

OPG POWER GENERATION PVT. LTD.
CIN : U40109TN2005PTC055442

OPGPG: EHS /2016-17/327

29-06-2017

The Joint Director

Govt. of India
Ministry of Environment and Forests
Regional Office (Southern Zone)
Kendriya Sadan, 4th Floor, E & F Wings
Koramangala,
Bangalore 560 034

Sir,

**Sub: Compliance Status, Bore Well Water Analysis and Ambient Air Quality Reports –
Half Yearly Return – Reg.**

Period: October 2016 to March 2017

Ref: No.J-13012/111/2009-IA.II (T)

Ref: MoEF. Lr. No. J-13011/81/2007-IA.II (T), Dated: 31.03.2008

Ref: J-13012/111/2009-IA.II (T)

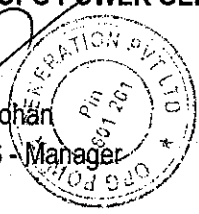
We herewith submit the half yearly Bore well water analysis report, Ambient Air Quality Monitoring report, Piezometer reading report and Compliance status report for the period from October 2016 to March 2017.

Thanking you

Yours faithfully,

For **OPG POWER GENERATION PRIVATE LIMITED**


G. Mohan
EHS - Manager



Encl:

1. Environmental Clearance No.J-13012/111/2009-IA.II (T) General Conditions – Compliance status as on March 2017
2. Environmental Clearance No.J-13012/111/2009-IA.II (T) Special Conditions – Compliance status as on March 2017

New No. 6, Sardar Patel Road, Guindy, Chennai - 600 032.

Phone : +91 44 4291 1222, Fax : +91 44 4291 1209

2. Environmental Clearance No.J-13012/111/2009-IA.II (T) Special Conditions – Compliance status as on 31st March 2017
3. Environmental Clearance No.J-13012/111/2009-IA.II (T) Amendment for the augmentation from 160MW to 180MW Conditions – Compliance status as on 31st March 2017
4. MoEF Lr. No. J-13011/81/2007-IA.II (T), Dated: 31.03.2008 Specific Conditions – Compliance status as on 31st March 2017
5. Monthly Ash Utilization Report – Oct 2016 – March 2017
6. Bore well water Analysis report
7. TNPCB analysis reports for Sewage effluent, Bore well water, Industrial effluent (Recycled) , Stack and AAQ
8. Rain Water Harvesting report
9. Fly Ash customer list
10. Copy of Annual Environmental Statement for the Financial Year 2016-17 in Form V

CC.: The District Environmental Engineer, Thiruvallore District without Encl.

COMPLIANCE STATUS

as on March 2017

Environmental Clearance No: J-13012/111/2009-IA.II (T)

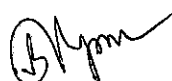
A- General Condition:

Compliance Status Update

S. No.	Stipulated Conditions	Compliance Status As on 31 st March 2017
1.	Adequate safety measures shall be provided in the plant area to check /minimize spontaneous fires in coal yard, especially during summer season. Copy of these measures with full details along with location plant layout shall be submitted to the Ministry as well as to the Regional Office of the Ministry.	Documents posted in our official website. The points are well taken care and we are having closed storage area with adequate compaction and spraying facility to minimize spontaneous combustion of coal.
2.	Storage facilities for auxiliary liquid fuel such as LDO and / HFO /LSHS shall be made in the plant area in consultation with Departments of Explosives, Nagpur. Sulphur content in the liquid fuel will not exceed 0.5% Disaster Management Plan shall be prepared to meet any eventuality in case of an accident taking place due to storage of oil.	We are using only LDO procuring from IOC. The Storage License copy is enclosed.
3.	Regular monitoring of ground water level shall be carried out by establishing a network of existing wells and constructing new piezometers Monitoring around the ash pond area shall be carried out particularly for heavy metals (Hg , Cr , As , Pb) and records maintained and submitted to the Regional Office of this Ministry The data so obtained should be compared with the baseline data so as to ensure that the ground water quality is not adversely affected due to the project.	Regular monitoring of ground water is being carried out through TNPCB and the reports are enclosed.
4.	Monitoring surface water quantity and quality shall also be regularly conducted and records maintained. The monitored data shall be submitted to the Ministry regularly. Further, monitoring points shall be located between the plant and drainage in the direction of flow of ground water and records maintained. Monitoring for heavy metals in ground water shall be undertaken.	We are neither using any surface water for the unit nor discharging any liquid effluent from the plant. Bore well water analyzing reports are enclosed. The result reveals that the ground water quality is improving.

