be reviewed by various experts. Proposed sites will be visited and Inception Report preparation work will be completed within one month period after the commencement of the ICDC.

Major Milestones for the Project

The major milestones and their expected dates expected are our estimated dates based on the review of the SAPROF as well as the current information available are as shown in Exhibit- 1. All the project components that are required to produce its outputs are scheduled in backward to fulfill the deadlines targets of the Milestones.

Exhibit -1 Major Milestones

Sl. No.	Milestones	Expected Date
0	Commencement of Institutional Capacity Development Consultancy	Jan 1, 2011
1	Contract Signing of Distribution Pipe Work Package	Jan 31, 2011
2	Inauguration of Jal Board	Mar 1, 2011
3	Inauguration of Regulatory Authority	Jan 1, 2013
4	Commissioning of WTPs	Dec 31, 2012
5	Completion of Distribution Pipe Work	Jan 31, 2014
6	Completion of Service Connection / Commencement of Full Operation of New WTPs	Sep 30, 2014
7	Completing of Institutional Capacity Development Consultancy	Dec 31, 2017

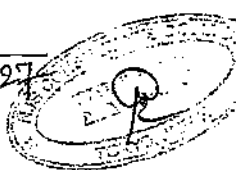


(Guwahati Kamrup) NOTARY 7 Kamrup (M) Guwahati

Handwritten signature of the Chief Executive Officer.



Chief Executive Officer Guwahati Metro Water Supply Authority



Phases of ICDC

The phases of ICDC will be divided into three; 1) survey and planning, 2) procurement, 3) construction and implementation, 4) operation. Since there are numerous components and contract packages under ICDC, each phase overlaps to each other. The phasing is shown in Exhibit-2. Although the Procurement Phase starts as early as April, 2011 to catch up with the construction work of distribution pipes, the target is to complete the planning of first Service Block and then to continue with other Service Blocks with surveys and planning. The it is the case with construction as well. The Operation Phase starts with the start of WTP operations expected early in 2013. During the four year period, ICDC will build the capacities of the Jal Board and Regulatory Authority and toward the end of the Operation Phase, the arrangements will be made to transfer the personnel and functions from ICDC to the Jal Board.

Certified to be True Copy

Exhibit -2 Institutional Capacity Development Consultancy Phase Commencement

Sl. No.	Phase	Expected Date
1	Survey and Planning	Jan 1, 2011
2	Procurement	Apr 1, 2011
3	Construction and Implementation	Sept 1, 2011
4	Operation	Jan 1, 2013

Project Planning and Scheduling

The Institutional Capacity Development Consultancy is comprised of three engineering components in addition the consultancy to develop the overall functions of the Jal Board and Regulatory Authority. The three engineering components are 1) service connection and meter installation, 2) SCADA system, and 3) Management Information System consisting of various database applications, GIS database and Web portals. These engineering components are closely connected with the operation aspect of the Project. The service connection work is directly linked with the accuracy and comprehensiveness of the customer database. Lack of linkages may hamper actual billing activities. Service connection work may come across the issue of illegal connection and regularization of the connection and may require the assistance from social development side of the ICDC. The time requirement to complete the switching of service connections from the existing to the new will have significant bearings on the phasing out of the current water supply agencies, thus it might affect the overall institutional timetable.

likewise there are many linkages between the components of actions and outputs within ICDC. Exhibit - 2 shows the work flowchart of the ICDC as we propose. The management of ICDC hinges on meeting the target dates set for the deliverables shown in Exhibit - 5 below and preparing the organization for the major milestones set forth in Exhibit -1 above.

Form - 5D



Page 170 of 327
 Chief Executive Officer
 Guwahati Metropolitan Dev. Authority

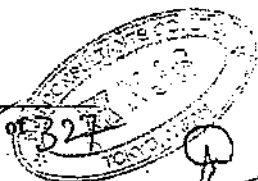
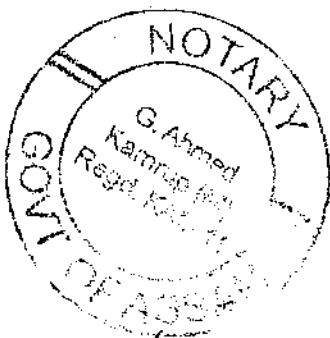


Exhibit - 3 depicts the work flow and linkages of project activities and outputs. Based on the interdependence of the various project components and the major milestones and deliverables, we have set out the work schedule chart in Exhibit - 4. The schedule is calculated backward from the major milestones and deliverables so as to meet their target dates.

Certified to be True Copy



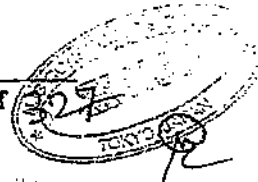
(Giasuddin Ahmed)
NOTARY
Kamrup (M) Guwahati

Form - 5D



[Handwritten Signature]

