

DESIGN, BUILD AND OPERATE AGREEMENT

**HAZARDOUS WASTE TREATMENT STORAGE AND DISPOSAL
FACILITY AGREEMENT**

THIS AGREEMENT is made on this ___ day of ____, 2006

BY AND BETWEEN

M/s Nimbua Greenfield (Punjab) Limited, a public limited company incorporated under the Companies Act, 1956, having its registered office at Vardhaman Premises, Chandigarh Road, Ludhiana 141010;

AND

M/s Ramky Enviro Engineers Limited, a company incorporated under the Companies Act, 1956, having its registered office at Ramky House, Rajbhavan Road, Somajiguda, Hyderabad 500082;

M/s Mumbai Waste Management Limited, a company incorporated under the Companies Act, 1956, having its registered office at Ramky House, Rajbhavan Road, Somajiguda, Hyderabad 500082, and

M/s Ramky Infrastructure Limited, a company incorporated under the Companies Act, 1956, having its registered office at Ramky House, Rajbhavan Road, Somajiguda, Hyderabad 500082.

WHEREAS:

- A. The absence of common hazardous waste treatment, storage and disposal facility (hereinafter the "Facility") in the State of Punjab has been impeding the growth of industries in the State. The Government of Punjab (hereinafter the GoP), desirous of creating infrastructure facilities for hazardous waste disposal in the State, requested industries to come forward and develop the Facility.
- B. In response to this, a group of nine industrial promoters have promoted the Company under the Companies Act, 1956 for providing such facilities. The GoP acting through the PPCB has mandated the Company to develop the infrastructure facilities for hazardous waste disposal by implementing the Project. This involves the development, financing, design, engineering, construction, management and operation and maintenance of the Facility at the Site, including handling, treatment and disposal of Hazardous Wastes, closure and post closure maintenance on a commercial format by an operator

selected by the Company through a transparent competitive bidding process.

- C. The Company approached IL&FS Infrastructure Development Corporation Limited ("IL&FS IDC"), a company established with the objective of financing, assisting and promoting commercial infrastructure projects, to assist it as a project development advisor in the development, financing and implementation of the Facility.
- D. Since the Company is facilitating provision of the Facility for industries within the State of Punjab, GoP has agreed to grant the Company a concession to provide the services and for this purpose to develop, finance, design, construct, operate, and maintain the Facility on a commercial return basis.
- E. The Site earmarked for locating the Facility, admeasuring 20 Acres, 6 Kanals, 11 Marlas and 6 Sarsahi, located in village Nimbua in Patiala district has been (i) identified and approved by the PPCB after undertaking the necessary Environment Impact Assessment (EIA), and (ii) notified in this behalf by GoP for Hazardous Waste management and disposal through its notification dated 22nd August 2005. Pursuant to the above, the PPCB has executed the Site Lease Deed with the Company in this behalf.
- F. Pursuant to the aforesaid, the Company invited competitive bids from private sector operators interested in implementing the Project on the commercial format. After evaluating the proposals received in response to its RFP, the Company accepted the Proposal submitted by the Operator and communicated its acceptance to the Operator vide Notice of Award dated March 18, 2006.
- G. Following the provision by the Operator to the Company of a bank guarantee of Rs. 4 Crores (Rupees Four Crores) as Construction Performance Security in compliance with the pre-conditions to the execution of this Agreement, the Company has agreed to the implementation of the Project by the Operator on the terms, conditions and covenants hereinafter set forth in this Agreement.

NOW THIS AGREEMENT WITNESSETH AS FOLLOWS:

ARTICLE 1**DEFINITIONS AND INTERPRETATION****Section 1.1 Definitions**

In this Agreement, including the recitals hereof, unless the context otherwise requires, the following words and abbreviations shall have the meaning as under:

“Abandonment” means the material cessation of activity in the Project by the Operator and of its obligations under the Agreement for a:

- (i) cumulative period of more than 15 (fifteen) days during the Construction Period, or
- (ii) cumulative period of more than 45 (forty-five) days within one calendar year during the Operations Period

other than as a result of an event of Force Majeure or a Material Breach of its obligations by the Company.

“Accounting Year” means the financial year commencing on 1st April in each year and ending on 31st March in the next year.

“Active Term” means the term during which the Facility shall receive, transport, store and dispose of the Hazardous Wastes.

“Agreement” or **“DBO Agreement”** means this design, build and operate agreement for treatment, storage and disposal of Hazardous Wastes as of date hereof, including recitals, Appendices and attachments hereto as may be amended, supplemented or modified in accordance with the provisions hereof.

“Appendix” means any of the Appendices, supplements or documents, appended to this Agreement.

“Applicable Laws” means any statute, ordinance, notification, rule, regulation, judgement, order, decree, bye-law, approval, directive, guideline, policy, requirement or other governmental restriction or any similar form of decision of, or determination by, or any interpretation or having the force of law in the Republic of India and the State of Punjab, by any Government Authority or instrumentality thereof, whether in effect as of the date of this Agreement or thereafter.

“Applicable Permits” means any and all permissions, clearances, licenses, authorisations, consents, no-objections, approvals of or from any Government Authority required in connection with the Project and for undertaking, performing or discharging the obligations or fulfillment of the purposes contemplated by this Agreement.

“Bid Security” means the bank guarantee of Rs. 20 Lakhs (Rupees Twenty Lakhs) in favour of the Company provided by the Operator along with the Proposal.

“CPCB” means the Central Pollution Control Board.

“Change in Law” shall have the meaning ascribed thereto in Section 15.1.

“Company” or “NGPL” means M/s Nimbua Greenfield (Punjab) Limited, a public limited company incorporated under the Companies Act, 1956, having its registered office at Vardhaman Premises, Chandigarh Road, Ludhiana 141 010, which expression shall, unless the context otherwise requires, include its successors and assigns.

“Completion Certificate” shall have the meaning specified in Section 10.4.

“Compliance Date” shall have the meaning specified in Section 3.4.

“Consortium” means the consortium consisting of Messrs Ramky Enviro Engineers Limited, Mumbai Waste Management Company Limited and Ramky Infrastructure Limited (formed pursuant to the memorandum of understanding dated October 27, 2005 entered into by them, for the purpose of bidding for the Project and has since entered into a consortium agreement, attached hereto as Appendix 12) that has been successful in the bidding process for the Project and that shall implement the Project.

“Construction Works” means the works and things necessary for achieving Construction Completion and for commencing commercial operations of the Facility/Project in accordance with the provisions of this Agreement.

“Construction Completion” means the date on which the Company issues the Completion Certificate for the Project.

“Construction Period” means the period from the Compliance Date to the date of issue of the Completion Certificate for the Project.

“Dispute” shall have the meaning ascribed thereto in Section 18.1 hereof.

“Dispute Resolution Procedure” means the procedure for resolution of disputes set forth in Article 18.

“EIA” means the Environment Impact Assessment for the Project.

“Encumbrances” means any encumbrance such as mortgage, charge, pledge, lien, hypothecation, security interest, assignment, privilege or priority of any kind having the effect of security or other obligation or restriction and shall include physical or legal obstructions or encroachments on the Site or Third Party claims or rights of any kind attaching to the Site.

“Facility” means the facility established, operated and maintained by the Operator at the Site for the collection, reception, treatment, storage and disposal of Hazardous Wastes, and the processes incidental thereto in accordance with the Specifications and Standards, the Applicable Laws, the terms and conditions of the Applicable Permits and Good Industry Practice. The Facility shall be for the collective use and shall cater to the Hazardous Waste disposal requirements of the Users.

“Force Majeure Event” shall have the meaning ascribed to it in Section 13.1 of this Agreement.

“Fundamental Breach” means fundamental breach of this Agreement as set forth and described in Section 14.2 of this Agreement

“GoI” means the Government of India.

“GoP” means the Government of Punjab, and includes its successors and assigns.

“Government Authority” or “Competent Authority” means GoI, any state government or any governmental department, commission, board, body, bureau, agency, authority, instrumentality, court or other judicial or administrative body, central, state, or local, including without limitation the Central Pollution Control Board (CPCB) and Punjab Pollution Control Board (PPCB), having jurisdiction over the Operator, the Project, the Facility, the Project Assets and the Works or the performance of all or any of the services, obligations or covenants of Operator under or pursuant to this Agreement or any portion thereof.

“Good Industry Practice” means the exercise of that degree of skill, diligence and prudence and those practices, methods, specifications and standards of engineering, procurement, construction, equipment, safety, operation and performance, as may change from time to time and which would reasonably and ordinarily be expected to be used by a skilled and

experienced hazardous waste management and disposal contractor and/or operator, in a project of the type and size similar to the Project.

“Hazardous Wastes” means the hazardous wastes as defined under the Hazardous Waste (Management and Handling) Rules, 1989 as amended from time to time.

“Independent Expert” means the any person, body or organisation of repute with recognised technical/professional expertise in respect of any field, matter or subject relevant for the purpose of this Agreement, appointed by the Company at its cost.

“Lead Member” means M/s Ramky Enviro Engineers Limited.

“License Fee” means the annual fee, either fixed fee or variable fee per tonne of Hazardous Waste or a combination of both, payable by the Operator to the Company in terms of Section 11.2 (a)

“Material Adverse Effect” means circumstances which may or do (i) render any right vested in a Party by the terms of this Agreement ineffective or (ii) adversely affect or restrict or frustrate the ability of any Party to observe and perform in a timely manner its obligations under this Agreement or the legality, validity, binding nature or enforceability of this Agreement.

“Material Breach” means a breach of the obligations, terms and conditions of this Agreement or covenants by a Party, which materially and substantially affects the performance of the transactions contemplated by this Agreement/ has a Material Adverse Effect.

“Milestone Dates” means the dates for completion of specified Project activities /Project milestones as contained in the Project Implementation Schedule.

“Notice of Award” means the letter of acceptance of the Proposal issued by the Company to the Operator.

“Operations Date” means the date on which the Company issues the Provisional or the Completion Certificate, whichever is earlier, and the Operator commences commercial operations of the Facility.

“Operations Period” for the Project means the period from the date of issue of the Provisional Certificate or the Completion Certificate, which ever is earlier, to the end of the Total Term.

“Operator” means the members of Consortium, together or individually, as the context may require, responsible for establishing, operation and

maintenance of the Facility closure and post closure activities and maintenance, and shall include the occupier having the control over the handling, treatment, storage and disposal of any hazardous substance or waste, and shall include its successors and permitted assigns.

“Operator’s Fund” means the fund established and maintained by the Operator for the closure and post closure maintenance of the Facility and meeting contingencies in accordance with the provision of Section 11.4.

“Party” means either the Company or the Operator, as the context may require or admit, and **“Parties”** means collectively the Company and the Operator.

“Person” means any individual, company, corporation, partnership, joint venture, trust, unincorporated organisation, government or governmental authority or agency or any other legal entity.

“Performance Security” means the bank guarantee (Construction Performance Security and/or the Operations Performance Security, as the context may require or admit) to be provided by the Operator under Article 7.

“Performance Standards” means the standards set forth in Appendix 7.

“Post Closure Term” means the term of 30 years from the end of the Active Term of the operations of the Facility, subject to any variation made thereto by the Competent Authority

“Project” subject to the provisions hereof, means and includes the following phases:

- (i) Construction phase involving development, design, construction, installation, erection, establishment and completion of the Facility and all activities incidental thereto, such as engineering, procurement, commissioning, testing and insurance;
- (ii) Operation and maintenance phase involving the management and the operation and maintenance of the Facility, including the demand, collection, retention and appropriation of Tariff by the Operator from the Users; and
- (ii) Post closure phase covering the post closure maintenance and handing over of the Facility and the Project Assets by the Operator to the Company at the end of the Total Term.

“Project Agreements” means any material contracts or agreements entered into by the Operator after the date of this Agreement relating to the

construction, operation and maintenance of the Facility, including without limitation the Waste Offtake Agreements.

“Project Assets” means all physical and other assets relating to and forming part of the Facility including but not limited to (i) rights over the Site in the form of license, right of way or otherwise; (ii) tangible assets such as civil works including the foundation, embankments, pavements, buildings, structures, drainage works, lighting facilities, equipment and machinery, civil, electrical, chemical, mechanical, bio-chemical and other works, goods and materials, telephone and other communication systems for the Project, amenities, administration, maintenance and disposal spaces, service facilities etc.; (iii) Facility situated on the Site (iv) the rights of the Operator under the Project Agreements; (v) financial assets, such as receivables, security deposits for electricity supply, telephone and other utilities etc.; (vi) insurance proceeds; and (vii) Applicable Permits and authorisations relating to or in respect of the Project.

“Project Completion Certificate” shall have the meaning ascribed thereto in Section 17.8.

“Project Implementation Schedule” means Appendix 14 hereto containing the construction schedule for the Project and the Milestone Dates.

“Proposal” or **“Bid”** means the documents in their entirety comprised in the proposal or bid submitted by the Operator (including the technical and financial proposal or bid) in response to the Request for Proposal, and accepted by the Company, with amendments and modifications, if any, pursuant to negotiations between the Parties, signed for verification by the authorised representatives of the Parties, attached hereto as Appendix 17.

“Provisional Certificate” means the certificate issued by the Company pursuant to Section 10.4.

“Punch List Items” shall have the meaning specified in Section 10.4 hereof.

“PPCB” means the Punjab Pollution Control Board.

“Request for Proposal” or **“RFP”** means the Request for Proposal dated September 7, 2005 issued by the Company inviting proposals for the Project, and includes any addendum / clarifications issued in respect thereof by the Company.

“Rules” means the Hazardous Waste (Management and Handling) Rules, 1989 as amended from time to time.

“SBI PLR” means the prime lending rate per annum for loans with 1 (one) year maturity as fixed from time to time by the State Bank of India, and in the absence of such rate, the average of the prime lending rates for loans with 1 (one) year maturity fixed by the Bank of India and the Bank of Baroda and failing that any other arrangement that substitutes such prime lending rate as mutually agreed between the Parties.

“Scheduled Construction Completion Date” shall have the meaning specified in Section 10.3.

“Security Deposit” shall have the meaning specified in Section 7.5 hereof.

“Site” means the land and the rights thereto (including right of way/way leaves), the approaches within the site, appurtenances and other areas on, into, at, under, over or through which the Facility is to be constructed, operated and maintained or any other construction relating thereto is situated, located, passes through, sits upon or overlies, more particularly delineated in Appendix 1 and shown in the map attached thereto.

“Site Lease Deed” means the lease deed executed between the Company and the PPCB under which the PPCB has leased the Site to the Company for implementation of the Project.

“Specifications and Standards” means the Technical Specifications and the Performance Standards.

“Subcontractors” means any Person to whom any part of the Construction Works has been subcontracted by the Operator.

“Subscription Fee ” means the non-refundable lump sum subscription/access fee payable by the Users to the Company for availing the services and facilities provided by the Operator at the Facility at the rates and on the terms and conditions fixed by the Company from time to time for different category/sizes of industries.

“Tariff” means the user charges, rates, fees, premia, amounts, prices and all sources of revenue or amounts of money by whatever name called that are charged, demanded, collected, retained and appropriated by the Operator from the Users under this Agreement and revised from time to time, as set forth in Section 11.3 (a) read with Appendix 6 of the Agreement.

“Technical Committee” means committee constituted or reconstituted by the Government of Punjab from time to time, by notification in the Official Gazette of the State of Punjab, for the purposes specified in such notification.

“Technical Specifications” mean the technical specifications for the construction and implementation of the Project as set forth in Appendix 2.

“Termination” means the coming to an end of the Agreement by Fundamental Breach by either Party or by Force Majeur in accordance with the provisions of Article 17

“Termination Date” means the date immediately following the date of termination in accordance with the provisions of this Agreement.

“Termination Notice” means a notice of not less than 30 (thirty) days and not ordinarily more than 60 (sixty) days in writing to the other Party to terminate the Agreement either on account of a Force Majeure Event or on account of a Fundamental Breach of this Agreement.

“Termination Period” means notice period mentioned in the Termination Notice at the expiry of which the Agreement shall stand terminated.

“Tests” means the tests to be carried out as set forth in Appendix 4 to determine Construction Completion.

“Third Party” means any Person, real or judicial, or entity other than the Parties.

“Total Term” means the term for which the active operations and the post closure operations of the Facility would continue and would not be less than the sum total of the Active Term and the Post Closure Term.

“Users” or “Generators” means the industries producing or generating the Hazardous Wastes in the State of Punjab.

“Waste Offtake Agreement” means the agreement between the Operator and the Users in relation to the offtake of Hazardous Wastes generated by the Users, to which the Company shall be a confirming party.

“Works” or “Scope of Works” means the works which are to be carried out in accordance with the Specifications and Standards and undertaken by the Operator and/or its Subcontractors (Subcontractors to undertake works only during the Construction Period) for the provision of the Facility, services and things to be designed, engineered, constructed, supplied, executed, manufactured, installed, completed, tested, commissioned, rectified, replaced, made good, carried out and undertaken and any other permanent, temporary or urgent works required hereunder, detailed in Appendix 2.

Section 1.2 Interpretation and Ambiguities

1.2.1 Interpretation

In this Agreement, unless the context otherwise requires,

- (a) the words importing singular shall include plural and vice versa;
- (b) words importing the masculine shall include the feminine gender and vice versa;
- (c) references to the word "include" or "including" shall be construed without limitation;
- (d) headings are for convenience only and shall not be deemed to be part hereof or be taken into consideration in the interpretation or construction of this Agreement;
- (e) the Appendices form an integral part of this Agreement and will be in full force and effect as though they were expressly set out in the body of this Agreement;
- (f) the references to any law or enactment (including sub-ordinate legislation) are to be construed as references to that law or enactment as it may, after the date of this Agreement, from time to time be amended, supplemented or re-enacted or to any law or enactment replacing the same;
- (g) references to "construction" include, unless the context otherwise requires, investigation, design, development of Site, engineering, procurement, delivery, transportation, installation, processing, fabrication, testing, commissioning and other activities incidental to construction, and "construct" shall be construed accordingly;
- (h) the damages payable by a Party to the other Party as set forth in this Agreement, whether on per diem basis or otherwise, are mutually agreed genuine pre-estimated loss and damage/liquidated damages likely to be suffered and incurred by the Party entitled to receive the same and are not by way of penalty;
- (i) references to this Agreement or to any other agreement or deed or other instrument shall be construed as a reference to such agreement, deed, or other instrument as the same may from time to time be amended, varied, supplemented or novated; and

- (j) any agreement, consent, approval, authorisation, proposal, notice, communication, information or report required under or pursuant to this Agreement from or by any Party shall be valid and effectual only if it is in writing under the hand of the duly authorised representative of such Party in this behalf and not otherwise.

1.2.2 Measurements and Arithmetic Conventions

All measurements and calculations shall be in metric system and calculations done to 2 (two) decimal places, with the third digit of 5 (five) or above being rounded up and below 5 (five) being rounded down except in money calculation which shall be rounded off to nearest rupee.

1.2.3 Ambiguities within Agreement

In case of ambiguities or discrepancies within this Agreement, the following shall apply:

- (a) Between two Sections of this Agreement, the provisions of specific Section relevant to the issue under consideration shall prevail over those in the other Section ;
- (b) Between the provisions of this Agreement and the Appendices, the Agreement shall prevail, save and except as expressly provided in the Agreement or the Appendices;
- (c) Between the written description on the drawings and detailed engineering and the Specifications and Standards, the latter shall prevail; and
- (d) Between any value written in numerals and that in words, the latter shall prevail.

ARTICLE 2**GRANT OF RIGHTS****Section 2.1 Grant of Rights**

Subject to and in accordance with the terms and conditions set forth in this Agreement, the Applicable Laws, the Applicable Permits and the Good Industry Practice, the Company hereby agrees to (i) the implementation of the Project by the Operator in accordance with the provisions hereof; and (ii) the exercise and/or enjoyment of the rights, privileges, authorisations and entitlements by the Operator as set forth in this Agreement.

Section 2.2 Term of Agreement

The Total Term of Agreement shall commence from the Compliance Date and shall extend for a period of 40 (forty) years or a period of Active Term plus Post Closure Term, whichever is later, subject to any extension or prior termination of this Agreement.

Section 2.3 Acceptance by Operator

The Operator hereby accepts the terms and conditions of this Agreement and agrees and undertakes to implement the Project and to perform/discharge all of its obligations in accordance with the terms and conditions set forth in this Agreement.

ARTICLE 3**CONDITONS PRECEDENT****Section 3.1 Conditions Precedent**

Save and except as may otherwise be expressly provided herein, the obligations of a Party under this Agreement shall be subject to the satisfaction in full of the conditions precedent relating to the other Party (the "**Conditions Precedent**").

Section 3.2 Recordal of Satisfaction of Conditions Precedent for Company

It is agreed that as a part of its Condition Precedent, the Company has already

- a) obtained from the Government of India, Ministry of Commerce & Industry, Department of Industrial Policy and Promotion sanction for a Grant under the Industrial Infrastructure Upgradation Scheme;
- b) obtained sanction for raising loan from the State Bank of Patiala, Commercial Branch, Ludhiana;
- c) raised major portion of the Equity Contribution from its members; and
- d) executed the Site Lease Deed with PPCB and obtained vacant and unencumbered possession of the site from the PPCB;

Section 3.3 Conditions Precedent for Operator

The obligations of the Company hereunder are subject to the satisfaction in full of the following Conditions Precedent of the Operator, unless such conditions have been waived by the Company, fully or partially. The Operator shall have

- (a) obtained at its cost the Applicable Permits (indicative list set out in Appendix 3) that are required to commence the Works unconditionally or if subject to conditions then all such conditions have been satisfied in full and such Applicable Permits are in full force and effect; provided that in respect of the Operator's requirement of obtaining the consent to establish under the Water (Prevention of Pollution and Control) Act, 1974 and the authorization under the Hazardous Waste (Management and Handling) Rules, 2003, the Operator

shall be deemed to be in compliance with this provision so long as it has submitted the application(s) relating thereto, duly completed in all respects, to the concerned Government Authorities and is in compliance with all the pre-conditions and conditions relating thereto, as certified by the Company/the Independent Expert;

- (b) provided the Company notarised true copies of its board resolution authorising the execution, delivery and performance of this Agreement by the Operator;
- (c) completed and finalized in consultation with the Company and/or Independent Expert the design and detailed engineering for the Project in accordance with the provisions of Article 9, and provided copies thereof to the Company;
- (d) provided the Company draft Waste Offtake Agreement for its approval; and
- (e) Paid half of the Security Deposit, amounting to Rs 2 crores (Two Crores), to the company in the form of a irrevocable demand draft favouring Nimbua Greenfield (Punjab) Limited payable at Ludhiana within 15 days of the date of Agreement;
- (f) all the representations and warranties of the Operator set forth in the Proposal and in this Agreement are true and correct as on the date of execution of this Agreement and as on the Compliance Date.

Provided that upon request in writing by the Operator, the Company may in its sole discretion, waive fully or partially any or all the Conditions Precedent set forth in this Section 3.3.

Section 3.4 Satisfaction of Conditions Precedent

- (a) The Operator shall make all reasonable endeavors at its cost and expense to procure the satisfaction in full of the Conditions Precedent relating to it within a period of 60 (Sixty) days from the date of execution of this Agreement. Within such 60 (Sixty) days, the Date when the Operator fulfils its Conditions Precedent (unless the Company waives the same for the Operator) shall be the date from which the obligations of the Parties hereunder shall commence (the "**Compliance Date**").

- (b) In the event this Agreement fails to come into effect on account of non fulfillment of the Operator's Conditions Precedent, the Company shall forfeit and encash the Construction Performance Security and Security Deposit. In that event, the Agreement will come to an end and no Party shall subsequently have any rights or obligations under this Agreement and the Company shall not be liable in any manner whatsoever to the Operator or Persons claiming through or under it

- (c) The Parties may, however, by mutual agreement extend the time for fulfilling the Conditions Precedent by the Operator.

ARTICLE 4**SITE****Section 4.1 Access to Site**

- (a) The Company shall on the Compliance Date entrust the Operator the physical possession of the Site on an “as is where is basis” together with the necessary rights of way, authority and a license for entry into and use of the site to implement the Project thereat in accordance with the provisions of this Agreement.
- (b) The grant of the leave and license herein shall not confer or be deemed to have conferred on the Operator any right, title or interest whatsoever (whether in the nature of an easement or otherwise) in the Site or any part thereof and nothing in these presents contained shall be construed as a demise in law of the Site unto the Operator so as to give the Operator any legal interest therein. The Operator shall only have the right to enter upon the Site for the purpose of executing the Project in accordance with the terms hereof.
- (c) The Company shall provide full details of boundaries of Site to the Operator at the time of handing over of the possession of the Site to the Operator.
- (d) The Operator hereby confirms and accepts the suitability of the condition, soil and location of the Site for implementation of the Project, as determined by it independent assessment, and hereby accepts the Site on an “as is where is basis” at its cost, risk and consequence.
- (e) The Operator shall not part with or create any Encumbrance on the whole or any part of the Site save and except with the prior consent of the Company, in writing; provided, however, that nothing contained herein shall be construed or interpreted as a restriction on the right of the Operator to appoint any Subcontractors for the performance of its obligations hereunder during the Construction Period.

Section 4.2 Use of Site

The Operator shall not without prior written consent or approval of Company use the Site for any purpose other than for the purposes of implementing the Project and purposes incidental thereto as

permitted under this Agreement or as approved in writing by the Company subject to the terms and conditions of the Site Lease Deed.

Section 4.3 Information About Site

The information about the Site set out in Appendix 1 is provided by the Company in good faith and with due regard to the matters for which such information is required by the Operator. The Company agrees to provide to the Operator, upon a reasonable request, any further information relating to the Site, which the Company may now possess or may hereafter come to possess. Subject to this, Company makes no representation and gives no warranty to the Operator in respect of the suitability of the condition, soil and location of the Site for implementation of the Project and shall not be liable in any manner for the correctness or completeness of the information provided by it to the Operator. The Operator shall accept such information at its cost, risk and consequence.

Section 4.4 Company's Property at Site

The Site shall be held and handled by the Operator in trust for and on behalf of the Company, consistent with the Applicable Laws, and in particular,

- (a) All debris and construction and building materials (sand, gravel, stone, rock, loose earth etc.) lying at the Site or generated during the construction or implementation of the Project shall be the property of the Company. The Operator shall use or dispose of at its cost such debris and construction and building materials in accordance with the written instructions issued from time to time by the Company or its authorized representative.
- (b) All gold, silver, oil, minerals, precious stones, fossils, coins, articles of value or antiquity, and structures and other relics or remains, or things of geological or archaeological interest discovered on the Site shall be the property of the Company. The Operator shall take reasonable precautions to prevent the Subcontractors and its labour and personnel and that of the Subcontractors from removing or damaging any such article or thing. The Operator shall immediately upon discovery of such article or thing, inform the Company, which may issue instructions for dealing therewith.

ARTICLE 5**REPRESENTATIONS AND WARRANTIES****Section 5.1 Representations and Warranties of Parties**

Each Party represents and warrants to the other that:

- (a) It is duly organized, validly existing and in good standing under the laws of India;
- (b) It has full power and authority to execute, deliver and perform its obligations under this Agreement and to carry out the transactions contemplated hereby;
- (c) It has taken all necessary corporate and other action under Applicable Laws and its constitutional documents to authorize the execution, delivery and performance of this Agreement;
- (d) It has the financial standing and capacity to undertake the Project;
- (e) This Agreement constitutes its legal, valid and binding obligation fully enforceable against it in accordance with the terms hereof;
- (f) It is subject to civil and commercial laws of India with respect to this Agreement and it hereby expressly and irrevocably waives any immunity in any jurisdiction in respect thereof; and
- (g) It shall have an obligation to disclose to the other Party as and when any of its representations and warranties ceases to be true and valid.