S. No.	Stipulated Conditions	Compliance Status As on 31 st March 2017
5.	First Aid and sanitation arrangements shall be made for the drivers and other contract workers during construction phase.	Both the First Aid and Sanitation arrangement have been made for drivers, contract workers.
6.	Noise levels emanating from turbines shall be so controlled such that the noise in the work zone shall be limited to 75 dBA. For people working in the high noise area, requisite personal protective equipment like earplugs, ear muffs etc. shall be provided. Workers engaged in noisy areas such as turbine area, air compressors etc. shall be periodically examined to maintain audiometric record and for treatment for any hearing loss including shifting to non-noisy/less noisy areas.	<p>The followings are the measures taken to reduce the noise level</p> <p>All the noise generating equipment's were installed with silencers/anti-vibrating pads</p> <p>Proper PPE's are issued to the concerned and enforcing to wear.</p> <p>Audiometric and health checkup records are maintained in standard forms.</p>
7.	Regular monitoring of ambient air ground level concentration of SO ₂ , NO _x , PM 2.5 & PM 10 and Hg shall be carried out in the impact zone and records maintained. If at any stage these levels are found to exceed the prescribed limits, necessary control measures shall be provided immediately. The location of the monitoring stations and frequency of monitoring shall be decided in consultation with SPCB. Periodic reports shall be submitted to the Regional Office of this Ministry. The data shall also be put on the website of the company.	<p>2 AAQ monitoring stations were installed and the data is uploaded to the Care Air Centre.</p> <p>Annual AAQ monitoring by TNPCB or Board's approved third party is being carried out and reports are submitted to TNPCB.</p> <p>Copy of the report is enclosed.</p>
8.	Provision shall be made for the housing of construction labor (as applicable) within the site with all necessary infrastructure and facilities such as fuel for cooking , mobile toilets , mobile STP , safe drinking water , medical health care , crèche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.	<p>100 rooms were constructed for construction labor inside the premises with basic amenities.</p> <p>After completion of the project , same was removed.</p>

S. No.	Stipulated Conditions	Compliance Status As on 31 st March 2017
9.	The project proponent shall advertise in at least two local newspapers widely circulated in the region around the project , one of which shall be in the vernacular language of the locality concerned within seven days from the date of this clearance letter , informing that the project has been accorded environmental clearance and copies of clearance letter are available with the State Pollution Control Board /Committee and may also be seen at Website of the Ministry of Environment and Forests at http://envfor.nic.in .	Documents posted in our official website. Copy enclosed for ref.
10.	A copy of the clearance letter shall be sent by the proponent to concerned Panchayat , Zila Parisad / Municipal Corporation , urban local Body and the Local NGO , if any , from whom suggestions /representations ,if any , received while processing the proposal. The clearance letter shall also be put on the website of the Company by the proponent.	The same has been submitted to the concerned panchayat.
11.	An Environment Cell shall be created at the project site itself and shall be headed by an officer of appropriate seniority and qualification. It shall be ensured that the head of the Cell shall directly report to the head of the organization.	An Environment Cell with the reporting To Central committee is being functional.
12.	The proponent shall upload the status of compliance of the stipulated environmental clearance conditions, including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional office of MOEF, the respective Zonal Office of CPCB and the SPCB. The criteria pollutant levels namely; SPM , RSPM (PM2.5 & PM 10), SO2 , NOx (ambient levels as well as stack emissions)shall be displayed at a convenient location near the main gate of the company in the public domain.	The Stack emission and AAQ results are uploaded in the web site and being displayed at the gate as per guideline.



S. No.	Stipulated Conditions	Compliance Status As on 31 st March 2017
13.	The environment statement for each financial year ending 31 st March in Form V as in mandated to be submitted by the project proponent to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be put on the website of the company along with the status of clearance conditions and shall also be sent to the respective Regional Officers of the Ministry by e- mail.	Form V is being submitted regularly to the Tamil Nadu Pollution Control Board. Latest Copy is enclosed.
14.	The project proponent shall submit six monthly reports on the status of the implementation of the stipulated environmental safeguards to the Regional Ministry of Environment and Forests, its Bangalore Regional Office, Central Pollution Control Board and State Pollution Control Board. The project proponent shall upload the status of the compliance of the environment of the environmental clearance conditions of their website and update the same periodically and simultaneously send the same by e- mail to the Regional Office, Ministry of Environment and Forests.	A half yearly report which comprises of the following is being sent to the Regional Ministry Office- <ol style="list-style-type: none"> 1. AAQ results 2. Ground water analysis results 3. Noise level results 4. Ash disposal details
15.	Regional Office of the Ministry of Environment & Forests will monitor the implementation of the stipulated conditions. A complete set of documents including Environmental impact Assessment Report and Environmental Management Plan along with the additional information submitted from time to time shall be forwarded to the Regional Office for their use during monitoring .Project proponent will up – load the compliance status in their website and up-date the same from time to time at least six monthly basis. Criteria pollutants levels including NOx (from stack & ambient air) shall be displayed at the main gate of the power plant.	The Stack emitting levels are being displayed at the main gate and the reports are being submitted to TNPCC/MOEF as per directions.

