

Environmental and Social Due Diligence Report

Project Number: 47083-004
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INDIA: Accelerating Infrastructure Investment Facility in India - Tranche 3

Jindal Urban Waste Management (Visakhapatnam) Ltd.
(Part 1 of 3)

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Environment and Social Safeguards Due-Diligence Report

Construction of 15 MW Municipal Solid Waste to Energy Processing Facility at Visakhapatnam in the State of Andhra Pradesh, India







Sub Project Developer – Jindal Urban Waste Management (Visakhapatnam) Ltd. (JUWMVL)

February 2020

SUB PROJECT: 15 MW Waste-to-Energy (WtE) Project with construction and operation of MSW processing facility for the obligated quantity of MSW during the concession period on design, build, finance, operate and transfer (DBFOT) basis and setup of landfill and disposal of the process remnants and residual inert matters at Visakhapatnam in the State of Andhra Pradesh, India.

Jindal Urban Waste Management (Visakhapatnam) Limited

Environmental and Social Safeguards Due Diligence Report (ESDDR)

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ABBREVIATIONS

AAI	Airports Authority of India
APSPDCL	Andhra Pradesh Southern Power Distribution Company Limited
CEMS	Continuous Emission Monitoring System
CPHEEO	Central Public Health and Environmental Engineering Organization
dB	Decibel
DBFOT	Design, Built, Finance Operate and Transfer
DPR	Detailed Project Report
EIA	Environmental Impact Assessment
EMP	Environment Management Plan
EPC	Engineering Procurement & Construction
ESDD	Environmental and Social Due Diligence
ESDDR	Environmental and Social Due Diligence Report
ESMU	Environment and Social Management Unit
GMC	Guntur Municipal Corporation
GoAP	Government of Andhra Pradesh
GoI	Government of India
GRM	Grievance Redressal Mechanism
HSE	Health Safety Environment
HVAC	Heat Ventilation & Air Conditioning
IIFCL	India Infrastructure Finance Company Limited
JUIL	JITF Urban Infrastructure Limited
JUWMVL	Jindal Urban Waste Management (Visakhapatnam) Limited
KLD	Kilo Liters Per Day
LIE	Lenders Independent Engineer
LoA	Letter of Award
MDB	Multilateral Development Bank
MoEFCC	Ministry of Environment, Forests and Climate Change
MPR	Monthly Progress Report
MSW	Municipal Solid Waste
MRF	Material Recovery Facility
NOC	No Objection Certificate
NREDCAP	New and Renewable Energy Development Corporation of Andhra Pradesh Limited
PIAL	Prohibited Investment Activities List
PIM	Project Information Memorandum
PPE	Personal Protective Equipment
RDF	Refuse Derived Fuel
SEIAA	State Level Environment Impact Assessment Authority
SCOD	Schedule Commercial Operation Date
STP	Sewage Treatment Plant
TOR	Terms of Reference
TPD	Ton per Day
ULB	Urban Local Body
WtE	Waste to Energy

PROJECT BACKGROUND

1. PURPOSE OF THE REPORT

1. This Environmental and Social Due Diligence Report (ESDDR) has been prepared by India Infrastructure Finance Company Limited (IIFCL) in consultation with the Concessionaire, Jindal Urban Waste Management (Visakhapatnam) Limited (JUWMVL) to assess the adequacy of the project with the applicable safeguard compliance. The report has been prepared as per the documents/information received from the concessionaire and on the basis of site visit observations. The information given in the ESDDR is agreed and confirmed by the Concessionaire.

2. SUBPROJECT TITLE

2. 15 MW Waste-to-Energy (WtE) Project with construction and operation of Municipal Solid Waste (MSW) processing facility for the obligated quantity of MSW during the concession period on design, build, finance, operate and transfer (DBFOT) basis and setup of landfill and disposal of the process remnants and residual inert matters.

3. SUBPROJECT SCOPE

3. The scope of the sub-project includes design, build, finance, operate and transfer (DBFOT) of infrastructure and facilities for construction and operation of municipal waste and waste to energy processing facility for the obligated quantity of MSW during the concession period. The scope of the project also includes setting up of landfill and disposal of process remnants and residual inert matters.

4. PROJECT BACKGROUND

4. Government of Andhra Pradesh (GoAP), as part of Swachha Andhra Mission, proposes to set up Waste to Energy (WtE) Plants at various locations in Andhra Pradesh and has identified beneficiary Urban Local Bodies (participating ULBs) at each of these locations in Andhra Pradesh which are expected to deliver MSW to the WtE processing facilities.
5. New and Renewable Energy Development Corporation of Andhra Pradesh Limited (NREDCAP) was authorized by the participating Urban Local Bodies (ULBs) to run the bidding process for selection of an entity to which the projects in each of the clusters may be awarded. Through a competitive bidding process conducted by NREDCAP, M/s JITF Urban Infrastructure Limited (JUIL) has been awarded the contract for implementation of the project in the cluster Visakhapatnam vide Letter of Award (LoA) issued on 3rd December, 2015. The project was awarded for capacity of 15 MW for Visakhapatnam at a power sale tariff of Rs. 6.226/unit. JUIL formed project special purpose vehicle (SPV) - Jindal Urban Waste Management (Visakhapatnam) Limited (JUWMVL) for undertaking the proposed project development, operation and maintenance.

5. PROJECT DETAILS

6. The location of the proposed WtE facility is 17°50' 45.99" N and 83°22' 02.84" E at Kapuluppada village, Bheemunipatnam Mandal, in Visakhapatnam District. The coordinates of SLF area is 17°50' 19.60" N and 83°22' 23.53" E. The site is having a service road for about 1.2 km which is connecting the national highway. The site is 21.5 km far from Airport and 0.8 km (aerial distance) from the NH 5/16. Kapuluppada area falls in ward 5 (zone 1) under GVMC area. The site elevation is 59 m from Mean Sea Level. The site is having red and brownish clayey sandy soil along with pebbles and boulders. There is no habitation within the proposed project site.
7. The Concession Agreement for the sub-project was signed on 17th February, 2016 on design, build, finance, operate and transfer (DBFOT) basis between JUWMVL and Greater Visakhapatnam Municipal Corporation (GVMC) as Lead ULB.
8. As per concession agreement, Concessionaire shall develop the project facilities using technologies adhering to Solid Waste Management Rules, 2016 which ensures:
 - Biodegradable and recyclable content of MSW are separated through suitable material recovery facility;
 - A suitable technology is used for processing the bio-degradable and combustible content of MSW;
 - A suitable technology is used for recovering and processing recyclable content of MSW;
 - Disposal of not more than 25% of received MSW in the landfill;
 - Disposal of not less than 2% of waste measured at landfill site.
9. MSW supply to the sub-project will be the responsibility of the GVMC. The evacuation arrangement for power generated at WtE plant is the responsibility of Andhra Pradesh Eastern Power Distribution Company Limited (APEPDCL). APEPDCL has committed that the evacuation arrangement will be completed before the plant is ready for synchronization.
10. The salient features of sub-project are given in the Table 1 below :

Table 1: Salient Features of JUWMVL

Village	Kapuluppada
Mandal	Bheemunipatnam
District & State	Visakhapatnam, Andhra Pradesh
Latitude	17°50' N
Longitude	83°22' E
Nearest Access Road	NH 5/16 (0.8 km)
Nearest Railway Station	Visakhapatnam (about 20 km)
Nearest Airport	Visakhapatnam

Participation ULBs	S. No.	Zone	Name of the Area	Waste Generation Per Day (MT)	Distance to Proposed site (km)
	1.	I	Mudasarlova	170	20.2
	2.	II	Appugarh	150	16.0
	3.	III	Town Kotha Road	400	21.2
	4.	IV	Thatichetlapalem	120	20.2
	5.	V	Gajuwaka	100	34.4
	6.	VI	Vepagunta	60	28.6
	7.	VII	Bheemli	250	14.5
	8.	VIII	Anakpalle	10	58.5
			Total	1260	
Concession Authority	Greater Visakhapatnam Municipal Corporation				
Concession period	25 Years				
Tonnage per day	1200 MT				
Source of Water	Treated STP Water				
Total Land Area of Existing Plot	17.08 Acres for MSW processing facility and 40 acres for landfill site				
Power Connectivity	32/33 KV Grid Sub-station of APEPDCL at Anandapuram, Visakhapatnam				
MSW Handling Capacity	1625 TPD				
Power Generation	15 MW				
Technology used	Mass Burning or Incineration				

11. The sub-project consists of the following main units:

Table 2: Main Units of JUWMVL

Unit	Details
MSW Receipt	<ul style="list-style-type: none"> Weigh bridge - Two weigh bridges (1-input & 1-output) of minimum 40 tons weighing capacity will be installed on approach road from main vehicle entry gate to the material recovery facility Tipping Floor – After weighing, the trucks will proceed to the tipping floor, where the driver unloads the waste in the designated dumping pit.
Material Recovery Facility	<ul style="list-style-type: none"> Bio Drying Section - The MSW received from GVMC will be dumped in closed pit and kept for 7 days for reducing leachate (Moisture) and drying of MSW Material Segregation – after a stipulated period, semi decomposed material will be fed to hopper for manual segregation to remove bigger

	<p>materials like boulders, stones, synthetic fabrics, mats, tyres, hard boards, woods etc., to facilitate for the pre-processing unit to segregate the waste effectively. Manual segregation will be followed by mechanical segregation.</p> <ul style="list-style-type: none"> • Main equipment of MRF are belt conveyor, rotary screen trammel, ballistic separator, magnetic separator, shredder, rake carrier, drag conveyor, hopper, de-stoner & cyclone separator, bagging machine, crane, grab bucket etc.
Power Plant	<ul style="list-style-type: none"> • Boiler including auxiliaries-Two number of boilers. • Air pollution control system-Semi wet type of system is being installed at JUWMVL for air pollution control • Ash handling and Disposal- for disposal of fly ash and bottom ash • Turbo generator – 1X15 MW • Condensing plant- Air cooled condenser
Balance of Plant	<ul style="list-style-type: none"> • Water system - Treated water from STP will be used at JUWMVL. • Total requirement of water for the project is estimated as 1.2 MLD as per water balance. • Compressed air system - for ash handling system and for instrumentation • Electrical system – including control & instrumentation system • Heat Ventilation and Air Conditioning (HVAC) - At various plant facilities • Fire fighting – Including hydrant system, spray water system, high velocity water spray system, medium velocity water spray system, hand appliances system, sprinkler system • Effluent treatment – system for treating discharge from drain from cooling tower, reject & back wash from water treatment section and leachate treatment • Environment monitoring system - Continuous Emission Monitoring System (CEMS) at stack • Sanitary Landfill - For disposal of waste from the MSW processing facility.

6. SUB-PROJECT LOCATION

12. The proposed project site is currently being utilised as dumping yard/landfill site by the Greater Visakhapatnam Municipal Corporation. The site has proper road access and is near to existing highways for easy movement of MSW trucks.
13. The entire facility is being developed on Government land. Greater Visakhapatnam Municipal Corporation signed a lease agreement with JUWMVL on 21.12.2018 for an area of 17.08 Acres for setting up a MSW processing facility. Existing dump yard site having an area of 40 acres has been

allotted to JUWMVL by Greater Municipal Corporation Visakhapatnam, for development and operation for storage of residue as per Concession Agreement.

7. DEBT COMPONENT OF THE PROJECT

14. The total cost of the project is estimated at Rs. 219.96 crore and is proposed to be financed with a debt to equity ratio of 70:30. The total debt requirement for the project is Rs. 153.97 crore and the Equity is Rs. 65.99 crore. IIFCL has sanctioned a term loan of Rs. 43 crore under Direct Lending Scheme and has disbursed 26.16 crores till 31st January 2020.