Section 5.2 Additional Representations and Warranties of Operator

In addition, the Operator represents and warrants to the Company that:

- (a) The Operator shall not venture into or continue any business which is in direct or indirect competition with the Project/Facility. In the event the Operator engages in such activities, the same shall constitute a Fundamental Breach of this Agreement by the Operator;

- (b) The execution, delivery and performance of this Agreement will not conflict with, result in the breach of, constitute a default under or accelerate performance required by any of the terms of the Operator's Memorandum and Articles of Association or any Applicable Laws or any covenant, agreement, understanding, decree or order to which it is a party or by which it or any of its properties or assets is bound or affected;
- (c) There are no actions, suits, proceedings, or investigations pending or, to the Operator's knowledge, threatened against it at law or in equity before any court or before any other judicial, quasi judicial or other authority, the outcome of which may result in the breach of or constitute a default of the Operator under this Agreement or which individually or in the aggregate may result in any Material Adverse Effect;
- (d) It has no knowledge of any violation or default with respect to any order, writ, injunction or any decree of any court or any legally binding order of any Government Authority or any other pending or potential matters which may result in any Material Adverse Effect or impairment of the Operator's ability to perform its obligations and duties under this Agreement;
- (e) It has complied with all Applicable Laws and has not been subject to any fines, penalties, injunctive relief or any other civil or criminal liabilities which in the aggregate have or may have Material Adverse Effect;
- (f) No representation or warranty by the Operator contained herein or in any other document furnished by it to the Company or to any Government Authority in relation to Applicable Permits or otherwise contains or will contain any untrue statement of material fact or omits or will omit to state a material fact necessary to make such representation or warranty not misleading.

Provided that whenever any pending or potential matter, including the matters listed under sub-clauses (c), (d) and (e), comes to the knowledge of the Operator, during the Project period, the outcome of which may result in the breach of or constitute a default of the Operator under this Agreement or which individually or in the aggregate may result in any Material Adverse Effect or impairment of the Operator's ability

to perform its obligations and duties under this Agreement, the Operator shall immediately intimate the same to the Company.

Section 5.3 Disclaimer

- (a) Without prejudice to any express provision contained in this Agreement, the Operator acknowledges that prior to the execution of this Agreement, the Operator has after a complete and careful examination made an independent evaluation of the Project, the legal framework and the technical and financial aspects of the Project, the Specifications and Standards, the Site and the suitability of its condition, soil and location for implementation of the Project, the EIA, the availability of goods, materials and things at the Site for implementing the Project, all the information and documents provided by the Company or any Government Authority, the market and demand conditions, information relating to Users and the cost, risks, consequences and liabilities involved in implementing the Project, and has determined to the Operator's satisfaction the nature and extent of such difficulties, risks and hazards as are likely to arise or may be faced by the Operator in the course of performance of its obligations hereunder.
- (b) The Operator further acknowledges and hereby accepts the risk of inadequacy, mistake or error in or relating to any of the matters set forth in sub-section (a) above and hereby confirms that the Company, any Government Authority and their consultants and advisors shall not be liable for the same in any manner whatsoever to the Operator or Persons claiming through or under the Operator.
- (c) The Operator accepts that it is solely responsible for the verification of any design, data, documents or information provided by the Company, any Government Authority or their consultants and advisors to the Operator and that it shall accept and act thereon at its own cost and risk.
- (d) The Operator shall be solely responsible for the contents, adequacy and correctness of the design, data, drawings and detailed engineering prepared or procured by the Operator for implementing the Project.

ARICLE 6

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ARTICLE 7**PERFORMANCE SECURITY AND SECURITY DEPOSIT****Section 7.1 Construction Performance Security**

- (a) The Operator shall provide the Company within 15 (fifteen) days of the date of issue of the Notice of Award an unconditional and irrevocable demand bank guarantee in favour of the Company from any scheduled bank having an operational branch at Ludhiana in the format acceptable to the Company for an amount of Rs. 4 Crores (Rupees Four Crores) ("**Construction Performance Security**") guaranteeing the obligations of the Operator to enter into this Agreement and to perform the obligations under the RFP and this Agreement, including the fulfilment of the Conditions Precedents of the Operator, from the date of the Notice of Award to the date of Completion Certificate for the Project.

Provided that in the event Operator fails to complete the Construction Works before the Scheduled Construction Completion Date, including any extension thereof, the Operator shall renew the Bank Guarantee, being the Construction Performance Security, at least 30 days prior to the expiry of the earlier Bank Guarantee till such time the Completion Certificate is issued.

- (b) In case the Operator fails to execute this Agreement, the Company shall be entitled to call in, forfeit, retain and appropriate the Bid Security and the Construction Performance Security.
- (c) In case the Operator fails to renew the Construction Performance Security in accordance with the provisions contained in this Section, the Company shall be entitled to call in, forfeit, retain and appropriate the Construction Performance Security. The failure to renew the Construction Performance Security shall constitute a Fundamental Breach of this Agreement by the Operator.

Section 7.2 Operations Performance Security

- (a) For securing the due and punctual performance of obligations of the Operator during the Operations Period and until the date of issue of the Project Completion Certificate, the

Operator shall deliver to the Company, 30 days prior to the Scheduled Construction Completion Date or the date of Completion Certificate, whichever is earlier, an unconditional demand bank guarantee of Rs 2 crores (Rupees Two Crores only) in favour of the Company from any scheduled bank in the format acceptable to the company (the “**Operations Performance Security**”). Provided, however, the amount of the Operations Performance Security shall be enhanced every 2 (two) years from the date of issue thereof by such percentage as is equivalent to the increase in the quarterly average Industrial Wholesale Price Index for the previous 2 (two) years as computed on an annual compounding basis.

- (b) The Operator’s failure to provide the Operations Performance Security in accordance with the provisions of this Section shall (i) entitle the Company to call in, forfeit, retain and appropriate the Construction Performance Security and (ii) constitute Fundamental Breach of this Agreement by the Operator.

Section 7.3 Appropriation of Performance Security

- (a) In the event of the Operator being in default of the due, faithful and punctual performance of its obligations under this Agreement or the terms and conditions hereof during the Construction Period including under section 3.3 and 3.4 of the Agreement or during the Operations Period and until the date of issue of the Project Completion Certificate, as the case may be, and failing to remedy such default within the relevant cure period or in the event of there being any claims or demands whatsoever whether liquidated or which may at any time be made or have been made on behalf of the Company for or against the Operator under this Agreement or against the Company in respect of this Agreement, the Company shall, without prejudice to its other rights and remedies hereunder or in law, be entitled to call in, encash and appropriate the relevant or delinquent amounts from the Performance Security as damages for such default, dues, demands or claims.
- (b) The decision of the Company as to any breach/delay having been committed, liability accrued or loss or damage caused or suffered shall be conclusive, absolute and binding on the Operator. The Operator specifically confirms and agrees that no proof of any amount of liability accrued or loss or damages caused or suffered by the Company under this Agreement is required to be provided in connection with any demand made

by the Company to recover such compensation through encashment of the Performance Security under this Agreement and that no document or any action shall be required other than the Company's written demand as aforesaid.

- (c) In the event of encashment of the Performance Security by the Company, in full or part, the Operator shall within 30 (thirty) days of receipt of the encashment notice from the Company provide a fresh Performance Security or replenish the existing Performance Security, as the case may be. The provisions of this Article 7 shall apply mutatis mutandis to such fresh Performance Security. The Operator's failure to comply with this provision shall constitute a Fundamental Breach of this Agreement by the Operator.

Section 7.4 Release of Performance Security

- (a) Subject to the provisions hereof, the Company shall return the Construction Performance Security to the Operator within two weeks following the issue of Completion Certificate, provided that there are no outstanding claims of the Company and the Third Party on the Operator and the Operator has furnished the Operations Performance Security.
- (b) Subject to the provisions hereof, the Company shall return the Operations Performance Security to the Operator within two weeks of the date of issue of the Project Completion Certificate; provided that there are no outstanding claims of the Company and the Third Party on the Operator.

Section 7.5 Security Deposit

- (a) The Operator shall provide an interest free Security Deposit of Rs. 4 crores (four crores) to the Company as under:
 - (i) upfront payment of Rs.2 Crores (Two Crores) within 15 days of the date of Agreement.
 - (ii) payment of the balance amount of Rs.2 Crores (Two Crores) on or before the Scheduled Construction Completion Date or the date of Completion Certificate, whichever is earlier.

- (b) The Operator shall make payments of the Security Deposit to the Company in the form of a demand draft favouring Nimbua Greenfield (Punjab) Limited payable at Ludhiana.
- (c) The Operator's failure to make payment of the Security Deposit under sub-section (a) above shall constitute Fundamental Breach of this Agreement by the Operator.

(d) **Management of Security Deposit**

The Security Deposit shall be held by the Company during the Total Term. The Company shall be entitled to deposit this money in any scheduled or nationalized bank in such accounts as the Company deems fit; provided that the Company shall have the power to invest the amount standing to the credit of such account in accordance with investment policies and guidelines as per Good Industry Practice and with care, skill, prudence and diligence.

- (e) Any interests and/or income arising or accruing from such deposit or investment, as the case may be, shall be to the benefit of and credited to the Company, which shall retain, appropriate and utilize the same in such manner and for such purpose as the Company in its sole discretion deems fit.

(f) **Utilisation of Security Deposit**

The Company, in its sole discretion, under notice to the Operator, may utilize the Security Deposit during the Total term for meeting any liability of the Operator under the Agreement or under the Applicable Laws that is not covered or inadequately covered by insurance or otherwise.

- (g) In the event of Company expending the Security Deposit towards meeting the Operator's liabilities in accordance with the provisions of sub-clause (f) above, the Operator within 30 days of the notice shall top-up the Security Deposit with the Company to Rs 4.0 Crores (Rupees Four Crores). The Operator's failure to top-up the Security Deposit as provided in Sub-clause (g) above shall constitute Fundamental Breach of this Agreement.

(h) **Return/Forfeiture of Security Deposit**

The replenished Security Deposit, or the balance amount of the Security after utilization, if any, in accordance with sub-clause (f) above, shall be returned without any interest, by the Company to the Operator as under:

- (i) In case of expiration of Total Term, within 2 weeks of date of issue of Project Completion Certificate provided there are no outstanding claims of the Company or any Third Party on the Operator;
- (ii) In case of Termination of the Agreement due a Fundamental Breach thereof by the Company, the Company shall return the whole of such replenished Security Deposit, or the balance amount of the Security Deposit after utilization, if any, in accordance with sub-clause (f), provided there are no outstanding claims of the Company or Third Party on the Operator;
- (iii) In case of Termination of the Agreement due to Fundamental Breach thereof by the Operator, the Company shall forfeit, retain and appropriate the whole of such replenished Security Deposit or the balance amount of the Security Deposit after utilization, if any, in accordance with sub-clause (f), existing as on such Termination Date; and
- (iv) In case of Termination of the Agreement due to Force Majeure Event, the Company shall forfeit, retain and appropriate half of such balance amount existing on such Termination Date and return the other half of such balance amount to the Operator; provided there are no outstanding claims of the Company or Third Party on the Operator.

ARTICLE 8**OBLIGATIONS AND UNDERTAKINGS**

In addition to and not in derogation or substitution of any of the obligations set out elsewhere in this Agreement, the Parties agree and undertake as under:

Section 8.1 General Obligations of Operator

The Operator shall during the Total Term:

(a) Development and Implementation of Project

- (i) Investigate, study, develop, design, construct, establish, operate and maintain the Facility, including closure and post closure activities and maintenance, in accordance with the provisions of this Agreement, the terms of Applicable Permits, the Applicable Laws and Good Industry Practice.
- (ii) Achieve agreed milestones within the time periods specified in the Project Implementation Schedule set out in Appendix 14 and achieve Construction Completion within 6 (six) months from the Compliance Date; provided that in the event the monsoon season (the months of July to August) falls within the Construction Period, the Construction Period shall be extended by two months i.e. in such event the Construction Period shall be 8 (eight) months from the Compliance Date.
- (iii) Operate and maintain the Facility during the Operations Period, including closure and post closure activities and maintenance and contingencies, at its cost and expense in conformity with this Agreement, including but not limited to the Specifications and Standards and Good Industry Practice. The Operator shall, at its cost and risk, ensure the availability and adequacy at all times of the monies in the Operator's Fund for undertaking closure of the landfills, post-closure maintenance of the Facility and meeting contingencies and shall not be discharged of this obligation for any reason whatsoever, including without limitation inflation.

- (iv) Arrange and access at its cost and expense all infrastructural facilities like water, electricity and goods, materials, consumables, things and services etc. as necessary for the implementation of the Project and make arrangements for back-up supply of power.
- (v) Be responsible for safety, soundness and durability of the Facility including all structures forming part thereof and their compliance with the provisions of this Agreement, including the Specifications and Standards and Good Industry Practice.
- (vi) Demand, charge, collect, retain and appropriate the Tariff from the Users in terms of Section 11. 3 (a).
- (vii) In the event the Operator does not execute the Works or maintain and/ or repair and/or replace the Project/Facility or part thereof in accordance with the provisions of this Agreement, including the Specifications and Standards, and fails to commence remedial works within 30 (thirty) days of the Company's notice in this behalf, the Company shall, without prejudice to its rights and/or remedies under this Agreement or in law, including termination of this Agreement, be entitled to undertake or cause the execution of such Works or repair and maintenance and/or replacement of the Project/Facility or part thereof at the cost and risk of the Operator. The Operator shall, reimburse to the Company within 7 (seven) days of demand the costs and expenses incurred in execution of such Works or for undertaking such repairs and maintenance and/or replacement, failing which the Company shall at its sole option be entitled to deduct the relevant amounts from the Performance Security and/or set them off against payments due and payable by it to the Operator under this Agreement.

(b) Applicable Permits and Applicable Laws

- (i) Obtain, maintain and periodically renew at its cost the requisite authorisation under the Applicable Laws and in particular the Rules for establishing, managing and operating and maintaining the Facility, including post closure maintenance.

- (ii) Obtain, maintain and periodically renew at its cost all Applicable Permits, including environmental clearances, in conformity with the Applicable Laws and be in compliance therewith at all times.
- (iii) At all times comply with the obligations under any approval and/or instruction, guideline etc. issued from time to time by any Government Authority, including without limitation the GoP, GoI (under the Industrial Infrastructure Upgradation Scheme or otherwise), the PPCB, the Technical Committee and the CPCB, and not undertake any act, deed or thing that violates the terms and conditions of any approval, clearance or no-objection certificate granted by such authority in relation to the Facility/Project.
- (iv) Procure and maintain in full force and effect, as necessary, appropriate proprietary rights, intellectual property rights, licenses, agreements and permissions for materials, methods, processes and systems used in or incorporated into the Project.
- (v) Be in compliance with the Applicable Laws, including without limitation those relating to hazardous and/or dangerous substances, materials and wastes, safety, health, sanitation, environment and labour, as amended from time to time, and the statutory and regulatory framework relating to the implementation of the Project and the establishment, operation and maintenance, including post closure maintenance of the Facility. Without limiting the generality of the foregoing, the Operator shall comply with the Environment (Protection) Act, 1986, the rules made thereunder, the Water Pollution Act, 1974, the Public Liability Insurance Act, 1991, the Water (Prevention and Control of Pollution) Cess Act, 1977, the Air (Prevention and Control of Pollution) Act, 1981, the Motor Vehicles Act, 1988 and the rules framed there under by GoP.

(c) Liability

- (i) Be the applicant, the authorized person, the occupier, the transporter (where applicable) and operator of the Facility under and for the purposes of the Applicable

Laws, including the Rules. The Operator accepts all liability and shall be liable under the Applicable Laws or otherwise for the implementation, operation and maintenance of the Project/Facility and indemnify and keep indemnified at its cost the Company and the Government Authorities from and against such liability.

- (ii) Bear at its cost and consequence, all risks of loss of or damage to life, limb, personal injury, death, physical property and environment, in or around the Site or in relation to implementation of Project, which arise in connection with or in consequence of the performance of the Works by the Operator or Persons claiming through or under it. Operator shall restore and/or compensate at its cost as the case may be for all such losses or damages
- (iii) Be liable for all cost overruns in the implementation of the Project, save and except as expressly provided herein.
- (iv) Be liable for its contracts with its Subcontractors, personnel, labour or any Third Party. The Company shall not be liable in any manner in this behalf.
- (v) Be solely liable for any cost or price escalation resulting from fluctuation in the prices of goods, materials, consumables, things and services used in the construction and implementation of the Project and not be exempted from its obligation to implement the Project or compensated in any form on account of any such escalation.
- (vi) The obligation set out in Section 8.1 (c) shall survive the expiration or prior termination of this Agreement.

(d) Site

- (i) Not to place or create nor to permit any Subcontractor or other Person claiming through or under the Operator to create or place any Encumbrance over all or any part of the Project Assets or the Site, or on any rights of the Company therein.

- (ii) Ensure that the Site remains free from all encroachments and take all steps necessary to remove encroachments, if any.
- (iii) Confine its operations and activities to the Site and to any additional areas arranged by it at its cost and shall not encroach upon, damage or degrade adjacent land and be liable for all costs and consequences for a failure to do so.
- (iv) Not undertake any act, deed or thing in derogation of or that violates the terms and conditions of the Site Lease Deed between the PCCB and the Company.
- (v) Remove promptly according to Good Industry Practice from the Site at its cost all surplus construction machinery and material, litter, debris, waste water, rubbish and other debris and keep the Site in a neat and clean condition and in conformity with the Applicable Laws and Applicable Permits.
- (vi) Be liable for all hazardous, dangerous and other goods, materials, creatures and substances brought , kept, stored or handled at the Site/ Facility.

(e) Shifting of Utilities

Shift the utilities at, on, over or under the ground at the Site to an appropriate location or alignment. Such shifting of the utilities shall be carried out only if and to the extent the non-shifting thereof materially obstructs the implementation of the Project. The cost of such shifting shall be borne by the Operator with a right to seek set off from the owner of such utilities as may be available under the Applicable Laws or contract. In the case of any delays in shifting of the utilities due to the owner of the utility or any Government Authority and provided such delay is not due to any default or negligence on the part of the Operator or Persons claiming through or under it, there shall be a commensurate extension of the Construction Period as certified by the Company.

(f) Personnel and Labour

- (i) Appoint and retain the key personnel listed by name and title in the Bid, set out in Appendix 17. In the event

the Operator is required by the Company to remove or change any key personnel, it shall forthwith provide as replacement a Person of equivalent or higher qualifications acceptable to the Company.

- (ii) Provide the requisite training related to the handling and management of Hazardous Wastes to all persons (the labour and personnel of the Operator, its Subcontractors, agents or otherwise) employed or working at the Facility.
- (iii) Undertake the social obligation of employing local persons at the Facility for jobs, skilled or unskilled, for which such persons are available.
- (iv) Make efforts to maintain harmony and good industrial relations among the labour and personnel employed in connection with the performance of the Operator's obligations under this Agreement and be the principal employer, vis-à-vis the Company in respect of such labour and personnel.
- (v) Be solely responsible and liable for compliance with all Applicable Laws, including labour and local laws, pertaining to the employment of labour, staff and personnel by it and its Subcontractors for implementing the Project.
- (vi) The employees of the Operator and its Subcontractors shall at all times be the responsibility of the Operator and the Company shall not be liable in any manner whatsoever in respect of such employees and their employment.

(g) Subcontractors

- (i) The Operator may appoint Subcontractors on its behalf at its cost and risk to assist it executing the Construction Works without in any way relieving the Operator of its obligations as set out in this Agreement, provided such Subcontractors are capable of discharging the obligations under this Agreement for and on behalf of Operator and provided further that this does not result in the carrying out of the whole or substantially the

whole, as determined by the Company, of the Construction Works by the Subcontractors.

- (ii) ensure that its obligations, which are relevant to the scope of work of a Subcontractor, pursuant to this Agreement are incorporated in the terms and conditions under which such Subcontractor is retained. The Operator shall further ensure that its contracts with such Subcontractor contain appropriate provisions reflecting such Subcontractor's liability for timely completion of the Works and for cost overruns etc., the payment of liquidated damages by them for delays and the provision of performance bonds or bank guarantees by them as security for the performance of their obligations thereunder. However, this provision will not absolve the Operator of its obligations and liabilities towards Company under this Agreement in any manner whatsoever.
- (iii) supervise, monitor and control the activities of Subcontractors under their respective Project Agreements.
- (iv) The Operator shall carry out the operation and maintenance of the Facility by itself and not through Subcontractors.

(h) Reporting and Access

- (i) Provide to the Company reports on a regular basis in accordance with the provisions of Appendix 5 hereof and as set forth elsewhere in this Agreement.
- (ii) Provide all assistance to the Company, the Technical Committee and the Independent Expert and access to the Site, documents, materials and information as may reasonably be required by either of them for the performance of their respective functions, duties and services under this Agreement, the Applicable Laws or otherwise; Provided that any failure on the part of the Company to inspect any works shall not, in relation to such works, (i) amount to any consent or approval of the Company or be deemed to be a waiver of any of the rights of the Company under this Agreement; and (ii)

release or discharge the Operator from its obligations or liabilities under this Agreement in respect of such work.

- (iii) At all times, afford access to the Site to the authorized representatives of the Company, the PPCB, the CPCB, the Technical Committee and officers and representatives of any Government Authority having jurisdiction over the Project, including those concerned with safety, security or environmental protection to inspect the Project and to investigate any matter within their authority and the Operator shall provide to such persons reasonable assistance necessary to carry out their respective duties and functions.
- (iv) Allow access to and use of the Site/ Facility for telegraph lines, electric lines, ducting or such other public purposes as any Government Authority may specify, after giving intimation thereof to the Company.

(i) Safety and Accidents

- (i) Develop, implement and administer a surveillance and safety program for the Facility, the Operator's and Subcontractors' labour and personnel engaged in the provision of any services under any of the Project Agreements and goods and persons in or within the proximity of the Site, including correction of safety violations and deficiencies, and taking of all other actions necessary to provide a safe environment in accordance with Applicable Laws and Good Industry Practice.
- (ii) Take all reasonable precautions for the prevention of accidents and emergencies on or about the Site/Facility, including from fire, explosion, unplanned release of Hazardous Wastes etc. by installing fire fighting devices, alarms and communication systems and maintaining adequate water supply, safety equipment and materials at the Facility and/or in any other manner. The Operator shall liaison and maintain contact with emergency response teams, hospitals, police, the fire department, taxi services etc. The Operator shall provide all reasonable assistance and emergency medical aid to accident victims. ;

- (iii) Implement the Environment Management Plan (EMP), the Safety, Health and Environment programme (SHE) and fire protection programme in accordance with the Specifications and Standards and Good Industry Practice.

(j) Taxes

- (i) Pay all charges, taxes, fines, late fees and other outgoings in relation to the use of utilities and services by the Operator or its Subcontractors and agents during the implementation and operation of the Project such as water supply, sewage disposal, fuel, garbage collection and disposal, electric power, gas, telephone and other utilities and consumables used in the implementation of the Project and ensure avoidance of any disruption thereof due to disconnection or withdrawal of the facility.
- (ii) Pay in a timely manner all taxes, duties, levies, cess and charges including but not limited to income tax, sales tax, value added tax, excise duty, customs duty and octroi that may be levied, claimed or demanded from time to time by any Government Authority, including any increase therein effected from time to time by any Government Authority, in respect of the Project.

(k) Project Agreements

- (i) Provide to the Company notarised true copies of the duly executed Project Agreements to which the Operator is a party, including any related instruments, deeds, contracts, supplemental agreements and other such documents relating thereto and of any amendments, supplements or replacements thereof within 15 (fifteen) days of the execution or such amendment etc.
- (ii) Comply with its obligations set out in the Project Agreements.
- (iii) Not enter into any material contract, including without limitation, any procurement and/or construction contract and/or agreement with any affiliated party related to or in connection with the Project unless the

principal terms including consideration is reviewed, assessed and approved by the Company prior to the entering into any such contract.

(I) Others

- (i) Establish and maintain the Operator's Fund as detailed in Section 11.4.
- (ii) Maintain insurances throughout the Total Term in accordance with the provisions hereof;
- (iii) Pay liquidated damages to the Company in the cases where the Operator does not meet its obligations and/or liabilities, in accordance with the provisions of Section 11.5;
- (iv) Not carry out any business or undertake any project that is in competition, direct or indirect, with the Project/Facility.
- (v) Upon the establishment of on-line waste management/tracking systems at the Facility, the Operator shall have such systems linked to the regional and/or central monitoring systems installed at the PPCB or other Government Authorities (at the Operator's cost) and the Generators (at the Generators' cost).

Section 8.2 Additional Obligations of Operator During Construction Period

- (a) The Operator shall prior to commencing the Construction Works:
 - (i) Submit to the Company with due regard to the Project Implementation Schedule and Scheduled Construction Completion Date, its design, engineering and construction time schedule and shall formulate and provide Critical Path Method (CPM)/ Project Evaluation and Review Technique (PERT) charts for the completion of the said activities;
 - (ii) Have requisite organization and designate and appoint suitable officers/ representatives, as it may deem

appropriate to supervise the Project and to deal with the Government Agencies and to be responsible for all necessary exchange of information required pursuant to this Agreement;

- (iii) Undertake, do and perform all such acts, deeds and things as may be necessary or required to adhere to the Project Implementation Schedule and to achieve Construction Completion under and in accordance with this Agreement.
- (b) The Operator shall make its own arrangements for quarrying, if necessary, and observe and fulfill the environmental and other requirements under the Applicable Laws and Applicable Permits.
- (c) The Operator shall give priority to safety in its construction and planning activities in order to protect life, health, property and environment.
- (d) The Operator shall promptly carry out at its cost such further works as may be necessary to remove any defects or deficiencies observed by the Company, the Independent Expert or any Government Authority and ensure completion of construction of the Project in all respects in accordance with the provisions of this Agreement.
- (d) The Operator shall commence commercial operations of the Facility only from the Operations Date.

Section 8.3 Additional Obligations of Operator during Operations Period

- (a) The Operator shall carry out the operations and maintenance of the Facility by itself at its cost and risk in accordance with the provisions hereof and not through any Subcontractors.
- (b) The Operator shall replace, repair, replenish, replace or renew, as the case may be, the materials, goods, machinery, equipment, spares, capital components of the Facility/Project etc. and undertake routine, periodic, preventive and major maintenance, repairs and replacements of machinery, equipment, consumables, capital components of the

Facility/Project, structures etc. at its cost as necessary to carry out efficient operations and maintenance of the Facility and to provide adequate service standards. The Operator shall maintain the maintenance logs.

- (c) The Operator shall notify all Generators in writing about the authorization of the Facility to handle, transport, treat, store and dispose Hazardous Wastes and keep copies of such notices as part of the operating records.
- (d) The Operator shall accept Hazardous Wastes at the Facility from Generators having appropriate authorizations.
- (e) The Operator shall develop a Hazardous Waste acceptance criteria for the receipt of such wastes based on the design and capacity of the Facility. The Operator shall not accept Hazardous Wastes of a type and variety for which it not have the requisite authorisation or capacity to handle, treat and dispose. The Operator shall not accept at the Facility any wastes that contain liquid wastes or waste containing free liquids for land filling. Provided that the Operator may, at its cost and risk, accept intractable wastes (i.e. wastes for the treatment of which there is no technology as on the applicable date) at the Facility. The Operator shall be and at all times bear all the liabilities relating to the intractable wastes accepted by it. The Operator shall maintain separate inventory records for the intractable wastes. Upon development of the requisite technology for treating such wastes, the Operator shall forthwith treat and dispose such wastes in accordance with the provisions hereof and of such technology and Good Industry Practice against levy of User Charges, which, if not already established, shall be determined by mutual agreement between the Company and the Operator. Provided further, upon expiry or prior termination of this Agreement, the Operator shall at its cost and risk remove all untreated intractable wastes from the Facility/Site to the facilities owned/operated by it or elsewhere. Further, the Operator shall not bring to/accept at the Site/Facility any wastes from any Person other than the Generators.
- (f) The Operator shall prepare a Waste Analysis Programme (WAP) and be in compliance therewith. The WAP shall outline the verification procedures, including specific sampling methods etc. necessary to ensure the environmentally sound

management of the treatment, storage and disposal of the Hazardous Wastes received at the Facility.