B. H. J.

S. No.	Stipulated Conditions	Compliance Status As on 31 st March 2017
16.	Separate funds shall be allocated for implementation of environmental protection measures along with item – wise break up. These cost shall be included as part of the project cost. The funds earmarked for the environment protection measures shall not be diverted for another purposes and year –wise expenditure should be reported to the Ministry.	The guidelines and directions are strictly followed.
17.	The project authorities shall inform the Regional Office as well as the Ministry regarding the date of financial closure and final approval of the project by the concerned authorities and the dates of start of land development work and commissioning of plant.	The financial closure details for the year 2014-2015 have been submitted to the ministry.
18.	Full cooperation shall be extended to the Scientists /Officers from the Ministry /regional Office of the Ministry of Bangalore / CPCB / SPCB who would be monitoring the compliance of environmental status	The guidelines and instructions are being followed.

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PART- III

Subject: - Environmental Clearance – 2 x77MW reg.

Reference: - MoEF. Lr. No. J-13011/81/2007-IA.II(T), Dated: 31.03.2008

A. SPECIFIC CONDITION:

Compliance Status Update

S. No.	Stipulated Conditions	Compliance Status As on 31 st march 2017
i.	The total land requirement for the project shall be restricted to 79.105 acres.	The land area utilized for power plant is 73.435 acres.
ii.	Sulphur and ash contents in the coal to be used in the project shall not exceed 1.2% and 15% respectively.	The Indonesian coal used in this plant is having a maximum of 0.3% Sulphur and 10% Ash respectively.
iii.	Two stacks with continuous online monitoring equipments for SO ₂ , NO _x and particulate matter shall be provided. The height of the stacks shall be as per the standards prescribed under the Environment (protection) Rules in this regards or 140 m whichever is more. Exit velocity of flue gases shall not be less than 20.14 m/sec.	1-Common stack with online continuous monitoring system for SO ₂ , NO _x and SPM was installed. The height of the chimney is 140m and the exit velocity of flue gases is more than 20.14 m/s, which is meeting the requirement of the said Rules. . The online stack monitor has been linked with TNPCB CARE AIR centre for real time data transfer, LED display for stack emission data has been fixed in the main gate of the plant.
iv.	High efficiency Electrostatic Precipitator (ESPs) shall be installed to ensure that particulate emission does not exceed 50 mg/Nm ³ .	1. 99.9% Efficiency ESP has been installed to ensure the PM level is below 50 mg/Nm ³ . 2. Bag filters are installed in all the transfer towers of Coal. 3. Online data for Sox/NOx/SPM is being uploaded to TNPCB CARE AIR center
v.	Coal transportation will be done by rail up to Gummidipoondi Railway station and thereafter by road.	Coal will be transported from Chennai port to Gummidipoondi by Road since the rail transport was not feasible by railway. Clearance given by MoEF at the 54th meeting based on railways feedback.
vi.	Fly ash shall be collected in dry form and storage facility (silos) shall be provided.100 % fly ash utilization shall be ensured from day one. Unutilized bottom ash shall be disposed off in the ash pond in conventional slurry mode.	Separate Silos are provided for fly ash and bottom ash. The fly ash and bottom ash are collected in dry form and are entirely used in cement plants and brick making plants respectively. The reports are enclosed.



S. No.	Stipulated Conditions	Compliance Status As on 31 st March 2016
vii.	Ash pond shall be lined with LDPE lining. Adequate safety measures shall also be implemented to protect the ash dyke from getting breached.	Ash dyke was provided with three layers of LPDE lining. 100% ash is getting utilised in Cement Plants/Brick making plants. The reports are enclosed.
viii.	Adequate dust extraction system such as cyclones / bag filters and water spray system in dusty areas such as in coal handling and ash handling points, transfer areas and other vulnerable dusty areas shall be provided.	Yes water sprinkler / and 11 Bag filters at all transfer points have been provided in the coal storage /handling area to control the fugitive emission.
ix.	Water requirement shall not exceed 4.3 m ³ /hr.	Clearance obtained to withdrawal 56.25 m ³ /hr from TNPCB for using ground water and the monthly reports are being submitted. Complied with the condition.

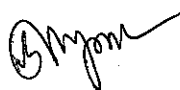
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EC Conditions:

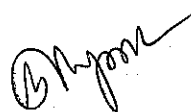
J-13012/111/2009-IA.II (T)

Amendment for the augmentation from 160 to 180 MW

		Compliance Status Update
S. No.	Stipulated Conditions	Compliance Status As on 31th March 2017
1.	The matter for transportation of coal by rail shall be expedited. The progress made in this regard shall be submitted to the Ministry and its R.O from time to time	The detailed report from railways was submitted to the Ministry. The approval for the railway siding and the rail line up the plant includes the Rail over Road is in place. The land acquisition is in progress.
2.	A long term study of radio activity and heavy metals contents on coal to be used shall be carried out through a reputed institute. Thereafter, mechanism for an in-built continuous monitoring for radio activity and heavy metals in coal and fly ash (including bottom ash) shall be put in place.	The detailed Coal and Ash analysis are being carried out by third party. Report copy is appended.
3.	Harnessing solar power within the premises of the plant particularly at available roof tops shall be undertaken and status of implementation shall be submitted periodically to the Regional Office of the Ministry.	Conversion of street lights to LED lamps is in progress. Conversion to solar base study and implementation is in progress.
4.	Fugitive emissions shall be controlled to prevent impact on agricultural or non- agricultural land.	Fogging and dust extraction systems are installed at all the probable locations.
5.	Fly ash shall not be used for agricultural purpose. No mine void filling will be undertaken as an option for ash utilization without adequate lining of mine with suitable media such that no leachate shall take place at any point of time. In case, the option of mine void filling is to be adopted, prior detailed study of soil characteristics of the mine area shall be undertaken from an institute of repute and adequate clay lining shall be ascertained by the State Pollution Control Board and implementation done in close co-ordination with the State Pollution Control Board.	Noted and complied with. 100% Fly Ash and Bottom Ash is being utilised in Cement plants/Brick making plants and road projects. The report is annexed.