8. STATUS OF REGULATORY PERMISSIONS AND APPROVALS FOR SETTING UP JUWMVL

Table 3: Availability of Permits/Approvals for setting up JUWMVL

S. No.	Key requirements	Availability Status	Remark
1.	Concession Agreement	Obtained	Concession Agreement for setting up Waste to Energy processing facility at Visakhapatnam, Andhra Pradesh was signed on 17.02.2016 between Greater Visakhapatnam Municipal Corporation, and JUWMVL.
2.	Power Purchase Agreement	Obtained	PPA between Andhra Pradesh Eastern Power Distribution Company Limited, Visakhapatnam of Andhra Pradesh and JUWMVL has been signed on 17.02.2016 as amended on 06.10.2017.
3.	Construction Power Agreement	Obtained	Construction Power Agreement under the Electricity (Supply) Act 2003 has been signed between Andhra Pradesh Eastern Power Distribution Company Limited and JUWMVL on 25.09.2017. Power supply agreement is for supply during the construction period.
4.	Land Allotment / Lease	Obtained	Greater Visakhapatnam Municipal Corporation Ltd. has allotted 20 Acres of land (Annexure I) to JUWMVL. Out of 20 Acres of land JUWMVL through lease agreement with GVMCL has taken an area of 17.08 Acres of land as per the requirement for setting up a MSW power plant and machineries, administrative building and amenities blocks and common facilities etc. and the rest 40 Acres of land (Annexure II) is earmarked to JUWMVL for scientific land fill for a period of 25 years.
5.	Labour License & Insurance	Obtained	Labour License has been granted to the subproject under Sub Section 2 (d) and 4(2) of the Andhra Pradesh (Issuance of Integrated Registration and Furnishing of Combined Returns under various Labour Laws by certain Establishments) Act, 2015 The copy of the Certificate of Registration are attached as Annexure III . Sample copy of insurance taken by the main contractor is attached as

			Annexure IV.
6.	Permission from Airport Authority of India	Obtained	NOC from Airport Authority of India has been obtained JUWMVL vide letter dated 26.12.2016 (Annexure V).
7.	Evacuation Arrangement	Obtained	Eastern Power Distribution Company of Andhra Pradesh vide letter dated 23.05.2017 has informed that the evacuation arrangement will be completed before the plant is ready for synchronization (Annexure VI).
8.	Boiler Drawing Approval	Obtained	Boilers Department, Government of Andhra Pradesh approved the boiler drawings as per compliance of Indian Boiler Regulations, 1950 vide letters dated 06.07.2018 and 09.07.2018.

DUE DILIGENCE ON ENVIRONMENTAL SAFEGUARDS

9. ABOUT THE PROJECT

15. Government of Andhra Pradesh (GoAP), as part of Swachha Andhra Mission, proposes to set up Waste to Energy (WtE) Plants at various locations in Andhra Pradesh and has identified beneficiary Urban Local Bodies (participating ULBs) at each of these locations in Andhra Pradesh which are expected to deliver MSW to the WtE processing facilities. The Participating ULBs would undertake development and operation/maintenance of the proposed WtE processing facilities (projects) through Public-Private Partnership (PPP) on Design, Build, Finance, Operate and Transfer (DBFOT) basis.
16. M/s JITF Urban Infrastructure Limited (JUIL) has been awarded the contract for implementation of the WtE project in Greater Visakhapatnam cluster for capacity of 15 MW, at a power sale tariff of Rs. 6.226/unit.
17. JUIL has formed project SPV viz. Jindal Urban Waste Management (Visakhapatnam) Limited for undertaking the proposed project development, operation and maintenance for Greater Visakhapatnam MSW management facility.
18. The scope of the sub-project includes construction and operation of MSW processing facility and waste to energy processing facility and setting up of landfill for disposal of process remnants and residual inert matters.
19. As per the Concessions Agreement, the processing technologies proposed at the sub-project should ensure that the technologies used are appropriate as per SWM Rules, 2016.
20. The sub-project is expected to achieve commercial operation by July 2020. As per JUWMVL, the progress of the sub-project during field visit is given in the table below:

Table 4: Status of JUWMVL Construction

S.No	Structure	Civil works Status		Remarks
		Completion %	Balance %	
1	Boiler	100	0	Completed
2	TG building	90	10	Hold for crane erection
3	ACC	98	2	Completed
4	FGCS	85	15	ID fans & Duct supports
5	Tipping Floor	61	39	Slab work under progress
6	MSW pit	71	29	Wall completed up to +23 Mtr lvl
7	Weigh Bridge	0	100	Not yet started
8	Pipe Rack	70	30	Only Switch yard Foundation pending
9	Chimney	90	10	Brick lining and painting pending
10	Switch yard	95	05	Fencing work pending
11	RE wall Ramp	30	70	RCC Panels ready at Guntur. To be shifted
12	WTP & Pump house	55	45	Raw water tank and flooring pending
S.No	Structure	Mechanical works Status		Remarks
		Completion %	Balance %	
1	Boiler	60	40	Hydro test planned in March.
2	TG	25	75	Steam piping, roof truss
3	ACC	0	100	Erection of fans and bundles

4	FGCS	25	75	Bag filters and silos erection
5	Weigh Bridge	0	100	Alignment and final trail run
6	WTP & Pump House	0	100	Will start in March 2020
7	LTP	0	100	Civil starts from Feb End
S.No	Structure	Fabrication & Erection Completion Status		Remarks
		Fabrication	Erection	
1	TG & Others	25	0	Crane Gutter fab started
2	Deaerator	40	0	Under Progress
3	Pipe Rack	15	0	Fabrication started
4	MSW Pit	0	0	Not yet started
5	Tipping Floor	0	0	Not yet started
6	WTP shed	90	0	Not yet started
Sl. No	Structure	E&I works Status		Remarks
		Completion %	Balance %	
1	TG building	30	70	DCS and Electrical panels erection, Cable tray supports erection under progress
2	Weigh Bridge	0	100	Will start from March 2020
3	Switch yard	80	20	Power transformer accessories erection, cable tray, cable laying, fire extinguishers, switchyard testing & commissioning are pending
5	FGCS	0	100	Will start from March 2020
6	Boiler	10	90	Cable tray and cable laying and total Instrumentation work
7	ACC	0	100	Will start from March 2020
8	TG EOT Crane	0	100	Will start from March 2020
9	WTP & Pump house	0	100	Will start from Feb 2020
10	LTP	0	100	Not yet started
11	Power Evacuation line	90	10	Will complete in Feb 2020

10. PROJECT LOCATION AND SCALE

21. Greater Visakhapatnam Waste to Energy Plant is proposed to be located in Kapuluppada Village, Bheemunipatnam Mandal in Visakhapatnam District. Land is allocated by Greater Visakhapatnam Municipal Corporation (GVMC) near Kapuluppada dump yard as per the terms of Concession Agreement. Site is connected to NH-5/16 by approach road.
22. The land allocated for the MSW processing facilities is for a period of 25 years. Greater Visakhapatnam Municipal Corporation has handed over the land to JUWMVL for developing the sub-project. The area is being used for construction and development of integrated MSW processing facility comprising material recovery facility and power plant with auxiliaries, water treatment plant, administrative and amenities blocks and common facilities etc. in addition to this land, an area of 40 acres has been allotted to JUWMVL by Greater Visakhapatnam Municipal Corporation for landfill site. The land area has been leased and allotted as per terms of Concession Agreement signed between GVMC and JUWMVL on 17.02.2016. The land allocated for the sub-project is an existing dump yard of GVMC. Location of sub-project along with location in Google maps is given in Figure 1.



Figure 1: JUWMVL Plant Location – MSW Processing Facility (A) and Landfill Site (B)

11. APPROACH TO THE ENVIRONMENT SAFEGUARDS DUE-DILIGENCE REPORT (EDDR)

23. As part of environmental due diligence (EDD), the review of available documents/information has been done to assess compliance of the sub-project with respect to statutory regulations related to environmental safeguards. Projects financed by IIFCL which are posed for MDB's line of credit, are required to undergo to an environmental and social due diligence process utilizing the procedures described in the ESSF to ensure sustainable project investment. Categorization of the sub-project with respect to ADB and IIFCL ESSF forms part of the ESDD. EDD also covers and assesses the process of identifying environmental impacts and implementation of environmental management measures; contractual obligations for Health Safety Environment (HSE) measures; public consultations and information disclosure; implementation of HSE measures; institutional arrangement for implementing environmental measures and site visit observations. The EDDR concludes the outcome along with recommendations for the sub-project.
24. The following documents were referred in order to prepare Environmental Safeguards Due-Diligence Report:
- Project Information Memorandum (PIM)
 - Detailed Project Report
 - Project Statutory Approvals
 - Project HSE Documents
 - Concession Agreement
 - Power Purchase Agreement
 - Land allotment/lease agreement
 - Labour License
 - EPC Work Orders/Contract Documents
 - Sub-project layouts

12. COMPLIANCE OF JUWMVL WITH ESSF OF IIFCL

25. The Environmental and Social Safeguard Framework (ESSF) provides the enabling mechanism to IIFCL to deliver its policy objectives and applies to projects funded by IIFCL throughout the project cycle. The ESSF defines procedures, roles, and responsibilities, at various project milestones for managing the adverse environmental impacts.
26. The sub-project does not require obtaining environmental clearance as per Government of India's GOI's screening criteria for infrastructure development projects. Such projects do not require an environmental impact assessment. The environmental assessment of the site for JUWMVL was conducted by the sub-project developer as part of the Prefeasibility study and Detailed Project Report. On the basis of information provided in sub-project documents including prefeasibility and detailed projects reports and site visit observations, an environmental examination was conducted and description of the sub-project environment has been included in Section 16 of the ESDDR and anticipated environmental impacts during construction and operation phase of JUWMVL have been

elaborated in Section 18 and 19 of the ESDDR. Appropriate planning instruments were developed for the sub-project and Environmental Management Plans (EMP) was proposed in the DPR of JUWMVL. Also, the Concession Agreement (CA) signed by JUWMVL has relevant clauses related to EMP & environmental monitoring.

27. The sub-project is compliant to Government of India regulations and has adequate EMP implementation on site. Therefore, it can be concluded that JUWMVL is compliant to the requirements of IIFCL's ESSF.

13. STATUS OF REGULATORY CLEARANCES

28. It is required that the sub-project meets the requirements of appropriate Indian legislations by considering obligations and guidelines of regulatory authorities. The sub-project should have necessary national and local clearances as well as permits and approvals for project implementation and suitable environmental management plan should be applied. The statutory clearances related to environmental aspects and to be obtained from regulatory authorities as part of the sub-project development, were assessed and current status of availability of such clearances are given in **Table 5**.