- (g) The Operator shall observe and comply with all the necessary caution and care in handling ignitable, reactive or incompatible wastes, including putting of sign boards and banning smoking in areas where such wastes are handled.
- (h) The Operator shall monitor the entrances to and exits from the Facility, put appropriate danger sign boards in English, Hindi and the local language, notices and barriers as necessary at or around the active areas.
- (i) Unless the Generator itself transports the wastes to the Facility in accordance with the Applicable Laws, the Operator shall transport the Hazardous Wastes by itself or through authorized transporters. The Operator shall maintain an adequate fleet of transport vehicles or enter into an arrangement with transporters as necessary for transporting such wastes from the Generators' premises or facilities to the Facility and be in compliance with all laws relating to motor vehicles and transportation of Hazardous Wastes. Such wastes shall be transported and stored in containers lined with materials that are compatible with such wastes and do not react with them. In transporting such wastes or accepting receipt thereof at the Facility the Operator shall comply with the manifest system prescribed under the Rules.
- (j) The Operator shall prepare a surface and ground water, leachate and air emission monitoring programme in accordance with the Specifications and Standards and comply with its requirements.
- (k) The Operator shall implement corrective action that prevents the Hazardous Waste constituents from exceeding limits at the compliance points (i.e. facility boundary extending vertically downwards into underlying aquifers) and shall implement such action beyond the Facility boundary as necessary to protect life, the environment, flora and fauna.
- (l) The Operator shall carry out the closure and post closure maintenance of secure landfills at the Site in conformity with the provisions of this Agreement, including the Specifications and Standards, the Applicable Laws, the terms of Applicable Permits and Good Industry Practice. In complying with this

obligation, the Operator shall have recourse to the Operator's Fund in accordance with the provisions of Section 11.4.

- (m) The Operator shall execute Waste Offtake Agreements with the Generators on the terms and conditions and as per drafts that have received the prior written approval of the Company and that are in conformity with and not in derogation of the provisions of this Agreement.
- (n) The Operator shall provide to the Generators at its cost the assistance and facilitation, as may reasonably be requested by the Generators, in the classification, segregation and testing of Hazardous Wastes generated at such Generators' facilities or premises; provided that the Generators shall be responsible for informing the Operator about any change in process that results/may result in a change in the characteristics of the Hazardous Waste or any new Hazardous Wastes /products generated by them.
- (o) The Operator shall promptly and diligently repair, replace or restore the Facility or part thereof which may be defective, destroyed, lost or damaged.
- (p) Except as provided or authorized under this Agreement, the Operator shall not, without the prior written consent of the Company, remove or replace any asset comprised in the Project/Facility.
- (q) The Operator shall at its cost and risk provide/procure containers for the collection and storage of Hazardous Wastes at the premises of the Generators, who choose to avail of this service, on the terms and conditions set forth in the Waste Offtake Agreement in this behalf.

Section 8.4 Obligations of Company

The Company shall during the Total Term:

- (a) Where considered appropriate by the Company provide necessary facilitation to the Operator in securing Applicable Permits required in connection with implementation of the Project and the performance of the Operator's obligations under this Agreement.

- (b) Ensure peaceful use of the Site by the Operator under and in accordance with the provisions of this Agreement without any let or hindrance from any Persons claiming through or under the Company.
- (c) Make timely payment to the Operator in accordance with the provisions of this Agreement for undertaking the Works during the Construction Period and achieving Construction Completion in accordance with the provisions of Section 11.1 hereof. Provided that in case of any delay by the Company in making payment to the Operator for the Construction works beyond 30 (thirty) days of the same becoming due and payable, the Company shall be liable to pay, in case so demanded by the Operator, interest @ SBI PLR per annum on the delayed amount from date of expiry of the period of 30 days till the date of actual payment.
- (d) After certification of closure, the Company shall inform the concerned Government Authorities so that any Person dealing with the Site or leasing/buying the land and property comprised in the Site is duly informed by such Government Authority that Site has been used for handling and disposal of Hazardous Wastes and the usage of the Site is restricted.
- (e) In event the Company expands its business or operations in the State of Punjab and undertakes similar projects and/or activities as under the present Agreement, the Company shall grant the Operator the right of first refusal to implement and execute such projects and/or activities on such terms and conditions as the Company deems fit; provided the Operator possesses the requisite financial, technical and legal capacity and qualifications necessary for implementing and executing such projects and/or activities and agrees to undertake such projects and/or activities as decided by the Company. In the event the Operator opts not to undertake such projects and/or activities, the Company shall have the right to appoint new contractors and/or operator(s) for the implementation and execution of such projects and/or activities.

ARTICLE 9**DETAILED ENGINEERING****Section 9.1 Designs and Detailed Engineering****(a) Preparation of Designs and Drawings**

- (i) The Operator shall, at its cost, charges and expenses, prepare or cause preparation of the designs and detailed engineering for the Project in accordance with the Specifications and Standards, the Applicable Laws and guidelines issued from time to time by the PPCB, the Technical Committee, the CPCB and the concerned Government Authorities.
- (ii) The Operator seek approval of designs and detailed engineering by the Company, acting through the Independent Experts or itself, and PPCB or any other Competent Authorities.

Section 9.2 Review and Approval of the Designs and Drawings

- (a) The Operator shall within 30 (thirty) days of the execution of this Agreement submit the designs and detailed engineering with specifications and calculations for the approval of the Company.
- (b) By forwarding the designs and detailed engineering pursuant to sub-section (a) above, the Operator represents that it has determined and verified that the design and engineering, including field construction criteria related thereto, are in conformity with the Specifications and Standards, the Applicable Laws and the guidelines issued by the CPCB or the PPCB.
- (c) The Operator shall be responsible for delays in Construction Completion and consequences thereof caused by reason of the designs and detailed engineering or part thereof not being in conformity with the Specifications and Standards, the Applicable Laws and the guidelines issued by the CPCB or the PPCB and shall not be entitled to seek any relief in this regard from the Company.

- (d) The Company or the Independent Expert appointed by it shall review the designs and detailed engineering and specifications and calculations submitted by the Operator and subject to the provisions of sub-section (e) herein below, communicate its approval within 14 (fourteen) days from the date of the receipt thereof. The Company may in consultation with the Operator prescribe a schedule for submission, clarifications and approval of designs and detailed engineering for specific components of the Project.
- (e) In the event that the Company or the Independent Expert has any objection to the designs and detailed engineering and specifications and calculations or any part thereof, it/he shall promptly within the said 14 (fourteen) days notify the Operator of its/his objections, seek clarifications or suggest changes or modifications or corrections thereto. Thereupon, the Operator shall within 14 (fourteen) days of such notification provide the necessary clarification to the and/ or re-submit the designs and detailed engineering and/or specifications and calculations or part thereof, as the case may be, after incorporating the changes, modifications or corrections suggested by the Independent Expert.
- (f) If the Company or the Independent Expert does not object to the designs and detailed engineering and specifications and calculations submitted to it by the Operator within 30 (thirty) days of submission, the Company or the Independent Expert shall be deemed to have approved such designs and detailed engineering and the Operator shall be entitled to proceed with the Project accordingly.
- (g) The Operator shall not be entitled to any extension of time for completing construction or any other relief on account of delay caused due to providing any clarification or in resubmitting the designs and detailed engineering.
- (h) The Operator shall not change any designs and detailed engineering, specifications and calculations approved or deemed to be approved by the Company or Independent Expert under this Agreement, without the prior written consent of the Company. Provided that

the Operator may, for more efficient functioning of the Project propose to and seek the consent of the Company for changes to the approved designs and detailed engineering and specifications of any equipment consistent with all design standards applicable to the Project and the Applicable Laws, which consent shall not be unreasonably denied or delayed by the Company; provided that the Operator shall bear the costs of such change.

- (i) Notwithstanding the express or deemed approval by the Company or Independent Expert, the Operator shall be solely responsible for any defect and/or deficiency in the designs and detailed engineering relating to the Project or any part thereof and accordingly the Operator shall at all times remain responsible for its obligations under this Agreement.
- (j) Any design, drawing or specification provided by the Company to the Operator shall only be indicative and the Operator shall accept the same at its sole risk, cost and consequence.
- (k) Any civil or other engineering review conducted by the Company or the Independent Expert is solely for the Company's own information and that by conducting such review, the Company does not accept any responsibility for the quality or workmanship of any civil or other engineering or soundness of the work relating to the Project done by the Operator or any part thereof. The Company shall not be responsible or liable in any manner for the accuracy, completeness or otherwise of the designs and detailed engineering or the construction and implementation of the Works by the Operator on the basis thereof, irrespective of any perusal or review thereof or comment thereon by the Company, any Government Authority or the Independent Expert.
- (l) The Operator shall in no way represent to any Person that, as a result of any review by the Company or the Independent Expert, the Company has accepted responsibility for the engineering or soundness of any work relating to the Project or part thereof carried out by the Operator and the Operator shall, subject to the

provisions of this Agreement, be solely responsible for the technical feasibility, operational capability and reliability of the Project or any part thereof.

- (m) Within 90 (ninety) days of Construction Completion, the Operator shall furnish to the Company three copies of "as built" drawings reflecting the Project as actually designed, engineered and constructed, including without limitation an "as built" survey illustrating the layout of the Project and setback lines, if any, of the buildings and structures forming part of the Facility.

ARTICLE 10

PROJECT IMPLEMENTATION AND OPERATIONS

Section 10.1 Procurement of Material, Equipment and Subcontractor

- (a) The Operator shall during the Construction Period, subject to the provisions of Clause (b) hereof, procure the materials, equipment and services and/or grant sub-contracts above a specified value, as decided by the Company, through a transparent competitive bidding process.
- (b) An Evaluation Committee will be constituted comprising of two representatives of the Company and one representative of the Operator. Such Evaluation Committee shall:
 - (i) approve the procurement of all major equipments whose cost is to be borne by the Company, keeping in mind the technical specifications and comparative prices.
 - (ii) approve the Contracts entered into by the Operator for procurement of materials, equipments not covered in (i) above, services and/or subcontracts etc
- (c) The decision of the Evaluation Committee shall be final and binding on the Operator
- (d) The Company may at its sole discretion waive the requirement of procurement process as mentioned in sub-clause (b) above in such manner as it deems fit.

Section 10.2 Construction of Facility

- (a) The Operator shall construct, install and establish the Facility, including the basic and detailed engineering, design, completion, testing and commissioning for use on a lump sum turnkey basis in accordance with the provisions of this Agreement, including the Specifications and Standards, Applicable Laws, terms of Applicable Permits and Good Industry Practice. The Project shall be completed and commissioned on achievement of Construction Completion for each phase thereof. In such cases the procedures set forth in

this Article 10 and elsewhere in this Agreement shall be carried for each phase of the Project.

- (b) The Operator shall commence the Works within 30 (thirty) days of the Compliance Date, execute them in accordance with the Project Implementation Schedule and achieve Construction Completion by the Scheduled Project Completion Date, unless such time has been extended in accordance with provisions hereof.
- (c) For the purposes of determining that the construction of the Facility is being undertaken in accordance with Specifications and Standards and Good Industry Practice and for quality assurance, the Operator shall carry out such tests at such time and frequency and in such manner as may be required by the Company or as may be necessary in accordance with Good Industry Practice. The Operator shall with due diligence carry out all such tests in accordance with the instructions and under the supervision of the Company. The Operator shall promptly carry out such remedial measures as may be necessary to cure the defects or deficiencies, if any, indicated in such test results. The Operator shall promptly report to the Company the remedial measures taken by it to cure the defects/deficiencies if any indicated in the test results.
- (d) If the Company reasonably determines that the rate of progress of the construction of the Project is such that the Construction Completion is not feasible on or before the Scheduled Project Completion Date, it shall so notify the Operator. Thereupon, the Operator shall within 15 (fifteen) days thereof notify the Company about the steps it proposes to take to expedite progress and the period within which it shall achieve Construction Completion.
- (e) The Operator shall be responsible for the design and programming of the Construction Works and for the accuracy and completeness of the information used for such design and programming in accordance with the requirements established in the Specifications and Standards. The Operator shall be responsible for any discrepancies, errors or omissions in the data, specifications, drawings and other technical documents that it has prepared or procured, whether the same have been approved or not approved by the Company, an Independent Expert or any Government Authority.

- (f) The Operator shall ensure that all contract(s) and arrangement(s) entered into in relation to the Construction Works shall (to the extent such provisions can be reasonably obtained in the market concerned) include provisions whereby the relevant Subcontractor warrants that each part of such works carried out there under shall be fit for its purpose and free from all defects in design, workmanship and materials.
- (g) The Operator shall organise the Site during the Construction Period with regard to safety precautions, fire protection, security, transportation, delivery of goods, materials, plant and equipment, control of pollution, maintenance of competent personnel and shall be liable for the safe storage and handling of and removal from the Site of all toxic and hazardous materials and substances.
- (h) The Operator shall carry out or cause to be carried out the Construction Works with the skill, care and diligence to be expected of appropriately qualified and experienced professional designers, engineers and contractors with experience of work similar in scope and nature to that required under this Agreement.
- (i) The Operator shall at its responsibility arrange for materials such as bricks, cement, steel, aggregates, soil, bituminous and asphalt materials, chemicals, consumables and any other materials used in undertaking the Works, as well as equipment, machinery, tools and ancillary materials such as shuttering and scaffolding, bearings, joint fillers and similar materials. The Operator shall make arrangements for transport, loading and unloading, stacking and proper storage (including making sheds) for all materials and equipment. The Operator shall set up fully equipped workshops and laboratory for checking and verifying the Works. The Company shall have the right to inspect and check the quality and quantity of the materials and equipment and their storage in compliance with the terms of this Agreement.
- (j) The Operator shall be solely and exclusively responsible for the recruitment, transportation, accommodation, catering, payment of the salaries, wages and other payments and costs incidental thereto, health, hygiene, safety etc. and all taxes, charges, levies, duties payable under Applicable Laws arising from the respective terms and conditions of employment of all

labor and personnel employed on or connected with the Works or the Site under or through whatever legal relationship.

- (k) The Operator shall ensure that at all times during the Construction Period, a resident general manager, notified in writing and acceptable to the Company, having appropriate experience in like works shall remain in residence at Nimbua village and take charge of and monitor, oversee and ensure the construction of the Works, as notified in writing to the Company (the "Operator's Representative"). The Operator's Representative may only be changed after notification to the Company of such change and appointment of a replacement in such representative's place with the prior written approval of the Company.
- (l) During the Construction Period, the Operator shall furnish to the Company monthly reports on actual progress of the Construction Works and furnish any other relevant information as may reasonably be required by the Company.

Section 10.3 Construction Completion

- (a) The Project shall be deemed to be complete only when the Completion Certificate is issued by the Company in accordance with the provisions of Section 10.4 (the "**Construction Completion**").
- (b) The Operator guarantees that the Construction Completion shall be achieved in accordance with the provisions of this Agreement on a date not later than 6 (six) months or, in case the monsoon season (the months of July to August) falls within the Construction Period, 8 (eight) months from the Compliance Date (the "**Scheduled Construction Completion Date**").
- (c) If the Construction Completion is not achieved by the Scheduled Construction Completion Date for any reason other than Force Majeure or reasons attributable to the Company or any Government Authority, the Operator shall be liable to pay liquidated damages as per Section 11.5 of the Agreement
- (d) If Construction Completion does not occur within 90 (ninety) days from the Scheduled Construction Completion Date, subject to any waiver thereof granted by the Company, it shall

constitute a Fundamental Breach of this Agreement by the Operator.

Section 10.4 Tests

- (a) At least 30 (thirty) days prior to the likely Construction Completion, the Operator shall notify the Company of the same and shall give notice to it of its intent to conduct the Tests. The Operator shall give the Company at least 10 (ten) days prior notice of the actual date on which it intends to commence the Tests and at least 7 (seven) days prior notice of the commencement date of any subsequent Tests. The Company may designate a representative with suitable qualifications and experience and/or an Independent Expert to witness and observe the Tests.
- (b) All Tests shall be conducted in accordance with Appendix 4 and the Applicable Laws and Applicable Permits. The Company shall have the right to suspend or postpone any Test if it is reasonably anticipated or determined during the course of the Test that the performance of the Project or any part thereof does not meet the Specifications and Standards.
- (c) The Company or its authorised representative shall monitor the results of the Tests to determine the compliance of the Facility with the Specifications and Standards.
- (d) Upon the Company or its authorised representative determining the Tests to be successful, the Company shall forthwith issue to the Operator a completion certificate (the "**Completion Certificate**").
- (e) The Company may at the request of the Operator issue a provisional certificate of completion ("**Provisional Certificate**") if the Tests are successful and all parts of Project can be legally, safely and reliably opened for commercial operations though certain works or things forming part thereof are not yet complete. In such an event, (i) Provisional Certificate shall have appended thereto a list of outstanding items signed jointly by the Company and the Operator ("**Punch List**") and (ii) the Company shall retain all payments due and payable to the Operator. All Punch List items shall be completed by the Operator at its cost and risk within 60 (sixty) days of the date of issue of such Provisional Certificate. Upon completion of all Punch List items to the satisfaction of the Company, the

Company shall issue the Completion Certificate to the Operator. In the event of the Operator's failure to complete the Punch List items within the said period of 60 (sixty) days, the Company may, without prejudice to any other rights or remedy available to it under this Agreement or at law, have such items completed at the cost and risk of the Operator against the retained payments and/or from commensurate appropriations from the Performance Security.

- (f) If the Company certifies that it is unable to issue the Completion Certificate or Provisional Certificate because of events or circumstances which excuse the performance of the Operator's obligations in accordance with this Agreement and as a consequence thereof the Tests could not be held or had to be suspended, the Operator shall re-schedule the Tests and hold the same as soon as reasonably practicable.
- (g) The Operator shall bear all the expenses relating to tests under this Agreement.
- (h) The Operator shall, at its cost and risk, commence commercial operations of the Facility with effect from the Operations Date.

Section 10.5 Change in Scope of Works/Specifications and Standards

In the event of any change in the Scope of Works or Specifications and Standards, either during the construction phase, or operation and maintenance phase, by the Company or pursuant to directions or determination of any Government Authority or pursuant to the Change in Law, which necessitate change in the capital or operating expenses of the Facility, the Operator shall submit revised works and tariff options accommodating the additional expenses or cost overruns over and above the Lumpsum Turnkey Project Cost, as set forth in the Appendix 8 of the Agreement, which the Company shall consider, negotiate and/or decide within 30 (thirty) days of such submission. The Operator shall ensure that the Waste Offtake Agreements contain suitable enabling provisions in this behalf. Provided that in the event such expenses cannot so be accommodated, the same shall be borne by the Operator. Provided further, in case a change in the Scope of Works by the Company results in such cost overruns, the same shall be borne by the Company.

Section 10.6 Defects Liability

- (a) Effective from the commencement of the Construction Works, the representatives of the Company and the Operator shall inspect the Facility/Project so as to ascertain any material defects, imperfections, shortcomings or such other faults, normal or fair wear and tear excepted (collectively referred to as "**Defects**").
- (b) The Operator shall, during the Total Term, perform or cause to be performed at its own cost and in a manner that causes minimum inconvenience, nuisance or disruption operation and use of the Facility all such required work, repair, reconstruction, replacement, rectification and shall remedy all such material Defects that may develop or become apparent in any part of the Project during such term, which arise out of the defective design, materials, workmanship, execution or completion of the Project or any other reason or from any act or omission attributable to the Operator and, in turn, any or its Subcontractors.
- (c) In the event that the Operator fails to repair, replace or rectify such Defects within a period of 15 (fifteen) days from the date of notice issued by the Company/Independent Expert in this

behalf, the Company shall be entitled to get the same repaired, replaced or rectified at the Operator's risk and cost so as to procure that the Project is in conformity with the Specifications and Standards. All costs incurred by the Company in this behalf shall be reimbursed by the Operator to the Company within 15 (fifteen) days of receipt of demand thereof.

- (d) The Company shall be entitled to appropriate the relevant amounts necessary to secure performance of the Operator's obligations under this Section 10.6 from the retained payments and/or the bank guarantee provided by the Operator as the Construction Performance Security and /or Operations Performance Security.

Section 10.7 Operation and Maintenance

- (a) The Operator shall in consultation with the Company evolve not later than 60 (sixty) days before the Scheduled Construction Completion Date, a manual for the operations and regular and preventive maintenance (the "O&M Manual"), and shall ensure and procure that at all times during the Operations Period, the Facility is operated and maintained in a manner that it complies with the Specifications and Standards. The Operator shall supply, at least one month before the Operations Date, provide 5 (five) copies of the O&M Manual to the Company.
- (b) The Operator shall operate and maintain the Facility at its cost by itself and not through Subcontractors in an environmentally sound manner and if required, modify, repair or otherwise make improvements to the Facility to comply with Specifications and Standards, and other requirements set forth in this Agreement, Applicable Laws, Applicable Permits and Good Industry Practice. More specifically, the Operator shall be responsible for undertaking maintenance works and adhering to the safety standards in accordance with the Specifications and Standards.
- (c) The Operator shall provide at its cost all equipment, consumables and materials necessary for undertaking the operation and maintenance of the Facility. Maintenance shall include regular, routine, periodic and preventive maintenance and the replacement of equipment/consumables etc. and upkeep of the Facility in good order and working condition.

- (d) The Operator shall maintain complete and accurate records of all equipment, materials, consumables and spare parts brought on to the Site and shall provide copies of such records to the Company.
- (e) The Operator shall ensure that its staff and personnel employed and working at the Facility are fully and comprehensively trained and competent to undertake the works and provide services under this Agreement.
- (f) The Operator shall develop and institute within two months of the Compliance Date a quality assurance system and implement the same until the end of the Total Term. The quality assurance system shall involve maintenance of appropriate records, documents and data, charts, samples etc. regarding the construction and operation of the Facility. The Company or any nominee of the Company shall have the right to inspect, periodically or at random, such records, documents and data etc. and as applicable to make copies thereof, verify the samples or take measurements. The Operator agrees to provide full co-operation to the Company and the Company's nominee in this behalf.
- (g) Save and except as otherwise expressly provided in this Agreement, if the Facility or any part thereof shall suffer any loss or damage during the Total Term, from any cause whatsoever, the Operator shall, at its cost and expense rectify and remedy such loss or damage in a manner so as to make the Project/Facility conform in every respect to the Specifications and Standards, quality and performance as prescribed by this Agreement.
- (h) The Operator shall at its cost repair, rectify, replace, remove any defects, imperfections, shortcomings or such other faults, normal or fair wear and tear excepted, in the design, detailed engineering or construction and commissioning of the Facility or otherwise, whether latent or patent.
- (i) If the Operator commences any works for curing any defects or deficiencies in the Project/Facility, it shall complete such works expeditiously in accordance with Good Industry Practice.
- (j) The Operator shall be responsible for ensuring the safety of persons, living creatures, property and the environment in the

vicinity or proximity of the Site and take steps to prevent the same being adversely affected by the operations of at the Facility.

- (k) Subject to its rights and obligations herein, the Operator shall, unless directed by any Government Authority to the contrary, provide non discriminatory services to all Generators in the State of Punjab.
- (l) The Operator shall return to the Generators all non conforming wastes that are received by it/sent to the Facility.
- (m) The Operator shall be responsible for the closure and post closure activities in accordance with the Specifications and Standards and the Applicable Law.

Section 10.8 Testing and Inspection

(a) Inspection

Notwithstanding any provisions of this Agreement and without prejudice to any of the other rights vested under the provisions hereof, the Company, the Independent Expert, any Government Authority, the Technical Committee or any committee appointed by the GoP or and any Person authorised by either of them shall have the right during the Total Term at all reasonable times and upon reasonable notice to inspect the Project/ Facility, the documents, accounts, papers, data, books and relevant matters relating to the implementation of the Project to witness and observe the status and functioning of the Facility and to confirm compliance of the Operator with the provisions of this Agreement. The Operator shall co-operate in every possible manner with the such persons and allow them access to every part of the Project/Facility and to make copies of the documents and records.

The Company shall also have the right, without prejudice to the aforesaid, to carry out surprise checks on the records, operations and working of the Operator, to take or cause samples of Hazardous Wastes (pre-treated, treated or post treatment) etc. to be taken and to conduct or cause technical audits of the Works, including without limitation of the materials and consumables used, the stabilization and other processes carried out or as may otherwise be necessary to confirm and ensure compliance with the provisions of this Agreement, the Applicable Laws, terms of Applicable Permits, guidelines or requirements of any Government Authority and Good Industry Practice.

(b) Testing During Total Term

(i) The Company and/or the Independent Expert may during the Total Term conduct or cause to be conducted through Third Parties or require the Operator to conduct such tests in accordance with the Specifications and Standards and Good Industry Practice, as it/they may reasonably deem appropriate.

(ii) The Operator shall provide the necessary documents and other information and such assistance, labour,

- materials, consumables, electricity, fuel, stores, apparatus and instruments as may reasonably be required to carry out such tests. The Operator shall provide engineering support and technical know-how as necessary to carry out such tests.
- (iii) Such tests shall be held in the presence of the Company and/or the Independent Expert, who shall verify the result thereof and in the event of the tests being successful issue the certificate of compliance.
 - (iv) The cost of such tests shall be borne by the Operator.
 - (v) If, as a result of such tests, the Company and/or the Independent Expert decides that any plant, materials, consumables, design, process or workmanship is defective or otherwise not in compliance with the Specifications and Standards and Good Industry Practice, the Company and/or the Independent Expert may reject such plant, materials, consumables, design, process or workmanship and shall forthwith notify the Operator with reasons for rejection and require correction of such defects within the stipulated time.
 - (vi) The Operator shall make good the notified defects within the stipulated time, and undertake re-testing, if any, at its cost that may be required by the Company and/or the Independent Expert. The Operator's failure to rectify such defects in a timely manner shall constitute a Fundamental Breach of the Agreement by the Operator.
 - (vii) Any such inspection or testing by the Company, the Independent Expert or any Government Authority shall not relieve or absolve the Operator of its obligations and liabilities hereunder in any manner whatsoever.

Section 10.9 Appointment of Independent Expert

The Company may from time to time at its cost appoint Independent Experts possessing the necessary qualifications and experience for supervision and monitoring of the implementation of the Project by the Operator and for inspection, testing, verification and reporting to the Company of or on the Works being undertaken by the Operator and the compliance thereof with the Specifications and Standards.

Any certification, testing, verification or confirmation etc. required to be made or given by the Company under this Agreement may be made by such Independent Expert for and on behalf of the Company and the same shall be binding on the Operator.

Section 10.10 Audit and Account

(a) Appointment of Auditors

- (i) The Operator shall appoint and have during the subsistence of this Agreement, as its statutory auditors, a reputed firm of chartered accountants duly licensed to practice in India. All fees and expenses of the statutory auditors shall be borne by the Operator.
- (ii) Any claim or document provided by the Operator to the Company relating to receipts, income, payments, costs, expenses, accounts or audit, and any matter incidental thereto, in connection with the Project shall be valid and effective only if certified by the Operator's statutory auditors.

(b) Maintenance of Accounts and Records

- (i) The Operator shall, during the subsistence of this Agreement, maintain books of account recording all its receipts from all sources derived or on account of the Project, income, expenditure, payments, assets and liabilities, in accordance with this Agreement, the Applicable Laws and Good Industry Practice.
- (ii) The Operator shall provide the Company 2 (two) copies of its audited balance sheet and profit and loss account along with a report thereon by its statutory auditors, within 120 (one hundred and twenty) days of the close of the Accounting Year to which they pertain.
- (iii) The Operator shall establish and maintain a daily and monthly reporting system to provide storage and ready retrieval of data related to the construction and operation and maintenance of the Project, including all such information which is necessary to verify costs and expenses incurred or revenues earned and to confirm that the Operator is in compliance with its obligations

under this Agreement. The Operator shall provide copies of such reports to the Company within five days of the end of each month.