S. No.	Stipulated Conditions	Compliance Status As on 31 st March 2016
6.	Green belt shall also be developed around the Ash Pond over and above the Green Belt around the plant boundary.	Noted and complied with. 30% green belt coverage as per direction was completed and nurturing is in progress.
7.	The project proponent shall formulate a well laid Corporate Environment Policy and identify and designate responsible officers at all levels of its hierarchy for ensuring adherence to the policy and compliance with the conditions stipulated in this clearance letter and other applicable environmental laws and regulations.	Environment Management System with Corporate is in place. The plant is certified for ISO 14001 Environment Management System and OHSAS 18001 Occupational Health and Safety management System.



Environmental Clearance No: J-13012/111/2009-IA.II (T)

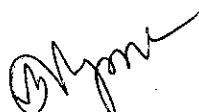
A- Special Condition:

Compliance Status Update

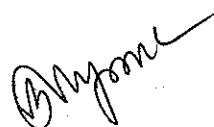
S. No.	Stipulated Conditions	Compliance Status As on 31 st March 2017
1.	Vision document specifying prospective plan for the site shall be formulated and submitted to the Ministry within six month	Documents posted in our official website
2.	The project proponent shall take up the matter for transportation of coal by rail with the Railways. Progress made in this regard shall be submitted to the Registration Office of the Ministry from time to time.	Documents posted in our official website
3.	<p>High Efficiency Electrostatic Precipitators (ESPS) Shall be installed to ensure that particulate emission does not exceed 50 mg/Nm³.</p> <p>Adequate dust extraction system such as cyclones/ bag filters and water spray system in dusty areas such as cyclones/ bag filters and water spray system in dusty areas such as in coal handling and ash handling points, transfer areas and other vulnerable dusty areas shall be provided.</p>	<p>99.9% Efficiency ESP has Been installed to ensure the PM level below 50 mg/Nm³.</p> <p>Bag filters are installed In all the transfer towers to control dust emission.</p> <p>Online data for SO_x/NO_x/SPM is being uploaded to TNPCB website.</p>
4.	Sulphur and ash contents in the coal to be used in the project shall not exceed 0.8% and 25% respectively at any given time. In case of variation of coal quality at any point of time fresh reference shall be made to MoEF for suitable amendments to environmental clearance condition wherever necessary.	<p>We are importing coal from Indonesia which has the maximum sulphur % of 0.15 and indigenous coal is having the maximum sulphur % of 0.4.</p> <p>We are ensuring that both the Sulphur and Ash content shall not exceed the prescribed norms. Documents posted in our official website</p>



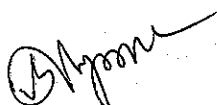
S. No.	Stipulated Conditions	Compliance Status As on 31 st March 2016
5.	Stacks of 100 m and 120 m height respectively shall be installed and provided with continuous online monitoring equipment for SO _x , NO _x and PM _{2.5} and PM 10. Exit velocity of flue gases shall not be less than 22 m/sec. Mercury emissions from stack may also be monitored on periodic basis.	Stacks of 100m, 120m height respectively has been installed. Continuous online monitoring equipment for 1x80 MW and 1x180MW was installed and the data is being uploaded to TNPCB website.. Exit velocity is maintained always above 22 m/s.
6.	Existing de-generated water bodies (if any) in the study area shall be regenerated at the project proponents expenses in consultation with the state Govt.	We have conducted a Hydrogeological study of our own with a third party. Their recommendations are being implemented.
7.	Water requirement for running the plant to begin with shall be met from ground water after obtaining approval of the competent authority. However, the project proponent shall use harvested rain water in the long run. Air cooled condenser shall be installed for condensate cooling.	Ground water approval has been Obtained from SGWB for quantum of 1350 KLD. Harvested rainwater is mainly utilised for the process and Air cooled condensers are installed as per instruction.
8.	Hydro-geological status (quality and quantity) of ground water shall be reviewed annually from and institute / organization of repute to assess impact of surface water and ground regime (especially around ash dyke). In case and deterioration is observed specific mitigation measures shall be undertaken and reports / data of water quality monitored regulation and maintained shall be submitted to the Regional Office of the ministry.	The reports are posted in our official website. There is no deterioration in the ground water quality and the results are annexed.
9.	Source of water for meeting the requirement during lean season shall be specified and submitted to the Regional office of the ministry within three months.	Document posted in our official website. Harvested rainwater is used during the lean period.