Table 5: Statutory Clearances/Approvals/Permits required and present status

Clearance Required	Statutory Authority	Status	Remarks
Environmental Clearance	Ministry of Environment, Forests and Climate Change (MoEFCC), New Delhi	Not Applicable	Not Applicable as power plants up to 15 MW based on non-hazardous municipal waste and using auxiliary fuel such as coal, lignite and petroleum products up to 15% are exempted from Environmental clearance and EIA requirements. Clarification from MoEFCC was issued to Ministry of Urban Development vide DO letter dated 3.07.2017 that when WtE plants up to 15 MW are proposed on existing landfill site they do not attract the provisions of EIA Notification, 2006 (Annexure VII).
Forest Clearance	Ministry of Environment, Forests and Climate Change, New Delhi	Not Applicable	The sub-project is not located in forest area.
The Wildlife Protection Act, 1972 & Biological Diversity Act, 2002	Ministry of Environment, Forests and Climate Change, New Delhi; National Biodiversity Authority	Not Applicable	Not required, as project site does not lie within or in eco sensitive zone of any National Park, Wild Life Sanctuary or biodiversity rich area as informed by project developer.
Consent for Establishment Project Facility	Andhra Pradesh Pollution Control Board	Available	Consent for Establishment from the State Pollution Control Board

			under Section 25 of Water (Pollution & Control of Pollution) Act, 1974 and under Section 21 of Air (Pollution & Control of Pollution) Act, 1981 has been granted to the sub-project vide letter dated 23.03.2017 (Annexure VIII).
Authorization under Solid Waste Management Rules, 2016	Andhra Pradesh Pollution Control Board	Available	Andhra Pradesh Pollution Control Board has authorised JUWMVL for municipal solid waste based WtE plant of capacity of 15 MW power generations and to produce other by- products vide letter dated 14.05.2018 (Annexure IX).
Water Supply Permission	Greater Municipal Corporation Visakhapatnam	Available	Greater Visakhapatnam Municipal Corporation has granted assurance for 1.2 MLD sewage treated water supply to JUWMVL plant from nearest sewage treatment plant whenever the plant comes into operation vide letters dated 24.03.17 (Annexure X).
Ground Water Permissions	Andhra Pradesh Ground Water and Water Audit Department	Available	Andhra Pradesh Ground Water Department has granted permission to JUWMVL for drawing water from four bore wells at sub-project location on 21.08.2017 (Annexure XI).
Fire No Objection Certificate	Andhra Pradesh State Disaster Response and Fire Services Department	Provisional NOC Available	Provisional No Objection Certificate is issued to JUWMVL on 18.06.2018 (Annexure XII). Formal approval will be obtained / issued before the plant is operational.
Factories Act, 1948	Factories Department, Government of Andhra Pradesh	Available	The factories plan has been approved vide letter dated 25.07.2017 by Director of Factories, Government of Andhra Pradesh (Annexure XIII).
Fuel Storage Permission	Controller of Explosives (CCoE), Government of Andhra Pradesh	Available	Fuel storage permission has been granted vide letter dated 27.05.2019 (Annexure XIV).

29. Sub-project developer has informed that JUWMVL applied for approval of Terms of Reference for taking up Environmental Impact Assessment (EIA) study for the project during May 2018 to State Level Environment Impact Assessment Authority (SEIAA) for environment clearance along with other projects of JUIL awarded in the State of Andhra Pradesh. For JUIL's sub-project located in Vishakhapatnam District of Andhra Pradesh, SEIAA passed directive that it may not require environmental clearance since it is only 15 MW capacity. Developer has informed that on the basis of this decision by SEIAA and discussions of the sub-project developer with the Authorities, the application for TOR was withdrawn for JUWMVL (**Annexure XV**). Therefore, no EIA study was undertaken by the sub-project developer for JUWMVL.

14. ALTERNATIVE ANALYSIS

30. JUIL was selected through a bidding process for development of WtE processing facilities in clusters in Andhra Pradesh by New and Renewable Energy Development Corporation of Andhra Pradesh Limited (NREDCAP). The site allocation was done by the ULB, therefore no site alternatives were explored by JUWMVL. The site allocated for the sub-project are existing dump yard used by the ULB.

15. DESCRIPTION OF THE ENVIRONMENT

31. The project area available for WtE facility is about 17.08 acres and 40 acres is available for development of scientific landfill at Kapuluppada. The project site is situated on an undulating terrain and on the down hills of three hillocks which form the eastern, northern & southern boundaries. The western boundary of the proposed site is along dumping yard of GVMC & NH 5/16 at about 800 m.
32. The proposed project site for SLF facility is unevenly distributed. The proposed area has been demarcated with cement poles and fencing from the GVMC area.
33. The project area comes under the jurisdiction of newly formed GVMC. The site is having red and brownish clayey sandy soil along with pebbles and boulders. The proposed project area is situated 800 meters away from the National Highway 5/16, which is connecting Visakhapatnam and Kolkata. The project is situated at a distance of about 20 km from Visakhapatnam. Visakhapatnam railway station is the major railway station which is 20 km from the project site. Nearest airport is at Visakhapatnam and is about 21.5 km whereas Visakhapatnam sea port is 25 km away from the project site.
34. The project area is situated on an undulating terrain. The land is sloping from southern to northern directions. Some portion of the southern part having elevation is about 155 m, whereas northern part of the site is varying from 51-52 m. The elevation of the east and western boundary of the proposed site is varies from 53-54 m.
35. Waste dumping in the proposed project area is in practice since 1994. Legacy dump is available in the land allocated for landfill.
36. The site evaluation as per location criteria specified in the Manual on Municipal Solid Waste Management, Central Public Health and Environmental Engineering Organisation (CPHEEO), Government of India, 2016, is given below:

Table 6: Assessment based on location criteria as per CPHEEO, Government of India

Sl. No.	Criteria	CPHEEO Manual Requirement	Description of the Site	Status of the Site
1.	Lake/Pond	200 m away from the Lake / Pond	One canal passes about 990 m away	Complies

2.	River	100 m away from the river	990 m (canal)	Complies
3.	Flood prone area	No land fill within a 100 years flood prone area	Not available	Can be met easily as the area is hilly terrain
4.	Highway or railway line	Away from 200 m NH / State highway	NH 5/16, 800 m away (Aerial)	Complies
5.	Public parks	300 m away from public parks	No parks within 300 m	Complies
6.	Habitation	200 m away from the habitation area	No habitations observed within 200 m from the site which is 365 m away	Complies
7.	Critical habitat area	No landfill within the critical habitat area. It is defined as the area in which 1 or more endangered species live.	No critical habitat	Complies
8.	Airports	No landfill within 20 km	Visakhapatnam airport is more than 22 km	Complies
9.	Coastal regulatory zone	Should not be sited	Far away from sea	Complies
10.	Buffer Zone	As prescribed by regulatory	The entire area and their surroundings are vacant land which was acknowledged by JUWMVL.	Can be met easily

16. VISIT TO SUB-PROJECT LOCATION

37. As part of the preparation of the ESDDR, the sub-project was visited by Head-Environment & Social Management Unit (ESMU, Social Safeguard Specialist of IIFCL and Environment Consultant, ADB on 4th & 5th February 2020 for field verification of environmental safeguards. Consultation with the Project Head and Health & Safety team was also done regarding safeguards implementation during the site visit. The sub-project is currently in construction phase. The site visit photographs are given in Photo Plate-I.

17. ANTICIPATED ENVIRONMENTAL IMPACTS DURING CONSTRUCTION PHASE AND MITIGATION MEASURES

38. The proposed WtE project is not located in forest land or wild life sanctuary/national park. The sub project is not located in eco-sensitive zones declared by the Government. The impacts during construction phase and mitigation status thereon are elaborated below:
39. **Land Use:** At present, the land allotted for the project (17.08 and 40 acres) is an existing landfill site/dump yard being used by GVMC since the year 1994. The area where the WtE facility is being constructed was handed over to the sub-project developer by GVMC after clearing. Hence the land use pattern of the area is not changing due to coming up of the project. However, some temporary disturbances due to construction activity are anticipated during construction phase. The impacts are temporary and will go after the construction activity is over. The construction activity is scheduled to be completed by July 2020. Thus, the impact on land use during the construction work is

temporary and not significant in nature. After construction of the plant the aesthetics of the area will improve as compared to the present scenario.

40. **Air Quality:** Construction activities involve excavation for construction of various facilities/units of the sub-project. This will result in limited fugitive emissions at site. Spraying of water during construction will reduce the dust fall to a great extent. The mitigation measures adopted by project proponent to avoid air pollution include management of vehicular movement to avoid traffic congestions, mechanical water sprinkling for suppression of dust, vehicle to comply with valid PUC certificate.
41. **Noise Levels:** During construction phase, the sources of noise pollution will primarily be limited to movement of vehicles transporting construction material and equipment to the site. The project site, however, is not in close vicinity to habitation area. Since the movement of traffic is not very significant and away from settlement areas hence the habitation will not be affected due to increased noise level. Use of low noise generating equipment and restriction of construction activity for limited periods will further reduce the disturbance from noise pollution. JUWMVL to procure machinery / construction equipment in accordance to the specifications confirming to source noise levels.
42. **Water Quality:** The existing dump yard must be causing some impact on the ground water quality in absence of any scientific method to curtail the water pollution. The water for construction is being taken from the three permitted operational bore wells in the project area.
43. **Soil:** The excavation work involved in the project is limited to construction of foundation for various units of the plant. The soil is envisaged to be used during construction activities. During site visit, it was observed that soil was stockpiled on one side and used for making ramps etc.
44. **Flora:** The construction work may cause loss of vegetation. The sub-project is not located in forest area or protected area, therefore minimum impact is anticipated on the flora. The site used by the sub-project is already an existing dump yard with minimum vegetation. Project Head during site visit informed IIFCL staff that a number of saplings will be planted at the project site. The total 950 saplings have been planted at the site and another 1000 are planned.
45. **Fauna:** The existing land use for the sub-project site is existing dump yard. No forest areas are falling in proposed project area and the sub-project is not part of any eco-sensitive areas like national park or sanctuaries thereby no presence of rare and endangered species is anticipated. However, stray cattle are anticipated to be around dump yard. Currently the proposed area has been demarcated with cement poles and fencing from the GVMC.
46. **Health and Safety:** Developer has informed that about 290 labours are engaged during construction phase. The labours have been provided with toilet facilities, water supply through tankers and electricity. Toilet facilities are also constructed at the project site for labour. A doctor is available at the site every alternative day for 2 hours for the labour. First aid kits are available at the

site. Labour is provided with personal protective equipment (PPE) while undertaking work at the site. Developer has informed that job safety analysis, tool box talk, induction training and job specific trainings are provided to staff. HSE related matters are being reported in the MPR of the sub-project. The safety training conducted in the month of January 2020 are given below for sample purpose:

- Tool Box Talk meetings conducted – 132 attended by 1681 workers
- Safety Induction Trainings – 19 attended by 100 workers
- Job Specific Trainings Conducted – 17 attended by 170 workers

47. Clause 24 of the work orders at JUWMVL are for safety/hygiene. In accordance to this clause the contractor has to provide PPE to labour and ensure safety/hygiene for the labour. The clause also mentions regarding arrangement of training programmes to be conducted before engaging any worker on the job. There are penalty on the contractor for not complying safety norms at site.
48. General health check-ups are conducted regularly for all JUWMVL employees and contract employees. Health register is maintained and recorded regularly for all employees. Medical camp and health awareness campaign are organized in association with local hospitals periodically.
49. **Cultural Sites:** As informed by project developer, no archaeological, heritage, historical or culturally important sites are located close to the proposed sub-project.
50. Quarterly reports on compliance of conditions of Authorization under Solid Waste Management Rules, 2016 and Consent for Establishment of the facility are being submitted to the Andhra Pradesh Pollution Control Board.