Page 171 of 327

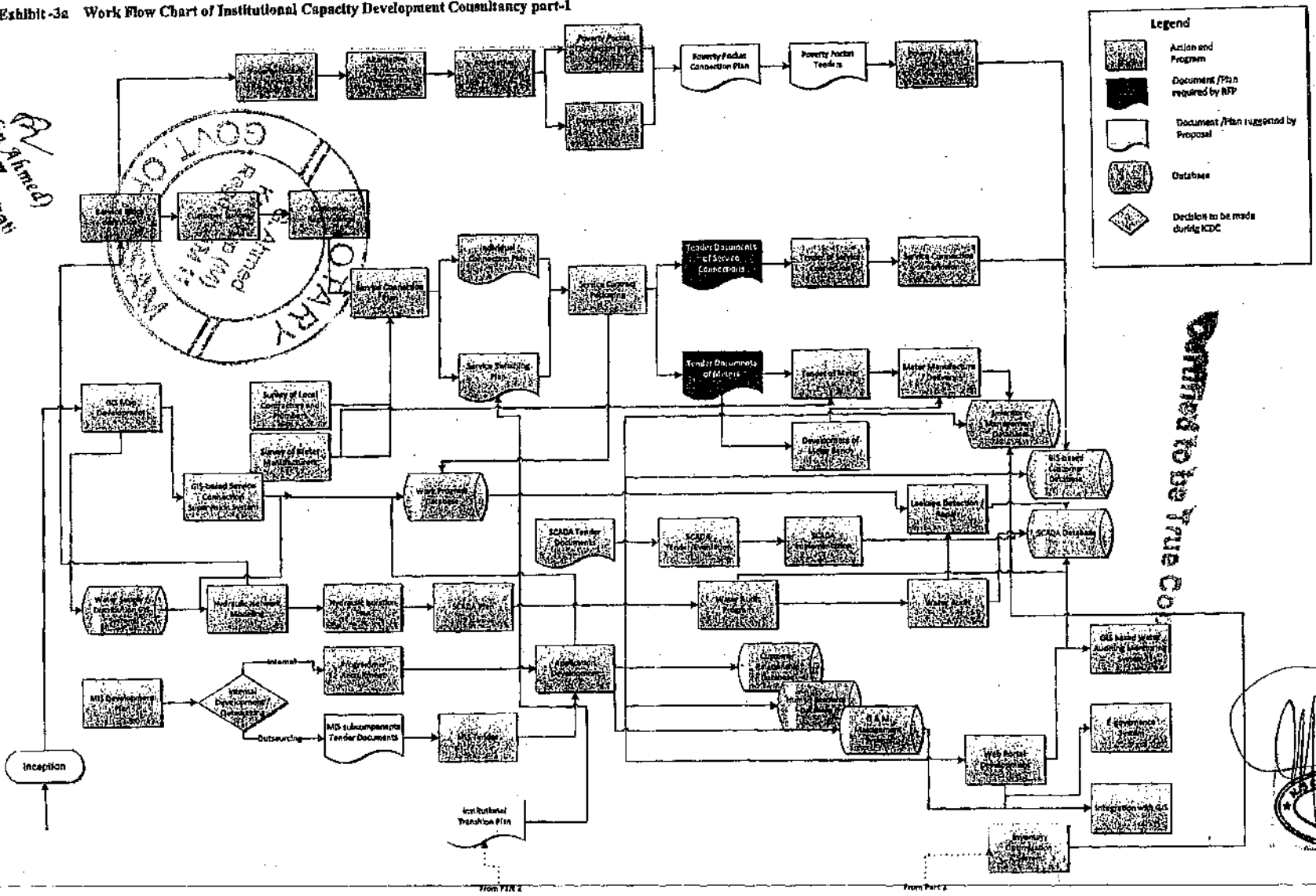


Chief Executive Officer of
NJS CONSULTANTS (PVT) LTD.

Exhibit-3a Work Flow Chart of Institutional Capacity Development Consultancy part-1

(Giasudin Alimed)
NOTARY
Kamrad (M) Ginehah

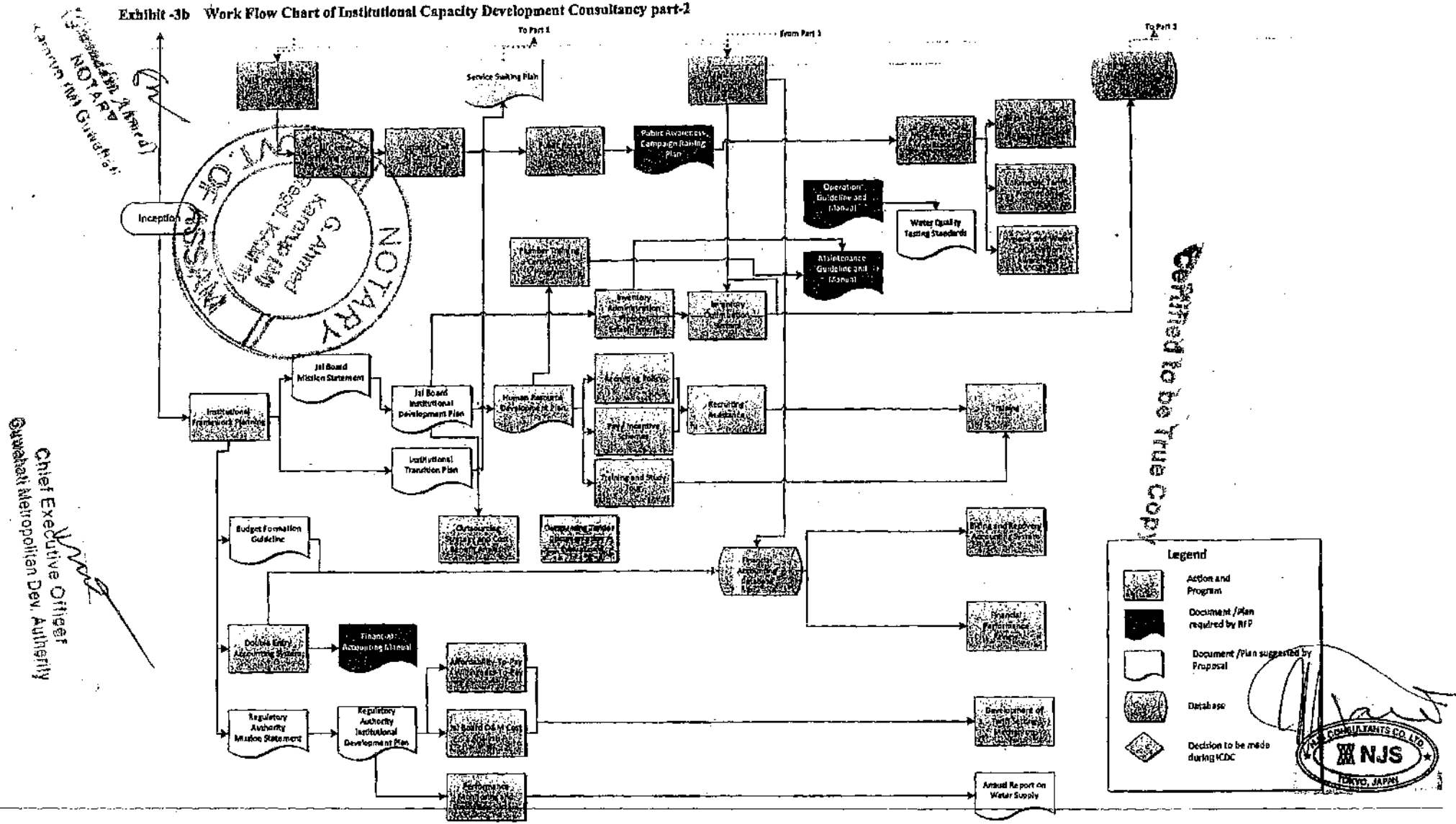
Chief Executive Officer
Ginehah Metropolitan Dev. Authority



Delivered to the True Copy

[Signature]
NJS
TOKYO, JAPAN

Exhibit -3b Work Flow Chart of Institutional Capacity Development Consultancy part-2



Chief Executive Officer
Gwahati Metropolitan Dev. Authority

Exhibit-4a Work Schedule Chart of Additional Capacity Development Consultancy part-1