- (iv) The Operator shall maintain and preserve proper and accurate records, documentation, data and accounts relating to the development, construction and operations of the Facility.

ARTICLE 11

FINANCIAL COVENANTS

Section 11.1 Payment for Construction Works

- (a) The Company shall make payments to the Operator for undertaking the Works during the Construction Period and achieving Construction Completion in accordance with the provisions of this Agreement, including without limitation the Specifications and Standards, at the rates set forth in Appendix 8.
- (b) The Operator shall submit to the Company periodic invoices for the payment of the specified amounts and upon the completion of stages of works and/or occurrence of events set forth in Appendix 8. The Company shall disburse the payments under each such invoice, subject to the retentions set forth in Appendix 8, upon the verification and certification by the Company and/or the Independent Expert of the achievement of milestones/Milestone Dates by the Operator and completion of the applicable stage of the work. For this purpose the Company, its authorized representatives or officials and the Independent Expert shall have the right to inspect the Site, Works, services, goods, materials, books and documents etc. of the Operator, take samples, conduct or cause performance of tests and meet the Operator's personnel and advisors. The payments shall be subject to deduction of tax at source and additional retentions (other than those specified in Appendix 8), if any, for default, delay or breach, as certified by the Company and shall be inclusive of all taxes, including service tax. The payment for the Construction Works shall be fixed and shall not be increased under any circumstance whatsoever, including inflation or change in prices of materials, goods and services.
- (c) The Parties agree and confirm that (i) the lumpsum turnkey project cost along with the cost of each sub-head is as specified in Appendix 8 and any overrun thereof for any reason whatsoever shall be borne solely by Operator and the Company shall not be liable in any manner in this behalf; provided that in the case of a change in Scope of Works and/or Specifications and Standards, the provisions of Section 10.5 above shall apply; (ii) the payments for Construction Works by

the Company to the Operator shall be made only upon full and final completion of each stage of works and/or occurrence of events set forth in Appendix 8 as certified by the Company and/or the Independent Expert; (iii) the Company shall retain, until achievement of Construction Completion, from each payment due to the Operator the proportion stated in Appendix 8 and additional retentions, if any, for default, delay or breach; and (iv) Upon Construction Completion, half the total amount retained shall be paid to the Operator and the balance half shall be paid twelve months thereafter provided the Operator has corrected and rectified to the Company's satisfaction, all the Defects notified to the Operator by the Company and/or the Independent Expert.

- (d) Except in case of a disputed amount and subject to retention as set forth above, the Company shall make payment to Operator pursuant hereto within 30 (thirty) days of the verification and certification of Operator's invoice as set forth in sub-sections (b) and (c) above. Such payment shall constitute valid discharge of the Company's obligations for making the payments hereunder.

Section 11.2 License Fee and Subscription Fee

(a) Payment of License Fee

- (i) The Company shall, effective from the Operations Date, be entitled to fix, demand, collect, retain and appropriate License Fee from the Operator at such rates and on such terms and conditions as the Company may at its discretion decide; provided that the Parties shall, following the charging of such License Fee, agree to an adjustment in the Tariff rates by mutual consent. The Operator shall ensure that the Waste Offtake Agreements contain suitable enabling provisions in this behalf.
- (ii) Effective from the Operations Date and during the Active Term, the Operator shall pay to the Company a License Fee in each Accounting Year of the Active Term at the rate as the Company may at its sole discretion decide.
- (iii) The License Fee shall be payable by the Operator to the Company within 7 (seven) days of the end of each

quarter of an Accounting Year during the Active Term (i.e. April-June, July-September, October-December and January -March with prorata adjustments as necessary in the first and last quarter) in the bank account advised by the Company to the Operator in writing.

- (iv) In case of delay of up to four weeks by the Operator in the payment of the License Fee from the date such fee is due and payable in each quarter, the Operator shall pay the Company interest on the due amount at the rate of SBI PLR plus two percent per annum from the due date until the date of payment. Any delay by the Operator in the payment of a quarterly installment beyond such four weeks shall constitute a Fundamental Breach of the Agreement by the Operator and the Company, further shall be entitled to encash the Operations Performance Security so as to recover the delinquent amounts of the due installment.

(b) Subscription Fee

- (i) Subscription Fees shall be payable by the Generators/Users to the Company for availing the services and facilities by the Operator at the Facility.
- (ii) Subscription Fees shall be payable at the rates and on the terms and conditions fixed by the Company from time to time for different category/sizes of industries.
- (iii) The Operator shall be responsible to collect the Subscription Fees from the Generators/Users and hand over to the Company.
- (iv) The Operator shall ensure that the Waste Offtake Agreements contain suitable enabling provisions in respect of the foregoing.

Section 11.3 Tariff

(a) Levy of Tariff

- (1) On and from the Operations Date and during the Active Term, the Operator shall charge, demand, collect, recover, retain and

appropriate the Tariff from the Generators/Users in accordance with the provisions hereof.

- (2) The amount of Tariff, shall comprise Transportation Cost (leviable per tonne per km of waste) and Landfill charges or Stabilisation charges (leviable per tonne of waste), as the case may be, calculated and arrived at during the Active Term as follows :-

i) **Transportation Charges:**

The Transportation charges shall comprise of Fixed Component and Variable Component. The Fixed Transportation Charges will be as given in Appendix 6. The Variable Transportation Charges for the first year will be as given in Appendix 6 and for subsequent years, the Variable Transportation Charges will be adjusted on 1st of January every year for any increase or decrease in the prices of diesel, taking the base price of diesel as on 31st January, 2006.

ii) **Landfill Charges:**

The Landfill charges per tonne of waste for the first year shall be as given in Appendix 6 and for subsequent years, the Landfill charges will be adjusted on 1st of January every year for any increase or decrease, calculated by giving equal weightage to the following two components:-

- a. Increase/decrease in Wholesale Price Index (WPI) taking WPI of 31st January, 2006 as the base.
- b. Increase/decrease in the Price of Diesel, taking the Base Price of Diesel in the State of Punjab as on 31st January, 2006.

However, the increase in Landfill Charges shall not be more than 5% in any one year.

iii) **Stabilisation & Landfill Charges:**

The Stabilisation charges alongwith Landfill charges for management of every per tonne of Waste shall be calculated on the basis of the following formula :-

Stabilisation & Landfill charges = Direct Landfill Charges (1+Bulking Factor) + Cost of Reagents + Fixed Charges of Rs.270 per ton

- The Direct Landfill Charges for the above shall be same as calculated under sub-clause (ii) above for various years of the Active Term.
 - Bulking Factor means weight of Reagents used for Stabilisation per tonne of Waste.
 - The cost of Reagents like fly ash, cement, lime etc. shall be determined by the Operator every year on 1st of January with the prior approval of the Company.
- (3) It is hereby clarified that in case of Waste not requiring Stabilisation, only the Transportation Charges and the Landfill charges will be paid by the Generators/Users. In case of Waste requiring Stabilisation, the Transportation Charges and the Stabilisation charges (which are inclusive of Landfill charges) will be paid by the Generators/Users.
- (4) The responsibility for categorization of waste shall be with the Generators/Users and provision for the same will be contained in the Waste Offtake Agreement. However, the Operator shall extend all possible help and guidance to the Generator for categorization of Waste and their detailed characterisation.
- (5) In the event of any dispute between the Operator and Generators on characterisation of Waste, process of generation, stabilisation etc., the same will be referred to the Company who may appoint an Independent Expert to carry out the necessary tests and provide the necessary certification. The result of such tests and certification by the Independent Expert shall be final and binding on the Operator and the Generators. Necessary provision for this will form part of the Waste Offtake Agreement.
- (6) In respect of the Tariff to be charged by the Operator from the Generators/Users, the Operator may provide separate

customised service or tariff packages or special or seasonal discounts for specific, bulk or regular Generators/Users in consultation with the Company.

- (7) Any revision in the existing Tariff shall take place only with the prior approval of the Company.
- (8) **Minimum Annual Charges:**

The Operator may demand Minimum Annual Charges (the "Minimum Annual Charges") from Users at the rate set forth in the following Table, provided the Operator is providing the collection services from the premises of the Generator/User. The Operator shall adjust such Minimum Annual Charges against Tariff.

S.No.	User Category	Minimum Annual Charges (in Rupees)
1	Large Scale Industries	6000
2	Medium Scale Industries	4000
3	Small Scale Industries	3000

- (9) **Transfer Stations**

The Operator shall at its cost and expense design, finance, construct and operate the collection centres/transfer stations at selected locations in the State of Punjab as may be mutually decided by the Operator and the Company.

No Minimum Annual Charges shall be charged, if Generator/User opts to send its waste to Transfer Stations at its cost and risk.

- (10) **Deposit from Generators/Users**

The Operator may collect Deposit from the Generators/Users for an amount not exceeding one- and-a- half- months of estimated user charges/tariff, based on the average waste quantities declared by a User in the Waste Offtake Agreement executed between the Operator and such User.

This interest free and refundable Deposit shall be payable by a Generator/User to the Operator in the form of a demand draft or bank guarantee and the Operator shall, at the time of final

settlement, adjust the user charges/tariff payable against such security deposit and/or refund the Deposit amount to the relevant Generator/User, as the case may be.

(b) Deposit of Tariff in Escrow Account and Usage Thereof

(1) The Operator shall at least 30 (thirty) days prior to Construction Completion open and establish an escrow account with a scheduled or nationalized bank at Ludhiana/Chandigarh, acceptable to the Company, for a period until the end of the Active Term under an agreement to which such bank, the Company and the Operator are parties. The deposits, withdrawals and operation of such account shall be as under:

(i) the Operator agrees and undertakes that it shall deposit and/or credit the escrow account with all its receivables of Tariff collected in terms of Section 11.3 (a).

(ii) the withdrawals from such account shall be made in the following order every month and if not due in a month then the same shall be appropriated proportionately in such month and paid out on the relevant payment date:

- (1) all taxes due and payable by the Operator in relation to the Project;
- (2) the whole of the expenses on repair work or operation and maintenance expenses or otherwise relating to the Project/Facility incurred by the Company on account of exercise of any of its rights under this Agreement;
- (3) the operation and maintenance expenses relating to the Project/Facility incurred by the Operator
- (4) any payments and damages due and payable (over and above performance security) by the Operator to the Company pursuant to this Agreement; and
- (5) Any other payments required to be made by the Operator under this Agreement; and
- (6) the balance in accordance with the instructions of the Operator.

(iii) Notwithstanding anything to the contrary contained in this Agreement upon,

- (1) termination of this Agreement for any reason, or
- (2) the expiry of the Active Term;

all amounts standing to the credit of such account shall be appropriated and dealt with in the following order:-

- (1) all taxes due and payable by the Operator in relation to the Project;
 - (2) all accrued operation and maintenances expenses or otherwise relating to the Project/Facility during the Active Term;
 - (3) any payments and damages due and payable (over and above performance security) by the Operator to the Company pursuant to this Agreement;
 - (4) any other payments required to be made under this Agreement; and
 - (5) balance, if any, on the instructions of the Operator.
- (iv) any modification or amendment of the escrow agreement or change of the escrow bank shall only be made with the prior written consent of the Company.
- (v) such account and the agreement relating thereto shall remain in full force and effect until the expiry of the Active Term, unless terminated earlier by the mutual consent of the parties thereto.
- (vi) the escrow bank shall, at the request of the Operator, made on or after the payment by the Operator of all outstanding amounts as stated above and upon furnishing documents in support thereof, close the escrow account with the prior written approval of Company and pay any amount standing to the credit thereof to the Operator.
- (vii) the escrow bank shall not claim or exercise any right of set off, banker's lien or other right or remedy with respect to the amounts standing to the credit of such account. The monies and properties in such account shall not be considered as part of the assets of escrow bank and being trust property, shall in the case of bankruptcy or liquidation of the escrow bank be wholly

excluded from the assets of the escrow bank in such bankruptcy or liquidation.

Section 11.4 Operator's Fund

- (a) The Operator shall, one month prior to the Scheduled Construction Completion Date or the date of Completion Certificate, whichever is earlier, establish the Operator's Fund comprising separate sub-accounts in respect of (i) closure of the landfills; (ii) post-closure maintenance of the Facility; and (iii) contingencies.
- (b) The Operator shall make the following contributions to the fund:
- i. The Operator shall ensure that the initial corpus in the sub-account for closure shall be Rs 3.2 Cr, which shall be used towards closure of the completed landfill facility or part thereof.
 - ii. Effective from the Operations Date and during the Active Term, the Operator shall credit into sub account for post closure maintenance at the rate of Rs 27 per tonne of the waste disposed in the landfill or Rs 10 lakhs in each Accounting Year of the Active Term, whichever is higher. This amount shall be payable by the Operator in equated quarterly installments within 7 (seven) days from close of each quarter (i.e. April-June, July-September, October-December and January - March with prorata adjustment as necessary in the first and last quarter) of an Accounting Year during the Active Term. The Operator may make accelerated payments in the sub account

In the event of delay of up to four weeks by the Operator in the quarterly payment of an installment from the date the same is due and payable, the Operator shall pay interest thereon at the rate of SBI PLR plus two percent per annum from the due date until the date of payment. Any delay in the payment of a quarterly installment beyond such four weeks shall constitute a Fundamental Breach of the Agreement by the Operator, and the Company, further, shall be entitled to encash the Operations Performance Security

to recover the delinquent amounts of the due installment.

- (c) The Operator shall ensure that the value of such fund at any point of time is not be less than the closure and total post closure cost applicable/prevaling at such point of time. In case of a change in the closure and post closure maintenance cost estimates, the Operator shall compare the latest estimates with the most recent annual valuation of such fund, and in case the former is less than the latter, the Operator shall deposit the requisite amount/shortfall amount into such fund. The cost of closure and post closure maintenance and changes therein shall be assessed by an Independent Expert from time to time appointed for the said purpose.
- d) The Operator shall establish and maintain the Operator's Fund in the form of either an Escrow Account or a Trust Fund as decided by the Company in its sole discretion. Operator shall ensure that the corpus of Operator's Fund and sub-account thereof is sufficient at all times during the relevant period(s) or the Total Term, as the case may be, for meeting all the expenses, including an inflationary rise in price or otherwise, relating to closure, post-closure maintenance and contingencies. The Operator shall be solely liable for ensuring the availability and adequacy of the amounts in the Operator's Fund and sub-account thereof for the specified purposes.
- (e) In the event of Operator's Fund being in the form of Escrow Account, it shall be operated jointly by one representative of the Operator and one Representative of the Company, duly authorized in writing by the respective Parties; whereas if Operator's Fund has been established and maintained in the form of Trust Fund then such fund shall be administered by trustees, one each nominated by the Operator and the Company.
- (f) The Operator shall provide quarterly reports on the working of the Fund and the accounts relating thereto to the Company. The Company shall have a right to carry out, by itself or through an Independent Expert, a periodic and/or random audit of the Fund and its accounts to check the availability and adequacy of funds therein for each of the specified purposes and of the use thereof.

- (g) The Operator's failure to maintain, the Fund in accordance with the provisions hereof shall constitute a Fundamental Breach of this Agreement by the Operator.
- (h) **Disbursement of Fund**
- (i) The monies lying in Closure sub-account shall be utilised for closure based on the cost estimate provided by the Operator in the Proposal/Bid and approved and certified by the Company and/or the Independent Expert. The Operator shall submit to the Company, an invoice for payment upon completion of work/milestones. Upon verification and certification by the Company and/or Independent Expert of the invoice amount and corresponding achievement of milestone in accordance within approved design and closure plan or as otherwise justified, payments thereof will be made from the Operator's Fund.
- (ii) The monies lying in post closure maintenance of the facility sub-account shall be utilised for post closure maintenance period for post closure maintenance expenditure in accordance with the approved post closure plan. The Operator shall submit the annual budget for post closure maintenance to the Company for its sanction. The Operator shall submit the invoice at the end of each quarter of an Accounting Year. Upon verification and certification by the Company and/or the Independent Expert of such invoice and the related works, payments will be made from the Operator's Fund within 30 days.
- (iii) Upon expiry of this Agreement by efflux of time, the outstanding balances in Post-Closure Maintenance of the Facility Sub-Account, if any, shall accrue to the Operator; provided the Operator has carried out the closure, post-closure maintenance and contingency management and redressal in accordance with the provisions hereof, as certified by the Company/the Independent Expert. Upon termination of this Agreement due to a Fundamental Breach by the Operator or a Force Majeure Event, monies lying in the Operator's Fund shall be forfeited, retained and appropriated by the Company.

- (iv) In case of Termination of the Agreement for any reason other than by Efflux of Time, all amounts lying in the Operator's Fund shall vest in and belong to the Company and may also be passed on by the Company to the successor Operator, if any, at its sole discretion. However, vesting or passing on of such funds will not absolve the Operator from any of its liabilities including post-closure liabilities on account of work done in relation to the Project under the Agreement.

Section 11.5 Liquidated Damages

In case the Operator does not meet its obligations and/or liabilities as contained in the Agreement, the Company may claim Liquidated Damages.

(a) Liquidated Damages during the Construction Period:

- (1) During the construction period, the liquidated damages shall be payable by the Operator to the Company, if -
- i) the construction completion is not achieved by the Scheduled Construction Completion Date for any reason other than Force Majeure or Fundamental Breach of the Company or reasons attributable to any Government Authority,
 - ii) There is non-conformance to specifications and standards,
 - iii) The Operator fails to meet any other obligation upto the issue of Completion Certificate.
- (2) Liquidated Damages under clause (i) of Sub-Section (a)(1) shall be calculated at the rate of 0.5% (Half per cent) of Lumpsum Turnkey Project Cost, as given in Appendix 8 for delay of every week or part thereof. Provided that such liquidated damages shall not exceed, in the aggregate, 10% (Ten per cent) of the Turnkey Project Cost. Provided that nothing contained herein shall be deemed or construed to authorise any delay in achieving Construction Completion.
- (3) Liquidated Damages under clauses (ii) & (iii) of sub-section (a) (1) above shall be as assessed by the

Independent Expert and the same will be binding on the Operator.

(b) Liquidated Damages during the Operations Period:

- (1) During the Operations Period, Liquidated Damages may be claimed by the Company from the Operator for failure to meet its obligations under the Agreement, other than where it involves -
 - i) the occurrence of an event of Force Majeure in accordance with Article 13 of the Agreement, or
 - ii) Fundamental Breach of the Agreement by the Company.
- (2) The situations in which Liquidated Damages shall be payable by the Operator to the Company shall include but not limited to the following :-
 - i) Deviation from Operation and Maintenance and Performance Standards as defined in the Agreement, Guidelines, Rules and Permit Conditions,
 - ii) Downtime of the Facility,
 - iii) Non adherence to the Operations and Maintenance Manual,
 - iv) Non-Compliance with the instructions of Independent Expert(s) and Government Authorities,
 - v) Not meeting maintenance schedules and performance standards, and
 - vi) Not meeting any other obligations under this Agreement.
- (3) Liquidated Damages under sub-clauses (1) above shall be as assessed by the Independent Expert and the same will be binding on the Operator.

(c) Miscellaneous

- (1) Without prejudice to other rights, the Company may deduct the liquidated damages from the payments due to the Operator under this Agreement and/or the Construction Performance Security, Operations

Performance Security, Security Deposit and/or the Operator's Fund.

- (2) The payment of liquidated damages by the Operator shall not affect the Operator's liabilities under the Agreement in any manner whatsoever.

ARTICLE 12**INTELLECTUAL PROPERTY AND CONFIDENTIALITY****Section 12.1 Proprietary Material**

- (a) The property in all designs, drawings, processes, methods, details, plans, concepts, technology, specifications, schedules, programs, reports, calculations, documents (including the bidding documents) and other works relating to the Project, including intellectual property rights therein or thereto, whether registered or not, hereafter referred to as "Proprietary Material", which have been or are hereafter written, originated, made or generated by the Operator or any of its employees, Subcontractors, consultants or agents in connection with this Agreement or the design, development, construction, operation and maintenance of the Facility/Project, shall be and remain at all times the property of the Company, vest exclusively in the Company and enure to the exclusive benefit of the Company.
- (b) The Company, as beneficial owner, hereby grants to the Operator a non-exclusive license to use such Proprietary Material during the term of this Agreement. Such license shall carry the right to use the Proprietary Material for all purposes connected with the Project; however, it shall not be transferable to a Third Party. Such license shall automatically discontinue upon the termination or expiration of this Agreement or the discharge by the Operator of its duties hereunder.
- (c) Nothing in this Section 12.1 shall be construed to grant the Operator or Persons claiming through or under it any right or licence with respect to such Proprietary Material, save and except as otherwise expressly herein.

Section 12.2 Confidentiality

- (a) The Operator shall not at any time divulge or disclose or suffer or permit its servants or agents to divulge or disclose, transfer, communicate to any Person or use in any manner for any purpose unconnected with the Project any Proprietary Material or other information, material, documents, records or data, concerning the Facility, Project and the Company (including any information concerning the contents of this Agreement) except to its directors, employees, Subcontractors, consultants,

agents or representatives on a need to know basis or as may be required by any law, rule, regulation or any judicial process.

- (b) The Operator shall maintain the highest level of secrecy, confidentiality and privacy with regard to such information without any disclosure of details and information relating to the Project, including systems, facilities, operations, management and maintenance of the systems/facilities.
- (c) The Operator shall use such Proprietary Material and information only for the purposes of this Agreement or as otherwise expressly permitted by the Company in writing.
- (d) The Operator shall ensure that all its directors, employees, Subcontractors, consultants, agents or representatives execute, deliver and comply with customary confidentiality and non disclosure agreements reasonably required by the Company, which have been duly approved by the Company, with respect to the Project.
- (e) The Company shall retain all rights to prevent, stop and, if required, take the necessary action, punitive or otherwise, against the Operator regarding any forbidden disclosure.
- (f) The aforesaid provisions shall not apply to the following information:
 - (i) already in the public domain otherwise than by breach of this Agreement;
 - (ii) obtained from a Third Party who is free to divulge the same and which was not obtained under any obligation of confidentiality; or
 - (iii) disclosed due to a court order.

Section 12.3 Survival

The Operator accepts and confirms that the provisions of this Article 12, which shall survive the expiration or any earlier termination of this Agreement.

ARTICLE 13

FORCE MAJEURE

Section 13.1 Force Majeure

A Force Majeure event ("**Force Majeure Event**") means any event or circumstance or a combination of events and circumstances occurring in India referred to in Appendix 9 (a) which are beyond the reasonable control of the Party claiming to be affected by the Force Majeure Event (the "**Affected Party**"), (b) which such Party could not have prevented or reasonably overcome with the exercise of reasonable skill and care in relation to the implementation of the Project, (c) which do not result from the negligence of such Party or the failure of such Party to perform its obligations hereunder, (d) which are of an incapacitating nature and of a severe magnitude; and (e) which have a Material Adverse Effect on the performance of obligations by the Affected Party under this Agreement.

An Affected Party shall be entitled to suspend or excuse performance of its obligations under this Agreement to the extent such performance is impeded by a Force Majeure Event, as certified by an Independent Expert.

Section 13.2 Revised Timetable

- (a) An Affected Party shall not be liable for delay in the performance of its obligations when such delay results from the prevention, restriction or interference in the performance of the obligations of such Party by a Force Majeure Event; *provided* that such Party has, as soon as reasonably practicable and in any event within 7 (seven) days of becoming aware of the Force Majeure Event, given written notice thereof to the other Parties describing in reasonable detail the effect of such Force Majeure Event, including the dates of commencement and estimated cessation of such Force Majeure Event and its effects on the Affected Party's obligations under this Agreement. Upon cessation of the Force Majeure Event, the Affected Party shall within 7 (seven) days thereof notify the other Party in writing of such cessation and the Affected Party shall as soon as practicable thereafter continue performance of all obligations under this Agreement but without prejudice to the excuse of performance of obligations during the continuance of the Force Majeure Event.

- (b) Provided that the Affected Party has complied with the notice procedure under sub-section (a) above, any time period specified in this Agreement for the performance of such Party's obligation shall be appropriately extended for a period equal to that during which the effect of the Force Majeure Event applies to such obligation.

Section 13.3 Consultation and Duty to Mitigate

The Affected Party shall, at its own cost, take all steps reasonably required to remedy and mitigate the effects of the Force Majeure Event and restore its ability to perform its obligations under this Agreement as soon as reasonably practical.

The Parties shall consult with each other for a period of 30 (thirty) days or such longer period, as the Parties may agree in writing, to determine the reasonable measures to be implemented to minimise the losses of each Party resulting from the Force Majeure Event. The Affected Party shall keep the other Party informed of its efforts to remedy the effect of the Force Majeure Event. Except as specifically stated to the contrary, no Party shall be relieved of its obligations under this Agreement by reason of impossibility of performance or any other circumstance whatsoever beyond its control.

Section 13.4 Termination for Prolonged Force Majeure

- (a) If the Period of Force Majeure continues or is in the reasonable judgement of the Parties is likely to continue beyond a period of 120 (one hundred and twenty) days, the Parties may mutually decide to terminate this Agreement or continue this Agreement on mutually agreed revised terms. If the Parties are unable to reach an agreement in this regard, the Affected Party shall after the expiry of the said period of 120 (one hundred and twenty) days, be entitled to terminate the Agreement in which event, the provisions of Article 17 shall, to the extent expressly made applicable, apply.
- (b) Upon termination of this Agreement under this Section 13.4 during the Construction Period, the Company shall be liable to pay the Operator as termination payment the amount set forth in Section 17.5 (a) below.
- (c) The Company shall return the Performance Security to the Operator upon the termination of this Agreement for Force

Majeure by either Party; provided there are no outstanding claims of the Company on the Operator.

ARTICLE 14

FUNDAMENTALBREACH AND TERMINATION

Section 14.1 Termination

A Party may terminate this Agreement if the other Party causes a Fundamental Breach of this Agreement. The non-defaulting Party shall give a 30-day (thirty-day) written notice to the defaulting Party setting forth the grounds of such breach, requiring the defaulting Party to cure such breach. Upon the expiry of such 30 (thirty) days, the non-defaulting Party shall be entitled to terminate this Agreement in which event, the provisions of Article 17 shall, to the extent expressly made applicable, apply.

Section 14.2 Fundamental Breach

- (a) Fundamental breaches of this Agreement include, but are not limited to the following:
 - (i) Abandonment of the Project by the Operator at any time during the Total Term;
 - (ii) A Party becomes bankrupt or goes into liquidation other than for a reconstruction or amalgamation or if a Party passes a resolution or the court makes an order for the winding up of a Party or if a receiver or manager is appointed on behalf of a creditor of a Party;
 - (iii) The Company gives notice to the Operator that failure to correct a defect in the Construction Work is a Fundamental Breach of the Agreement and the Operator fails to correct, replace, reconstruct such defect within the stipulated time set forth in such notice;
 - (iv) In the event of any change/ dilution in or variation of constitution or shareholding/ownership or other interest of the Operator during the subsistence of the Agreement, unless the same has been done either by operation of law or with the prior written approval of the Company and in either case it does not hinder the ability of Operator to discharge its obligations herein;

- (v) The Operator does not achieve Construction Completion within 90 (ninety) days of the Scheduled Construction Completion Date or items of Construction Works with stipulated dates of completion are not completed within their respective dates of completion and within the period specified in the Company's written notice in this behalf and such failure has not been waived or condoned by the Company in writing, with or without conditions;
 - (vi) Any representation or warranty given by a Party under this Agreement is found to be false and misleading;
 - (vii) The Operator persistently neglects to carry out its obligations under the Agreement, including without limitation the operation and maintenance of the Facility during the Operations Period in conformity with the Specifications and Standards and Good Industry Practice and/or commits a default in complying with any of the terms and conditions of the Agreement and does not remedy/initiate steps to remedy the same within the time stipulated in the Company's written notice in this behalf; or
 - (viii) The Operator is in Material Breach of this Agreement.
 - (ix) The refusal, withdrawal, suspension or non-renewal of any statutory authorization or Applicable Permit required for the implementation and operation of the Project/Facility by any Government Authority, including the PPCB or the CPCB, due to the Operator's default, delay or negligence shall constitute Fundamental Breach by the Operator
 - (x) Repudiation of this Agreement by a Party or a Party evidences intention not to be bound by the terms of this Agreement.
 - (xi) Such events as have been specifically stated elsewhere in this Agreement as constituting Fundamental Breach.
- (b) When either Party gives notice of a breach of the Agreement to the other for a cause other than that set forth in sub-section (a) above, an Independent Expert shall decide whether the breach stated in such notice is fundamental or not.