18. ANTICIPATED ENVIRONMENTAL IMPACTS DURING OPERATION PHASE AND MITIGATION MEASURES

51. **Land Use & Soil:** Changes in land use pattern are envisaged once the sub-project is under operation. At present area is a dump site for GVMC. The WtE facility once operational will not impact the land use pattern. The landfill will be used for disposal of process rejects and inert generated from WtE facility of JUWMVL. The process rejects include the bottom ash and residual material generated during WtE process. The proposed landfill is designed for a period of 25 years referring the terms and conditions mentioned in the concessionaire agreement and consent for establishment order. The design concept involves appropriate procedure and safety considerations. Liner and cover system has been proposed for the landfill site. Plantation should be done in sufficient density to minimize soil erosion.
52. **Air and Noise Quality:** Air pollution is anticipated during operational phase of the WtE facility. Unloading and processing of waste is not anticipated to generate dust and odour, since these activities are carried out in covered areas. The air pollution control system shall be installed along with the commissioning of the facility and shall comply with norms for controlling air pollution. Emission control system is proposed at the WtE plant, the system will consist essentially of the following major components:

- Flue gas system inlet duct
 - Reactor and product recirculation system
 - Bag house filter
 - Sorbent handling system
 - End product handling system
 - Process water system
 - Auxiliary systems (compressed air system, nitrogen inert system)
53. Fugitive emissions will be controlled by the following mitigation options during operation of the WtE facility:
- Maintaining and/or re-establishment of a grass cover on area where there is no on going Activity
 - Frequent watering of unsealed roads and stockpile area- cover material
 - Blacktop of the roads as and when they are settled and ready for the same
 - Repair, relaying of blacktop roads from the landfill area to the main road
 - Using dust control sprays during loading and unloading of wastes
 - Ceasing dust generating activities during high wind times
 - Minimizing working distances for internal transport of wastes
 - Periodical monitoring of ambient air quality for all relevant parameters
 - Odour control by rapid stabilization and disposal of wastes
54. Outlet emissions are proposed to be monitored through sophisticated continuous emission measuring instruments. The system will measure the following parameters - CO₂, HCl, NO, NO_x, O₂, SO_x and SPM. Gas temperature and the pressure are also proposed to be analysed continuously to regulate the dosing of sorbents. However, all other parameters would be monitored on weekly basis. The control of the dioxins/furans and heavy metals – especially mercury – is performed by means of adsorption on pulverized activated carbon. The activated carbon is injected into the reactor together with the slaked lime.
55. Excessive noise shall be avoided by providing noise enclosure where reasonably practical. Hearing protection is proposed to be worn by labour while working in high noise areas exceeding 85 dB. The following strategies are proposed to be adopted to further minimize the noise levels:
- Maintaining the site machinery in good operating condition
 - Regular maintenance of systems and installation of noise control equipment wherever required
 - Development of green belt all around the site
 - Periodical monitoring of noise levels
56. **Water Quality:** Water quality including ground water is anticipated to be impacted during operation phase of the sub-project if mitigation measures are not adopted. At the WtE processing facility, leachate collection system and treatment facility is proposed. A concrete platform is proposed to be constructed to prevent ground water contamination due to leachate. Leachate

generated shall be stored in an underground leachate tank and transported to leachate treatment plant.

57. **Leachate Treatment Process:** Leachate treatment process has been designed for JUWMVL. About 350 KLD of leachate will be collected in leachate sump through a network of perforated pipes laid in the plant. The capacity of the sump will be sufficient to collect and store leachate for two days treatment and disposal. The liner system at the landfill site will act as a protective system by prevention of percolation of leachate into sub soil and ground water. The liner system is a combination of barrier layers such as natural clay, amended soils and flexible geo-membrane and also comprises of drainage layer. Regular monitoring of water quality parameters is suggested. The ground water quality within 50 meters of the periphery of facility shall be periodically monitored covering different seasons to ensure that the ground water is not contaminated.
58. **Flora:** The WtE plant in operation phase is not anticipated to have impact on vegetation in the area. It is proposed by the project developer to develop a vegetative cover in a strip of minimum 20 m width around the site boundary of scientific landfill facility. Greenbelts shall be developed all around the boundary of the facility for MSW based waste to energy plant. Project developer has informed that about 33% of the area will be developed as green belt at project site. Green belt will create overall positive impact on the aesthetics of the site.
59. **Fauna:** Construction of high level wall is proposed to keep the animals away.
60. **Health and Safety:** Risk analysis has been done at the project and safety measures proposed at the site for staff. JUWMVL has listed activities which require risk assessment and work procedures. Site personnel are to attend a site induction including briefing on the site rules and regulations. All workers shall be equipped with proper PPE maintained in good condition. Hearing protectors shall be worn in areas where noise levels exceed 85 dB. Respirators to be worn in contaminated atmospheres. Equipment shall be used by trained personnel only.

19. ENVIRONMENTAL SENSITIVITY AND DUE DILIGENCE

61. The environmental sensitivity of the 15 MW WtE processing facility and landfill site has been assessed by reviewing the project related documents like Detailed Project Report (DPR), various permits/NOCs, health and safety related information, supplemented by field visit and consultation with the concessionaire. The environmental sensitivity assessment is given below:
- The WtE processing plant along with landfill is being developed on an existing dump yard of Greater Visakhapatnam Municipal Corporation (GVMC). GVMC has leased out 17.08 acres for MSW processing facility and allotted 40 acres for landfill site.
 - The entire facility is being developed on government land.
 - No notified forest area is getting affected due to the sub-project.

- The sub-project sites are not located in any protected area like wildlife sanctuary / national park or in any eco-sensitive area.
- During site visit and as per discussions with the sub-project staff, it was informed that no wild animals are sighted in and around the sub-project area. There is no loss of bio-diversity as there are no fauna species within the project area.
- As informed by the concessionaire, no important cultural / heritage sites are getting affected due to the sub-project.
- Labour working at the sites are staying in a labour camp within (800 meters) from the sub-project site. The area is leased land private land. Labour for boiler mechanical engineering works are staying away from the site in residential area.
- The impacts of the sub-project are manageable and temporary in nature. EMP is proposed to mitigate and manage the environmental impacts at the sub-project in consultation with the sub-project developer.
- It is the responsibility of contractor to maintain safety and well-being of labour at site. Job safety analysis is being done at the sub-project. Tool box talks, induction trainings and job specific training are being provided to the work force.
- Water is being sourced from authorized bore wells at site during construction phase. Treated sewage water will be supplied through pipe lines during operation phase.

20. ENVIRONMENT MANAGEMENT PLAN

62. A consolidated EMP presented in this section which is being implemented at JUWMVL. The EMPs proposed in planning documents as mentioned in Section 13 of the ESDDR is compiled in this section and their effectiveness is assessed vis-à-vis the actual activities undertaken by the developer considering environmental impacts. The major components of the EMP include:
- Mitigation of potentially adverse impacts;
 - Monitoring during the project implementation and operation; and,
 - Institutional arrangements.
63. The environmental issues and suggested mitigation measures with institutional arrangements for implementation and their compliance status are given in **Table 7 and 8**. The EMP and monitoring plan is being implemented during construction phase. The actual status of implementation is provided in **Table 7**. The assessment of implementation of EMP was checked through records being maintained at JUWMVL and ground check during site visit. The EMPs are found to be adequate and effective during the construction phase of JUWMVL. EHS Committee is formed at

the sub-project, which includes members from the Contractor's side also. The Committee oversees the implementation of safety and management measures at the site.

Table 7: Environment Management Plan Implementation Matrix for Construction Stage

Potential Impacts	Mitigation Measure	Monitoring of mitigation	Responsibility	Status of Implementation
Air Quality	<ul style="list-style-type: none"> Spraying water when necessary to suppress dust and fugitive emissions; All vehicles to possess a valid pollution control certificate 	<ul style="list-style-type: none"> Periodic monitoring of ambient air quality for all relevant parameters in the plant area to be done. 	JUWMVL	<ul style="list-style-type: none"> Water is being sprinkled at site to suppress dust and fugitive emissions. Developer has confirmed during site visit that all vehicles possess a valid pollution control certificate.
Flora and Fauna	<ul style="list-style-type: none"> Minimize removal of vegetation Green belts to be developed around boundary of periphery Prohibit employees from poaching and cutting of trees for firewood. 	<ul style="list-style-type: none"> 7.5 meters from the reserve forest land side to be left Record of plantations to be maintained at site Fencing shall be done around the entire periphery of the facility to keep stray animals away Record of saplings planted and survival rate to be kept Employees to be supervised and sensitized towards cutting of trees and poaching 	JUWMVL	<ul style="list-style-type: none"> Fencing has been done and is being maintained at the sub-project. Green belt is being developed in and around periphery of JUWMVL. Records are maintained at site. Monthly EHS reports are maintained at site.
Water Quality	<ul style="list-style-type: none"> Stockpiling of earth fill shall be avoided unless covered during the monsoon season Prioritize re-use of excess spoils and materials in the construction works. Install temporary silt traps or sedimentation basins along the drainage Disposal of any wastes generated by construction activities shall be done in designated 	<ul style="list-style-type: none"> Ground quality monitoring to be done 	JUWMVL	<ul style="list-style-type: none"> Ground water quality monitoring is being done at two locations. The water quality parameters are found to be within limits.

	sites			
Noise Levels	<ul style="list-style-type: none"> • Construction activities with the greatest potential to generate noise shall be conducted during periods of the day which will result in least disturbance; • Restriction of vehicular movement at a speed limit for minimum noise • Procuring machinery/ construction equipment in accordance to the specifications confirming to source noise levels • Maintain maximum sound levels not exceeding 80 decibels (dbA) when measured at a distance 	Noise quality monitoring to be done	JUWMVL	Noise quality monitoring is done at the site and noise levels are found to be within limits.
Buffer zone around facility	<ul style="list-style-type: none"> • Buffer zone area to be left as per layout approval of State Pollution Control Board • Green belt buffer to be maintained in view of public safety 	Plantation records to be maintained	JUWMVL	Green belt is being developed in and around periphery of JUWMVL. Records are maintained at site.
Health & Safety	<ul style="list-style-type: none"> • Labour shall be provided with PPE • First aid kits and doctor shall be available at site • Job safety analysis, tool box talk, induction training and job specific trainings shall be provided to staff 	<ul style="list-style-type: none"> • Continuous inspection shall be done at site by Contractor • HSE related matters are shall be reported on monthly basis 	Sub-contractor; JUWMVL	<ul style="list-style-type: none"> • Monthly EHS reports are maintained at site. • Tool box talks, safety induction trainings, mass trainings, job specific trainings, equipment inspection, accident reports etc. are reported in monthly EHS reports. • First aid kits are maintained at site and a doctor visits site every alternate day. The doctor is available round the

				clock on call. • General health checkups are done for JUWMVL employees and contractors staff at the sub-project.
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Table 8: Environment Management Plan Implementation Matrix for Operation Stage

Potential Impacts	Mitigation Measure	Monitoring of mitigation	Responsibility
Air Quality <ul style="list-style-type: none"> Due to emissions from vehicles transporting MSW from ULBs Flue gas emissions from WtE facility 	<ul style="list-style-type: none"> All vehicles to possess a valid pollution control certificate; Maintaining and/or re-establishment of a grass cover on area where there is no on-going activity The approach and internal roads shall be concreted or paved to avoid dust generation due to movement of vehicles Using dust control sprays during loading and unloading of wastes Air Pollution Control system as defined in the DPR of the sub-project 	<ul style="list-style-type: none"> Periodic monitoring of ambient air quality for all relevant parameters in the plant area Continuous emission monitoring of outlet emissions Green belt shall be developed all along the boundary and vacant spaces in not less than 33% of the total area with indigenous species 	ULBs for vehicles transporting waste JUWMVL
Noise Quality	<ul style="list-style-type: none"> Site machinery shall be maintained in good operating condition Regular maintenance of systems and installation of noise control equipment wherever required Development of green belt all around the site 	<ul style="list-style-type: none"> Periodic monitoring of noise levels 	JUWMVL
Odor problem due to MSW	<ul style="list-style-type: none"> Waste to be transported in covered vehicles Unloading as well as processing of the waste to be carried out under covered areas. Odor control by rapid stabilization and disposal of wastes with daily cover placement 	<ul style="list-style-type: none"> Odor nuisance at down wind direction on the boundary of processing plant shall be checked regularly Records to be maintained 	ULB for transportation of waste JUWMVL
Water consumption & Quality	<ul style="list-style-type: none"> Leachate treatment plan shall include leachate collection and treatment system including : <ul style="list-style-type: none"> influent leachate collection tank; bar screens; oil & grease chambers; anaerobic reactor; secondary clarifier; aeration tanks; carbon filter; ultra- filtration; sludge thickener; belt press etc. Treated leachate shall be recycled or utilized after meeting standards 	<ul style="list-style-type: none"> Surface water quality and treated leachate quality monitoring shall be done both at WtE facility and landfill site Ground water quality to be monitored within 50 m of periphery covering different seasons Water consumption records to be kept 	JUWMVL

	as specified by Pollution Control Board <ul style="list-style-type: none"> Water from Cooling systems will be neutralized in the neutralized pit and utilized 		
Buffer zone around facility	<ul style="list-style-type: none"> Buffer zone area to be left as per layout approval of State Pollution Control Board Green belt buffer to be maintained in view of public safety 	<ul style="list-style-type: none"> Green belt shall be developed all along the boundary and vacant spaces in not less than 33% of the total area 	JUWMVL
Health & Safety of workers	<ul style="list-style-type: none"> Good housekeeping to be maintained at the plant Tool box talks, induction trainings shall be conducted Workers shall be provided with PPE Hearing protectors shall be worn in areas where noise levels exceeds 85 dB Respirators shall; be worn in contaminated areas All pipe valves, sewers, drains shall be leak proof Dyke walls shall be constructed around storage of chemicals/fuels Fire-fighting equipment shall be installed all over the plant 	<ul style="list-style-type: none"> Training and health records to be maintained at site Accident/incident reports to be maintained at site Fire-fighting system/equipment maintenance records 	JUWMVL

21. INSTITUTIONAL FRAMEWORK FOR EMP IMPLEMENTATION

64. JUWMVL has adequate institutional arrangement to oversee the implementation of health, safety & environment (HSE) related aspects at the sub-project. The Senior Engineer (Safety) reports to Assistant Manager (HSE) who directly reports to the President Projects. The EMP implementation during the construction stage shall primarily be the responsibility of the contractor which will be constantly monitored by the project team of JUWMVL. The project team of JUWMVL consists of managers supported by engineers and operators. AM (HSE) and Senior Engineer (Safety) are responsible for project execution and shall be responsible for environment management, monitoring health and safety issues, etc.