S. No.	Stipulated Conditions	Compliance Status As on 31 st March 2016
10.	No water bodies (including natural drainage system) in the area shall be disturbed due to activities associated with the setting up / operation of the power plant.	The natural drain of the plant is from south to north which we have not disturbed. Storm water drains with infiltration wells have been made in the plant to enrich the ground water table in the plant without affecting the natural drain.
11.	A well designed rainwater harvesting shall be put in place before commissioning of the plant. Central Groundwater Authority / Boards shall be consulted for finalization of appropriate rainwater harvesting technology / design within a period of three months from the date of this clearance and details shall be furnished.	A detailed study was made and the report was posted in our official website. The recommendations are being implemented.
12.	The treated effluents conforming to the prescribed standards only shall be recirculated and reused within the plant. Arrangement shall be made that effluents and storm water do not get mixed. A sewage treatment plant shall be provided (as applicable) and the treated Sewage treatment plant shall be provided (as applicable) and the treated sewage shall be used for raising greenbelt / plantation.	Noted and being ensured. TNPCB is also collecting surprise checks and collecting samples. The reports are annexed. A clear demarcation has been made to avoid the mixing of effluent water with storm water in design itself. Sewage treatment plant is in place and the treated water is being used in our green belt.
13.	Additional soil for levelling of the proposed site shall be generated within the sites (to the extent possible) so that natural drainage system of the area is protected and improved.	Noted and complied with.
14.	Utilisation of 100% Fly ash generated shall be made from day one of commissioning of the plant. Status of implementation shall be reported to the Regional Office of the Ministry from time to time.	100% Ash utilisation is ensured as per condition from day 1. The ash utilization details are annexed.



S. No.	Stipulated Conditions	Compliance Status As on 31 st March 2016
15.	<p>Fly ash shall be collected in dry form and storage facility (silos) shall be provided.</p> <p>Unutilized fly ash shall be disposed off in the ash pond in the form of slurry form. Mercury and other heavy metals (As, Hg, Cr, Pb etc.) will be monitored in the bottom ash as also in the effluents emanating from the existing ash pond. No ash shall be disposed off in low lying area.</p>	<p>Separate silos are provided for Fly ash and bottom ash with adequate capacity.</p> <p>100% Ash is being utilized. The ash utilization and the analysis reports are annexed.</p> <p>No ash is dumped at any point of time.</p>
16.	<p>Ash pond (if any) shall be lined with HDP / LDPE lining or any other suitable impermeable media such that no leachate takes place at any point of time. Adequate safety measures shall also be implemented to protect the ash dyke from getting breached.</p>	<p>Noted and complied with.</p> <p>Ash pond with proper 3 layer HDPE/LDPE lining has been made to ensure no leachate.</p> <p>The monitoring well water reports are annexed.</p>
17.	<p>Green Belt consisting of 3 tiers of plantations of native species around plant and at least 30 m width shall be raised. Tree density shall not less than 2500 per ha with survival rate not less than 80%.</p>	<p>More than 33% area is covered by green belt as per the condition.</p> <p>District Forest Officers are helping in selection of the species, nurturing and enhancement.</p>
18.	<p>The project proponent shall also adequately contribute in the development of the neighbouring villages. Special package with implementation schedule for providing fluoride free potable drinking water supplying the nearby village and schools shall be undertaken in a time bound manner.</p>	<p>Document is posted in our official website</p>
19.	<p>An amount of Rs. 4.8 Crores shall be earmarked as one time capital cost for CSR Programme.</p> <p>Subsequently a recurring expenditure of Rs. 0.96 Crores per annum till the operation of the plant shall be activities to be undertaken shall be submitted within one month along with road map for implementation.</p>	<p>Noted and complied with.</p> <p>Document is posted in our official website</p>



S. No.	Stipulated Conditions	Compliance Status As on 31 st March 2016
20.	While identifying CSR activities it shall be ensured that need based assessment for the nearby villages within study area shall be conducted to study economic measures with action plan which can help in upliftment of poor section of society. Income generating projects consistent with the traditional skills of the people shall be undertaken. Development of fodder farm, fruit bearing orchards vocational training etc. can form a part of such programme. Company shall provide separate budget for community development activities and income generating programmes. Vocational training programme for possible self-employment and jobs shall be imparted to identify villagers free of cost.	Noted and complied with. Rotary club has been Invited to study the need base assessment for the nearby community. Document is posted in our official website
21.	It shall be ensured that in – built monitoring mechanism for the schemes identified is in place and annual social audit shall be got done from the nearest government institute of repute in the region the project proponent shall also submit the status of implementation of the scheme from time to time.	Noted and complied with. Document is posted in our official website.