	2011	2012	2013	2014	2015	2016	2017
GIS map development							
Service Block Planning and Distribution							
Household Survey for Service Connections							
Service Connection Plan							
Meter Manufacturer							
Contractor and Plumber Survey							
Customer Registration							
Development of Customer Database							
Meter Testing Laboratory (Meter Bench) Development							
Meter Procurement Tender Preparation Incldg PQ							
Service Connection Contractor Tender Preparation Incldg PQ							
Meter Tender and Contract							
Service Connection Tender Contract							
Procurement of Meters (1)							
Procurement of Meters (2)							
Procurement of Meters (3)							
Plumber Training and Certification for Service Connections							
Construction of Service Connections (1)							
Construction of Service Connections (2)							
Poverty Pocket Survey							
Poverty Pocket Alternative Connection Development							
Poverty Pocket Alternative Connection Pilot							
Poverty Pocket Community Organization Development							
Poverty Pocket Connection Supervision							
GIS distribution asset database							
Hydraulic Network Model							
Hydraulic Network Model Recalibration							
Hydraulic Isolation Plan							
SCADA Plan							
SCADA Tender Preparation							
SCADA Tender and Contract							
SCADA Implementation Supervision							
Water Auditing Program Development							
Water Audit and Leakage Detection							
SCADA Monitoring Database							
Deliverables	<ul style="list-style-type: none"> SCADA/PLC Tender Documents Standards for Water Meters, Meter Test, Inventory Management, Asset Register Tender Documents for Service Connections and Meters MIS Development Plan Accounting Manual Inception Report Public Awareness Campaign Plan / Harmon Resource Development Plan 						
Milestones	<ul style="list-style-type: none"> Establishment of Jal Board (2011/5/1) Completion of ICDC (2013/5/1) Establishment of Regulatory Authority (2012/5/1) Completion of Distribution Pipes (2014/7/31) Completion of Service Connections / Full Operation of JMW WTPs (2014/9/30) Commissioning of WTPs (2013/12/11) 						
	Note: <input type="checkbox"/> Quarterly Report <input type="checkbox"/> Monthly Report is delivered every month						

(Guslain Ained)
 NOTARY
 Kamrup (M) Guwahati

Chief Executive Officer
 Guwahati Metropolitan Dev. Authority

Certified True Copy



327

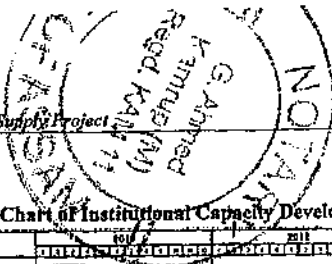


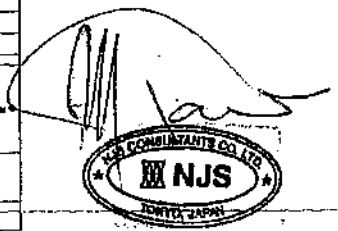
Exhibit-4b Work Schedule Chart of Institutional Capacity Development Consultancy part-2

	2011	2012	2013	2014	2015	2016	2017
Management Information System Plan							
MS Tender Preparation and PQ							
MIS Tender and Contract							
Customer Relationship Database Development							
Inventory Management Database							
Financial Accounting System Development							
Web Portal Development							
Work Program Database							
Call Center Monitoring System							
GIS-based Asset Database							
Institutional Framework Planning							
Mission Statement for Jal Board							
Jal Board Institutional Development Plan							
Institutional Transition Plan							
Human Resource Development Plan							
Recruiting and Incentive Schemes							
Recruiting Assistance							
Training							
Outsourcing Strategy and Cost-Benefit Analysis							
Outsourcing Tender Preparation and PQ							
Outsourcing Tender and Contract							
Budget Formation Guidelines							
Billing and Recovery Accounting System							
Monthly Performance Review							
Customer Call Center							
Public Relation Activities							
Public Awareness Raising Campaign Plan							
MIS Tender and Mobilization							
Automatic Tariff Formulation							
Wi-Fi Connection Evaluation							
Hygiene and Water Conservation Awareness							
Member Training and Certification Program							
Operation Guidelines and Manuals							
Maintenance Guidelines and Manuals							
Water Quality Testing Standards							
Mission Statement for Regulatory Authority							
Regulatory Authority Institutional Development Plan							
Jal Board O&M Cost Analysis							
Willingness-to-pay/Ability-to-pay Survey							
Tariff Setting Mechanism							
Performance Monitoring System							
Annual Report on Status of Drinking Water							

(G) Notary Seal
 Kamrup (M) Guwahati

Chief Executive Officer
 Guwahati Metropolitan Dev Authority

Certified to be True Copy



Procurement

Certified to be True Copy

Tenders will be prepared for various components of the project. The work for meter procurement and service connections will be divided into suitable contract packages depending on the nature of the work (existing network/new network), location, and magnitude of work. The method for contract packages will be discussed with PIU and finalized will be incorporated into "Service Connection Plan."

Exhibit -5 shows the major items and services expected to be procured through tender processes. However, during the course of planning, these packages and schedules are subject to changes.

Exhibit -5 Major Procurement Items

Sl. No.	Procurement	Expected Date of Tender
1	Flow Meters	June 15, 2011
2	Service Connection Packages	Sept 1, 2011 Sept 1, 2012
3	SCADA/PLC	Nov 1, 2011
4	MIS packages (financial accounting, customer database/billing etc. to be determined)	Apr 1, 2013
5	NGO	Dec 10, 2011
6	Others to be determined	-TBD-

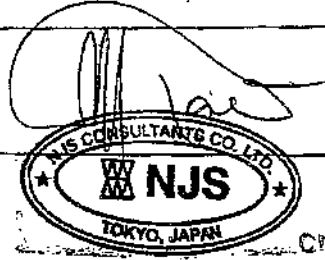
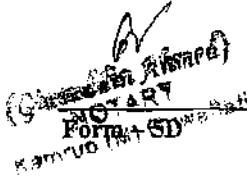
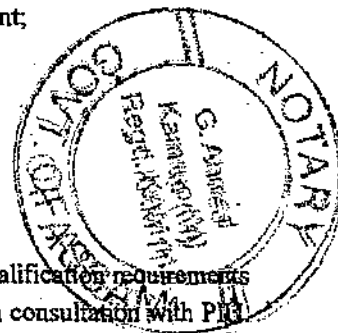
For the most of the items and a package that exceeds the pre-determined size of contract amount, the contractors will be selected through the conventional process of prequalification – tender – contract negotiation.

We propose to provide the following consulting services regarding procurement;

PREQUALIFICATION OF CONTRACTORS

Task -1 Prepare and Submit Prequalification Documents

Once general approval on project implementation procedure is agreed, prequalification requirements for manufacturers, suppliers and construction contractors will be prepared in consultation with PIU. The prequalification process should be complete by the time the first set of tender documents are ready for issue. We consider that prequalification is advisable to ensure that contractors tendering for various components of this important project have experience, technical capacity and financial resources to execute the works and can meet implementation schedules with quality workmanship and professional responsibility.