22. CATEGORIZATION OF SUB-PROJECT

65. The sub-project can be classified as category B based upon ADB's requirements as per Safeguard Policy Statement (2009). This classification is based on the review of the available documents and site visit with respect to the environmental sensitivity due to project activities.

23. PROJECT AGAINST THE PROHIBITED INVESTMENT ACTIVITIES LIST

66. The sub-project does not involve any prohibited activity as per the Prohibited Investment Activities List (PIAL) of ADB.

24. GRIEVANCE REDRESSAL MECHANISM

67. Developer has informed that a Grievance Redressal Mechanism (GRM) to sort out issues and concerns early at the ground level is in place. During the site visit it was informed, that Grievance Redressal Committee (GRC) has been constituted at the project site to ensure that the affected person's grievances, on both environmental and social concerns, are adequately addressed. The GRC comprises of Project Head and site in charge followed by site Engineer/EHS officer and Site Supervisor. Developer informed during site visit, that if some grievances/issues come to them, they first try to resolve it through site-in-charge, if not resolved then it is forwarded at the President Project level and finally to the Head Office. The Project proponent is advised to keep a grievance register at site gate for taking up complaints/concerns of the general public, if any. As informed by the project developer, no grievance has been received for the project.

25. SITE VISIT OBSERVATIONS

68. A site visit was undertaken by IIFCL's Head-ESMU, Social Safeguard Specialist and Environmental Consultant on 4th & 5th February 2020. The site visit was undertaken to review the implementation of the project's environmental and social safeguards. During the site visit, following staff was mainly consulted regarding environmental safeguards related measures implemented at JUWMVL project site:
- Mr. M.V. Chary, President AP Projects (On Phone)
 - Mr. Obili Chandra Sekhar Reddy, General Manager Projects
 - Mr. V. Nageswara Rao, Asst. General Manager – HR
 - Mr. V. Sathish, Sr. Manager – O&M
 - Mr. Bhaskar Reddy HSE In-charge
69. At project office at site, Mr. V. Sathish, Sr. Manager –O&M and HSE in-charge at site discussed project features, progress of the sub-project so far, clearances, environment & social safeguards related aspects of JUWMVL project. Based on the discussions with above mentioned officials and visit, the site observations are given below:
- The permits and NOCs required for the sub-project are in place. Sub-project staff explained the status of clearances/permits to IIFCL staff.
 - The sub-project site for WtE processing plant and landfill site are side by side and both were visited by IIFCL team. Legacy waste could be seen dumped at the dump yard site which will be used for landfill purpose.

- The developer informed that the sub-project does not involve any forest land, protected area, sites of cultural and heritage importance.
- Land for WtE processing unit was handed over to the sub-project after clearing by GVMC.
- Developer informed that most of the machinery and equipment have been received at the site. Civil, mechanical and electrical works are in full swing at JUWMVL site. The project is expected to be commissioned by July 2020.
- The area under construction was cordoned off with signage strip for safety purpose.
- Water for construction is being sourced from permitted bore wells at site. Water during operation phase will be sourced from nearest STP, for which assurance has been given in writing by respective authorities. Developer has informed that pipeline for STP water will be installed for uninterrupted supply.
- Labour was seen wearing PPE.
- A dispensary is built at the site with basic facilities. First aid kits were available at the site. Doctor visits the site every alternate day for two hours.
- A total of 950 saplings have been planted at the site. Most of the plantations are along the periphery of the WtE plant and landfill site. The saplings are being watered. Project staff informed that they have planned for another 1000 number of plantations in coming months. Green belt will be developed as per the management plan.
- Developer has informed that general health check-ups are conducted regularly for all JUWMVL employees and contract employees and health register is maintained and recorded regularly of all employees.
- Sub-project is complying with the conditions of Andhra Pradesh Pollution Control Board.
- Continuous emission monitoring system will be installed at the WtE facility on commissioning.

26. CONCLUSIONS AND RECOMMENDATIONS

70. Based upon the available documents, information and site visit of JUWMVL, it is concluded that JUWMVL has undertaken adequate safety and environmental safeguard measures. The conclusions for the sub-project are given below:

- The sub-project has been prepared by JUWMVL as per its own funding requirement and not in anticipation to ADB operation;
- The sub-project has necessary national and local level clearance as well as permits and approvals for project implementation;
- The sub-project is being implemented on existing dump yard of the GVMC;
- JUWMVL is not located in forest land and away from human settlement; the project site does not fall within any national park, wildlife sanctuary, archaeological, heritage, historical or culturally important sites and no rare and endangered species of flora and fauna are present in the project impacted area.
- Concessionaire has confirmed that all statutory clearances/approvals/permits are obtained by JUWMVL;
- JUWMVL has adequate environment and safety staff for implementation of environmental mitigation and safety measures during construction;
- Commitment is shown by the developer to execute all construction and operation related activities for JUWMVL as per the established environment standards;
- The developer has been informed to implement EMP in structured manner. Developer has been advised to conduct monitoring and maintain records as per EMP requirement during construction and operation phase;
- Concessionaire has confirmed that they will continue compliance with the terms and conditions stipulated according to statutory clearances/approvals/permits;
- Based on the due diligence findings, the sub-project developer has taken adequate measures for safety and environmental management, so it can be deduced that the sub-project has no significant environmental safeguard issues.
- Regular field verification will be undertaken by IIFCL safeguards team to assess and confirm compliance with the agreed environmental measures by the concessionaire, including carrying out public consultations during execution.

71. The current sub-project therefore does not appear to involve any kind of reputational risk to ADB funding on environmental safeguards and recommended for funding under the proposed project.

DUE DILIGENCE ON SOCIAL SAFEGUARDS

27. PURPOSE OF THE SOCIAL SAFEGUARDS DUE DILIGENCE:

72. The Social Safeguards Due Diligence Report (SSDDR) has been carried out by India Infrastructure Finance Company Limited (IIFCL) in consultation with the Concessionaire, Jindal Urban Waste Management (Visakhapatnam) Limited (JUWMVL) to assess the Social safeguards adequacy of the project with the applicable National Policies. The report has been prepared as per the documents/information received from the concessionaire and on the basis of site visit organized during 4th and 5th of February 2020. The information given in the SSDDR is agreed and confirmed by the Concessionaire.

28. PROJECT AGAINST THE PROHIBITED INVESTMENT ACTIVITIES LIST:

73. The Subproject JUWMVL does not involve any prohibited activity as per the Prohibited Investment Activities List (PIAL) of ADB.

29. OBJECTIVE OF SOCIAL SAFEGUARDS DUE DILIGENCE:

74. Social Safeguards due diligence study is carried out to assess the social safeguards monitoring compliance status of the project as per the applicable National policies/procedures as observed during the site visit as well as the information received. The main objective of this Social Safeguard Due Diligence Report (SSDDR) is,
- To assess the likely social impacts and its minimization/mitigation majors adopted of the project with respect to land acquisition, compensation and involuntary resettlement, common properties, if any, in terms of displacement, loss of incomes, and community links;
 - To ascertain, in case of any adverse impact, if appropriate mitigation measures have been taken during the project planning, designing and frameworks established for carrying out safeguard measures during the implementation stage to minimize and mitigate such if any adverse impacts;

30. APPROACH AND METHODOLOGY:

75. The social due diligence report for the project has been initiated after review of Information Memorandum (IM), DPR, all other clearances, NoCs, licenses, Gazette notification, Lease Agreements, allotment letters from authority etc.. On site visit and detail consultation/discussion with the project developer JUWMVL and various permits and approvals relating to the project to understand the salient features of the project and various social concerns. The following documents/Reports/Licenses and notifications were referred in order to prepare the Social Safeguard Due Diligence Report:

- Project Information Memorandum (PIM);
- Detailed Project Report (DPR);
- Lender's Independent Engineer's Report for quarter ending December 2019 ;
- Project Statutory Approvals;
- Project HSE Documents;
- Concession Agreement(CA) ;
- Power Purchase Agreement (PPA);
- Land allotment/lease agreement;
- Labour License ;
- EPC Work Orders/Contract Documents;
- Discussion with developer;
- Site visit and discussions with the project proponent.

31. SOCIAL IMPACT OF THE PROJECT:

31.1 Impact on Structure:

76. The sub-project is being developed on an existing dump site. The project site location was allocated by the Greater Visakhapatnam Municipal Corporation (GVMC) through signing of lease deed. As informed by the concessionaire and noted during the site visit, no structure is getting affected due to the project. Further as confirmed by the project developer no archaeological heritage, historical or culturally important sites are located or affected due to the project.

31.2 Land Acquisition in the Project:

77. Based on the availability of land and location of existing dump yards/land fill site, the waste to energy project JUWMVL has located at Kapuluppada village of Bhemunipatnam Mandal at Visakhapatnam District, Andhra Pradesh. The project site is currently being utilised as dumping yard/landfill site by Greater Visakhapatnam Municipal Corporation (GVMC).
78. The total land required for the project is Acres 57.08 Cents out of which Acres 17.08 Cents is for power plant and machineries, administrative building and amenities blocks and common facilities etc. and the rest 40 Acres of land is earmarked to JUWMVL for scientific land fill for a period of 25 years.
79. Greater Visakhapatnam Municipal Corporation Ltd. has allotted 20 Acres of land to JUWMVL. Out of 20 Acres of land JUWMVL through lease agreement with GVMCL has taken an area of 17.08 Acres of land for setting up a MSW power plant and machineries, administrative building and amenities blocks and common facilities etc. for a period of 25 year on lease basis. As per the land lease agreement, land lease rent is Rs. 70,000/- per acres per annum (10% of the Acre Cost of Rs. 700000/- considering the market value). The lease rentals shall be enhanced in every block of 5 years by increasing 10% on the lease rental of the previous block of 5 years. The Land allotment letter is attached as **Annexure-I**.

80. The Govt. of Andhra Pradesh also accorded permission for the existing dump yard/land fill site having an area of 40 Acres has also been earmarked to JUWMVL by GVMC, vide letter dated 22.04.2017, for Scientific land fill. The land fill has been allotted to the concessionaire on free of cost basis for a period of 25 year. The Government order on land allotment is attached as **Annexure II**.
81. Although there was no involuntary land acquisition in the project and all the required land for the project is government land, allocated by the Government of Andhra Pradesh by signing of the land lease agreement (17.08 acres) and earmarked on free of cost basis (40 acres). Land acquisition process was initiated prior to IIFCL's involvement and not in anticipation of ADB financing and thus IIFCL was not involved in the rehabilitation and resettlement activities of project, it was also observed that there was no rehabilitation and resettlement in the project.