- (c) Upon the termination of the Agreement, the Operator shall forthwith stop work at the Site, and make it safe and secure.

ARTICLE 15**CHANGE IN LAW****Section 15.1 Change in Law**

Change in Law means occurrence of any of the following events after the execution of this Agreement

- (a) enactment of any new Indian law ;
- (b) the repeal, modification, or re-enactment (other than enactment that only consolidates or codifies the existing law) of any existing Indian law;
- (c) the commencement of any Indian law which has not come into effect until the date of this Agreement;
- (d) the change in interpretation or application of any Indian law by a judicial or other authority (including court, tribunal or any other regulatory authority) as compared to such interpretation or application by such judicial or other authority prior to the date of this Agreement; or
- (e) the revocation or cancellation (other than for cause) of any Applicable Permit.

Provided that the Change in Law has a Material Adverse Effect on the rights and obligations of the Operator under this Agreement and that has not been caused or resulted from the Operator's fault or negligence.

Provided further that notwithstanding anything stated hereinabove in this Section 15.1, Change in Law shall not include any change in the tax laws or Change in Law which solely has an economic impact on the Operator.

A Change in Law that enforces stricter environmental standards shall be treated as a change in Scope of Works and handled accordingly.

Section 15.2 Consequences of Change in Law

In the event a Change in Law has a Material Adverse Effect on the exercise by the Operator of any of its material rights or the performance by the Operator of any of its material obligations, unless such

obligation is waived by a Person having the power to do so under this Agreement, the Operator may notify the Company of such Change in Law. Within 15 (fifteen) days of such notice, the Parties shall meet and consult in good faith to mitigate the effect of such Change in Law and propose and implement suitable modifications of this Agreement in this behalf. In the event the Parties are unable to agree to such changes in this Agreement within two months of the date of the aforesaid notice, the matter shall be settled in accordance with the Dispute Resolution Procedure.

ARTICLE 16**INSURANCES****Section 16.1 Insurance Cover**

- (a) The Operator shall, at its cost and expense, purchase and maintain effective from the Compliance Date and during the Total Term such insurance policies as are necessary and customary (or may in the future become available) on commercially reasonable terms and reasonably required to be maintained consistent with projects and facilities of the size and type of the Project, including but not limited to the following:
- (i) Erection insurance and/or break down insurance;
 - (ii) Contractor's All Risk insurance
 - (iii) Public Liability Act insurance applicable for the Active Term, closure and Total Term including transportation of Hazardous Wastes to and from Site;
 - (iv) Workmen's compensation insurance and any insurance required by the Applicable Laws;
 - (v) Comprehensive Public Liability insurance including injury or death to Persons in the course of implementation of the Project, including transportation persons, Hazardous Wastes etc. to and from the Site;
 - (vi) Insurance policies related to any of the Operator's obligations hereunder;
 - (vii) Insurance against fire (Standard Fire as per All India Tariff without any exclusions), burglary and special and associated perils;
 - (viii) Comprehensive Vehicle Insurance;
 - (ix) Environmental liability insurance
 - (x) Special Contingency Policy;

- (xi) Any other insurance that may be considered necessary by the Company/GoP/lenders of the Operator/Company, if any, to protect the Assets (against loss, damage or destruction at replacement value) and the Operator, its employees or otherwise, including all Force Majeure Events that are insurable and not otherwise covered in items (i) to (x).
- (b) Failure to maintain the insurance policies in full force and effect throughout the Total Term shall constitute a Fundamental Breach of this Agreement.
- (c) Each Policy must contain a provision allowing assignment of policy to the Company, the Operator and their successors
- (d) Any risk or liability not insured or not recovered from the insurers shall be borne by the Operator

Section 16.2 Insurance Companies & Costs

- (a) The Operator shall insure all insurable assets comprised in the Project Assets and/or the Facility through Indian insurance companies and if so permitted by GoP, through foreign insurance companies, to the extent that insurances are necessary to be effected through them.
- (b) The premiums payable on insurance coverage as indicated above, including any costs and expenses incidental to the procurement and enforcement of such insurance coverage shall be borne by the Operator.
- (c) All insurance policies supplied by the Operator shall include a waiver of any right of subrogation of the insurers there under against, *inter alia*, the Company, and its assigns, subsidiaries, affiliates, employees, insurers and underwriters and of any right of the insurers of any set-off or counterclaim or any other deduction, whether by attachment or otherwise, in respect of any liability of any such person insured under any such policy.
- (d) The Operator hereby further releases, assigns and waives any and all rights of recovery against, *inter alia*, the Company, and its affiliates, subsidiaries, employees, successors, assigns, insurers and underwriters, which the Operator may otherwise have or acquire in or from or in any way connected with any loss covered by policies of insurance maintained or required to

be maintained by the Operator pursuant to this Agreement (other than Third Party liability insurance policies) or because of deductible clauses in or inadequacy of limits of any such policies of insurance.

Section 16.3 Evidence of Insurance Cover

The Operator shall, from time to time, provide to the Company copies of all insurance policies (or appropriate endorsements, certifications or other satisfactory evidence of insurance) obtained by the Operator in accordance with this Agreement.

Section 16.4 Action by the Operator

- (a) On the occurrence of an event giving rise to insurance claims, the Operator, immediately, shall take steps to carry out the repair, renovation, replacement etc. of the Facility or any part thereof and of matters related thereto so that work of the Facility is not disrupted or stopped pending the receipt of the insurance claims.
- (b) The Operator shall carry out such repair or renovation or restoration or substitution or replacement to the extent possible in such manner that the Facility or any part thereof, shall, after such repair or renovation or restoration or substitution or replacement be as far as possible in the same condition as they were before such damage or destruction, normal wear and tear excepted.

Section 16.5 Application of Insurance Proceeds

- (a) The Operator shall designate the Company as the loss payee under the insurance policies/assign the insurance policies in the Company's favour, as applicable.
- (b) All moneys (other than personal claims) received under insurance policies shall be deposited in a separate escrow account of the Company opened with a nationalized or scheduled bank at Ludhiana and shall be promptly applied towards repair or renovation or restoration or substitution or replacement of the Facility or any part thereof, which may have been damaged or destroyed. or in case such work has already been carried out by the Operator in accordance with

sub-clause 16.4 above and as certified by an Independent Expert, the Company shall make the payment from the claim received to the Operator.

Section 16.6 Validity of the Insurance Cover

The Operator shall pay the premium payable on such insurance policies so as to keep the policies in force and valid throughout the Total Term and furnish copies of the same to the Company. Each insurance policy shall provide that the same shall not be cancelled or terminated unless 10 (ten) days' clear notice of cancellation is provided to the Company in writing. If at any time the Operator fails to purchase and maintain in full force and effect any and all of the insurances required under this Agreement, the Company may at its option purchase and maintain such insurance and all sums incurred by the Company in this behalf shall be reimbursed by the Operator forthwith on demand, failing which the same shall be recovered by the Company by exercising right of set off or otherwise from the Performance Security.

ARTICLE 17**TERMINATION AND HANDING OVER****Section 17.1 Termination Procedure**

The Party entitled to terminate this Agreement either on account of a Force Majeure Event or on account of a Fundamental Breach of this Agreement shall do so by issue of a Termination Notice to the other Party and simultaneously deliver a copy thereof to the PPCB and GoP and at the expiry of the Termination Period, this Agreement shall stand terminated.

Section 17.2 Obligations During Termination Period

During Termination Period, the Parties shall continue to perform such of their respective obligations under this Agreement which are capable of being performed, failing which the Party in breach shall compensate the other Party for any loss or damage occasioned or suffered on account of the underlying failure/breach.

Section 17.3 Condition Survey

- (a) The Operator agrees that on the service of a Termination Notice or 60 (sixty) days prior to the expiry of the Total Term by efflux of time, it shall conduct or cause to be conducted by the Independent Expert under the supervision of the Company, a condition survey of the Facility and the Project Assets to ascertain the condition thereof, verify compliance with the Operator's obligations under this Agreement and to prepare an inventory of the assets comprised in the Project.
- (b) If, as a result of the condition survey, the Company shall observe/notice that the Project Assets and/or the Facility or any part thereof is not in the condition required therefor under this Agreement (normal wear and tear excepted) the Operator shall, at its cost and expenses, take all necessary steps to put the same in the requisite conditions well before the Termination Date.
- (c) In the event the Operator fails to comply with the provisions of this Agreement, the Company may itself cause the condition survey and inventory of Project Assets and the Facility to be conducted. The Company shall be compensated

by the Operator for any costs incurred in conducting such survey and preparation of inventory as also in putting the Facility and the Project Assets in the requisite condition.

Section 17.4 Consequences of Termination and Expiry of Total Term

Without prejudice to any other consequences or requirements under this Agreement or under any law, the following consequences shall follow upon termination due to a Force Majeure Event or Fundamental Breach or expiry of the Total Term by efflux of time.

- (a) The Operator shall subject to the provisions of this Agreement :
- (i) hand over to the Company or its nominated agency free of cost the vacant and peaceful possession of the Project Assets and the Facility.
 - (ii) hand over/transfer to the Company all its rights, titles and interest in or over the assets comprised in the Project and the Project Assets (including movable assets which the Company agrees to take over) which are required to be transferred to the Company in accordance with this Agreement and execute such deeds and documents as may be necessary for the purpose and complete all legal or other formalities required in this regard.
 - (iii) hand over to the Company all documents, Proprietary Material, including as built designs, drawings, data, engineering, manuals and records relating to the Facility and the Project Assets.
 - (iv) it is clarified that only the assets of the Operator shall be taken over and no liabilities, including without limitation liabilities relating to labour and personnel related obligations of the Operator shall be taken over by the Company. The Operator's employees shall be its responsibility even after the expiry of the Total Term.
 - (v) transfer or cause to be transferred/assigned to the Company any Project Agreements which are (A) valid and subsisting, (B) capable of being transferred to the Company and (C) those the Company has chosen to take over, and cancel or cause to be cancelled entirely at

its cost such Project Agreements not transferred to the Company.

- (vi) at its cost, transfer to the Company all such Applicable Permits which the Company may require and which can be legally transferred.
 - (vii) at its cost remove from the Site all such moveable assets which are not taken over by or transferred to the Company. In the event the Operator fails to remove such objects within the stipulated time, the Company may remove and transport or cause removal and transportation of such objects, after giving the Operator notice of its intention to do so to a suitable location for safe storage. The Operator shall be liable to bear the reasonable cost and the risk of such removal, transportation and storage.
- (b) All proceeds of insurance claims shall be deposited in the escrow account and the Operator or Persons claiming through or under it shall have no claim thereon or rights thereto unless and until all dues of/damages payable to the Company or any Government Authority or in respect of the Facility have been cleared and no amounts payable/refundable to either of them by the Operator pursuant to this Agreement are outstanding.
 - (c) The Operator and the Persons claiming through or under it shall forthwith vacate the Site without any delay or demur and give peaceful possession thereof to the Company.
 - (d) The Company shall be entitled to encash/enforce/forfeit any subsisting Performance Security/bank guarantee(s)/Security Deposit/Operator's Fund provided by the Operator, if the termination is on account of a Fundamental Breach of this Agreement by the Operator.

Section 17.5 Payment Upon Termination During Construction Period

- (a) If the Agreement is terminated because of a Fundamental Breach of Agreement by the Operator or due to Force Majeure as per Article 13.4, the Company shall pay to the Operator an amount equal to the value of the work completed and materials ordered for which payment has been made by the Operator less recoveries, if any, due from the Operator to the

Company in terms of the Agreement, less taxes to be deducted at source as per the Applicable Laws.

If the total amount due to the Company exceeds any payment due to the Operator the difference shall be Operator's debt payable to the Company.

Provided that the Company shall have a right to damages in respect of any delay incurred or arising from the breach.

The Company shall be entitled at its sole discretion to forfeit the Construction Performance Security provided by the Operator.

- (b) If the Agreement is terminated because of a Fundamental Breach of the Agreement by the Company, the Company shall pay to the Operator an amount equal to the value of work completed, the reasonable cost of removal of equipment and materials (which belong to the Operator and/or its sub-contractors and not a part of the total scope of work), repatriation of the Operator's personnel employed solely on the Construction Works, and the Operator's cost of protecting and securing the Construction Works less recoveries, if any, due from the Operator to the Company in terms of the Agreement and less taxes to be deducted at source as per the Applicable Laws.

The Company shall return and refund the Construction Performance Security provided by the Operator; provided there are no outstanding claims of the Company on the Operator.

- (c) The payment upon termination pursuant to sub-section (a) and (b) above, as the case may be, shall be made to the Operator by Company within 30 (thirty) days of demand being made by the Operator with the necessary particulars. If Company fails to pay termination payment in full within such 30 (thirty) days, the amount remaining unpaid shall be paid along with interest at the rate of SBI PLR per annum from the expiry of such 30 days till the actual date of payment .

Section 17.6 Payment Upon Termination During Operations Period

- (a) In the event of termination of this Agreement by the Company during the Operations Period due to a Fundamental Breach by the Operator in carrying out the operation and maintenance of the Facility in accordance with the provisions of this Agreement, the Company shall forfeit the Operations Performance Security provided by Operator.

Section 17.7 Without Prejudice to Other Rights

Notwithstanding anything to the contrary contained in this Agreement,

- (a) any termination or expiration of this Agreement shall be without prejudice to the accrued rights of a Party, including its right to claim and recover money damages and other rights and remedies which it may have in law or contract. All rights and obligations of a Party under this Agreement, including without limitation termination payments, liability, intellectual property rights, confidentiality, indemnification and dispute resolution shall survive the termination or expiration of this Agreement to the extent such survival is expressly provided herein or is necessary for giving effect to such rights and obligations, as the case may be. Provided that in case of the Operator, the survival of such rights shall be limited to any valid claims for compensation due and payable under this Agreement, subject to the set-off, counter claims and withholding rights of the Company.
- (b) Upon termination of this Agreement at any time due to a Fundamental Breach of this Agreement by either Party or due to Force Majeure event, the Operator shall have to close the active landfill cells at its cost in an environmentally sound manner in accordance with and as per the requirements under the Applicable Laws, guidelines issued by the concerned Government Authorities from time to time and the regulatory framework. The Operator shall continue to remain liable for any damages, defects, liabilities, loss etc as a result of Works undertaken by it including without limitation closure, in relation of such cells. This provision shall survive expiration or prior termination of this Agreement.

- (c) Upon termination of this Agreement at any time due to a Fundamental Breach of this Agreement by the Operator or due to Force Majeure Event, the Company shall forfeit, retain and appropriate the Security Deposit and the monies lying in the Operator's Fund.

Section 17.8 Project Completion Certificate

- (a) On the Termination Date the Independent Expert shall verify, in the presence of the Operator or of a representative of the Operator, compliance by the Operator with the requirements of Sections 17.3 and 17.4 above, as the case may be. In the event the Independent Expert notifies the Operator of shortcomings, if any, in the Operator's compliance with such requirements, the Operator shall forthwith cure the same.
- (b) Upon termination (due to Force Majeure Event or Fundamental Breach of this Agreement or expiry of the Total Term by efflux of time), the divestment by the Operator of all rights, title and interest in the Project, Project Assets and the Facility shall be deemed to be complete on the Termination Date but no later than 30 (thirty) days thereafter, by when all the requirements of Sections 17.3 and 17.4 shall be fulfilled. The Company shall upon fulfillment of the requirements of Sections 17.3 and 17.4 issue a certificate (the "**Project Completion Certificate**"), with a copy thereof endorsed to the GoP and the PPCB, which shall have the effect of constituting evidence of divestment by the Operator of all of its rights, title and interest in the Project, the Project Assets and the Facility and the vesting thereof in the Company pursuant hereto.

ARTICLE 18**DISPUTE RESOLUTION****Section 18.1 Dispute Resolution Procedure**

Save where expressly stated otherwise in this Agreement, any dispute, difference or controversy of any nature howsoever arising under, out of or in relation to this Agreement between the Operator and the Company shall be resolved as provided the provisions of section(s) 18.2 and 18.3 here under.

Section 18.2 Amicable Resolution

Any dispute, difference or controversy of any nature howsoever arising under, out of or in relation to this Agreement between the Operator and the Company and so notified in writing by either Party to the other (the "**Dispute**"), shall, in the first instance, be attempted to be resolved amicably by a either the Chief Executive officer, or the Managing Director of the Parties, as the case may be, and familiar with the Project within 30 (thirty) days of receiving such notice. In the event the Dispute is not so resolved, as evidenced by the signing of the written terms of settlement, within 30 (thirty) days of such notice, or such longer period as may be mutually agreed between the Parties in writing, then the provisions of Section 18.3 below shall apply.

Section 18.3 Arbitration

- (a) The Company and the Operator shall submit the Dispute for arbitration in accordance with the provisions of the Arbitration and Conciliation Act, 1996. The arbitration proceedings shall be conducted by an arbitral tribunal comprising three arbitrators, of which one shall be appointed by the Operator and one by the Company and the two such arbitrators shall appoint the third arbitrator who shall be the chairman of the arbitral tribunal.
- (b) The arbitrators shall make a reasoned award, and any award made pursuant to this Section 18.3 shall be final and binding on the Parties as from the date on which it is made, and the Operator and the Company agree to implement and execute such award without delay.
- (c) The arbitration proceedings shall be conducted in the English language and in Chandigarh or at such other place as may be agreed between the Parties.

- (d) The fees and expenses of the arbitrators and all other expenses of the arbitration shall be initially shared and paid by the Parties in equal proportions. The arbitrators may provide in the arbitral award for the reimbursement to the prevailing Party of its costs and expenses in bringing or defending the arbitration claim, including legal fees and expenses incurred by such Party.
- (e) The Parties hereto hereby waive, to the extent permitted by law, any rights to appeal or to review of such award by any court or tribunal. The Parties hereto agree that the arbitral award may be enforced against the Parties to the arbitration proceeding or their assets wherever they may be found and that a judgment upon the arbitral award may be entered in any court having jurisdiction thereof.

Section 18.4 Performance During Dispute

Pending the submission of the Dispute to resolution under the Dispute Resolution Procedure herein, the Parties shall continue to perform all of their obligations under this Agreement, without prejudice to a final adjustment in accordance with decision pursuant to the Dispute Resolution Procedure. Further, this Agreement shall remain subsisting and operative during the pendency of the Dispute and no payment due and payable to either Party shall be withheld except the payment in dispute, if any.

Section 18.5 Bar of jurisdiction

No civil court shall have jurisdiction to entertain any suit or proceedings in respect of any dispute, difference or controversy of any nature howsoever arising under, out of or in relation to this Agreement between the Operator and the Company.

ARTICLE 19**MISCELLANEOUS****Section 19.1 Amendments**

No amendment or waiver of any provision of this Agreement, nor consent to any departure by any of the Parties there from, shall in any event be effective unless the same shall be in writing and signed by the Parties hereto and then such waiver or consent shall be effective only in the specific instance and for the specific purpose for which given.

Section 19.2 Agreement to Override other Agreements

This Agreement supersedes all previous agreements or arrangements between the Parties, including any memoranda of understanding entered into in respect of the contents hereof and represents the entire understanding between the Parties in relation thereto.

Section 19.3 No Waiver; Remedies

No failure on the part of any Party to exercise, and no delay in exercising, any right, power or privilege hereunder shall operate as a waiver thereof or a consent thereto; nor shall any single or partial exercise of any such right, power or privilege preclude any other or further exercise thereof or the exercise of any other right, power or privilege. The remedies herein provided are cumulative and not exclusive of any remedies provided the Applicable Laws.

Section 19.4 Severance of Terms

If any provisions of this Agreement are declared to be invalid, unenforceable or illegal by any competent arbitral tribunal or court, such invalidity, un-enforceability or illegality shall not prejudice or affect the remaining provisions of this Agreement, which shall continue in full force and effect.

Section 19.5 Language

All notices, certificates, correspondence or other communications under or in connection with this Agreement or the Project shall be in English.

Section 19.6 Notices

Any notice to be given hereunder shall be in writing and shall either be delivered personally or sent by registered post, facsimile transmission, or recognised national courier. Notices, to and from, the operator shall be in the name of the Lead Member of the Consortium. The addresses and numbers for service of notice shall be given to the Parties at their respective addresses set forth below:

COMPANY : **Nimbua Greenfield (Punjab) Limited**
Vardhaman Premises
Chandigarh Road, Ludhiana 1410011

OPERATOR : **Ramky Enviro Engineers Limited**
Ramky House, Rajbhavan Road,
Somajiguda, Hyderabad 500082

or such other address, or facsimile number as may be notified by that Party to any other Party from time to time, and shall be deemed to have been made or delivered (i) in the case of any communication made by letter, when delivered by hand, by recognised national courier or by mail (registered, return receipt requested) at that address and (ii) in the case of any communication made by facsimile, when transmitted properly addressed to such facsimile number. In case any Party changes its address, communication numbers, or directed attention as set forth above, it shall notify the other Party in writing prior to the adoption thereof.

Section 19.7 Governing Law

This Agreement shall be governed by and construed in accordance with the laws of India and the courts of Chandigarh shall have jurisdiction over all matters arising out of or in relation to this Agreement.

Section 19.8 Counterparts

This Agreement is executed in two counterparts, each of which when executed and delivered shall constitute an original of this Agreement.

Section 19.9 Assignment

Except as expressly provided in this Agreement, the Operator shall not assign either this Agreement or any rights or obligations arising herein to any Person, either in whole or in part, without the prior

written consent of the Company, which consent may be withheld or given by the Company on such terms and conditions as the Company deems necessary for ensuring the unimpeded and continuous implementation of the Project, provided that the Company may, subject to the terms and conditions of the Site Lease Deed, be free to assign this Agreement or any rights or obligations arising herein to any Person, either in whole or in part, on such terms and conditions as it may deem fit.

Section 19.10 No Partnership or Agency

Nothing contained in this Agreement shall be constructed or interpreted as constituting a partnership between the Parties. Neither Party shall have any authority to bind the other in any manner whatsoever. This Agreement is on a principal to principal basis between the Operator and the Company and the Operator is not and shall not be deemed to be the agent of the Company in any manner whatsoever

Section 19.11 Further Assurances

At all times after the date hereof the Parties shall execute all such documents and do such acts, deeds and things as may reasonably be required for the purpose of giving full effect to this Agreement.

Section 19.12 No Liability for Review

Except to the extent expressly provided in this Agreement

- (a) no review, comment, certification, verification or approval by the Company or an Independent Expert or any Government Authority of any Project Agreement, design, detailed engineering, or document, accounts, invoice etc. submitted by the Operator nor any observation, testing, certification, validation or inspection of the construction, operation or maintenance of the Facility nor the failure to review, approve, comment, observe, test or inspect hereunder shall relieve or absolve the Operator from its obligations, duties and liabilities under this Agreement, the Applicable Laws and Applicable Permits; and
- (b) the Company, its advisors or the Government Authorities shall not be liable to the Operator by reason of any review, comment, approval observation, testing, certification,

verification, validation or inspection referred in sub-section (a) above.

Section 19.13 Liability and Indemnification

- (a) The Operator (the "Indemnifying Party") shall indemnify, defend and hold harmless the Company (the "Indemnified Party") during the Total Term from and against all liabilities, damages, losses, expenses, claims, suits, proceedings, judgements, settlements, actions, costs of any nature whatsoever, whether directly or indirectly arising, for injury, for damage to or loss of any property and any Third personal Party liability, including reasonable attorneys' fees, actually incurred or suffered by the Indemnified Party, arising out of or in any way connected with (i) any breach, negligence, default, omission, violation, infringement etc. , as the case may be, by the Indemnifying Party or Persons claiming through or under it of such Party's representations and warranties herein; covenants, agreements or obligations contained herein or the terms and conditions hereof; any intellectual property right of any Person; (ii) failure of the Indemnifying Party or Persons claiming through or under it to comply with Applicable Laws or the Applicable Permits or to pay taxes or make contractual or other payments due and payable to any Person; (iii) the employment, sickness, injury or death of any Person employed directly or indirectly by the Indemnifying Party or Persons claiming through or under it ; or (iv) as provided elsewhere herein.
- (b) The Operator shall be responsible for executing, performing and completing the Works in accordance with the provisions of this Agreement at its risk and consequence and shall be responsible for any liability whatsoever arising under, in connection with or in relation to the execution of the Works by the Operator or Persons claiming through or under it and shall indemnify, keep indemnified and hold harmless the Company and its advisors in this behalf.
- (c) The Operator shall keep the Company indemnified during the Total Term against any claims, damages, liabilities, costs, penalties etc. (i) from or by any Government Authority, including the CPCB or the PPCB, and Third Parties for damages to the environment or any acts, omissions, defaults or negligence of the Operator that damages the environment; and (ii) resulting from accidents at work, occupational diseases and

contingencies that may arise at or around the Site or in the employment of labour and personnel at the Facility. The Operator shall remain liable for its acts or omissions in implementing the Project in accordance with the Specifications and Standards and the Applicable Laws even after the termination or expiration of this Agreement by efflux of time or otherwise.

- (f) Except as expressly provided in this Agreement, the Operator shall carry out and perform its rights and obligations under this Agreement and the Project Agreements at its own cost and risk. It shall be fully responsible for and shall bear the financial risks in relation to the Project and all its rights and obligations under or pursuant to this Agreement and the Project Agreements.
- (g) The provisions of this Section 19.13 shall survive the expiration or prior termination of this Agreement.

Section 19.14 Joint and Several Liability

The members of the Consortium shall be jointly and severally liable to the Company for compliance with the terms of this Agreement. The composition of the Consortium shall not be altered during the term of this Agreement without the prior written approval of the Company.

IN WITNESS WHEREOF THE, PARTIES HAVE EXECUTED AND DELIVERED THIS AGREEMENT AS OF THE DATE FIRST ABOVE WRITTEN.

SIGNED SEALED AND DELIVERED

For and on behalf of the Company by

(Signature)

(Name)

(Designation)

For and on behalf of the Operator

(1)

(2)

(3)

(Signature)

(Name)

(Designation)

In the presence of.