Page 976
Chief Executive
Guwahati



Prequalification documents, which include notices, questionnaires and evaluation criteria will be prepared in accordance with JICA procurement guidelines and PIU requirements and submitted for review and comments before finalizing. We anticipate prequalifying different groups of suppliers and/or contractors for different types of work.

Task-2 Assist PIU in Advertising Prequalification Notices

Task-3 Assist PIU in Issuing Prequalification Documents

Certified to be True Copy

Members of our Project Team will be available to assist PIU with advertising the prequalification process and, if required, with issuing documents.

Task-4 Assist PIU to Evaluate and Recommend Firms for Prequalification

Task-5 PIU and JICA Approval of Prequalification Lists

Submitted prequalification documents will be reviewed and evaluated in accordance with approved criteria. To the extent possible, the correctness of the submitted information will be verified. On completion of the review and evaluation process for a particular contract, a prequalification evaluation report will be prepared. This report will summarize all the data furnished and the points awarded and recommend the firms to be prequalified. It is envisioned that there will be a series of prequalification reports for the various project contracts. Members of our Project Team will be available to assist PIU to develop and review the prequalification recommendations and in obtaining JICA approval. The output of this task series will be lists of contractors and suppliers proposed to be prequalified to tender on each proposed tender package.

TENDERING AND CONTRACT AWARD

Task-6 Assist in Issuing Tender Documents

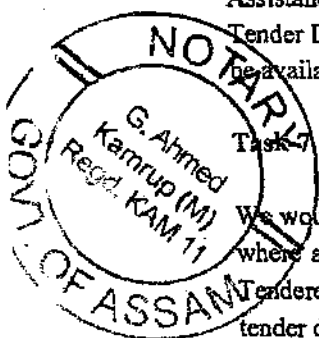
Assistance will be available in the preparation of letters of invitation to tender and the issue of Tender Documents to prequalified contractors and suppliers. Members of our Project Team will also be available to assist with the preparation and publication for tenders.

Task-7 Assist in Holding Pre-Tender Meetings

We would recommend that a pre-tender conference be held for each construction tender package or, where appropriate, groups of tender packages. At these conferences, we will be available to brief Tenderers on the scope of the project component being tendered and on specific requirements of the tender documents. Queries raised at the meeting will be answered and the queries and answers noted in the minutes of the meeting. These minutes, which will form part of the Tender Documents, will then be furnished to all Tenderers. Other queries not immediately clarified will be noted and covered in an Addendum.

Task-8 Assist in Responding to Tenderer's Queries and Issuing Addenda

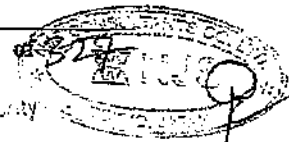
We will assist in responding to any queries received from Tenderers during the tender period and to prepare and issue any clarifying addenda that may be needed.



(Giasuddin Ahmed) NOTARY Kamrup (M) 553 Guwahati



Page 177 Chief Executive Officer Guwahati Metropolitan Development Authority



Task-9 Assist in Analyzing and Evaluating Tenders Received

For each contract, tenders received must be analyzed to ascertain substantive compliance with the tender documents and which tender would result in the lowest overall cost -considering capital, operation and maintenance costs-while fully meeting the technical requirements of the tender documents. Review and analysis of the tenders may include seeking written clarifications from Tenderers or the holding of preliminary meetings with one or more Tenderers to clarify contractual and technical aspects of their tenders. We will assist with tender evaluation and preparation of Tender Evaluation Reports in a format acceptable to PIU and JICA. Tender Evaluation Reports will include an analysis of the tenders received and recommendations for the award of each contract, together with details of matters that need to be further clarified or negotiated with the recommended Tenderers prior to the award being made.

Certified to be a true copy

Task-10 Assist in Conducting Negotiations with Tenderers

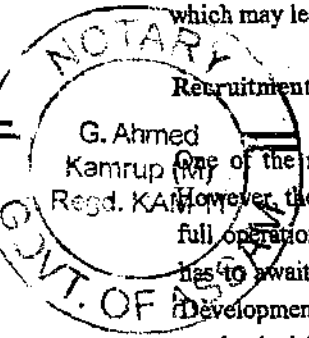
Our assistance and advice will be available during negotiations with the Tenderers, where required, until satisfactory agreements are reached for the award of contracts.

Task-11 Assist in Seeking JICA Approval for Contract Awards

The award of some of the contracts will be subject to prior JICA approval. As requested by PIU, we will assist in seeking that approval and in responding to any requests received from JICA for further information or clarification.

Task-12 Assist in Preparing Contract Awards and Executing Contract Agreements

We will be available to assist in preparing contract award notices and contract agreements and to execute the contract agreements with the selected contractors. We would particularly wish to ensure that the contract award and agreements are carefully prepared, free of any ambiguity or loophole which may lead to dispute during contract execution.



Recruitment

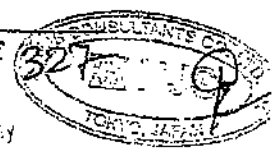
One of the roles of the ICDC is to assist the process of recruitment mainly for the Jal Board. However, the staffing size of the Jal Board depends on the progress toward the commissioning of its full operation as well as scoping of its internal jobs. The scoping of internal jobs for the Jal Board has to await the result of the Institutional Development Plan for the Jal Board, Human Resource Development Plan and assessment undertaken for outsourcing by the PPP Expert. Ultimately it rests on the decision of the PIU and the government of Assam.

As a general practice, we envisage that the ICDC will recruit some personnel as its local staff or local consultants to initial planning and implementation activities to train and determine their future potentials for the official Jal Board staff. It is presumed that these target activities positions are, e.g., "Public Relation Officer", "Marketing Officer", "Call Center Manager" and "MIS Officer." The target activities will be determined at the time of contract negotiation between the PIU and Consultants.

(Giasuddin Ahmed)
NOTARY
Kamrup (M) Guwahati



Page 178 of 327
(Signature)
Chief Executive Officer
Guwahati Metropolitan Council



Deliverables

Certified to be True Copy

Exhibit- 6 indicates the list of deliverables and their schedule time of submission for this project.