31.3 Resettlement impact in the sub-project

82. During the site visit it was observed that, there is no a commercial / residential structure or inhabitants dwelling on the site. The project site is so identified that the project location is far away from the habitation. Even it was also observed during the site visit that there were no temporary shelters/sheds at the project site. The land leased for the project doesn't result in any involuntary resettlement impacts or any compensation issues.

31.4 Impact on Indigenous people:

83. The total land required for the project is Govt. land allocated by GVMC to the concessionaire JUWMVL. As confirmed by the subproject developer, no indigenous people are affected in the project because of the land allocation to the project.

31.5 Impact on Common Properties Resources (CPR):

84. It was observed during the site visit that no common property resources are affected because of this project JUWMVL.

32. GRIEVANCE REDRESSAL MECHANISM:

85. As informed by the project developer and no grievance was received by the project proponent; however they have formed their own grievance mechanism in place. During the site visit it was informed, that Grievance Redressal Committee (GRC) has been constituted at the project site to ensure that the affected person's grievances, on both environmental and social concerns, are adequately addressed. During the site visit it was advised that the project proponent has to keep a grievance register at site gate for taking up complaints/concerns of the general public, if any.
86. The GRC comprises of Project Head and site in charge followed by site Engineer/EHS officer and Site Supervisor. During the site visit it was advised to the project officials that the grievances

if/when received must be recorded in detail mentioning the date, time, location, names of villager, details of grievance and the action taken to address the grievance.

87. As informed by the concessionaire during the site visit, the concerned local communities have already been informed about the project (via formal/informal discussion with panchayat heads, local community representatives) and no such grievance/complain are received. There were no grievances related to leased land and compensation reported at the project site.

33. LOCAL EMPLOYMENT:

88. During the discussion it was told that the project provides limited employment opportunities to the local people during the construction stage, especially with respect to unskilled labour. The nature of work requires specialized skill for the highly technical work such as establishment of plants and boilers. Local people normally do not have such experience. Thus, the contractors working for construction of plants and establishment of machineries have their own gang of skilled labour who are trained in similar activities.
89. Further, as informed by the sub project developer the contractors have given job opportunity to local people as security guard, driver and office assistants and where ever required developer has assured to provide more employment opportunities to local people as per the educational qualification. Out of the total work force of 390 more than 200 people are employed from local area through the contractors/subcontractors.
90. During the site visit it was observed that two female employees are employed from the local Engineering College, Gayatri Vidya Parisad Engineering College.
91. Further during the site visit it was also told that after the schedule commercial operation as targeted during month of July 2020, most of the employment opportunity will be given to local people as security guards, drivers, office assistance.

34. LABOUR LICENSE OBTAINED BY THE SUBPROJECT DEVELOPER:

92. The subproject developer Jindal Urban Waste Management (Visakhapatnam) Ltd. has received the Labour license from the Govt. of Andhra Pradesh, Labour Dept. for construction of waste to energy plant at Kapulluppada village of Bheemunipatnam, at Visakhapatnam District, Andhra Pradesh. The Deputy Commissioner of Labour, AP has issued the certificate under section 2 (d) and 4 (2) of Section 7 of the Contract Labour (R&A) (Regulation & Abolition) Act, 1970 and Inter State Migrant Workmen (RE &CS) Act 1979. The project developer as a principal employer has taken labour license for the project, detail of the labour licenses for 390 workmen is attached as **Annexure III.**

93. The project developer has ensured through the different subcontractors registered under the Employees' State Insurance Corporation (ESIC) for benefits of social security benefits for employees start with their first day on job. Under ESIC, if a candidate having per month salary of less than Rs. 21000 then he/she will be entitled in ESIC scheme. And in this 1.75% is contributed by Employee and 4.75% will be contributed by employer in the ESIC account. A sample copy of insurance taken by the main contractor is attached as **Annexure IV**.

35. DISCLOSURE:

94. On approval of the ESDDR by ADB, the report will be uploaded for public disclosure on IIFCL and ADB's website.

36. SITE VISIT OBSERVATION:

95. As part of the preparation of the ESDDR, the sub-project was visited by General Manager-Head-Environment & Social Management Unit (ESMU), Environmental Consultant, ADB and Social Safeguard Specialists of IIFCL on 4th & 5th of February 2020, for field verification of environmental & social safeguards. Consultation with the project officials like Project Head, Health & Safety team, HR Team, technical teams, security guards, drivers etc. were also done regarding safeguards implementation during the site visit. The sub-project is currently in construction phase. During the site visit, following staffs were consulted/discussed regarding safeguards related measures implemented at JUWMVL project at site:

- Mr. M.V. Chary, President AP Projects (On Phone)
 - Mr. Obili Chandra Sekhar Reddy, General Manager Projects
 - Mr. V. Nageswara Rao, Asst. General Manager – HR
 - Mr. V. Sathish, Sr. Manager – O&M
 - Mr. Bhaskar Reddy HSE In-charge
- The project is on construction stage and expected to be achieved SCOD during the month of July 2020;
 - As informed during the visit, no grievances have been received till date from the local people.
 - Local people have been given employment opportunity for unskilled and semi-skilled activity during the construction activity.
 - During the project operation, the concessionaire has assured that employment opportunity of approx. 20 locals for security guards/office boys/drivers/office assistance/supervisors as per requirement need to be employed.
 - During the site visit it was observed that two female employees are employed through campus recruitment from the local Engineering College, Gayatri Vidya Parishad Engineering College.
 - During the discussion it was told that the project developer has tied up with the local hospital, Gayatri Vidya Parishad Medical College and Hospitals for any untoward happening.

- Developer has informed that not single mishappening was reported till date.

37. CONCLUSIONS AND RECOMMENDATIONS:

96. The sub-project has been prepared by Jindal Urban Waste Management (Visakhapatnam) Ltd. which appears adequate social safeguard have been taken into consideration during project planning stage.

- The Waste to Energy Project for 15 MW capacity is an integrated cluster facility for processing Municipal Solid Waste (MSW) covering the five collection points form the GVMC, the lead ULBs.
- During discussion with the project official it was informed that, no Indigenous people are in the project.
- There were no grievances related to leased land and compensation reported at the project site.
- No common property resources are affected because of this project JUWMVL.
- Two female employees are employed from the local Engineering College, Gayatri Vidya Parishad Engineering College through campus recruitment.
- No involuntary land acquisition in the project and all the required land for the project is government land, allocated by the Government of Andhra Pradesh by signing of the land lease agreement (Acres 17.08 Cents) and free of cost basis (40 acres) allocated by Govt. of AP.
- Although no labour camp site was observed at site, however the project proponent has established one dispensary and dispensary record was maintain on regular basis.
- One doctor is visiting the project site on every alternate date for routine check-up.
- Land allocation process was initiated prior to IIFCL's involvement and not in anticipation of ADB financing and that IIFCL was not involved in the rehabilitation and resettlement activities of project.
- The sup project, JUWMVL has been prepared prior to the ADB's involvement and IIFCL entered into the project after technical closure and before the financial closure of the project.

- The subproject JUWMVL was prepared by Govt. of AP for its own requirement not in anticipation of ADB funding.

97. It seems that the sub-project does not appear to involve reputational risk to Asian Development Bank funding on social safeguards and recommended for funding under the proposed project.

Annexure - 1: Government Order for Land Allocation to JUWMVL

**GOVERNMENT OF ANDHRA PRADESH
ABSTRACT**

MA&UD Department - GVMC - Establishment of Waste to Energy Plant in Visakhapatnam - Lease out the Land to an extent of Ac. 20.00 cents for establishment of Waste to Energy Plant at Kapuluppada (v), Visakhapatnam - Permission - Accorded - Orders - Issued.

MUNICIPAL ADMINISTRATION & URBAN DEVELOPMENT (J2) DEPARTMENT
G.O.Ms.No.248

Dated:18-10-2016

Read:

From the Director of Municipal Administration, A.P., Guntur Letter
Roc.No.3344/2015-M3, dated -10-2016

ORDER:-

In the reference read above, the Director of Municipal Administration, A.P. Guntur has stated that the Commissioner, Greater Visakhapatnam Municipal Corporation, Visakhapatnam has submitted a proposal stating that the Municipal Corporation has resolved to handover necessary land to an extent of Ac.20.00 in Sy.No.314 of Kapuluppada (v) in Visakhapatnam which is under possession of Greater Visakhapatnam Municipal Corporation to JINDAL Urban Waste Management Ltd., Visakhapatnam for establishment of Waste to Energy Plant.

The Commissioner, Greater Visakhapatnam Municipal Corporation, Visakhapatnam has also reported that the land for allotment of Ac.20.00 located at Sy.No.314 of Kapuluppada Village (existing dump yard) on lease for 25 years period to M/s. Jindal Urban Waste Management (Visakhapatnam) Limited was placed before the Council/Special Officer for approval. The District Collector and the Special Officer of Greater Visakhapatnam Municipal Corporation, Visakhapatnam has approved the Resolution vide CR No.521/2016 dated 22.08.2016 and requested for fixation of lease rent as per the norms specified in G.O.Ms.No.56, MA&UD Dept., dated 05-02-2011. The Director of Municipal Administration, AP, Guntur has requested to Government for taking necessary action in the matter.

3. After careful examination of the proposal and in-exercise of the powers under Rule 12(1)(h)(1) of A.P. Municipalities (Regulation of Receipts and Expenditure) Rules,1968 read with G.O.Ms.No.56, MA&UD(J1) Department, dated.05-02-2011, Government hereby permit the Commissioner, Greater Visakhapatnam Municipal Corporation, Visakhapatnam to lease out the land to an extent of Ac.20.00 cents in Survey No.314 of Kapuluppada (v) Visakhapatnam to M/s Jindal Urban

Waste Management Limited, Visakhapatnam for establishment of Waste to Energy Plant for a period of 25 years.

4. The Director of Municipal Administration, A.P., Guntur and the Commissioner, Greater Visakhapatnam Municipal Corporation, Visakhapatnam shall take necessary further action accordingly

(BY ORDER AND IN THE NAME OF GOVERNOR OF ANDHRA PRADESH)

**KARIKAL VALAVEN
PRINCIPAL SECRETARY TO GOVERNMENT**

To

The Director of Municipal Administration, Andhra Pradesh, Guntur.

The Commissioner, Greater Visakhapatnam Municipal Corporation,
Visakhapatnam.

Copy to:

The OSD to Hon'ble M (MA)

The P.S. to Prl. Secy. MA&UD

Sf/Sc.

FORWARDED: BY ORDER

SECTION OFFICER



GREATER VISAKHAPATNAM MUNICIPAL CORPORATION: VISAKHAPATNAM

From
Harinarayanan, M., IAS.,
Commissioner,
Greater Visakhapatnam Mpl. Corpn
Visakhapatnam

To
The Sr. Manager,
Operation & Maintenance,
M/s Jindal Urban Waste Management
(Visakhapatnam) Ltd.,
Visakhapatnam.

Rc.No.2/2007 EO dt: 22-04-2017

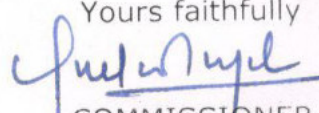
Sir,

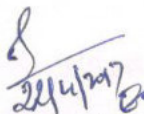
Sub: GVMC – Land – earmarking of Ac.40-00 of land to Jindal Urban Waste Management (Visakhapatnam) Ltd., for Scientific Land Fill (SLF) at Kapuluppada dumping yard – Reg.

Ref: Letter No.JUWMVL/WtE/GVMC/2016-17/09 dt:04-04-2017
Of the Sr. Manager, Operation and Maintenance, Jindal Urban Waste Management,
Visakhapatnam.