(1)

(2)

Place:

Date:

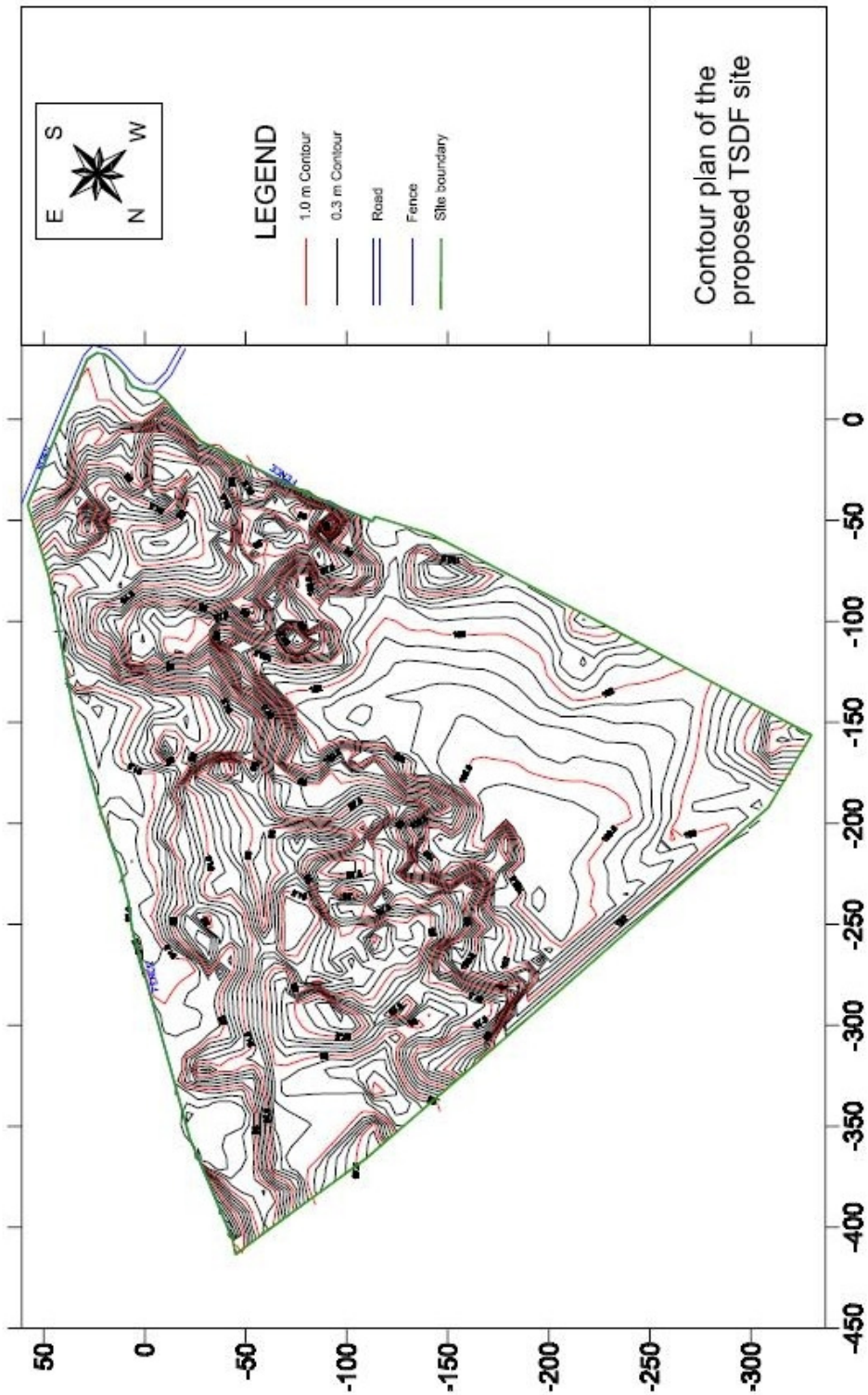
APPENDICES

Appendix 1- SITE DETAILS**(A) Land Details**

Rectangular No	Khasra No	Area	
		Bigha	Biswa
1	7	3	17
	13	1	15
	14	4	0
	15	3	3
	16	4	0
	17	4	0
	18	3	5
	23	4	15
	24	4	0
	25	4	0
2	20	3	8
	21	4	0
	22	3	2
	23	0	13
10	1	4	0
	2	4	0
	3	3	0
	8	3	0
	9	4	0
	10	4	0
11	2	2	9
	3	4	0
	4	4	0
	5	4	0
	6	4	0
	7	4	0
	8	4	0
	9	3	12
		99	19

Total**20 Acres 6 kanals
and 11 Marlas and
6 Sarsahi**

(B) SITE BOUNDARY



Appendix 2 – Scope of Work and technical specifications

1. SCOPE OF WORK

1.1 Broad Scope of Work

The scope of work includes but not limited to

- (a) Establishment of the Facility with supporting and ancillary infrastructure as per technical specifications provided in the document
- (b) Transportation of hazardous waste from Generator's facility to the Facility
- (c) Segregation, Recovery, Treatment, Storage and Disposal of hazardous waste
- (d) Leachate management including collection, treatment and disposal of leachate using appropriate technology
- (e) Collection of user charges
- (f) Closure and Post Closure Maintenance
- (g) Monitoring of performance of Facility including environmental monitoring
- (h) Develop and implement Environmental Management Plan
- (i) Undertake Corporate Social Responsibility measures
- (j) Operate, maintain and manage the facility
- (k) Meet the Statutory requirements laid down by Punjab Pollution Control Board (PPCB), Central Pollution Control Board (CPCB) and other Competent Authority

DESIGN, ENGINEERING AND CONSTRUCTION PHASE

1.2 Pre Commissioning Phase

During the design, construction & erection phase, the Operator shall:

- (a) Prepare the detailed master plan for sizing and placement of various components like landfill, pretreatment facility, leachate management facility, administration, analytical laboratory, equipment storage facility, waste storage facility, waste inspection and sampling facility, equipment workshop and garages, vehicle cleaning facility, incinerator and support infrastructure
- (b) Based on master plan, Operator shall prepare the detailed engineering including detailed design, drawings and architectural

plan and obtain requisite approvals from competent authorities and Company

- (c) The design and engineering shall conform with the guidelines issued by the CPCB and MOEF, and the technical specifications provided in the RFP document. Unless specified otherwise by Indian laws and guidelines, the standard for design of Facility shall conform with Part 264, Code of federal Regulations of the United State Environmental Protection Agency of the United State of America
- (d) Design, construction, commissioning and testing. Overall designs, material specifications and workmanship, would be the Operator's responsibility;
- (e) Operator shall install, commission and test various equipment, hardware and software systems such as the computer aided inventory and maintenance management system, billing system, Facility Management System etc.

1.3 Equipment and Materials

- (a) The Operator shall provide all equipment and materials including laboratory, landfill operation equipment and workshop equipment necessary to provide the Services.
- (b) The Operator shall maintain an adequate inventory of consumables and spare parts and undertake periodic preventive maintenance as required for the relevant equipment and materials. The Operator shall ensure continuous workflow as required. The Operator shall maintain regular and systematic records of all maintenance and operations activity at the Facilities
- (c) All materials procured by the Operator shall conform to the Technical Requirements and test certificates shall be provided for materials procured upon reasonable request by the Company. The Company shall also have the right to inspect and check the quality and quantity of the materials and their storage and also to have the materials tested
- (d) The installed plant and equipment shall be inspected, checked and tested to verify that it is correct, complies with specification and has been installed in accordance with designed drawings and/or manufacturer's recommendations, by the Contractor(s)

- (e) The following checks shall be carried out before acceptance of various units and equipment
- i. Dimensions of all the civil structures as per the approved drawings
 - ii. Quality control tests as per the “Manual for design, construction and quality control of liners and covers for hazardous waste landfills” of CPCB
 - iii. Leakage tests for all civil structures as per relevant IS code
 - iv. Pipes and related accessories installed as per the approved drawings
 - v. Alignment of equipment as per the approved drawings
 - vi. All the electrical works to be tested for routine and type tests
 - vii. Installation of cables, cable feeder mains, earthing works as per relevant IS or international codes
 - viii. Performance testing (noise level, vibration, duty point check of pumps etc) of all equipment on energisation as per relevant IS code
 - ix. Continuity tests for all cables and earthing work
 - x. I/O checks on signal to/from all equipment, instrument, loop testing and verification of control functions and interlocks.
 - xi. Hydrotesting of pipe segments

1.4 Procurement

In accordance with the provisions of Article 10, the Operator shall:

- (a) be responsible for the procurement of all goods and services necessary to ensure compliance with its obligations under this Agreement
- (b) procure spare parts, materials, supplies and other consumable items, and maintain an adequate inventory thereof, for the Facilities as set forth in the Annual Operating Plan; and
- (c) submit a quarterly report to the Company reflecting the status of the inventory for spare parts, materials and other consumable items

1.5 Construction

Construction Quality Assurance

- (a) Operator shall develop Construction Quality Assurance Programme which must ensure that the constructed units meets or exceeds all design criteria specified by CPCB in “Manual for Design,

Construction and Quality Control of Liners and Covers for Hazardous Waste Landfills”. The Construction Quality Assurance Programme must address the following physical components, where applicable:

- (i) Foundations
 - (ii) Dikes
 - (iii) Low Permeability Soil Liners
 - (iv) Geomembranes
 - (v) Leachate collection and removal systems and leak detection systems, and
 - (vi) Final cover systems
- (b) CQA Programme must include observations, inspections, tests and measurements as provided in Annexure 1.1 sufficient to ensure:
- (i) Structural stability and integrity of all components identified in (a)
 - (ii) Proper construction of all components of the liners, leachate collection and removal system, leak detection system, and final cover system, according to the specification prescribed by regulatory authorities, the technical specifications provided and good engineering practices, and proper installation of all components according to design specifications
 - (iii) Conformity of all materials used with design and other material specifications

OPERATION, MAINTENANCE AND MANAGEMENT PHASE

The Operator shall be committed to continuous improvement and shall implement systems to facilitate this objective

1.6 Statutory Requirements

As per the Hazardous Waste Management Rules, 1989 and its amendments, powers to grant authorization, to monitor design, construction and operations of Facility is with State Pollution Control Board

The Operator will obtain authorization for facility in his own name from Punjab Pollution Control Board.

1.7 Use and Management of Containers

Operator shall provide the hazardous waste collection services to the generator's that choose to avail such services. Operator shall provide containers for storage and collection of hazardous waste at Generator's facility. The terms and conditions on security deposits and rentals of Containers and its utilization shall be mutually finalized by Operator and Generator/User under aegis of the Company. The Waste Offtake Agreement including leasing of containers with generator shall be finalized in consultation with the Company. Operator shall provide a container made of or lined with materials which will not react with, and are otherwise compatible with, the hazardous waste to be stored, so that ability of container to contain the waste is not impaired

1.8 Transportation of Waste

- (a) Operator shall arrange for transportation of hazardous waste from Generator's facility to Facility either himself and/or through duly authorized transporters. The waste shall be transferred in closed containers all the time. The guidelines prescribed by the Central Pollution Control Board for transportation of waste and the technical and service level specifications as provided in this documents shall be followed
- (b) The Operator shall be responsible for any spillage and accidents and will provide suitable remedial actions
- (c) Operator shall provide training to the drivers and cleaners of the transportation fleet and the authorized transporters for the

hazardous waste for handling the emergency situations and safety aspects involved in the transportation of waste

1.9 Pretreatment and Stabilisation

The Operator shall provide, operate and maintain the appropriate pretreatment and stabilisation facility to make waste amenable for treatment and disposal. The pretreatment may include oil separation, solidification, stabilization, neutralization, physicochemical treatment, biological treatment etc depending on characteristics of waste

1.10 Engineered Landfill

Operator will design engineered landfill to operate in phased manner. The Operator shall inform Company in writing about the operation and closure of phases of engineered landfill cells

1.11 Leachate and Effluent Management

Operator will make provision for onsite leachate and effluent management system, which would include leachate and effluent collection, treatment and disposal.

1.12 Equipment Maintenance

- (a) Operator shall implement and maintain an auditable asset management system for all equipment devices within the Facility. As minimum a system shall record the following information on each device:
- (i) Name of equipment
 - (ii) Manufacturer and/or Supplier
 - (iii) Serial No and other unique identifier
 - (iv) Warranty and/or guarantee information
 - (v) Acquisition date
 - (vi) Cost of equipment
 - (vii) Installation date
 - (viii) Life of equipment
 - (ix) Recommended replacement date
 - (x) Depreciation per year
 - (xi) Servicing and/or calibration requirements and timetable
 - (xii) Associated hazards and safety bulletins and notices
 - (xiii) Current location
 - (xiv) Current condition
 - (xv) Repair and maintenance history

- (b) Operator shall undertake planned and reactive maintenance of equipment to ensure that equipment is safe, accurate and working to optimum performance and to achieve maximum availability and continuity of services by maintaining standards set by equipment manufacturer
- (c) The maintenance shall include:
 - (i) Planned protective maintenance designed to keep unplanned breakdown and disruptions minimum
 - (ii) Reactive maintenance providing rectification or arranging similar system to provide continuity of services
 - (iii) Implement an maintain a planned replacement system of time/performance expired asset to maintain quality of performance and service availability
- (d) Operator shall repair and maintain all medical equipment in accordance with manufacturer's recommendations. It shall ensure that equipments are calibrated and certified and maintain necessary records of all calibration and test exercises with certificates. It shall provide data on equipment performance etc. on request and at regular interval. Operator shall maintain logbook of planned and reactive maintenance

1.13 Waste Acceptance

- (a) **The operator shall issue written notice to all generators informing that the facility has appropriate authorization and will accept the waste from generators having appropriate authorization. The operator shall keep a copy of this written notice as Part of the operating record**
- (b) **Operator shall develop waste acceptance criteria for receipt of waste based on the design of the facility. Operator shall not accept a particular hazardous waste unless it is authorized to accept such waste; or accept a hazardous waste for which it does not have adequate treatment, storage or disposal capacity available. Operator shall not receive or contain liquid waste or waste containing free liquids for landfilling.**

1.14 Waste Analysis

- (a) **Operator shall assist Generator in categorization of wastes and their detailed characterization. However, the responsibility of detailed characterization of waste shall be with Generator**

- (b) Operator shall verify the composition (i.e., hazardous constituents and characteristics) of incoming waste in order to treat, store, or dispose of the waste properly. Operator shall prepare a Waste Analysis Plan (WAP) outlining the verification procedures, including specific sampling methods, necessary to ensure proper treatment, storage, or disposal. The WAP must be written and kept on site. Operator shall obtain a detailed chemical and physical analysis of a representative sample of the waste before accepting the waste for treatment, storage or disposal. This information may be supplied either through sampling and laboratory analysis or through acceptable knowledge. Acceptable knowledge is defined broadly to include process knowledge (obtaining data from existing published or documented waste analysis or studies), waste analysis data (obtained from the generator), or through the facility's records of analyses performed before
- (c) Waste Analysis Plan (WAP) must, at a minimum, contain the following basic elements:
- (i) The parameters to be analyzed
 - (ii) Testing and analytical methods
 - (iii) Sampling methods used to obtain representative samples
 - (iv) Frequency of waste re-evaluation
 - (v) For off-site Facility, the waste analyses that generators have agreed to supply
 - (vi) Procedures to ensure that the waste received at the off-site Facility matches the identity of the waste designated on the accompanying manifest
- (d) The waste analysis must be repeated periodically to ensure that the information on a given waste is accurate and up to date. At a minimum, the waste analysis must be repeated (1) when the Facility is notified, or has reason to believe, that the process or operation generating the hazardous wastes has changed; and (2) when inspection indicates that the hazardous waste received does not match the information on the accompanying manifest
- (e) An indicative waste analysis is presented in Annexure 1.2

1.15 Requirements For Ignitable, Reactive or Incompatible Waste

- (a) Operator shall take special care in handling ignitable, reactive, or incompatible wastes. Ignitable and reactive

wastes must be protected from ignition sources. "No Smoking" signs must be placed where ignitable and reactive wastes are stored

- (b) Operator when accepts the wastes for treatment, storage and disposal of ignitable or reactive waste or mixes incompatible wastes or other materials must take precautions

1.16 Staffing and Personnel Training

- (a) Operator shall make provision of adequate staff required for construction, operation, maintenance and management of facility as prescribed in the staffing plan
- (b) Operator shall ensure that all Personnel at Facility had received training related to the hazardous waste management. At a minimum, the training should focus on effective response to emergencies. The training program must be completed six months from a date worker is newly employed. Training-related documents and records must be kept at the facility. These must include a job title for each person and the name of the employee filling that position, and a written job description
- (c) An indicative staffing plan is provided in Annexure 1.3. All staff shall be covered under ESI/Workmen Compensation Policy

1.17 Security

Operator shall make a provision of adequate security to prevent accidental entry and minimize the possibility of unauthorized entry of people or livestock onto the active portion of the facility.

- (a) A 24-hour surveillance system which continuously monitors and controls entry onto the facility (e.g. guards)
- (b) A artificial or natural barrier which completely surrounds the facility (e.g., fence), and a means to control entry to the active portion at all times via gates or entrances
- (c) A sign reading: "Danger – Unauthorized Personnel Keep Out" at each entrance to the facility. The sign must be written in English, Hindi and Punjabi. It must be legible from a distance of 25 feet. Alternate language conveying the same message may be used

1.18 Inspection Requirements

The operator must visually inspect the facility for malfunction, deterioration, operator errors, and discharges. The inspection provisions are carried out according to a written inspection schedule that is developed and followed by the operator and kept at the facility. The operator shall record inspections in a log or summary, and shall remedy any problems identified during inspections. The records shall include the date and time of inspection, the name of the inspector, notation of observations, and the date and nature of any necessary repairs or other remedial actions, and must be kept at the facility and submitted to the company as and when sought

1.19 Environmental Management Plan

Operator shall develop Environmental Management Plan for mitigating the adverse impacts during construction and operation period. An indicative Environmental Management Plan is provided in Annexure 1.4

1.20 Preparedness And Prevention

- (a) The preparedness and prevention standards are intended to minimize and prevent emergency situations at Facility. Operator shall ensure that facility is operated and maintained in a manner that minimizes the possibility of a fire, explosion, or any unplanned sudden or nonsudden release of hazardous waste or hazardous waste constituents to air, soil, or surface water. Operator shall provide and maintain requisite equipment including fire fighting and adequate water supply, internal communication system and alarms, minimum aisle space, and provisions for contacting local authorities. Local authorities include police, fire department, hospitals, and emergency response teams. Where more than one local authority is involved, a lead authority must be designated. Where state or local authorities decline to enter into such arrangements, the operator must document the refusal in the operating record
- (b) Operator shall test and maintain all facility communications or alarm systems, fire protection equipment, first aid equipment, spill control equipment, and decontamination equipment, where required, to assure its proper operation in time of emergency

- (c) Operator shall prepare and maintain emergency preparedness plan for facility and train all the personnel working in the facility in order to respond appropriately in such situation and carry out these plans in the event of an actual emergency.
- (d) The emergency plan should describes arrangements with local authorities and lists names, addresses, and telephone numbers of all people qualified to act as emergency coordinators. If more than one emergency coordinator is listed, a primary contact must be designated. The plan must include a list of all emergency equipment and evacuation plans, where applicable
- (e) Operator shall review and amend the plan when the applicable regulations are revised, the plan fails in an emergency, or there are changes to the facility, the list of emergency coordinators, or the list of emergency equipment

1.21 Manifest System, Record keeping And Reporting:

The manifest system tracks each shipment of hazardous waste while the operating record and biennial report summarize facility activity over time

(A) Manifest

- (a) Operator shall maintain and follow that manifest system prescribed by the Ministry of Environment and Forests in the Hazardous Waste (Management and Handling) Rules 2003. Operator shall not accept any waste without manifest
- (b) Upon receipt of a manifested waste the operator shall determine if the manifest accurately describes the waste it accompanies. Any discrepancies in weight (for bulk shipments, over 10 percent), piece count (for batch or containerized waste shipments, one container per truckload), or waste type are considered significant and should be noted on all copies of the manifest at the time of signature. The operator shall try to reconcile the discrepancy with the transporter or generator promptly. Any discrepancies not resolved within 15 days of waste receipt shall be reported to the Competent Authority with an explanatory letter and a copy of the manifest

- (c) **The Operator maintain records of each shipment with respect to generator of waste, hazardous waste category number and quantity of waste accepted, date of waste accepted**

(B) Operating Records

- (a) **Until closure, the operator shall keep a written operating record on-site describing all waste received, methods and dates of treatment, storage, and disposal, and the wastes' location within the facility. All information should be cross-referenced with the manifest number**

- (b) **The operating record also must include**

- (i) **Waste analysis results**
- (ii) **Details of emergencies requiring contingency plan implementation**
- (iii) **Inspection results**
- (iv) **Monitoring data**
- (v) **Notices to the generators**
- (vi) **Closure and post-closure cost estimates**
- (vii) **Authorisation Notices**

(C) Annual Report

Annual Reports must be filed with the State Pollution Control Board by March 1 of each even-numbered year, covering the facility's activities for the previous year

(D) Additional Reports

Other reports that must be made to the Company and Regulatory Authority include, but are not limited to, reports of releases, fires and explosions, groundwater contamination and monitoring data, and facility closure

(E) Record Availability

All records and plans must be kept at the facility and furnished upon request, and made available at all reasonable times for inspection by Company and Competent Authority. When a facility certifies closure, a copy of records of waste disposal locations and quantities shall be submitted to the Company and any other Competent Authority if required

1.22 Management Information System

The Operator shall establish the Hazardous Waste Management Information System for maintaining manifest records, waste inventory, material inventory, maintenance records, billing and accounting, sampling and analysis records, environmental monitoring. The Operator shall use the statistical software like SPSS for statistical analysis of environmental monitoring data

Operator shall obtain and maintain during the Total Term, the Quality Assurance Certification such as ISO 14000 for the Facility within one (1) year from Operations Date and regularly provide all audit and other reports and documents related thereto to the Company

1.23 OSHA Requirements

Operator shall comply with all requirements prescribed under the Factory Act 1948 and rules framed there under. It would be desirable that Operator complies with the Occupational Safety and Health Administration (OSHA) Hazardous Waste Operations (HAZWOPER) regulations designed to protect the worker

Operator shall conduct regular medical checkup of all employees working in the Facility on monthly basis to monitor their health conditions

1.24 Environmental Monitoring

Surface Water and Ground Water Monitoring:

Surface water and ground water monitoring shall be carried out to demonstrate that a landfilling site is performing as designed and to identify any potential impacts on surface water and ground water features in the vicinity of the site. The monitoring locations and specific details of the monitoring programme will be affected by the design and operational factors. Monitoring shall be carried out for the parameters and at a frequency listed in Annexure 1.5

The Operator shall comply with the following requirements while developing ground water monitoring programme

- (a) The ground water monitoring system must consist of sufficient number of wells, installed at appropriate locations and depth to yield groundwater samples that represent the quality of background water, quality of groundwater passing the point of

compliance, and allow for the detection of contamination when hazardous waste or hazardous constituents have migrated from waste management area into aquifer. The point of compliance is a vertical surface located at the hydraulically down gradient limit of the landfill area that extends down into the uppermost aquifer underlying the landfill area. The hazardous constituents are constituents listed in Annexure 1.5

- (b) The ground water monitoring programme shall include consistent sampling and analysis procedures that are designed to ensure monitoring results that provide a reliable indication of ground water quality below the Facility
- (c) The groundwater monitoring shall follow Standard Methods for sampling and analytical methods that are appropriate for groundwater sampling and that accurately measure hazardous waste constituents in the groundwater sample
- (d) The groundwater monitoring programme shall include a determination of the groundwater surface elevation each time ground water is sampled. The Operator shall determine the ground water flow rate and direction in uppermost aquifer at least annually
- (e) The Operator shall monitor the ground water for indicator parameters and hazardous constituent specified in the Annexure 1.5 and authorization issued by the Pollution Control Board. The data shall be collected from the background wells as well as compliance monitoring wells.
- (f) The number and kinds of samples collected to establish background shall be appropriate for the form of statistical test employed, following generally accepted statistical principles
- (g) The sample size shall be as large as necessary to ensure with reasonable confidence that a contaminant release to ground water from a facility will be detected
- (h) Operator shall maintain a record of groundwater analytical data as measured and in a form necessary for determination of statistical significance
- (i) The Operator shall evaluate the ground water monitoring for each parameter using one of the following statistical method
 - (i) A parametric analysis of variance (ANOVA) followed by multiple comparisons procedures to identify statistically

significant evidence of contamination. The method must include estimation and testing of the contrasts between each compliance monitoring well's mean and the background mean levels of each constituent

- (ii) An analysis of variance (ANOVA) based on ranks followed by multiple comparisons procedures to identify statistically significant evidence of contamination. The method must include estimation and testing of the contrasts between each compliance monitoring well's median and the background median levels for each constituent
 - (iii) A tolerance or prediction interval procedure in which an interval for each constituent is established from the distribution of the background data, and the level of each constituent in each compliance monitoring well is compared to the upper tolerance or prediction limit
- (j) The Operator shall submit the monthly report to Company providing the ground water monitoring results and the statistical analysis. If the operator determines that there is statistically significant evidence of contamination for chemical parameters or hazardous constituents at any compliance monitoring well, operator will notify the Company of this finding in writing within seven days

Leachate Monitoring:

Operator shall develop and undertake leachate monitoring program that will compliment the ground water and surface water monitoring program. The leachate monitoring shall be undertaken for the parameters at a frequency listed in Annexure 1.5

The Operator shall record the amount of liquids removed from each leak detection system sump at least once each week during the active life and closure period

Air Emission Monitoring:

Operator shall determine atleast once every 12 month the Volatile Organics (VO) concentrations in the Temporary storage shed and the gas vents of the closed landfill site

Operator shall continuously monitor the stack emission from incinerator and the ambient air quality as provided in Annexure 1.5

Impact Monitoring:

Based on hydrogeological conditions of the region, Operator shall identify the areas in vicinity of Facility which are expected show early manifestation of the impacts arising due to Facility and undertake regular monitoring of such areas/sites in terms of ground water quality monitoring, health impacts etc

1.25 Corrective action

- (a) The operator will implement corrective action that prevent hazardous waste constituents from exceeding their limits at the compliance point (facility boundary extending vertically downwards into underlying aquifers) by removing the hazardous waste constituents or treating them in place
- (b) The operator shall implement corrective actions beyond the facility property boundary, where necessary to protect human health and environment. The operator is not relieved of responsibility to clean up a release that has migrated beyond the facility boundary where off site access is denied
- (c) The operator may terminate corrective action measures when the levels in ground water in compliance well has not been exceeded for a period of three consecutive years

1.26 Closure and Post Closure Care

- (a) The operator shall close the facility in manner that
 - (i) minimizes the need for further maintenance
 - (ii) controls, minimizes or eliminate, to the extent necessary to protect human health and the environment, post closure escape of hazardous waste, hazardous constituents, leachate, contaminated runoff, or hazardous waste decomposition products to the ground or surface waters or to the atmosphere
 - (iii) complies with closure requirements of regulatory authorities and technical specifications provided in Schedule 4
- (b) The Operator shall develop and prepare closure plan and obtain the necessary approval from regulatory authorities. The closure plan shall be prepared in accordance with the specifications provided in Annexure 1.6

- (c) Operator may amend the closure plan including cost estimates, as and when required by the Competent Authority and permitted in accordance with the Agreement, and shall inform the Company and obtain the requisite approvals on amended plan from Company and Competent Authority
- (d) Operator shall notify the Company and Competent Authority about final closure of the site in writing at least 60 days in advance
- (e) During the final closure period, all contaminated equipment, structures and soils must be properly disposed of or decontaminated
- (f) The Operator shall accomplish the final closure within 90 days after receiving the final volume of hazardous waste at the Facility in accordance with the approved closure plan. Operator shall report the Competent Authority about the closure by providing certification duly signed by the Independent Engineer
- (g) Post closure care of the facility shall begin after completion of closure of the unit and continue for 30 years after that date and must at the minimum involve:
 - (i) Maintenance of the integrity of the liner and cover system
 - (ii) Leachate collection, treatment and disposal
 - (iii) Monitoring of ground water and emissions
 - (iv) Provision of security
 - (v) Inspection and record keeping
 - (vi) Insurance
 - (vii) Remedial system operations (if required)
- (h) The Operator acknowledges that the 30 years post closure period may be extended or shortened by the Competent Authority in the exercise of its power and functions
- (i) All post closure care activities shall be in accordance with the provision of standards specified and the post closure plan
- (j) The Operator shall prepare the post closure plan including the cost estimates and obtain the requisite approval from Competent Authority. The post closure plan shall be prepared in accordance with the specification provided in Annexure 1.6
- (k) Operator may amend the closure plan including the detailed cost estimate, if and when required in consultation with the Company and obtain the requisite approvals on amended plan from Competent Authority

- (l) After completion of the established post closure care period, the Operator shall produce to the Competent Authority a Certificate from an Independent Engineer/PPCB that post closure care period of Facility has been finished and care was performed in accordance with the approved post closure care plan

1.27 Insurance

Operator shall undertake insurance coverage covering all the risks and liabilities as listed in Article 16 and Annexure 1.7.