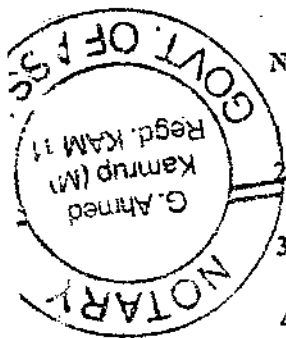
The consultant will furnish following documents to PIU in both Hard and Soft copies as per RFP:

Exhibit -6 List of Documents and Submission Timing

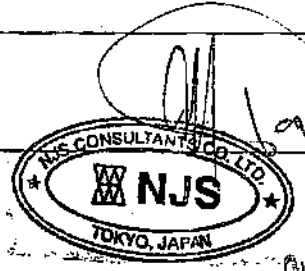
Sl. No.	Documentation	No. of copies		Number of Months
		Draft	Final	
1	Inception report including the organizational structure, working procedure, time schedule, obligation of the Client and Consultants, etc.	2	10	1
2	Plan for service connections and meter installation	2	10	4
3	Tender Documents for service connection contracts, SCADA/PLC, water meters and outsourcing works	2	10	6
4	Tender Evaluation Reports (Note No 4)	2	5	9
5	Human Resource Development Plan	2	10	12
6	MIS Development Plan	2	5	4
7	Standards and procedures for water meters, meter testing, procurement & inventory control, asset register	2	10	6
8	Accounting Manual	2	5	24
9	Plan for public awareness raising campaign	2	10	12
10	Operation and Maintenance Plan and Manuals	2	10	44
11	Progress Reports (monthly and quarterly)	As per required		
12	Project Completion Report	2	10	72
13	Necessary Technical Reports	As per required		
14	Other necessary reports and documents	As per required		

Note:

- Number of Months are counted after the starting date of the ICDC contract.
- The monthly / Quarterly progress reports will be submitted at monthly and quarterly interval during entire project period.
- MIS Development Plan and Human Resource Development Plan will be revised and submitted annually after the first submission.
- The first procurement package we are going to start is for the consumer report and the tender evaluation report for the same will be prepared by the 9th month as indicated in the table and the rest will follow.



(Giasuddin Ahmed)
NOTARY
 Kamrup (M) Regd. KAM 11
 Guwahati



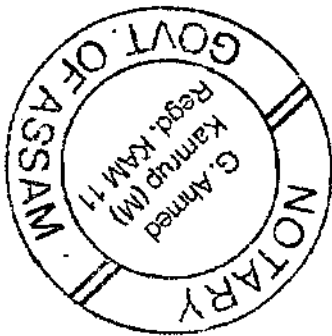
Page 179
 Chief Executive Officer
 Guwahati



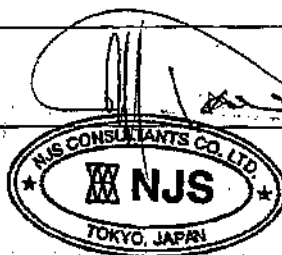
Certified to be True Copy

FORM - 5D : APPROACH AND METHODOLOGY

(iii) : Organisation and Staffing



(G. Ahmed)
 NOTARY
 Regd. KAM '11



Chief Executive
 Guwahati

5D. APPROACH PAPER ON METHODOLOGY AND WORK PLAN FOR PERFORMING THE ASSIGNMENT

iii) Organisation & Staffing

Certified to be True Copy

Organization of the Team

Exhibit -7 shows the organizational structure of the team for ICDC. The Project Manager (Professional A) will assume overall management responsibilities of the entire work of ICDC. He will directly manage the work related to the overall framework development of institutional functions and scopes with support from Institutional Expert (Professional B) and Legal Expert (Professional B), as well as the work definition for each engineering component. He will maintain regular communication on the progress of the ICDC components by organizing ad hoc committee for external coordination as well as hosting regular internal and external meetings while in Guwahati. He will maintain the same level of communication through the Internet video conferences not only with the team members but also external stakeholders as well during the absence from the city. He will commit himself to the ICDC Project as the top priority and will be ready to mobilize himself to Guwahati within a few days for any urgent requirement of his presence.

The Deputy Team Leader (Professional B) will serve as a resident liaison for the project with all the stakeholders and maintain direct communications with them at all times. He is responsible for the coordination of the every work of the project. He oversees the progress of every facet of the project on behalf of the Project Manager and make detailed report to him on a regular basis. The schedule monitoring and control is assisted by Schedule Supervisor (Support Staff).

The basic geographic unit for ICDC will be Service Block as detailed in Basic Approach of Methodology section. The Service Block will serve as the basic unit for customer group, engineering, and monitoring (water auditing) and maintenance work. GIS Expert (Professional B) and Water Audit Expert (Professional A) will work together to define these building blocks at the outset of ICDC.

Connection Management Expert (Professional A) will plan and supervise the entire program of service connections. Marketing and Public Relation Expert (Professional B) and Public Relation Officers (Support Staff) will start the customer survey cum registration work for individual connections, Social Expert (Professional A) and Social Development Advisor (added Professional B) will work together to conduct Poverty Pocket Survey for shared connections and other inexpensive systems. Community Connection Engineers (Professional B) will work together with the Social Experts to develop alternative connection basic design and operation plans and help organize CBO for the operation. Service Connection Contracts will be divided into several packages to induce more competition by the Contractor. Service Connection Managers (Professional B) together with Plumber Supervisors (Support Staff) will monitor and guide these contracts.

Inventory Control Expert first develop an inventory system of meters and other fixtures and then afterwards generalize the protocols for the Jal Board.

For SCADA implementation, SCADA Expert (Professional A) will supervise the entire process from planning to operation. Water Audit Specialist and Water Engineer (Professional B) will develop a plan

Giasuddin Ahmed
NOTARY
Kamrup (M) Guwahati



Chief Executive Officer



for hydraulic isolation and District Metered Area plan. After SCADA is implemented, Water Engineer and Water Audit Expert will develop the network monitoring system as well as water auditing program. Connection Manager will lead the leakage detection and repair program.

Water Engineer and Contract Specialist (Professional B) will prepare all the tender documents related to meter, service connection and SCADA and supervise the tendering process from EOI to contract negotiation.

PPP Expert (Professional A) and Human Resource Expert will define the scope of work for Jal Board and Regulatory Authority and recommend the options for internal work or outsourcing work for various work.

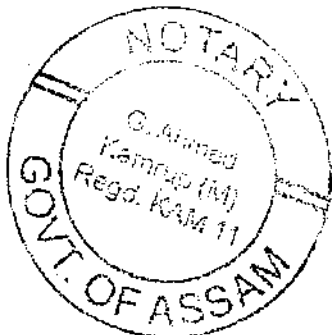
Financial Expert will develop double entry accounting system based on an inventory accounting system and GIS based asset accounting. He will develop other financial systems of monitoring, analyzing, and budget preparation.

MIS Experts (Professional A and B) will supervise internal and outsourced development of applications and database every aspect of Jal Board functions by working closely with the concerned experts, i.e., financial accounting, customer database, billing, inventory control, O&M record keeping, customer service support, and SCADA monitoring database. MIS Experts will prepare and supervise the tender in collaboration with PPP Expert and Contract Specialist. IT technician will provide the maintenance of the IT infrastructure (Support Staff), hardware and software on a continuous basis.