ASH UTILIZATION REPORT

October 2016 – March 2017



MONTHLY FLYASH AND BOTTOM ASH
GENERATION, UTILIZATION DETAILS

OCT 16

NAME AND ADDRESS OF THE SUPPLIER : OPG POWER GENERATION PRIVATE LIMITED.
MADHARPAKKAM ROAD, PERIYA OBULAPURAM
GUMMIDIPOONDI 601 201

Accumulated quantity of ash at the start of the month

Fly Ash

1. Kept at Ash Dyke : NIL
2. Kept at Silo : NIL

Bottom Ash

1. Kept at Ash Silo : NIL

ASH GENERATION

1	Quantity of Blended coal used during this month	1,75,217 MT
2	Average ash content in the coal	9.2 %
3	Generation of Fly ash	12912.6 MT
4	Generation of Bottom Ash	3228.15 MT

ASH DISPOSAL

Fly Ash

1	To Cement Industries	12912.6 MT
2	To Brick Industries	NIL
3	Total disposal of Fly ash	12912.6 MT

Bottom Ash

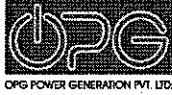
1	To Brick Industries	3228.15 MT
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ASH ACCUMULATION

1	Fly Ash Kept in Ash dyke	NIL
2	Fly Ash Kept in Silos	NIL
3	% of utilization	100%
4	Bottom Ash kept in Silos	NIL
5	% of utilization	100%

Fly ash sent to the following Industries

1. Abhinaya agency - Madhavaram
2. Sri Balaji Agencies - A.S.Pettai
3. Ultra Tech Cements Ltd - Arakonam
4. THirumalai Agencies - Madhavaram
5. Pugalmathi & Co - Mettur Dam
6. Sri Praveen Enterprises - Madhavaram
7. Vasantham Enterprises - Gummudipoondi
6. OM Muruga - Gummudipoondi
7. The India cements Ltd - Vallur
8. P.M Fly ash Bricks - S.R.Kandigai



MONTHLY FLYASH AND BOTTOM ASH
GENERATION, UTILIZATION DETAILS

Nov 16

NAME AND ADDRESS OF THE SUPPLIER : OPG POWER GENERATION PRIVATE LIMITED
MADHARPAKKAM ROAD, PERIYA OBULAPURAM
GUMMIDIPOONDI 601 201

Accumulated quantity of ash at the start of the month

Fly Ash

1. Kept at Ash Dyke : NIL
2. Kept at Silo : NIL

Bottom Ash

1. Kept at Ash Silo : NIL

ASH GENERATION

1	Quantity of Blended coal used during this month	1,31,970 MT
2	Average ash content in the coal	11.9 %
3	Generation of Fly ash	12,633.41 MT
4	Generation of Bottom Ash	3158.4 MT

ASH DISPOSAL

Fly Ash

1	To Cement Industries	12,633.41 MT
2	To Brick Industries	NIL
3	Total disposal of Fly ash	12,633.41 MT

Bottom Ash

1	To Brick Industries	3158.4 MT
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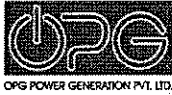
ASH ACCUMULATION

1	Fly Ash Kept in Ash dyke	NIL
2	Fly Ash Kept in Silos	NIL
3	% of utilization	100%
4	Bottom Ash kept in Silos	NIL
5	% of utilization	100%

Fly ash sent to the following Industries

1. Abhinaya agency - Madhavaram
2. Sri Balaji Agencies - A.S.Pettai
3. Ultra Tech Cements Ltd - Arakonam
4. THirumalai Agencies - Madhavaram
5. Pugalmathi & Co - Mettur Dam
6. Sri Praveen Enterprises - Madhavaram
7. Vasantham Enterprises - Gummudipoondi
6. OM Muruga - Gummudipoondi
7. The India cements Ltd - Vallur
8. P.M Fly ash Bricks - S.R.Kandigai

D. J. J. J.



MONTHLY FLYASH AND BOTTOM ASH
GENERATION, UTILIZATION DETAILS

Dec 16

NAME AND ADDRESS OF THE SUPPLIER : OPG POWER GENERATION PRIVATE LIMITED
MADHARPAKKAM ROAD, PERIYA OBULAPURAM
GUMMIDIPOONDI 601 201

Accumulated quantity of ash at the start of the month

Fly Ash

1. Kept at Ash Dyke : NIL
2. Kept at Silo : NIL

Bottom Ash

1. Kept at Ash Silo : NIL

ASH GENERATION

1	Quantity of Blended coal used during this Month	96979.9 MT
2	Average ash content in the coal	8.5 %
3	Generation of Fly ash	6586.33 MT
4	Generation of Bottom Ash	1646.6 MT

ASH DISPOSAL

Fly Ash

1	To Cement Industries	6586.33 MT
2	To Brick Industries	NIL
3	Total disposal of Fly ash	6586.33 MT

Bottom Ash

1	To Brick Industries	1646.33 MT
---	---------------------	------------

ASH ACCUMULATION

1	Fly Ash Kept in Ash dyke	NIL
2	Fly Ash Kept in Silos	NIL
3	% of utilization	100%
4	Bottom Ash kept in Silos	NIL
5	% of utilization	100%