1.28 Corporate Social Responsibility

- (a) Operator shall develop rapport and communications with local population to create awareness and acceptance and alleviate NIMBY (Not In My Back Yard) Syndrome. Operator may engage the services of NGOs in this regard. Operator shall undertake information dissemination programmes through fact sheets, palm plates, brochures and other materials including school education programme
- (b) Operator shall provide employment to local population at the Facility
- (c) Operator shall undertake social development activities on behalf on the Company in the local village area, as directed by the Company
- (d) Operator shall provide advice and assistance to the Generators in undertaking waste characterization, waste minimization, waste segregation, waste storage and collection, and waste pretreatment and stabilization at Generator's facility.
- (e) Operator shall organize series of workshops at its cost and expense for stakeholders including PPCB, NGOs, Generators etc on the Facility services and operations
- (f) Operator shall provide effective customer interface, which shall also include frequent seminars and workshops aimed at resolving the issues related to customer both individual and common. The 24 hours help line shall be provided to support customers for raising complaints and effective redressal mechanism shall be adopted to resolve the same. Operator shall forward a copy each such compliant received and action taken report to the Company

- (g) Operator shall obtain feedback from local doctors regarding any potential indicators of adverse health effects due to environmental causes in the communities surrounding an particularly down stream of the landfill. Operator may obtain similar feedback by organizing health camps on regular basis

2. TECHNICAL SPECIFICATIONS AND PERFORMANCE STANDARDS

2.1 Design Specifications

Facility shall be well designed for groundwater and surface water protection, to minimize impacts from facility operations and to facilitate site closure and post closure care. The design shall meet minimum criteria prescribed by the Ministry of Environment and Forests and Central Pollution Control Board and should address matters such as:

- (1) Site boundaries and buffer area
- (2) Waste Receipt Facility
- (3) Segregated waste storage facility
- (4) Waste Treatment and Stabilization Facility
- (5) Engineered landfill with waste fill area and contours (base and top), surface water control works, onsite roads and structures, liner system, leachate collection system, treatment and disposal system, landfill gas control work and final cover design
- (6) Monitoring facilities for ground water, leachate, surface water and air emissions
- (7) Analytical Laboratory for waste analysis and environmental monitoring
- (8) Transport mechanism for receipt of waste at the facility
- (9) Contingency plan for leachate control
- (10) Site closure and post closure care requirement
- (11) Ancillary facilities and utilities like Administration Building, approach road, water supply, sanitation, standby power, parking, vehicle cleaning facility, garage etc

2.2 Landfill Design

The landfill design and construction shall be in conformation to the guidelines prescribed in Central Pollution Control Board in “Manual for

Design, Construction and Quality Control of Liners and Covers for Hazardous Waste”. The technical specifications for design of landfill shall be in line with following specifications

- (1) Landfill facility shall be design providing clear margin of minimum 2.5 m between highest level of groundwater table and the bed of the landfill facility
- (2) Landfill facility is designed and operated to exclude liquid, precipitation, and other run-on and run-off
- (3) Has leak detection system built in

2.3 Liner System

- (1) Liner system shall be designed, constructed and installed to prevent migration of waste, leachate or gas to adjacent subsurface soil or ground water or surface water. The objective of design must be that site will not cause the concentration of any contaminant to exceed the maximum allowable concentration for the contaminant in the ground water at any point on any adjacent property. The maximum allowable concentration could be the background level of that constituent in the ground water or the drinking water standards prescribed by GoI if the background level of the constituent is below the standard
- (2) The liner must be constructed of materials that have appropriate chemical properties and sufficient strength and thickness to prevent failure due to pressure gradients (including static head and external hydrogeologic forces, physical contact with the waste or leachate to which they are exposed, climatic conditions, the stress of installation, and the stress of daily operations
- (3) The liner must be placed upon a foundation or base capable of providing support to the liner and resistance to pressure gradients above and below the liner to prevent failure of liner due to settlement, compression or uplift
- (4) The system shall be designed to minimum specifications listed below:
 - (a) A primary leachate collection layer of thickness 30 cm or more and coefficient of permeability in excess of 10^{-2} cm/sec
 - (b) A primary composite liner comprising of
 - (i) A HDPE geomembrane of thickness 1.5 mm or more. The geomembrane must have (a) Tensile Strength at yield >18 kN/m (b) Tensile Strength at

- break > 30 kN/m (c) Tear Resistance > 150 N and (d) Puncture Resistance >250N
 - (ii) A compacted clay layer of thickness 45 cm or more having coefficient of permeability of 10^{-7} cm/sec or less
 - (c) Secondary leachate collection layer also called leak detection layer of thickness 30 cm or more and coefficient of permeability in excess of 10^{-3} cm/sec
 - (d) Secondary composite liner comprising of
 - (i) A HDPE geomembrane of thickness 1.5 mm or more. The geomembrane must have (a) Tensile Strength at yield >18 kN/m (b) Tensile Strength at break > 30 kN/m (c) Tear Resistance > 150 N and (d) Puncture Resistance >250N
 - (ii) A compacted clay layer of thickness 45 cm or more having coefficient of permeability of 10^{-7} cm/sec or less
- (5) The design of liner system shall meet the requirement of adequate stability at base and along the sides of the landfill and shall have adequate strength to withstand construction loads and vehicle loads
- (6) The synthetic liners and covers shall be inspected to ensure have tight seams and joints and the absence of tears, punctures or blisters
- (7) Soil based and mixed liners and covers shall be free of imperfections including lenses, cracks, channels, root holes or other structural non-uniformities that may cause an increase in the permeability of the liner or cover

2.4 Leachate Collection and Removal System

The leachate collection and removal system shall be designed with

- (1) A bottom slope of one percent or more
- (2) Constructed of granular drainage material with a hydraulic conductivity of 10^{-2} cm/sec or more and thickness of 30 cm or more; or constructed of synthetic or geonet drainage materials with a transmissivity of 3×10^{-4} m²/sec or more
- (3) Constructed of materials that are chemically resistant to the waste and the leachate expected to be generated
- (4) It should be of sufficient strength and thickness to prevent collapse under pressures exerted by the overlying wastes and cover materials or equipment used
- (5) Designed and operated to minimize clogging during active life and post closure care period and provided with appropriate back flushing/backwashing arrangement
- (6) Provided with sumps and pumps of sufficient size to collect and remove liquids in the sump to minimize the head on the bottom liner and from the sump to prevent liquids from backing up into the drainage layer
- (7) Each unit shall have its own sump(s). The sump shall be provided with measuring and recording the volume of liquids present in the sump and of liquid removed
- (8) Leachate holding tank for temporary storage before sending for treatment

2.5 Leachate Management

The leachate management system shall meet following minimum specifications:

- (1) The leachate management system shall be designed to handle maximum amount of leachate expected to be generated and meet the disposal standards prescribed by CPCB for disposal of treated leachate in the surface water body as provided in Annexure 2.1

2.6 Cover System:

- (1) The cover system shall be designed, constructed and installed to satisfy the following:
 - (a) Prevent infiltration of precipitation into the closed landfill
 - (b) Promote drainage of surface water accumulated on the cover
 - (c) Minimize erosion of cover
 - (d) Withstand or accommodate settlement of the cover to maintain its integrity
 - (e) Have a permeability less than or equal to the liner system
 - (f) Function with minimum maintenance for the post closure period of 30 years
- (2) The cover system shall be designed to minimum specifications listed below:
 - (a) A surface soil layer of local top soil which supports self sustaining vegetation and which has a thickness not less than 60 cm
 - (b) A drainage layer of thickness 30 cm or more having a coefficient of permeability in excess of 10^{-2} cm/sec
 - (c) A single composite barrier comprising of
 - (d) A HDPE geomembrane of thickness 1.5 mm or more and
 - (e) A compacted clay layer of thickness 60 cm or more having coefficient of permeability of 10^{-7} cm/sec or less
 - (f) A regulatory layer of thickness 30 cm having coefficient of permeability greater than 10^{-2} cm/sec with provision of gas collection system
- (3) The design of cover system shall meet the requirement of stability of top and side slopes, able to sustain vegetative cover and shall have adequate strength to withstand load
- (4)

2.7 Buffer Area

- (1) A fence which completely surrounds the facility shall be minimum 2m height
- (2) The buffer area is the green belt or zone located on the site between the wastefill area and site boundaries. The buffer area allows for containment attenuation and provides space around the perimeter of the waste area in which various monitoring, maintenance and environmental control activities can take place.
- (3) The facility should be designed for minimum size of buffer area complying with the regulatory requirement and sufficient to ensure that potential effects of the landfilling operation do not have any unacceptable impact outside the site. The potential effects defined here include surface runoff, litter, vectors, vermins, leachate, subsurface migration of landfill gas and aesthetic effects. The buffer shall be at least 20m wide at every point. The native species should be selected as per MoEF/CPCB guidelines

2.8 Surface Water Control System

- (1) Surface Water Control System shall be designed to segregate offsite surface water flow from non contaminated onsite runoff originating from nonoperating areas and potentially contaminated onsite runoff originating from landfill areas, material and waste storage areas and areas designed for collection, storage and treatment of leachate
- (2) The design should in accordance with the following:
 - (1) The design of external diversion channels, ditches and conveyance structures should be sized to accommodate the peak flow generated from the higher of the 100 year design storm
 - (2) The design of all internal drainage ditches, storm sewers and conveyance structures should be sized to accommodate the peak flow generated from a 25 year design storm

2.9 Administration Office

The Administration Office shall be provided with following minimum specifications

- (1) Administration Office shall be design with minimum area of 756 sqm

- (2) Office shall be provided with reception, visitor's room, board room, conference room, cabins for managerial staff, adequate no workstations, store room for records etc

2.10 Waste Receipt Facility

The Waste Receipt Facility shall be provided with following minimum specifications:

- (1) Sampling Area
- (2) Reception Area for accepting, checking and recording of manifest
- (3) Weigh Bridge capable of handling vehicles carrying hazardous waste upto 40 tonnes
- (4) The Weigh Bridge shall be of following specifications:
 - (a) Heavy duty scale deck
 - (b) Concrete foundation, approach ramp, platforms, guardrail and traffic light system
 - (c) Loads cells, and electronic digital weight indicator

2.11 Analytical Laboratory for Monitoring

The design of analytical laboratory shall be in conformation with Central Pollution Control Board specifications and specifications prescribed by National Accreditation Board for Laboratories (NABL). The indicative list of equipment for the analytical laboratory is provided in Annexure 2.2. The Operator shall accredit the laboratory within one (1) year of Operations Date

2.12 Monitoring Wells

The design of Monitoring Wells shall be in accordance with

- (1) Minimum five number of wells at appropriate locations in upstream and down stream of ground water flow and depth covering the various aquifers
- (2) All monitoring wells must be cased in a manner that maintains the integrity of the monitoring well bore hole
- (3) The casing must be screened or perforated and packed with gravel or sand, where necessary to enable collection of groundwater samples
- (4) The annular space (i.e space between the borehole and well casing) above the sampling depth must be sealed to prevent contamination of groundwater

2.13 Storage

- (1) The storage shall be designed, constructed and operated to prevent any migration of wastes or accumulated liquid out to soil groundwater or surface water at any time and should be capable of detecting and collecting releases and accumulated liquids until the collected material is removed.
- (2) The Storage should at minimum meet following specifications:
 - (a) A storage must have sufficient capacity to store about 30 days of waste. Operator may design the storage on modular format if required
 - (b) The storage building shall be completely enclosed with a floor, walls, and a roof to prevent exposure to the elements (e.g precipitation, wind, run-on)
 - (c) The storage areas shall be provided with floor base free of cracks or gaps and is sufficiently impervious to contain leaks, spills and accumulated liquid.
 - (d) It should be constructed of lined material that are compatible with the wastes and must have sufficient strength and thickness to support themselves, the waste

contents, any personnel and heavy equipment that operate within the unit and to prevent failure

- (e) The storage area shall be provided with adequate slope or is otherwise designed and operated to drain and remove any liquid
- (f) The storage area shall be provided with a means to protect against the formation, accumulation and ignition of vapours in the storage area
- (g) The average VO concentration shall be less than 500 ppm by weight.

2.14 Containers

The Containers should at minimum meet following specifications

- (a) Containers of various size e.g 5.0 T, 10.0 T and 25 T should be used depending on the waste generated.
- (b) The container should be made of material or lined with materials which will not react with, and are otherwise compatible with hazardous waste to be stored, so that ability of the container to contain the waste is not impaired
- (c) The containers holding hazardous waste must be marked with "Hazardous Waste" and with other words identifying their contents in line the norms prescribed by CPCB
- (d) The containers shall be equipped cover and closure device that forms continuous barrier over the container openings such that when cover and closure devices are secured in closed position there are no visible holes, gaps or other open spaces into the interior of the container

2.15 Pretreatment Facility

- a. The Pretreatment Facility should at minimum meet following specifications:
 - i. A Pretreatment Facility must have sufficient capacity to handle and treat various types of wastes and various types of treatments.

- ii. Operator may design the pretreatment facility on modular format if required
- (h) It should be constructed of material that are compatible with the wastes and must have sufficient strength and thickness to support themselves, the waste contents, and heavy equipment that operate within the unit and to prevent failure
- (i) The Pretreatment Facility shall have adequate provision of storage of additives and chemicals, mixing of chemicals, and drainage and removal any liquid

2.16 Support Infrastructure

- a. The Support Infrastructure and Ancillary Facilities should at minimum meet following specifications:
 - i. The overhead and/or underground water tank with associated pumping system shall be provided to cater to 24 hours water supply requirement
 - ii. Diesel Generator set of suitable capacity conforming to norms prescribed by MoEF shall be provided for standby power supply during power cuts and power breakdowns
 - iii. Adequate lighting including high mast and signages shall be provided at appropriate places
 - iv. Access roads and internal roads shall be designed and constructed to carry truck and heavy earth moving machinery traffic
 - v. Garage, Vehicle Cleaning Facility, Equipment Shed, and Paved Parking Facility shall be provided of adequate size meeting relevant standards

2.17 Transportation of Waste

The transportation of waste shall follow minimum specifications as given below:

- (a) The vehicles used for transportation shall be in accordance with the provisions under the Motor Vehicles Act, 1986 and rules made thereunder
- (b) All the vehicles shall be colored in blue and white with sign "Hazardous Waste" displayed on all sides as prescribed by CPCB and provided with TREM Card information
- (c) The vehicles should be provided with first aid kit and fire extinguisher and should carry the Pollution Under Control (PUC) Certificate and valid PPCB authorization for transportation
- (d) The transportation of waste shall be carried out always in covered manner

2.18 Landfilling

- (a) The Operator shall meet following minimum specifications for direct landfilling of waste
 - i minimum criteria for landfilling as prescribed by CPCB provided in Annexure 2.3
 - ii leachate the concentration limit prescribed by the CPCB as provided in Annexure 2.3
- (b) Operator shall not accept the waste for direct landfill, if the waste that does not conform to these criteria
- (c) The waste not conforming to these criteria would require stabilization to ensure allowable concentration limits in the leachate are achieved

2.19 Post Closure Maintenance

- (a) The Operator shall undertake Post Closure Maintenance involving Cover Maintenance, Inspection, Record Keeping, Leachate Management, Environmental Monitoring, Surveillance in line with following specifications
 - (i) The green cover on the top should be always intact devoid any gullies and erosion
 - (ii) The green cover shall always be trimmed, pruned to maintain healthy growth

- (iii) Records shall be maintained as specified in the RFP
- (iv) The site shall be provided with 24 hours surveillance system as specified

2.20 Service Level Specifications

(a) Buildings

- (i) All elements of external and internal building fabric (including fixtures, fittings, floor, floor coverings), finishes, furniture and equipment or a services system component shall be functional, operational and satisfy the performance requirement
- (ii) Building fabric free from damp penetration, debris and moss growth
- (iii) Free from structural cracks and/ or deflection
- (iv) Function as intended & free from all but minor surface blemishes and wear and tear, corrosion
- (v) Floor/ floor covering is free from tears, scoring, cracks or any other damage that is unsightly and/ or could cause a health and safety hazard
- (vi) Façade beauty is maintained by timely intervention and regular painting

(b) Distribution System : Distribution system (including distribution equipments, protective devices, fuse switches, isolators, distribution boards, cables systems for IT, Lighting, communication, safety, alarm system)

- Ratings clearly marked
- fuse elements and circuit breakers mechanism in working order
- contacts and connections clean and mechanically tight,
- no overheating during normal operating loads,
- cable joint boxes free from compound leaks,

- markings and covering notices where necessary
 - All electrical installations to comply with IS codes
 - Wiring, fittings, fixtures, controls and safety devices shall be properly housed and fastened securely to their intended point of anchorage and labeled
- (c) Water Systems: Pipe network and fittings shall be fastened securely to their intended points of anchorage and there shall be no drips and leaks of water from pipe network, taps, valves and/or fittings
- (d) Public health and drainage system :
- Shall function as intended without due noise and vibration
 - All pipe network and fittings fastened securely to the intended points of anchorage
 - There shall be no leaks of waste and/or foul water and /or rainwater
- (e) Fire Fighting Equipment
- Fire Safety Systems compliant with statutory regulations and service standards at all times
 - Fire extinguisher and fire fighting equipment shall be maintained as per IS code
 - Fully operational within manufacturer's recommendations
 - Hydrants, sprinklers and hoses shall be at correct operating pressure and capacity
 - Pipe network free from corrosion, leaks and drips
- (f) Horticulture: Trees, Shrubs Hedges, Grassed areas, Flower Beds trimmed, pruned and /or cut to maintain healthy growth
- (g) Site Circulation Routes including pavings, paths, driveways, roads, parking area, facility entrance:
- Sound safe and even surface with no potholes or sinkings
 - Road markings are clear and complete
- (h) External Sign Posting Secure and Sound
- Be in appropriate locations

- Highly visible both day and night
 - Offers clear and concise information
- (i) Gutter and Drains: Free from litter, leaves, weeds and extraneous material
- (j) Utilities Maintenance
- (i) Any disruption in power supply shall be rectified in six hours. Standby power supply shall be ready to be operated and should be available 24 hours. Standby power source shall be operational, secure and tested regularly.
 - (ii) Ensure utility infrastructure like water supply, effluent disposal system, communication system is maintained in fully functioning conditions
 - (iii) All utility licenses are current and correct for the current supply requirement
- (k) Management
- (i) Management structure established and operating in accordance with proposal
 - (ii) All system and controls in place to safeguard property, cash and commodities are functional
 - (iii) Reports are served to the Company in the agreed format and quality and at agreed frequency. Proposed variation in services are clearly defined in the correct manner and have received written consent from the Company prior to their implementation
 - (iv) Compliance with statutory and prescribed standards in force
 - (v) H&S documentation is complete, correct and available for inspection by authorized statutory body
 - (vi) Concessionaire has valid ISO 14000 accreditation or equivalent
- (l) Staffing
- (i) There are no reported staff shortages

- (ii) All staff have been vetted and approved for work in areas as appropriate

Nothingwithstanding anything contained herein above, in the event of different Technical Specifications and/or Performance Standards made applicable for the Facility under any law or statute, present or which may come into force at any time in future, then the latter shall prevail over the Technical Specification, Performance Standards, Designs etc. as specified in the Agreement.

ANNEXURE 1.1 - CODES AND STANDARDS

(A) Tests

The Operator shall comply with the following codes and standards for testing parameters while developing the facility

S.N	Tests	Codes
I	Soil	
1	Classification Test	IS : 1498 and IS : 2720
2	Compaction Tests	IS : 2720
3	Permeability Tests	ASTM: D-5084
II	Geomembrane	
1	Thickness	ASTM D5199, D5994, D1593
2	Tensile Strength and Properties	ASTM D638
3	Tear Resistance	ASTM D1004
4	Puncture Resistance	ASTM D5494 or FTMS 101B
5	Density	ASTM D1505
6	Melt Flow Index	ASTM D1238
7	Carbon Black Content	ASTM D1603
8	Carbon Black Dispersion	ASTM D3015
9	Low Temperature Brittleness	ASTM D746
10	Environmental Stress Cracking Resistance	ASTM D1693
11	Seam Strength (Shear)	ASTM D4437
12	Seam Strength (Peel)	ASTM D4437, D413
13	Dimensional Stability	ASTM D1204
14	Interface Shear Resistance	ASTM D5321
15	Waste-Geomembrane Compatibility	EPA 9090

(B) Standards

The Operator shall comply with the following Standards, without limitation, during development of the outlined design for the scheme, the following codes and standards have been selected for the main items of mechanical, electrical and civil works.

IS 800	Code of Practice for General Construction in Steel
IS 784	Specification for Pre stressed concrete pipes (including fittings)
IS 783	Code of Practice for Laying of Concrete Pipes

IS 1536	Specification for Centrifugally Cast (Spun) iron pressure pipes for water, gas and sewage.
IS 1538	Specification for Cast Iron fittings for pressure pipes, water, gas and sewage.
IS 8329	Specification for Centrifugally Cast (Spun) ductile iron pressure pipes, water, gas and sewage.
IS 12288	Code of Practice for use and laying of Ductile iron pipes
IS 2470	Specification for Design and Construction of Septic Tanks and Soak Pits.
BS 7405/ BSEN 24185	Ultrasonic Flow Meters
ISO 4427	HDPE Pipes

The Contractor shall ensure and comply with current Indian standards, Codes of Practice, and various standards, codes mentioned in the RFP document, for the balance of design, and to materials and workmanship during contract period.

aNNEXURE 1.2- INDICATIVE WASTE ANALYSIS

The indicative waste analysis will include, but not limited to, the following:

S.No	Monitoring	Location	Parameters	Frequency
1	Waste Analysis	Comprehensive Analysis*	All relevant physical and chemical parameters depending on type of waste	Once, before acceptance of waste
		Fingerprinting**	Indicator Parameters	At the time of waste reception
2	Simulated Leachate	Composite of each type of waste from each member	Heavy metals, TOC, COD, BOD, chlorides, sulphates, phenols and cyanides	Once/ Quarterly

Note :

* As per Comprehensive Analysis Requirement For Hazardous Waste in “Guidelines for Proper Functioning and Upkeep of Disposal Sites”, Central Pollution Control Board, October 2004

** As per Fingerprinting Analysis Requirements for Hazardous Wastes in “Guidelines for Proper Functioning and Upkeep of Disposal Sites”, Central Pollution Control Board, October 2004

ANNEXURE 1.3 - STAFFING PLAN

(A) Organisational Set up

The Operator shall notify to the Company the name and contact address, communication numbers of the Operator's representative on the Commencement Date.

To achieve the required objectives, most appropriate combination of people shall be recruited into the Operator's organisation. They shall be trained and developed to become effective and committed to the work assigned to them. Hence the process of appointment of current staff and new recruitment shall be crucial for the long term success of the Operators contracts.

The following general principles shall be applied to form the Operator's organisation.

- (1) The Operator shall provide employment to local population
- (2) The Operator shall ensure that the staff are properly trained to carry out their duties competently
- (3) Employees shall be made conscious about the output expected from them and a proper level of direction shall be provided on regular basis
- (4) The staff shall be treated fairly and the management shall expect them to behave in a similar manner towards them, the client, the supplier and all interested parties
- (5) A comprehensive Human Resource policy shall be introduced that shall cover conditions of employment including remuneration, health and welfare, training and personal development and career planning

An organisation which is highly committed to undertake the jobs assigned to it in efficient and effective manner shall be developed

The Operator shall have a Management structure that shall reflect the needs of the Operator, and shall be separated into five key functions.

The five key Functions shall be;

1. Operations- The Operations shall be responsible for all aspects of waste receipt, transportation, treatment, storage and disposal

2. Maintenance - The Maintenance shall be responsible for all aspects of Mechanical, electrical, civil and Instrumentation maintenance of the Facility
3. Finance / Administration- The Finance / Administration shall be responsible for timely payment of wages, sub-contractors bills, ordering materials, collection of income and preparation of Operator's account
4. Quality- The Quality shall have overall responsibility for onsite laboratory services, advising on treatment problems and maintaining the quality records. It shall also be responsible for implementing Quality Assurance procedures into the Operations and shall be supported by laboratory technicians who shall be carrying out the routine sampling and analysis

The Facility shall be headed the Project Manager, who shall be responsible for the overall project facilities. The profile of the Project Manager is set out in section 2.2 of this schedule;

At the outset the Operator shall deploy a small number of staff from its existing operations to develop and establish the operation organisation. The staff shall train technical personnel newly selected for key positions so that the new personnel shall be able to take over the duties from the staff. In addition, number of shorter visits of specialists also shall be arranged, if required.

The large majority of staff shall be recruited from local work force. .

(B) Project Manager Candidate Profile

The ideal candidate shall be qualified to degree level in Engineering/ Chemistry. The candidate must have a proven track record in provision of waste management operations. Commercial acumen of the highest order shall be required to realise the returns of both the Operator and the Company. It is unlikely that anyone with less than fifteen years relevant experience, at least ten of which shall have been at a senior managerial level, shall be considered.

The ideal candidate shall have significant drive and resilience and be comfortable working a different cultural environment as part of a multi-disciplined team. Excellent planning, organising and communications skills are required. A key requirement is the need to develop long term constructive relationships with Industrial consumers, PPCB and the Company staff.

ANNEXURE 1.4- ENVIRONMENTAL MANAGEMENT PLAN

The Environmental Management Plan is based on provisions from the Environmental Impact Assessment Report.

Environmental Management Plan

SN	Issues	Action to be Taken	Responsible Entity
1.	Clearing of Vegetation during construction at Sites	<ul style="list-style-type: none"> ▪ The detailed layout plans for construction of facilities at Sites shall be prepared considering avoidance of tree felling to the extent possible without additional cost. ▪ In order to augment aesthetics and considering the need for afforested buffer area, a minimum level of tree plantation to be undertaken 	Operator
2.	Use of Excavated Earth	<ul style="list-style-type: none"> ▪ Excavated earth generated construction shall be collected and reused as cover material at Waste Disposal Sites in accordance with local industry practice ▪ Minimise the use of soil from borrow area by using excavated soil ▪ Excavation of soil from the adjoining agriculture fields to be prohibited ▪ Routine inspection to ensure soil is not being excavated 	Operator
3.	Dust Control at Facility	<ul style="list-style-type: none"> ▪ The open areas in facility and to be watered at least twice a day during construction except on days when it has rained and adequate dust suppression is achieved in accordance with local industry practice. ▪ Trucks carrying construction material such as soil, sand, gravel and stone during construction and hazardous wastes during operation to be adequately covered to minimise negative impacts during transportation in accordance with local industry practice. 	Operator

SN	Issues	Action to be Taken	Responsible Entity
4.	Air Pollution	<ul style="list-style-type: none"> ▪ Construction machinery & vehicles used during construction to meet relevant emission standards and to be maintained adequately in accordance with local industry practice. ▪ Routine check of vehicles used for transportation and their proper maintenance to minimize vehicular pollution 	Operator
5.	Noise Pollution	<ul style="list-style-type: none"> ▪ Ear Plugs shall be provided to operators of heavy machinery and workers in near vicinity ▪ Use the construction equipment and their operation that complies with the regulations prescribed by the Ministry of Environment and Forests (MoEF) ▪ Noise standards of 75 dB(A) for construction equipment like compactor (roller), front loader, concrete mixers, crane at manufacturing stage ▪ Noise Standards for DG sets (15-500 KVA) ▪ Mandatory acoustic enclosure for stationary DG sets (5 KVA and above) 	Operator
6	Water Pollution	<ul style="list-style-type: none"> ▪ Segregation of contaminated and non-contaminated storm water ▪ Treatment of contaminated storm water, leachate and other effluents to the standards prescribed and their disposal ▪ Regular monitoring of ground water quality 	Operator

ANNEXURE 1.5 - ENVIRONMENTAL MONITORING

(A) Ground Water Monitoring

Operator shall comply with conditions specified in the authorisation conditions prescribed by Punjab Pollution Control Board and undertake monitoring as described in this schedule

(B) Sampling and Analysis

Tables 1 list the various parameters that will be monitored for recording satisfactory performance of Facilities respectively. These analyses will be carried out by the Operator to provide reports in compliance with the Law

Analysis serves the following purposes :

1. To demonstrate to the Company that the Operator is operating the facilities in accordance with the required Performance Standards
2. To determine the efficiencies of the installations and to provide input to the Facility Management Plan
3. To highlight trends in plant performance
4. To enable operational decisions to be made based on real time knowledge
5. To determine the beneficial effects of changes in methods of operation or the results of capital investment
6. To assess the environmental impact of the operations and monitor compliance with the Environmental Management Plan

The Operator shall ensure that the analysis, required to demonstrate the performance of the Facilities and the compliance with the Contract, is performed by an accredited environmental laboratory or by staff trained to a similar standard, at his cost, as approved by the Company. All sampling, analysis and reporting shall be auditable, following procedures laid down in the Standard Operating Procedure.