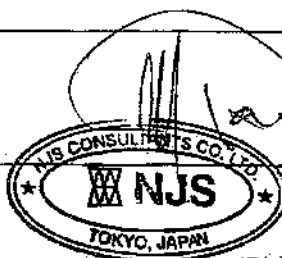
Marketing and Public Relation Expert together with Public Relation Officers will operate the Customer Call Center and also will plan and implement a series of public relation activities for the promotion of the Project itself.

The team of office administrative staff and data entry staff will supervise the logistics for the ICDC.

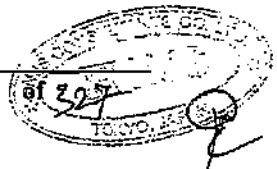
The details of the duties of each professional are described in "5E. COMPOSITION OF THE TEAM (PERSONNEL), AND TASK(S) OF EACH TEAM MEMBER."



(G. Ahmed Ahmed)
NOTARY
Kamrup (M) Guwahati

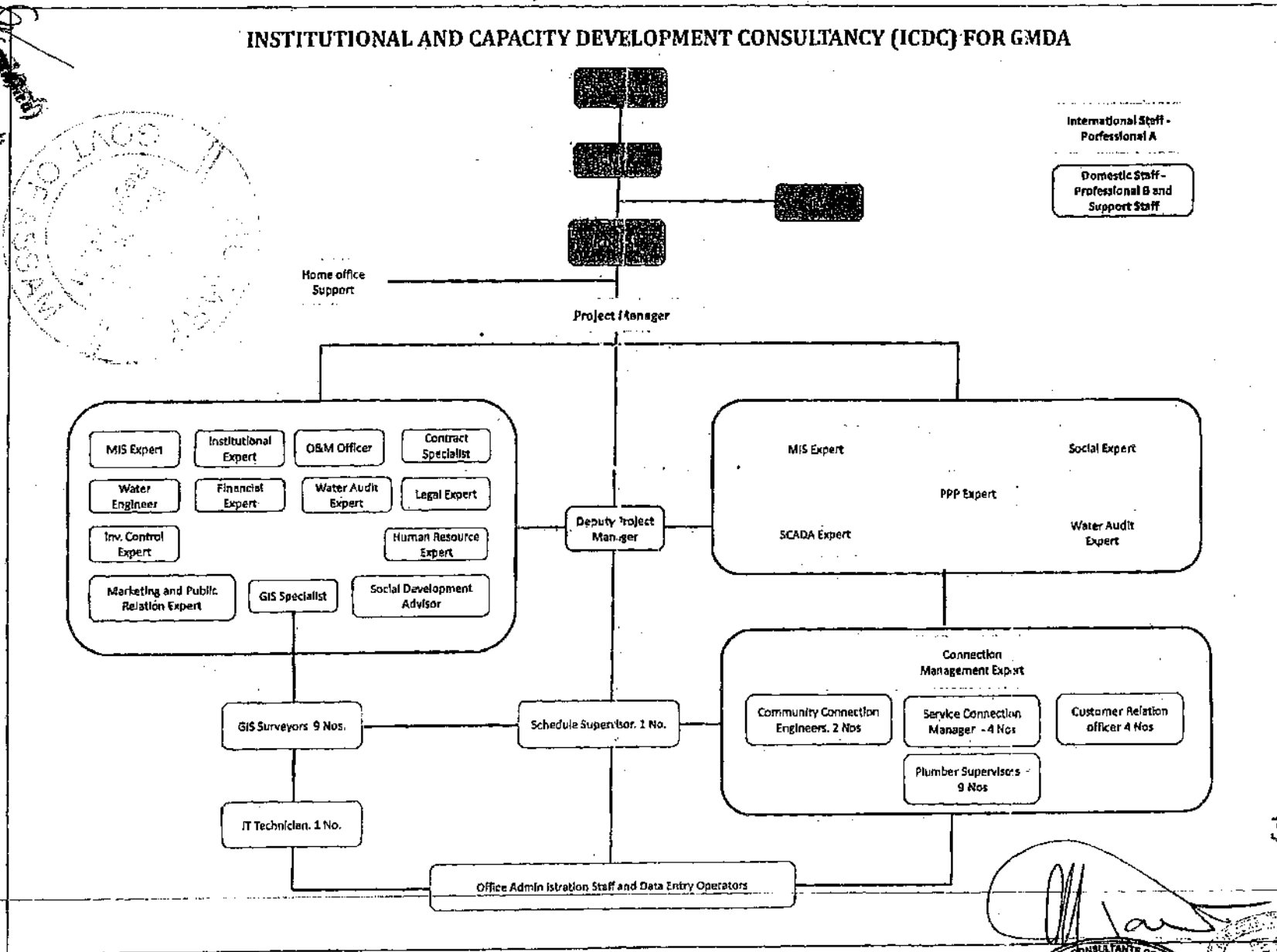


Page 192 of 325
Chief Executive Officer
Guwahati Metropolitan Dev. Authority

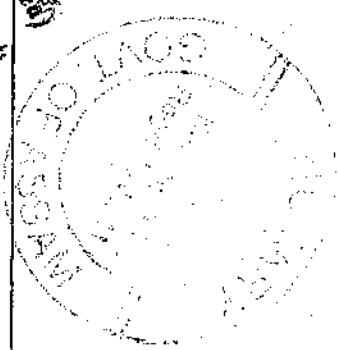


PROJECT ORGANIZATION CHART

INSTITUTIONAL AND CAPACITY DEVELOPMENT CONSULTANCY (ICDC) FOR GMDA



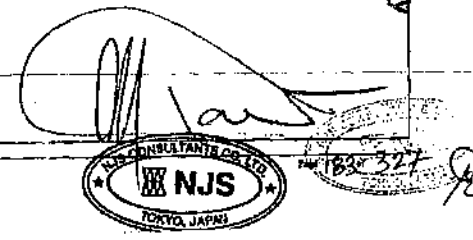
International Staff - Professional A
 Domestic Staff - Professional B and Support Staff



(Signature)
 Director
 Karnataka
 Government
 Bangalore

Chief Executive Officer
 Guwahati Metropolitan Dev. Authority

Certified to be True Copy



Appendix B

APPENDIX-B

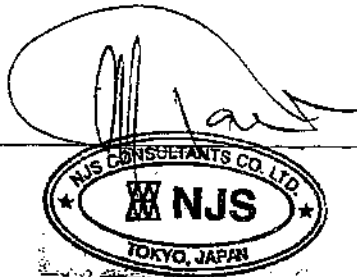
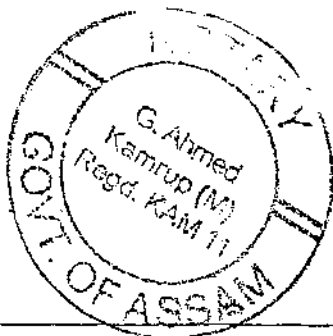
REPORTING REQUIREMENTS

The Consultants shall prepare the following reports and documents using software program.