Fly ash sent to the following Industries

1. Abhinaya agency - Madhavaram
2. Sri Balaji Agencies - A.S.Pettai
3. Ultra Tech Cements Ltd - Arakonam
4. THirumalai Agencies - Madhavaram
5. Pugalmathi & Co - Mettur Dam
6. Sri Praveen Enterprises - Madhavaram
7. Vasantham Enterprises - Gummudipoondi
6. OM Muruga - Gummudipoondi
7. The India cements Ltd - Vallur
8. P.M Fly ash Bricks - S.R.Kandigai

(Signature)



MONTHLY FLYASH AND BOTTOM ASH
GENERATION, UTILIZATION DETAILS

Jan 17

NAME AND ADDRESS OF THE SUPPLIER : OPG POWER GENERATION PRIVATE LIMITED
MADHARPAKKAM ROAD, PERIYA OBULAPURAM
GUMMIDIPOONDI 601 201

Accumulated quantity of ash at the start of the month
Fly Ash

1. Kept at Ash Dyke : NIL
2. Kept at Silo : NIL

Bottom Ash

1. Kept at Ash Silo : NIL

ASH GENERATION

1	Quantity of Blended coal used during this Month	1,24,107 MT
2	Average ash content in the coal	6 - 8 %
3	Generation of Fly ash	7618.32 MT
4	Generation of Bottom Ash	1904.58 MT

ASH DISPOSAL

Fly Ash

1	To Cement Industries	7618.32 MT
2	To Brick Industries	NIL
3	Total disposal of Fly ash	7618.32 MT

Bottom Ash

1	To Brick Industries	1904.58 MT
---	---------------------	------------

ASH ACCUMULATION

1	Fly Ash Kept in Ash dyke	NIL
2	Fly Ash Kept in Silos	NIL
3	% of utilization	100%
4	Bottom Ash kept in Silos	NIL
5	% of utilization	100%

Fly ash sent to the following Industries

1. Abhinaya agency - Madhavaram
2. Sri Balaji Agencies - A.S.Pettai
3. Ultra Tech Cements Ltd - Arakonam
4. THirumalai Agencies - Madhavaram
5. Pugalmathi & Co - Mettur Dam
6. Sri Praveen Enterprises - Madhavaram
7. Vasantham Enterprises - Gummudipoondi
6. OM Muruga - Gummudipoondi
7. The India cements Ltd - Vallur
8. P.M Fly ash Bricks - S.R.Kandigai

(Signature)



MONTHLY FLYASH AND BOTTOM ASH
GENERATION, UTILIZATION DETAILS

Feb 17

NAME AND ADDRESS OF THE SUPPLIER : OPG POWER GENERATION PRIVATE LIMITED
MADHARPAKKAM ROAD, PERIYA OBULAPURAM
GUMMIDIPOONDI 601 201

Accumulated quantity of ash at the start of the month

Fly Ash

1. Kept at Ash Dyke : NIL
2. Kept at Silo : NIL

Bottom Ash

1. Kept at Ash Silo : NIL

ASH GENERATION

1	Quantity of Blended coal used during this Month	1,16,672.15 MT
2	Average ash content in the coal	10 - 11 %
3	Generation of Fly ash	10,723.86 MT
4	Generation of Bottom Ash	2,144.8 MT

ASH DISPOSAL

Fly Ash

1	To Cement Industries	10,723.86 MT
2	To Brick Industries	NIL
3	Total disposal of Fly ash	10,723.86 MT

Bottom Ash

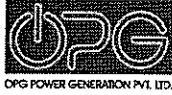
1	To Brick Industries	2,144.8 MT
---	---------------------	------------

ASH ACCUMULATION

1	Fly Ash Kept in Ash dyke	NIL
2	Fly Ash Kept in Silos	NIL
3	% of utilization	100%
4	Bottom Ash kept in Silos	NIL
5	% of utilization	100%

Fly ash sent to the following Industries

1. Abhinaya agency - Madhavaram
2. Sri Balaji Agencies - A.S.Pettai
3. Ultra Tech Cements Ltd - Arakonam
4. THirumalai Agencies - Madhavaram
5. Pugalmathi & Co - Mettur Dam
6. Sri Praveen Enterprises - Madhavaram
7. Vasantham Enterprises - Gummudipoondi
6. OM Muruga - Gummudipoondi
7. The India cements Ltd - Vallur
8. P.M Fly ash Bricks - S.R.Kandigai



MONTHLY FLYASH AND BOTTOM ASH
GENERATION, UTILIZATION DETAILS

Mar 17

NAME AND ADDRESS OF THE SUPPLIER : OPG POWER GENERATION PRIVATE LIMITED
MADHARPAKKAM ROAD, PERIYA OBULAPURAM
GUMMIDIPOONDI 601 201

Accumulated quantity of ash at the start of the month

Fly Ash

1. Kept at Ash Dyke : NIL
2. Kept at Silo : NIL

Bottom Ash

1. Kept at Ash Silo : NIL

ASH GENERATION

1	Quantity of Blended coal used during this Month	1,54,279.3 MT
2	Average ash content in the coal	10 - 11 %
3	Generation of Fly ash	13,941.63 MT
4	Generation of Bottom Ash	2,788.3 MT