Samples will be taken by two methods. Wherever automatic samplers are provided on-site, then these will be used for obtaining samples whereas at other locations 'grab samples' will be collected manually. All samples will be labelled, recorded and preserved as per standard methods, whilst awaiting analysis or dispatch for off-site analysis.

Sampling will be performed by the Operator, who will have sampling requirements pre-programmed

Tables 1 set out the sampling and analysis frequencies for the ground water

Table 1 : Sampling and Analysis for Ground Water

Location	Parameters	Frequency
Ground water quality monitoring from background wells and compliance monitoring wells within Facility including early warning wells outside Facility	Indicator Parameters – Ph, Specific Conductance, Chlorides, TOC, Total Organic Halogen	Fortnightly
	Hazardous Constituents-	Twice a year premonsoon and post monsoon
Ground water quality monitoring of wells located downgradient and outside Facility	Indicator Parameters – Ph, Specific Conductance, Chlorides, TOC, Total Organic Halogen	Twice a year; premonsoon and post monsoon
	Hazardous Constituents	In event of exceedance of indicator parameter above background level

The groundwater monitoring shall include a determination of the ground water surface elevation each time groundwater is sampled

(C) Concentration Limits

The concentration limits of hazardous waste constituents in ground water will not exceed

- (i) the background levels of that constituent in the ground water
- (ii) will not exceed permissible drinking water standards if the background level of the constituent is below the drinking water standards

(D) Background Monitoring

In order to establish the background, operator will monitor the wells outside the Facility. The number and kind of samples collected shall be appropriate for the form of statistical test employed, following generally

accepted statistical principles. The sample size should be large enough to ensure with reasonable confidence.

In developing the database used to determine a background value for each parameter or constituent, operator shall take a minimum of one sample from each well and minimum four samples from the entire system used to determine background groundwater quality, each time the system is sampled

(E) Other Monitoring

S.No	Monitoring	Parameters Monitored	Locations	Frequency
A	Landfill			
1	Real Leachate	Levels in primary and secondary leachate wells and volumes Heavy metals, pH, COD, BOD, TDS, chlorides, sulphates, TOC	leachate wells	Daily Fortnightly
2	Ambient Air Quality	Odour SPM, Hydrocarbons	Facility Down wind side	Daily Quarterly
3	Emissions	Hydrocarbons	Gas Vents	Quarterly

ANNEXURE 1.6 - CONTENTS OF CLOSURE PLAN AND POST CLOSURE PLAN

(A) Contents of Closure Plan

The closure plan must identify steps necessary to perform partial and/or final closure of the facility at point during its active life. The closure plan shall include at the minimum

- (1) A description of how each unit at the facility will be closed**
- (2) A description of how final closure of the facility will be conducted**
- (3) An estimate of the maximum inventory of hazardous wastes ever on-site over the active life of the facility**
- (4) A detailed description of the methods to be used during partial closures and final closure**
- (5) A detailed description of the steps needed to remove or decontaminate all hazardous waste residues and contaminated containment system components, equipment, structures and soils during partial or final closure including but not limited to procedures for cleaning equipment and removing contaminated soils, methods for sampling and testing surrounding soils, and criteria for determining the extent of decontamination required to satisfy the closure performance standards**
- (6) A detailed description of other activities necessary during closure period to ensure that all partial closures and final closure satisfy the closure performance standards, including but not limited to a groundwater monitoring, leachate collection, and run-on and run-off control**
- (7) A schedule for closure of each hazardous waste management unit and for final closure of the facility. The schedule must include, at a minimum, the total time required to close each unit and time required for intervening closure activities which will allow tracking of the partial and final closure**
- (8) Estimate of cost of closing of facility. The closure cost estimate must be based on the costs to the Company of**

hiring a third party to close the facility. The revised cost estimates must be adjusted for inflation using WPI index

(B) Contents of Post Closure Plan

The post closure plan shall include at least:

- (1) A description of planned monitoring activities and frequencies at which they will be performed
- (2) A description of planned maintenance activities and frequencies at which they will be performed to ensure the integrity of the cap and final cover and other containment system
- (3) The name, address, and phone number of the person or office to contact about the Facility during the post closure care period
- (4) Detailed cost estimate on annual Post Closure Maintenance and total post closure maintenance cost. As per the MoEF/CPCB guidelines, the post closure maintenance cost estimate shall be based on the costs to the Company of hiring a third party to conduct post closure care activities. The indicative post closure activities shall include
 - a. Surveillance System
 - b. Environmental Monitoring
 - c. Maintenance of Integrity of Cover System
 - d. Record Keeping and Reporting
 - e. Insurance

ANNEXURE 1.7- INSURANCE COVERAGE

The Operator shall provide insurance covers as listed below:

S.No	Policy	Risk Covered	Face Value
1	Contractor's All Risk Insurance	All Risk during Construction Period	
2	Erection Insurance and/or Breakdown Insurance		
3	Standard Fire (as per All India Tariff without any exclusions), Burglary and Special Perils Policy	Building, Plant, Machinery and Accessories	Full replacement value including additional costs incidental to the rectification of loss or damage and including professional fees
4	Workmen's Compensation Policy*	Losses and claims arising from the death or injury to any person employed by the Operator or any Subcontractor of all tiers for the duration of the Total Term	As per Workmen's Compensation Act
5	Comprehensive Vehicle Insurance	Losses and claims arising from damage to vehicles including Third Party Liability and Workmen's Compensation for Driver and Helper and full personal accident cover for passengers, if any	As per provisions of Motor Vehicle Act
6	Public Liability Act Policy	Accident and damage to person and property	As per provision of Act
7	Public Liability Industrial Risk Policy	Accident and damage to person and property	
8	Special	Guarantee the availability	Face amount at least

	Contingency Policy /Environmental Liability Insurance	of funds for corrective action	equal to cost of construction of new landfill, excavation, shifting, and transfer of waste from failed to new site and remediation of site
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***For a Subcontractor's employees, such insurance may be effected by the Subcontractor, but the Contractor shall be responsible for compliance with this Clause**

ANNEXURE 2.1 - CHARACTERISTICS OF TREATED LEACHATE

The leachate shall be treated to the General Standards for Discharge of Environmental Pollutants as prescribed under Part A, Schedule VI of Environmental Protection Act, 1986 applicable for inland surface bodies or standards prescribed by the Punjab Pollution Control Board, whichever are stringent. The characteristics of treated leachate is presented in the following table.

S.N	Parameter	Treated Leachate
1	Suspended Solids	100 mg/l
2	PH	5.5-9.0
3	Oil and Grease	10 mg/l
5	COD	250 mg/l
6	Phenolic Compounds	1.0 mg/l
7	Arsenic	0.2 mg/l
8	Mercury	0.01 mg/l
9	Lead	0.1 mg/l
10	Cadmium	2.0 mg/l
11	Chromium (Hexavalent)	0.1 mg/l
12	Total Chromium	2.0 mg/l
13	Copper	3.0 mg/l
14	Selenium	0.05 mg/l
15	Nickel	3.0 mg/l
16	Adsorbable Organic Halogens (AOX)	0.50 mg/l
17	Poly Aromatic Hydrocarbons (PAH)	0.059 mg/l
18	Benezene	0.14 mg/l
19	Toluene	0.08 mg/l
20	Xylene (sum of o,m,p-xylene)	0.32 mg/l

ANNEXURE 2.2- LIST OF EQUIPMENTS FOR LABORATORY

The Operator shall provide a well equipped laboratory for waste analysis and environmental monitoring of the parameters at Facility. The Operator shall provide calibrated laboratory equipment, conforming to Bureau of Indian Standards specifications. All laboratory equipment and glasswares should be of approved make and standard size confirming to standard specifications wherever applicable. The list of Laboratory equipment will be finalised in consultation with the Company. The indicative list of equipment is as given below:

S.N.	Item
1.	Vacuum Pump
2.	Hot Air Oven
3.	Muffle Furnace
4.	Single Pan Digital Balance
5.	Thermometer
6.	Digital Ph Meter
7.	Conductivity Meter
8.	TCLP
9.	TOC
10.	Atomic Absorption Spectrophotometer
11.	Gas Chromatograph
11.	C.O.D Assembly
13.	UV-Vis Spectrophotometer
14.	BOD Incubator
16.	Air compressor
17.	Distilled water assembly
18.	Refrigerator
19.	Hot plate
20.	Water bath
21.	Glasswares
22.	Stack Emission Monitoring Kit
23.	Heating Mantle
24.	Magnetic Stirrer
22.	All necessary equipment for volumetric and gravimetric analysis including desiccators, burettes, pipettes, Millipore filter and filter paper etc.

ANNEXURE 2.3– CRITERIA FOR LANDFILLING

(A) Criteria of Waste for Direct Landfilling

S.N	Criteria	Concentration
I	Strength	
1	Transversal Strength (Vane Testing)	>25 KN/m ²
2	Unconfined Compression Test	>50 KN/m ²
3	Axial Deformation	<20%
II	Content of Organic Material	
1	Annealing loss of the dry residue at 550°C	<20% by weight (for nonbiodegradable component) <5% by weight (for biodegradable component)
2	Extractible Lipophilic contents	<4% by weight
3	Calorific Value	<2500 Kcal/kg

(B) Maximum Leachate Quality for Direct Landfilling of Waste

S.N	Parameter in Leachate	Concentration
1	PH	4-12
2	Total Phenols	<100 mg/l
3	Arsenic	<1 mg/l
4	Lead	<2 mg/l
5	Cadmium	<0.2 mg/l
6	Chromium (VI)	<0.5 mg/l
7	Copper	<10mg/l
8	Nickel	<3 mg/l
9	Mercury	<0.1 mg/l
10	Zinc	<10 mg/l
11	Fluoride	<50 mg/l
12	Ammonia	<1000 mg/l
13	Cyanide	<2 mg/l
14	Nitrate	<30 mg/l
15	Adsorbable Organic Bound Chlorine	<3 mg/l
16	Water Soluble Compounds Excepts Salts	<10%
17	Calorific Value	<2500 Kcal/kg

Note : Leachate Quality Based of Water Leach Test

Appendix 3 - INDICATIVE CLEARANCES

The Operator will be responsible for obtaining various permits, authorisations and consents to enable them to carry out their duties. The Company will assist the Operator in obtaining the permits, authorisations, consents and clearances. These will include, but not be limited to the following;

- a) Approvals of designs and plans from State Pollution Control Board
- b) Building permits
- c) Authorisation under Hazardous Waste (Management & Handling) Rules 2003
- d) Consent under Water (Prevention of Pollution and Control) Act 1974
- e) Consent under Air (Prevention of Pollution and Control) Act 1981
- f) Vehicle and plant licenses
- g) Licenses to store and use chemicals
- h) Licenses to use machinery
- i) Permissions to enter public and industrial properties of end consumers
- j) Insurance
- k) Health and Safety certificates
- l) Fire certificate
- m) Approval from Labour Inspector

APPENDIX 4 - TESTS

- (1) The Tests shall include checking of construction records, documents and drawings, trial runs, checks of profiles and levels or any other test that may be reasonably necessary to confirm that works meet the Technical Requirements

- (2) The Independent Engineer in consultation with the Company will draw up detailed lists of tests along with acceptable standards, to be carried out by the Operator and shall furnish the same to Operator

APPENDIX 5 - REPORTING REQUIREMENT**(A) Construction Reporting**

Monthly progress reports shall be prepared by the Contractor and submitted to the Company's Representative. Each report shall include:

- (a) an executive summary;
- (b) charts showing the status of Construction Documents;
- (c) status of quality assurance documents, test results and certificates;
- (f) comparisons of actual and planned progress, with details of any aspects which may affect the completion in accordance with the Contract, and the measures being (or to be) adopted to overcome such aspects;
- (h) summons of any unresolved disputes and claims between the Parties;
- (i) details of any revision to the cash flow estimate, together with a copy of the revised cash flow estimate; and
- (j) such other reports as may be reasonably requested by the Company;

(B) Construction Documents

The Operator shall submit Construction Documents to the Company as listed below:

- 1. Construction Program of the Contractor(s)
- 2. As built drawings for all Facilities
- 3. As fit drawings for all equipment
- 4. Rated capacity test reports for all equipment, pipelines etc. (test certificates)
- 5. Original equipment manufacturers reports
- 6. Design basis of all Facilities and Systems
- 7. Installation manuals
- 8. Operation and Maintenance Manuals
- 9. Quality Assurance Reports for all Facilities and Systems
- 10. Third party inspection reports
- 11. Equipment Warranty certificates
- 12. List of manufacturers recommended spares and confirmation of purchase
- 13. List of vendors for purchase of spares and consumables
- 14. Original copies of all consents obtained by Operators
- 15. List of Contractor's staff and duties assigned to each

16. Commissioning Records
17. Statement certifying compliance with Environment Management Plan

(C) Operation Documents

The Operator shall submit documents required by the Company, which include but not limited to following:

1. Operation and Maintenance Manual
2. Quality Assurance plans for various Facilities
3. Insurance policies
4. List of all end users and their location details
5. Waste Offtake Agreement with the end users
6. List of Operator's staff and duties assigned to each

(D) Operation and Maintenance Manual

The Operator shall agree the contents of the Operation Manual in consultation with the Company. An indicative contents of the Operation & Maintenance Manual is provided below:

1. Descriptive overview of the whole of the Works.
2. Descriptions of all systems installed, including mechanical, electrical, instrumentation, control systems with relevant design and operating parameters.
3. Descriptions of all equipment supplied including manufacturer's leaflets, which shall be scheduled for easy reference.
4. Schedules and manufacturer's catalogues for all equipment supplied, giving duties, electrical load, etc.
5. Schedules of all equipment suppliers (and their local agents) including names, addresses, telephone, fax and e-mail numbers.
6. Start-up, operation and shut-down instructions for all parts of the Works. These shall include step by step directions on setting the facility to work listing all adjustments and settings necessary for the current functioning of the Facility.
7. Instructions on monitoring of Facility performance and sample log sheets for each plant item, to be filled by operators on a routine basis.
8. "Do's" and "Don't's" in Facility operation. Operator's attention shall be drawn to all operations considered to be dangerous to operators or likely to cause damage to the Facility.
9. Procedures to deal with breakdown and emergencies.
10. Fault locations and remedy charts to facilitate tracing the cause of malfunctions or breakdown and correcting faults.

11. Complete list of recommended materials
12. A 'spares schedule' which shall consist of a complete list of item wise spares for all Facility items with ordering references and part numbers.
13. A complete list of manufacturer's instructions for operation and maintenance of all bought out equipment. The list shall be tabulated in alphabetical order giving the name of supplier / manufacture, identification of the Facility item giving the model number and the literature provided including instruction leaflets and drawing numbers.
14. Step by step procedure for the dismantling, repair and re-assembly of all items of equipment.
15. Part-list and drawings or exploded diagrams for each item of Facility with construction particulars, materials of construction, matching components, clearances and tolerances, maximum wear permitted before replacements are to be done, etc.
16. Record drawings of all systems installed, including general arrangements, conduit and wiring trunking systems, wiring diagrams, control schematics and valve charts, etc. to a reduced scale.

(E) Form of Annual Report

An Annual report will be produced which will summarise the previous year's activities and relate these to the Annual operating plan for the same period, thus highlighting any anomalies as well as successes. Any anomalies will be redressed by the inclusion of remedial measures in the next years operating plan. The Annual report will include, but not limited to, the following items;

1. An executive summary containing the main achievements of the previous year, with special mention of Performance Indicators and Levels of Service.
2. A report on quantitative data relating to waste received, waste treated and waste disposed
3. A report on volumes of leachate collected and treated
4. A report on ground water quality data and other environmental monitoring
5. A report on compliance to authorisation and other regulatory norms
6. Details of maintenance activities carried out in the previous year including the number of non scheduled activities (breakdowns), any

major problems encountered and how they were solved and a report summarising the major refurbishment and replacement activities.

7. A report on billing activities including no's of new Generators/ User
8. A report on Personnel issues including no's of personnel by department, leavers and joiners, training undertaken across the operations function, accident statistics and absenteeism levels due to sickness.
9. A financial report including expenditure against budget and the reasons for any variances, for each main area of operation. This will include a report on power, chemical and spares expenditures.

NB. The annual report will be in addition to monthly reports

APPENDIX 6 -TARIFF**(a) TRANSPORTATION CHARGES****(i) Fixed Transportation Charges**

Distance Category	Transportation cost per tonne per KM															
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Year 16
Less than 50 Kms	1.23	1.27	1.3	1.34	1.38	1.43	1.47	1.51	1.56	1.6	1.65	1.7	1.75	1.81	1.86	1.92
50 to 125 Kms	1.16	1.19	1.23	1.27	1.31	1.34	1.39	1.43	1.47	1.51	1.56	1.61	1.65	1.7	1.75	1.81
125 to 200 kms	1.13	1.16	1.2	1.23	1.27	1.31	1.35	1.39	1.43	1.47	1.52	1.56	1.61	1.66	1.71	1.76
200 kms and above	1	1.03	1.06	1.09	1.13	1.16	1.19	1.23	1.27	1.3	1.34	1.38	1.43	1.47	1.51	1.56

(ii) Variable Transportation Charges

Distance Category	Transportation cost per tonne per KM for Year 1
Less than 50 Kms	2.45
50 to 125 Kms	2.35
125 to 200 Kms	2.13
200 Kms and above	1.85

Note:

(1) Distance in the categorisation mentioned implies one way distance

(b) LANDFILL CHARGES

	Direct Disposal Charges per Tonne for Year 1 in Rupees
A) Direct Landfill Disposal Charges	396

Example:

If Wholesale Price Index (WPI) as on 31st January 2006 is 100 and as on 31st December 2006 is 104. If Price of Diesel as on 31st January 2006 is Rs 30 per litre and as on 31st December 2006 is Rs 31.50 per litre. Increase in direct landfill disposal charges for the second year will be worked out as follows:

Increase in WPI	= 4%
Increase in Price of Diesel	= 5%
Increase in Direct Landfill Disposal Charges	= $(4+5)/2=4.5\%$
Direct Landfill Disposal Charges for 2 nd year	= Rs 396*(1+4.5%)
	= Rs 413.82

(c) STABILISATION CHARGES

Operator shall charge for stabilization including the treatment and disposal in the landfill using following formula

Formula for Stabilisation

Cost for Waste Management = Direct Landfill Cost (1+BF)+Cost of Reagents
+ Rs. 270 / Ton

Direct Landfill Cost - as offered in 2a above

B.F. - Bulking Factor

Example:

In case there is one tonne of waste requiring 200.0 kg of flyash and 100 kg of cement for stabilization and cost of flyash is 40 paisa per kg and cost of cement is Rs 5.0 per kg. Total charges for disposal of waste after achieving stabilization of waste as per formula shall work out as follows:

Quantity of waste	=	1 Tonne
Quantity of Reagent	=	300 kg
Bulking Factor	=	0.3
Cost of Reagent	=	(200 x 0.4)+(100 x 5)
	=	Rs 580
Fixed Cost	=	Rs 270
Total Disposal Charges	=	396 (1+0.3)+580+270
	=	Rs 1364.80

APPENDIX 7 - PERFORMANCE INDICATORS

(1) Key Performance Indicators

Key Performance Indicators will be developed by the Operator for the various project facilities and will be monitored on a regular basis to evaluate the efficiency of the operations.

An indicative list of these Key performance indicators are presented below in Table

S.No	Component	Performance Indicator
1	Landfill	<ul style="list-style-type: none"> ▪ Leachate in the Leak Detection Layer ▪ Quality of Groundwater in Monitoring Wells not exceeding the background and the threshold limits
2	Leachate Treatment Plant	<ul style="list-style-type: none"> • Quality of Treated Effluent
3	Analytical Laboratory	<ul style="list-style-type: none"> • Conformation and Adherence to NABL Specifications and Operational Standards

(2) Service Level Indicators

Service Level Indicators are commonly used to measure the effectiveness of a customer type operation and will be developed across a number of different areas.

These Level of Service indicators are described in the following Table

No.	Level of Service Indicator	Frequency of Monitoring	Response/Repair Time
1	Billing complaint	Monthly	Response time within 5 days
2	Downtime of system like pumps at leachate collection, treatment and disposal, laboratory equipment, earth moving equipments, fleet etc	Monthly	Repair time within 1 week except for major repairs and replacement
3	Power Supply	Monthly	Any disruption in power supply rectified in six hours. Standby power supply shall be readily available 24 hours
4	Potholes and cracks in pavements	Monthly	Repair within 1 week after detection
5	Drainage System	Monthly	Obstruction cleared within 24 hours after detection, damages repaired within 1 week
6	Cracks, spalling, scaling, blistering of plaster and damages to walls and facade	Monthly	Repaired within 2 weeks
7	Utilities like water supply, lighting, telecommunication network	Monthly	Repair within 24 hours
8	Emergency Response and Fire Fighting	Monthly	Repair within 24 hours
9	Reporting to Competent Authorities on Statutory Compliance	Monthly	Response Time within 5 days
10	Complaints on Waste Receipt and Waste Treatment	Monthly	Response Time within 5 days
11	Finger Print Analysis	Monthly	Response time within 1 hours

Sr. No.	Parameter	Location	Frequency of sampling/ Monitoring	Non-Compliance
1	Level of Leachate in Leachate Collection Wells	Primary and secondary Leachate Collection Wells	Daily	More than consecutive three failures to maintain leachate level in leachate collection well below RL of bottom of the landfill
2	Leachate in Leak Detection Layer	Leachate sump of Leak Detection Layer	Daily	Once
3	Quality of Ground Water (pH, TDS, TOC)	Monitoring Wells	Weekly	Two consecutive samples failure for TDS, TOC in relation to exceeding background levels
4	Quality of Effluent from Leachate Treatment Plant (PH, Suspended Solids, BOD/ COD)	Outlet of Leachate Treatment Plant	One composite sample every 24 hours of treated sewage	More than consecutive three failures to meet disposal standards
5	Quality of Ground Water	Wells Down Stream of Facility in adjoining areas as identified by Company its IE or Competent Authority	Twice in a year (Pre monsoon and Post Monsoon)	Two consecutive failure in relation to exceeding background concentration, drinking water standards and occurrence of hazardous constituents

APPENDIX 8- PROJECT COST AND CONSTRUCTION PAYMENTS

(A) Project Cost: Subheads for Cost

The Lumpsum Turnkey Base Engineering Cost shall be Rs 1693 Lakhs. This includes Rs 179.50 lakhs of support from the Company towards creation of support facilities, which shall be adjusted against the cost of services to be provided to the users or any other mode acceptable to the Company

Company shall pay construction insurance and work tax as per actual to the maximum of Rs 31 lakhs and Rs 61 lakhs. The cost breakup of the Project Cost is provided in the Table 8.1

Company will pay cost of equipments like laboratory instruments, landfill equipments and multiple evaporator for leachate management system at actual subject to maximum amount provided for respective items in the Table 8.1

In case of civil works, Company will pay at the rate prescribed in Table 8.1 as per actual Bill of Quantities subject to maximum amount provided for respective items in the Table 8.1

Table 8.1: Cost Breakup

S.No.	Item	Unit	Rate	Amount
1	Landfill (Capacity 328000 cum)	LS		927.66
2	Storage (1850 sqm)	Sqm	4500	83.25
3	Pretreatment/Stabilization (490 sqm)	Sqm	5000	24.50
4	Administration and Laboratory Office (756 sqm)	Sqm	6000	45.36
5	Leachate Management System (3 Stage Thermal Evaporator)			45.00
6	Pipe from Leachate Collection Sump to Leachate Treatment/Management System-1600mm dia. Including 6 Pumps	Rmt	2000	11.80
7	Monitoring Wells	Nos.	50000	2.50
8	Peripheral Roads (2100 Rmt) with bitumen top 1280 m length 7m wide road 820m length 6m wide road	Rmt	4200	53.76
		Rmt	3600	29.0
9	Fence (1257 Rmt)	Rmt	800	10.06
10	Surface Drainage (4200 Rmt)	Rmt	1300	54.60
11	Laboratory Equipment	LS		100.00
12	Landfill Equipments	LS		80.00
13	Green Belt	Sqm	120	30.12
15	Other Misc. Items	LS		195.30*
I	Total Base Engineering Cost			1693.43
16	Construction Insurance			31.00
17	Work Tax and Duties			61.00
II	EPC Cost			1785.43

*This includes Rs 179.50 lakhs of support from the Company towards creation of support facilities, which shall be adjusted against the cost of services to be provided to the users or any other mode acceptable to the Company

(B) Construction Payment Terms

- (1) The minimum aggregate value of any interim invoices submitted in one calendar month shall be Rs 50 Lakhs
- (2) The Company shall pay 90% of the amount certified in each Interim Payment Certificate and retain the 10% of the amount

APPENDIX 9 – Force Majeure Events

(1) **Force Majeure Events:** The Force Majeure Events shall comprise

(a) Non-Political Events

- (i) Lightning, earthquake, landslides, tempest, cyclone, hurricane, whirlwind, storm, flood, prolonged drought and other unusual or extreme adverse weather or environmental conditions or other events of natural disaster of rare severity;
- (ii) meteorites or objects falling from aircraft or other aerial devices, the occurrence of pressure waves caused by aircraft or other aerial devices travelling at high speeds;
- (iii) fire or explosion, chemical or radioactive contamination or ionising radiation;
- (iv) epidemic or plague;
- (v) *strikes, lock-outs or other industrial action or labour disputes (excluding those by the Operator, the Subcontractors or the employees or agents of the Operator and/or Subcontractors, in any such case employed on the implementation of the Project or the supply of goods or services to the Project) in so far as they have a Material Adverse Effect on the implementation of the Project;*
- (vi) act of war (whether declared or undeclared), threat of war, invasion, armed conflict or act of foreign enemy, unexpected call up of armed forces, revolution, religious strife, bombs, sabotage, terrorism or threat of such acts or other similar events of a political or social nature; or
- (vi) any event or circumstances of a nature analogous to the foregoing.

(b) Political Events

- (i) the expropriation, confiscation, acquisition, nationalisation or requisition of the Facility or rights of the Operator or Subcontractors by any Government Authority of GoP; or

- (ii) the imposition of any blockade, embargo, import restrictions, rationing or allocation by any Government Authority of GoP which has a Material Adverse Effect on the implementation of the Project.

(2) EXCEPTIONS APPLICABLE TO OPERATOR

The Operator shall not have the right to consider any of the following circumstances to be a Force Majeure Event other than to the extent that such circumstances result from a Force Majeure Event:

- (a) delay in performance by the Operator, any Subcontractors or the employees or agents of the Operator and/or the Subcontractors; or
- (b) breakdown or ordinary wear and tear of materials, equipment machinery or parts relating to the Facility.

APPENDIX 10
COPY OF NOTICE OF AWARD

APPENDIX 11
COPY OF PERFORMANCE GUARANTEE

APPENDIX 12
CONSORTIUM AGREEMENT

APPENDIX 13
OPERATOR'S TECHNICAL AND FINANCIAL PROPOSAL INCLUDING
REVISED PROPOSAL
(Refer VOLUME II)

APPENDIX 14
PROJECT IMPLEMENTATION SCHEDULE

APPENDIX 15
BILL OF QUANTITIES

APPENDIX 16
COPY OF SITE NOTIFICATION ORDER

APPENDIX 17
REQUEST FOR PROPOSAL DOCUMENT

(Refer Volume III)