St.No.	Report/documents	Draft (No. of hard copies)	Final (No. of hard copies)
1.	Inception Report including the organizational structure, working procedure/decision-making procedure, time schedule, obligation of the Client and Consultants, etc	2	10
2.	Plan for service connection and meter installation	2	10
3.	Tender Documents for service connection contracts, SCADA/PLC, water meters and outsourcing works	2	10
4.	Tender Evaluation Reports	2	5
5.	Human Resource Development Plan	2	10
6.	MIS development plan	2	5
7.	Standards and procedures for water meters, meter testing, procurement & inventory control, asset register	2	10
8.	Accounting manual	2	5
9.	Plan for public awareness raising campaign	2	10
10.	Operation & Maintenance plan and Manuals	2	10
11.	Progress Reports (monthly and quarterly)	As per requirement	
12.	Project Completion Report	2	10
13.	Necessary Technical Reports	As per requirement	
14.	Other necessary reports and documents	As per requirement	

* Soft copy of reports to be given in the shape of CD.

Note: All reports and deliverables shall be submitted in the final form after 15 days of receipt of comments in writing from the Employer. The soft copies of all the reports and deliverables shall be furnished for the above items on 5 compact discs. If comments are not received from the Employer on a report or submittal within 21 calendar days of such submittal, then such report or submittal will be deemed approved.



(Giasuddin Ahmed)
NOTARY
Kamrup (M) Guwahati

Chief Executive Officer
Guwahati
B-1

Certified to be True Copy

Appendix C

APPENDIX-C

KEY PERSONNEL REQUIREMENTS

International Staff

Name	Position
Dr. Nishimaki / M. E. Sterry	Project Manager / Public Management Expert
Ms. Kodama	Social Expert
Mr. Willie Barreiro	PPP Expert
Mr. R. J. Peterson	Management Information Expert
Mr. Navarro	Water Audit Expert
Mr. A. Natsui	SCADA Expert
Mr. Steve Boone / DeSaram	Connection Management Expert

Domestic Staff

Name	Position
Mr. R. C. Asthana	Deputy Team Leader
Mr. Promod Rath	Institutional Expert
Mr. Ramesh Muniyappa	External Relations Expert
Mr. Manmohan Singh Sikand	Operations and Management Officer
Mr. Ajay Kapur	Management Information Expert
Ms. Millie Hazarika	Legal Expert
Mr. Punit Kumar Mathur	Financial Expert
Mr. K. Ramesh Kumar	Water Engineer
Ms. Bharati Mathur	Human Resources Expert
Mr. Pradipto Sarkar	Contract Specialist
Mr. Jasobanta Patel	Inventory Control Expert
Mr. Rohit Dembi	GIS Specialist
Name to be provided at a later date	Community Connection Engineer 1
Ms. Savita Sethi	Community Connection Engineer 2
Mr. A. Das	Service Connection Manager 1
Mr. Rajesh Israni	Service Connection Manager 2
Mr. Sanjay Kalelkar	Service Connection Manager 3
Mr. Pratul Deshpande	Service Connection Manager 4
Ms. Mani Bhattacharya	Social Development Advisor

(Ghasuddin Ahmed)
NOTARY
Kamrup (M) Guwahati



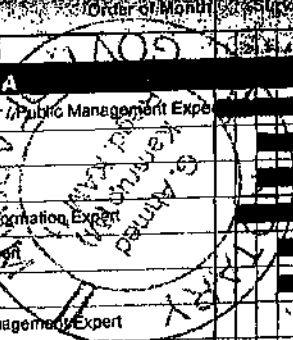
C-1

Chief Executive Officer
NJS CONSULTANTS CO. LTD.

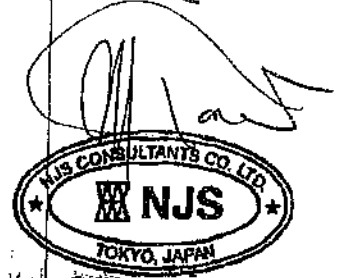
Manpower Schedule

Order of Month	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	
Professional A																																																					26
Project Manager / Public Management Exp																																																					14
Social Expert																																																					8.8
PPP Expert																																																					10
Management Information Expert																																																					8
Water Audit Expert																																																					8
SCADA Expert																																																					26
Connection Management Expert																																																					1.8
Specialist - Home Office Support (as needed)																																																					102.0
Sub-Total																																																					
Professional B																																																					54
Deputy Team Leader																																																					16
Institutional Expert																																																					12
External Relation Expert																																																					12
Operation and Management Officer																																																					16
Management Information Expert																																																					9
Legal Expert (as needed)																																																					18
Financial Expert																																																					20
Water Engineer																																																					15
Human Resource Expert																																																					21
Contract Specialist																																																					21
Inventory Control Expert																																																					22
GIS Specialist																																																					42
Community Connection Engineer 1																																																					24
Community Connection Engineer 2																																																					42
Service Connection Manager 1																																																					24
Service Connection Manager 2																																																					24
Service Connection Manager 3																																																					24
Service Connection Manager 4																																																					24
Social Development Advisor																																																					48