With reference to your letter cited, it is here by communicated to you that an extent of Ac.40-00 (forty acres) only (as shown in the enclosed sketch) in the existing dumping yard in S.No.314/part of Kapuluppada village of Bheemunipatnam Mandal is **earmarked** to M/s Jindal Urban Waste Management (Visakhapatnam) Ltd., Visakhapatnam for Scientific Land Fill (SLF). The land should be utilized by Jindal for SLF only and not for any other purposes. This letter is issued earmarking the land for SLF and the title holder of Land will be GVMC.

Encl: One sketch.

Yours faithfully

COMMISSIONER,
GVMC, VISAKHAPATNAM.


Copy to the Superintendent Engineer (Projects), GVMC, Visakhapatnam for information.

Annexure - 2: Labour License



AP12 51805902

GOVERNMENT OF ANDHRA PRADESH LABOUR DEPARTMENT

FORM - C

CERTIFICATE OF REGISTRATION OF ESTABLISHMENT – Sec2(d) AND 4(2))

The Andhra Pradesh (Issuance of Integrated Registration and Furnishing of Combined Returns under various Labour Laws by certain Establishments) Act, 2015

- | | | | | | |
|--|--|-----------------------------|----------------------|--------------------|--|
| 1. Registration Number (LIN) | AP-03-27-024-0479386 | | | | |
| 2. Name of the Establishment | JINDAL URBAN WASTE MANAGEMENT (VISAKHAPATNAM) LIMITED | | | | |
| 3. Address of the Establishment | SURVEY NO-410 & 415 KAPULUPPDA DUMPYARD, kapuluppada, Bheemunipatnam, Visakhapatnam-531163 | | | | |
| 4. Employer Name | ALOK KUMAR | | | | |
| 5. Employer Address | JINDAL ITF CENTER, 28 SHIVAJI MARG, DELHI INDUSTRIAL AREA, WEST DELHI-110015 | | | | |
| 6. Category of Establishment | No. of Workers | Nature of Work/Business | Date of Commencement | Date of Completion | |
| The BOCW (RE&CS) Act. | 390 | WASTE TO ENERGY POWER PLANT | 16/10/2017 | | |
| Contract Labour (R&A) Act.(Prl. Employer) (No. Of Contractors - 4) | 390 | WASTE TO ENERGY POWER PLANT | 16/10/2017 | - | |
| Inter-State Migrant Workmen (RE&CS) Act. (Prl. Employer) (No. Of Contractors - 3) | 240 | WASTE TO ENERGY POWER PLANT | 16/10/2017 | - | |
| 7. Date of issue | 24/10/2017 | | | | |
| 8. Registration valid till | 31/03/2020 | | | | |

It is here by certified that the establishment has been registered under The Andhra Pradesh (Issuance of Integrated Registration and Furnishing of Combined Returns under various Labour Laws by certain Establishments) Act, 2015.

ALO BHIMUNIPATNAM

REGISTERING / LICENSING OFFICER

Note:

1. The Registration is valid from the date of registration to 31st March of the 3rd year and hence it shall be renewed for the next three years before 31st March of the 3rd year.
2. If the information furnished by the employer is subsequently found that any of the particulars furnished are wrong, or essential information is suppressed or misrepresented, the Registration / License is liable for cancellation without any notice and the employer will be liable for penal action as per law.

Note: This is a Digitally Signed Certificate and does not require physical signature. This certificate can be verified at <http://www.ap.meeseva.gov.in/> by furnishing the application number mentioned in the certificate.

ఎలక్ట్రానిక్ సేవలను అందించుటకు అధీకృత ప్రతినిధి ఇచ్చు ధృవీకరణ పత్రము

Declaration by the Authorized Agent for Delivering the Electronic Services

- i. ఈ కంప్యూటర్ ముద్రణా ప్రతిలోని సమాచారము అధీకృతమైన కంప్యూటర్ సిస్టమ్స్ నుండి నేను పొందిన అసలైన సమాచారానికి సరియైన నకలు అయి వున్నది.

The computer output in the form of computer printouts attached herewith is the correct representation of its original as contained in the computer systems accessed by me for providing the service.

- ii. ఈ కంప్యూటర్ ముద్రణా ప్రతిలోని సమాచారము నియోగింపబడిన అధీకృతమైన కంప్యూటర్ సిస్టమ్స్ నుండి క్రమబద్ధమైన పద్ధతిలో సేకరింపబడినది.

The information contained in the computer printouts has been produced from the aforesaid computer systems during the period over which the computer was used regularly.

- iii. ఈ కంప్యూటర్ ముద్రణా ప్రతిలోని సమాచారము కంప్యూటర్ సిస్టమ్స్ లో క్రమమైన పద్ధతిలో సమోదా చేయబడినది.

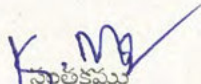
During the said period, information of the kind contained in the computer printout was regularly recorded by the aforesaid computer systems in the ordinary course of the activities.

- iv. ఈ కంప్యూటర్ ముద్రణా ప్రతిలోని సమాచార సేకరణ సమయంలో కంప్యూటర్ సిస్టమ్స్ సరిగ్గా పనిచేయుచున్నవి మరియు సదరు కంప్యూటర్ సిస్టమ్స్ లో ఉన్న ఎలక్ట్రానిక్ రికార్డుల యధార్థతను ప్రభావితం చేసే ఏవిధమైన నిర్వహణ సమస్యలు లేవు.

Throughout the material part of the said period, the computer was operating properly, and there have been no such operational problems that affect the accuracy of the electronic record contained in the aforesaid computer systems.

పైన పేర్కొన్న విషయాలు నాకు తెలిసినంత వరకు మరియు నా విశ్వాసం మేరకు సరియైనవి.

The matter stated above is correct to the best of my knowledge and belief.


సంతకము
Signature



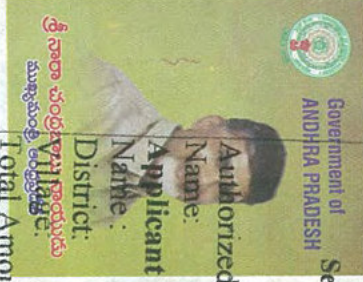


Government of
ANDHRA PRADESH

Service Name: APPLICATION FOR INTEGRATED REGISTRATION OF

mee seva LABLISHMENT UNDER LABOUR LAWS

GOVERNMENT OF ANDHRA PRADESH



శ్రీ నారా చంద్రబాబు నాయుడు
మ్యూజింగ్ సెంటర్

Andhra Pradesh
TOURISM



భీమవారి పుణ్యాలయం
Bhimavarapu

To know the application status, please visit [ap.mceseva.gov.in](http://mceseva.gov.in)

Authorized Agent Name:
Name: **ANAND**
Applicant Name:
District:
Total Amount in
6325

Transaction Id: **TA20111015171024**
Application No: **20111015171024**
Pay Mode: **Cheque/D.D.**
Pay Particulars: **For**
Other Particulars: **RUPIA**

Delivery Type: **Manual**
Certificate
Delivery Date: **Within 0 working days from requested date.**

Dep't Receipt No.:
Transaction Date:

Particulars
Amount Paid (Rs.)

Staffcode/Shift/counter	Total	Signature

మీ సేవ
మెసేవ, ఆంధ్రప్రదేశ్
ESEVA-GUNTUR

Annexure - 3: Group Personal Accident Insurance

HDFC ERGO General Insurance Company Limited



August 23, 2019

JINDAL URBAN WASTE MANAGEMENT VISAKHAPATNAM LTD

Flat No. 601-602, MVV Highway Homes
Kommadi Junction, Kommadi
Visakhapatnam, Andhra Pradesh, Pin-530048

Dear Customer,

Sub: Group Personal Accident Insurance Policy No 2999202350387601000

We thank you for having preferred us for your *Insurance* requirements. We at HDFC ERGO General Insurance believe "*Insurance*" not only to be an assurance to indemnify in the event of unfortunate circumstances, but one that signifies protection and support you can count on when you need it most.

The Insurance Policy enclosed is a written agreement providing confirmation of our responsibility towards you that puts insurance coverage into effect against stipulated perils.

The Policy has been designed so as to augment the key facets and aims to provide information in a clear cut manner.

Please note that the policy has been issued based on the information contained in the proposal form and / or documents received from you or your representative / broker. Where the proposal form is not received, information obtained from you or your representative /broker, whether orally or otherwise, is captured in the policy document.

Name of the Intermediary: Unison Insurance Broking Services Pvt Ltd
Intermediary Code: 202132250582

Where the proposal form is not received, information obtained from you or your representative /broker, whether orally or otherwise, is captured in the policy document.

If you wish to contact us in reference to your existing policy and /or other general insurance solutions been offered by us, you may write to our correspondence address as mentioned below. Alternatively, you may visit our website www.hdfcergo.com. To enable us to serve you better, you are requested to quote your Policy Number in all correspondences.

Thanking you once again for choosing HDFC ERGO General Insurance Company Limited and looking forward to many more years of association.

Yours sincerely,

Authorised Signatory
Insurance is the subject matter of solicitation

GROUP PERSONAL ACCIDENT INSURANCE POLICY

SECTION 1 – SCHEDULE

Policy Number: 2999202350387601000

1. Name & Address of the Policyholder **Jindal Urban Waste Management Visakhapatnam Ltd**
 Flat No. 601-602, MVV Highway Homes Kommadi Junction,
 Kommadi Visakhapatnam, Andhra Pradesh, Pin-530048
- GSTIN State Andhra Pradesh
- State Code 37
- GSTIN 37AADCJ6391F1ZD
2. Policy Period
- Policy Effective Date 01 August 2019 Policy Expiry Date: 31 July 2020
3. a. Maximum Any One Life Limit: Rs. 10,000,000.00
 b. Maximum Accumulation Limit: Rs. 96,930,950.00
4. Operative Time: 24 Hours
5. Territory of Insurance: Worldwide
6. Details of the Insured Persons:

Risk Class Details	No. Of Employees	Nature of Duties
Category 1	33	Manufacturing, Technical, Supervisory, Managerial and Administrative Functions
Total	33	

8. Premium Payable:		
		Annual
Net Premium	Rs.	26,171.00
Integrated Tax IGST : 18%	Rs.	4,711.00
Total Amount Payable	Rs.	30,882.00

Invoice Number: 202350387601000

SAC Code: 9971

Note: "Goods and Services Tax for this invoice is not payable under reverse charge basis"