Approved by
 Chief Executive Officer
 GAWAHARA Metropolitan Dev. Authority



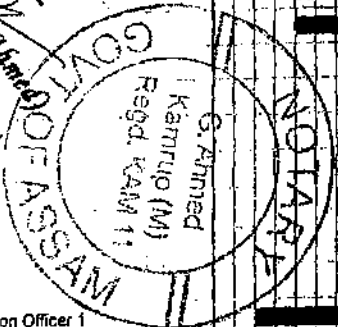
Certified to be True Copy



GHDA - ICDC Gwahati Water Supply Project

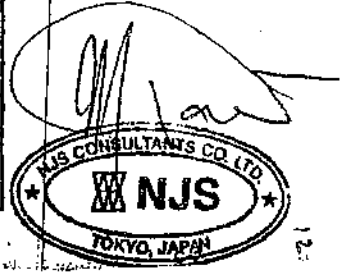
Manning Schedule

Order	Month	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
Supporting Staff		[Bar chart showing staffing levels for Supporting Staff]																																																																																																		11	
GIS Surveyor 1		[Bar chart showing staffing levels for GIS Surveyor 1]																																																																																																		11	
GIS Surveyor 2		[Bar chart showing staffing levels for GIS Surveyor 2]																																																																																																		11	
GIS Surveyor 3		[Bar chart showing staffing levels for GIS Surveyor 3]																																																																																																		11	
GIS Surveyor 4		[Bar chart showing staffing levels for GIS Surveyor 4]																																																																																																		11	
GIS Surveyor 5		[Bar chart showing staffing levels for GIS Surveyor 5]																																																																																																		11	
GIS Surveyor 6		[Bar chart showing staffing levels for GIS Surveyor 6]																																																																																																		11	
GIS Surveyor 7		[Bar chart showing staffing levels for GIS Surveyor 7]																																																																																																		11	
GIS Surveyor 8		[Bar chart showing staffing levels for GIS Surveyor 8]																																																																																																		11	
GIS Surveyor 9		[Bar chart showing staffing levels for GIS Surveyor 9]																																																																																																		11	
Customer Relation Officer 1		[Bar chart showing staffing levels for Customer Relation Officer 1]																																																																																																		30	
Customer Relation Officer 2		[Bar chart showing staffing levels for Customer Relation Officer 2]																																																																																																		30	
Customer Relation Officer 3		[Bar chart showing staffing levels for Customer Relation Officer 3]																																																																																																		32	
Customer Relation Officer (Call Center Operation)		[Bar chart showing staffing levels for Customer Relation Officer (Call Center Operation)]																																																																																																		54	
Data Entry Operator 1		[Bar chart showing staffing levels for Data Entry Operator 1]																																																																																																		50	
Plumber Supervisor 1		[Bar chart showing staffing levels for Plumber Supervisor 1]																																																																																																		36	
Plumber Supervisor 2		[Bar chart showing staffing levels for Plumber Supervisor 2]																																																																																																		36	
Plumber Supervisor 3		[Bar chart showing staffing levels for Plumber Supervisor 3]																																																																																																		36	
Plumber Supervisor 4		[Bar chart showing staffing levels for Plumber Supervisor 4]																																																																																																		36	
Plumber Supervisor 5		[Bar chart showing staffing levels for Plumber Supervisor 5]																																																																																																		36	
Plumber Supervisor 6		[Bar chart showing staffing levels for Plumber Supervisor 6]																																																																																																		36	
Plumber Supervisor 7		[Bar chart showing staffing levels for Plumber Supervisor 7]																																																																																																		36	
Plumber Supervisor 8		[Bar chart showing staffing levels for Plumber Supervisor 8]																																																																																																		36	
Secretary		[Bar chart showing staffing levels for Secretary]																																																																																																		60	
Project Accountant		[Bar chart showing staffing levels for Project Accountant]																																																																																																		60	
Documentation Specialist		[Bar chart showing staffing levels for Documentation Specialist]																																																																																																		60	
Project Coordinator		[Bar chart showing staffing levels for Project Coordinator]																																																																																																		60	
Sub-Total		[Bar chart showing sub-total staffing levels]																																																																																																			
(International Expert)		[Bar chart showing international expert staffing levels]																																																																																																		102	
Grand Total		[Bar chart showing grand total staffing levels]																																																																																																			
(Local Professional)		[Bar chart showing local professional staffing levels]																																																																																																		481	
Grand Total		[Bar chart showing grand total staffing levels]																																																																																																			
(Local Supporting Staff)		[Bar chart showing local supporting staff staffing levels]																																																																																																		838	
Grand Total		[Bar chart showing grand total staffing levels]																																																																																																			



Chief Executive Officer
Gwahati Metropolitan Dev. Authority

Certified to be True Copy

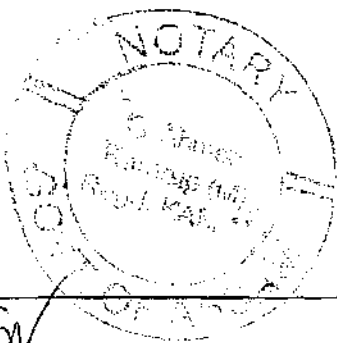


Appendix D

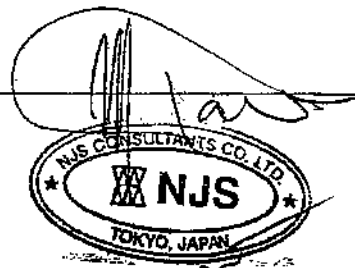
APPENDIX-D

Certified to be True Copy

NOT APPLICABLE



SW
(Wisuddin Ahmad)
NOTARY
KUALA LUMPUR (M) Kuala Lumpur



D-1

Chief Executive Officer
Bawahan Metropolitan Dev. Authority

Appendix E

APPENDIX -E

HOURS OF WORK FOR KEY PERSONNEL

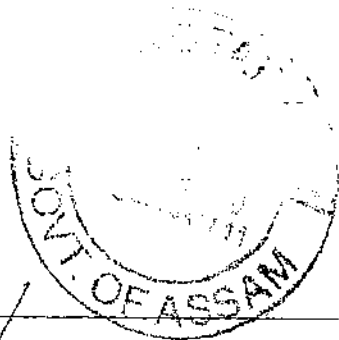
Following is the hours of working for different category of personnel

- (i) Design Office 10.00 A.M. to 5.00 P.M. (except for second and fourth Saturday and all Sundays which are non working days)

In addition the ICDC Project Management Consultant office shall be entitled to only 15 general holidays in a year which shall be in line with the holidays of the Employer

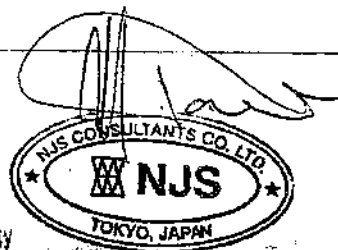
- (ii) Construction and/or Field Activity 8.00 A.M. to 6.00 P.M. (Monday through Saturday)

For international man months, the date of reporting for duty and departing from duty at Project Director, GMDA, Guwahati, ICDC Project office plus necessary travel time by the most direct route each way for each period of assignment will be deemed to be the start and the end of the particular assignment.



(Giasuddin Ahmed)
NOTARY
Kamrup (M) Guwahati

Chief Executive Officer
Guwahati Metropolitan Dev. Authority



E-1

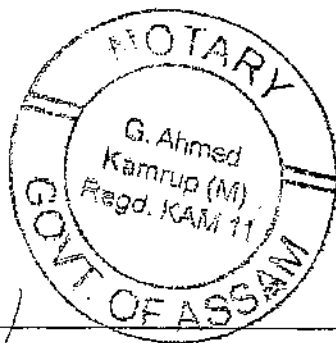
Certified to be True Copy

Appendix F

APPENDIX -F

DUTIES OF THE EMPLOYER

The Employer will provide all the available data and reports including preliminary design reports (DPR), SAPROF report and EIA report. The Employer will facilitate coordination with other government agencies as and when requested by the Consultants.



GA

(Giasuddin Ahmed)
NOTARY
Kamrup (M) Guwahati
Chief Executive Officer
Guwahati Metropolitan Dev. Authority

[Handwritten Signature]



F-1