Annexure Attached to and forming part of Policy No 2999202350387601000

JINDAL URBAN WASTE MANAGEMENT VISAKHAPATNAM LTD

S.No	Emp. Code	HEGIC CARD NO	Insured Name	Gender	DOB	Age	Relation	Accidental Death & Permanent Disablement Sum Insured (Rs)	Temporary Total Disablement Accident Only Sum Insured (Rs)	Emergency Medical Expenses - Accident Only	Last Rites Costs - Accident Only	Ambulance Costs	Mobility Extension	Reconstructive surgery	Dependent Child Education Benefit
1	500115	EC1903037859-01E	Naveen Kumar Pandey	MALE	17/12/1995	23	Self	1,351,700.00	10,000.00	25,000.00	5,000.00	2,500.00	25,000.00	50,000.00	50,000.00
2	500119	EC1903037842-01E	Ranjeet Kumar	MALE	09/04/1966	53	Self	5,000,000.00	10,000.00	25,000.00	5,000.00	2,500.00	25,000.00	50,000.00	50,000.00
3	500123	EC1903037854-01E	Manish Mishra	MALE	15/07/1983	36	Self	8,866,650.00	10,000.00	25,000.00	5,000.00	2,500.00	25,000.00	50,000.00	50,000.00
4	500137	EC1903037838-01E	P.R. Sathesh	MALE	10/06/1981	38	Self	2,298,600.00	10,000.00	25,000.00	5,000.00	2,500.00	25,000.00	50,000.00	50,000.00
5	500144	EC1903037843-01E	Battu Venu Gopala Krishna	MALE	04/03/1969	50	Self	5,000,000.00	10,000.00	25,000.00	5,000.00	2,500.00	25,000.00	50,000.00	50,000.00
6	500145	EC1903037860-01E	Manoj Tirumanyam	MALE	22/03/1992	27	Self	1,658,050.00	10,000.00	25,000.00	5,000.00	2,500.00	25,000.00	50,000.00	50,000.00
7	500148	EC1903037846-01E	Niranjan Rath	MALE	11/06/1986	33	Self	2,347,200.00	10,000.00	25,000.00	5,000.00	2,500.00	25,000.00	50,000.00	50,000.00
8	500149	EC1903037847-01E	Manish Kumar	MALE	16/12/1981	37	Self	2,500,000.00	10,000.00	25,000.00	5,000.00	2,500.00	25,000.00	50,000.00	50,000.00
9	500150	EC1903037848-01E	Kumanduri Raghavan	MALE	03/06/1995	24	Self	2,500,000.00	10,000.00	25,000.00	5,000.00	2,500.00	25,000.00	50,000.00	50,000.00
10	500151	EC1903037844-01E	V Sathish	MALE	05/06/1976	43	Self	5,000,000.00	10,000.00	25,000.00	5,000.00	2,500.00	25,000.00	50,000.00	50,000.00
11	500152	EC1903037851-01E	Grandhi Kusuma Kumar	MALE	04/08/1988	30	Self	1,683,850.00	10,000.00	25,000.00	5,000.00	2,500.00	25,000.00	50,000.00	50,000.00
12	500153	EC1903037863-01E	Saragada Satya Sudha	FEMALE	11/07/1994	25	Self	1,528,950.00	10,000.00	25,000.00	5,000.00	2,500.00	25,000.00	50,000.00	50,000.00
13	500154	EC1903037855-01E	Puti Avinash Reddy	MALE	10/11/1994	24	Self	1,528,950.00	10,000.00	25,000.00	5,000.00	2,500.00	25,000.00	50,000.00	50,000.00
14	500155	EC1903037839-01E	Chirithu Damodhararao	MALE	16/08/1995	23	Self	1,486,900.00	10,000.00	25,000.00	5,000.00	2,500.00	25,000.00	50,000.00	50,000.00
15	500156	EC1903037866-01E	Yelleti Mari Kumar	MALE	25/10/1997	21	Self	810,200.00	10,000.00	25,000.00	5,000.00	2,500.00	25,000.00	50,000.00	50,000.00
16	500157	EC1903037856-01E	Kalmata Sharath Kumar	MALE	02/05/1998	21	Self	810,200.00	10,000.00	25,000.00	5,000.00	2,500.00	25,000.00	50,000.00	50,000.00
17	500158	EC1903037864-01E	Devayani Reddy	FEMALE	18/11/1997	21	Self	810,200.00	10,000.00	25,000.00	5,000.00	2,500.00	25,000.00	50,000.00	50,000.00
18	500159	EC1903037867-01E	Veeravenkatesh Kondapalli	MALE	12/05/1988	31	Self	2,500,000.00	10,000.00	25,000.00	5,000.00	2,500.00	25,000.00	50,000.00	50,000.00
19	500160	EC1903037857-01E	P Rajesh Kumar	MALE	11/05/1985	34	Self	1,000,000.00	10,000.00	25,000.00	5,000.00	2,500.00	25,000.00	50,000.00	50,000.00
20	500161	EC1903037852-01E	Vinnakota Nageswara Rao	MALE	05/08/1965	53	Self	9,688,700.00	10,000.00	25,000.00	5,000.00	2,500.00	25,000.00	50,000.00	50,000.00
21	500162	EC1903037849-01E	Meka Kishore Babu	MALE	15/07/1969	50	Self	2,500,000.00	10,000.00	25,000.00	5,000.00	2,500.00	25,000.00	50,000.00	50,000.00
22	500163	EC1903037845-01E	Bammidi Ammi Naidu	MALE	20/06/1976	43	Self	2,500,000.00	10,000.00	25,000.00	5,000.00	2,500.00	25,000.00	50,000.00	50,000.00
23	500206	EC1903037850-01E	Obili Chandra Sekhar Reddy	MALE	03/04/1965	54	Self	10,000,000.00	10,000.00	25,000.00	5,000.00	2,500.00	25,000.00	50,000.00	50,000.00
24	500214	EC1903037868-01E	Chukka Bhaskar Reddy	MALE	10/06/1991	28	Self	2,500,000.00	10,000.00	25,000.00	5,000.00	2,500.00	25,000.00	50,000.00	50,000.00
25	500426	EC1903037853-01E	D. Narotham Kumar	MALE	09/05/1980	39	Self	5,000,000.00	10,000.00	25,000.00	5,000.00	2,500.00	25,000.00	50,000.00	50,000.00
26	500625	EC1903037869-01E	Vanaparthi Satyanarayana	MALE	20/11/1974	44	Self	1,000,000.00	10,000.00	25,000.00	5,000.00	2,500.00	25,000.00	50,000.00	50,000.00
27	500626	EC1903037861-01E	Modavalasa Vijay Kumar	MALE	02/08/1973	45	Self	990,300.00	10,000.00	25,000.00	5,000.00	2,500.00	25,000.00	50,000.00	50,000.00
28	500635	EC1903037858-01E	Mondalada Sudarsanarao	MALE	05/07/1980	39	Self	2,070,500.00	10,000.00	25,000.00	5,000.00	2,500.00	25,000.00	50,000.00	50,000.00
29	500636	EC1903037840-01E	Devala Venkata Satyanarayana Murthy	MALE	12/04/1973	46	Self	1,000,000.00	10,000.00	25,000.00	5,000.00	2,500.00	25,000.00	50,000.00	50,000.00
30	500641	EC1903037870-01E	Vucha Rajarao	MALE	25/06/1976	43	Self	2,500,000.00	10,000.00	25,000.00	5,000.00	2,500.00	25,000.00	50,000.00	50,000.00
31	500643	EC1903037841-01E	Giri Kumar Potnuru	MALE	25/10/1978	40	Self	5,000,000.00	10,000.00	25,000.00	5,000.00	2,500.00	25,000.00	50,000.00	50,000.00
32	500654	EC1903037862-01E	Seelamsetti Appa Rao	MALE	04/06/1973	46	Self	1,000,000.00	10,000.00	25,000.00	5,000.00	2,500.00	25,000.00	50,000.00	50,000.00
33	500656	EC1903037865-01E	Rishabh Jain	MALE	28/03/1989	30	Self	2,500,000.00	10,000.00	25,000.00	5,000.00	2,500.00	25,000.00	50,000.00	50,000.00

Annexure - IV: Airports Authority of India No Objection Certificate



भारतीय विमानपत्तन प्राधिकरण
AIRPORTS AUTHORITY OF INDIA

Jindal Urban Waste Management (Visakhapatnam) Limi

Date: 26-12-2016

Jindal ITF Centre, 28 Shivaji
Marg, New Delhi - 110015

System Generated Auto Assessment for Height Clearance

1. Airports Authority of India (AAI) in pursuance of responsibility conferred by and as per the provisions of Govt. of India (Ministry of Civil Aviation) order GSR 751 (E) dated 30th Sep. 2015 for Safe and Regular Aircraft Operations has assessed the site data filled by the applicant.

2. Assessment details for Height Clearance:

NOCID : **RAJA/SOUTH/B/122616/188468**

Applicant Name : **Deepak Pandey**

Type of Structure : **Waste**

Site Address : **Plot no. 410 and 415**

Site Coordinates : **83 21 57.43-17 50 39.88, 83 22 11.26-17 50 40.56, 83 22 2.84-17 50 45.99, 83 22 6.30-17 50 35.09,**

Site Elevation AMSL in **142 M**
Mtrs as Submitted by
Applicant:

As the site is located at a distance of 143754 m from the Aerodrome reference point of Jaypore airport and the requested top elevation is 147 mtrs, the NOC for height clearance is not required from Airports Authority of India as per GSR 751(E).

3. This assessment is subject to the terms and conditions as given below:

a. The site-elevation and site coordinates provided by the applicant are taken for calculation of the permissible top elevation for the proposed structure. If, however, at any stage it is established that the actual data is different from the one, provided by the applicant, this NOC will become invalid.

b. The assessment is further subject to the provisions of Section 9-A of the Indian Aircraft Act, 1934 and any notifications issued there under from time to time including the Aircraft (Demolition of Obstruction caused by Buildings and Trees etc.) Rules, 1994.

c. The applicant is responsible to obtain all other statutory clearances from the concerned authorities including the approval of building plans. This assessment for height is to ensure the safe and regular aircraft operations and shall not be used as document for any other purpose/claim whatsoever, including ownership of land etc.

d. This assessment has been issued w.r.t. the Civil Airports as notified in GSR 751(E). Applicant needs to seek separate NOC from Defence, if the site lies within jurisdiction of Defence Airport.

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भारतीय विमानपत्तन प्राधिकरण
AIRPORTS AUTHORITY OF INDIA

This assessment is system auto generated and thus does not require any signature

Designated Officer

Region Name: SOUTH

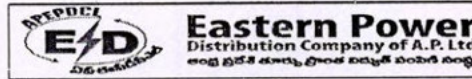
Address: General Manager Airports
Authority of India, Regional
Headquarter, Southern Region,
Chennai Airport,
Chennai-600027 (Tamil Nadu)

Email ID: vommm.noc@aai.aero

Contact No: 044-22560046

Annexure - V: Power Evacuation Arrangement Letter

File No.EPCOR-04002(92)/2/2015-RA PP-PP1-COR



From
Chief General Manager,
Planning,PPA&RA, APEPDCL,
Visakhapatnam.

To
Jindal Urban Waste Management (VSP) Limited.
A-1, UPSIDC Industrial Area, Nandgaon Road,
Kosi Kalan Dist, Mathura- (UP) – 281403.

Lr.No.CGM/ Planning,PPA&RA/EPDCL/VSP/E- 2958 /D.No/101046/17, Dt 23.05.2017.

Sir,

Sub:-APEPDCL – CO-VSP – PP – Feasibility for power evacuation from the proposed 15MW waste to energy plant Visakhapatnam- issued - Reg.

Ref: 1) Lr.No.CE/VSP Zone/A.P.Transco/O&M/AE4/F.10(PDT)/D.No.4127/16,Dt.15.10.16
2) Lr.No.CE/VSP Zone/A.P.Transco/O&M/AE4/F. /D.No.1407/17, Dt.25.04.2017
3) Representation of M/s Jindal, Visakhapatnam vide Lr. dt.17.05.2017

In response to the reference 3rd cited, in connection with Technical feasibility for the evacuation of power from the proposed 15 MW waste to energy plant at Visakhapatnam by Jindal Urban Waste Management (Visakhapatnam) Limited, the technical feasibility is hereby issued for the evacuation of power as furnished below.

- 33 KV interconnecting line has to be erected from the proposed power plant to 132/33 KV Anandapuram SS along with erection of new 33 KV bay at 132 KV Anandapuram SS in Anandapuram Mandal at Visakhapatnam District for evacuation.

Further, You are requested to approach the Superintending Engineer/Operation/ Visakhapatnam authorities and also the Chief Engineer/APTransco/VSP Zone/Gajuwaka in the mid-way of the construction of the proposed 15 MW waste to energy project for taking necessary action towards providing evacuation arrangements.

Yours faithfully,

Chief General Manager
Planning,PPA&RA
APEPDCL::Visakhapatnam

Signature valid

Copy to Superintending Engineer/Operation/ APEDCL/Visakhapatnam
Copy to Chief Engineer/APTransco/VSP Zone/Gajuwaka/Visakhapatnam-26.
Digitally signed by G. S. Sankar, the Vice Chairman & Managing Director/NREDCAP/Nampally, HYD
Kumar Copy submitted to Director/Operation/APEPDCL/Visakhapatnam
Date: 2017.05.23 11:56:11 IST
Reason: Approved