ASH DISPOSAL

Fly Ash

1	To Cement Industries	13,941.63 MT
2	To Brick Industries	NIL
3	Total disposal of Fly ash	13,941.63 MT

Bottom Ash

1	To Brick Industries	2,788.3 MT
---	---------------------	------------

ASH ACCUMULATION

1	Fly Ash Kept in Ash dyke	NIL
2	Fly Ash Kept in Silos	NIL
3	% of utilization	100%
4	Bottom Ash kept in Silos	NIL
5	% of utilization	100%

Fly ash sent to the following Industries

1. Abhinaya agency - Madhavaram
2. Sri Balaji Agencies - A.S.Pettai
3. Ultra Tech Cements Ltd - Arakonam
4. THirumalai Agencies - Madhavaram
5. Pugalmathi & Co - Mettur Dam
6. Sri Praveen Enterprises - Madhavaram
7. Vasantham Enterprises - Gummudipoondi
6. OM Muruga - Gummudipoondi
7. The India cements Ltd - Vallur
8. P.M Fly ash Bricks - S.R.Kandigai

BORE WELL ANALYSIS REPORT

October 2016 – March 2017



BORE WELL WATER ANALYSIS

OCTOBER- 2016

Sl. No.	ANALYSIS	As	Unit	PHASE - I					PHASE - II									
				BW 1	BW 2	BW 3	BW 4	BW 5	BW1	BW2	BW3	BW4	BW5	BW6	BW7	BW8	BW9	BW10
1	pH	-	-	7.12	7.12	6.96	6.98	7.24	Not in Use	Not in Use	7.02	7.32	7.12	7.62	Not in Use	7.48	7.86	7.92
2	Conductivity	-	µs/Cm	912	978	714	642	745			882	1012	702	701		616	732	746
3	Total Hardness	CaCo3	ppm	124	162	156	160	152			160	222	140	140		152	112	142
4	Calcium Hardness	CaCo3	ppm	54	80	74	78	72			76	102	65	76		74	76	74
5	Magnesium Hardness	CaCo3	ppm	70	82	82	82	80			84	120	75	64		78	58	68
6	Silica	SiO2	ppm	24	18	20	22	30			12	18	20	20		20	12	14
7	Total Suspended Solids	-	ppm	4	5	3	1	5			6	3	3	10		3	3	3
8	Sodium	Na	ppm	20	28	24	22	18			30	22	14	12		18	14	12
9	Chlorides	Cl	ppm	28	32	20	18	14			26	20	20	18		14	16	12
10	Sulphates	So4	ppm	18	22	12	21	16			14	4	4	4		10	10	10

NOVEMBER -2016

Sl. No.	ANALYSIS	As	Unit	PHASE - I					PHASE - II									
				BW 1	BW 2	BW 3	BW 4	BW 5	BW1	BW2	BW3	BW4	BW5	BW6	BW7	BW8	BW9	BW10
1	pH	-	-	7.02	7.12	6.96	6.98	7.24	Not in Use	Not in Use	7.02	7.26	7.02	7.54	Not in Use	7.32	7.85	8.16
2	Conductivity	-	µs/Cm	902	980	702	642	782			884	1086	698	668		608	724	760
3	Total Hardness	CaCo3	ppm	128	158	146	160	164			160	244	136	140		152	132	154
4	Calcium Hardness	CaCo3	ppm	56	78	68	78	76			78	114	64	72		72	72	84
5	Magnesium Hardness	CaCo3	ppm	72	80	78	82	88			82	130	72	68		80	60	70
6	Total Alkalinity	CaCo3	ppm	190	168	152	156	164			164	174	164	152		168	148	142
7	Silica	SiO2	ppm	21	16	26	22	34			18	20	18	18		22	18	18
8	Total Suspended Solids	-	ppm	2	4	1	0	4			4	2	2	14		2	2	4
9	Sodium	Na	ppm	18	28	21	20	20			32	32	16	14		20	18	16
10	Chlorides	Cl	ppm	26	28	22	16	22			30	22	18	18		16	16	14
11	Sulphates	So4	ppm	16	20	10	20	16			18	2	2	2		12	12	12

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DECEMBER -2016

Sl. No.	ANALYSIS	As	Unit	PHASE - I					PHASE - II									
				BW 1	BW 2	BW 3	BW 4	BW 5	BW1	BW2	BW3	BW4	BW5	BW6	BW7	BW8	BW9	BW10
1	pH	-	-	6.92	7.02	6.98	7.32	6.98	Not in Use	Not in Use	6.92	7.24	6.98	7.60	Not in Use	7.58	7.62	8.20
2	Conductivity	-	µs/Cm	882	998	688	620	740			862	1124	682	652		592	672	752
3	Total Hardness	CaCo3	ppm	102	170	116	140	136			114	226	122	132		136	116	160
4	Calcium Hardness	CaCo3	ppm	40	74	54	68	64			62	104	58	68		64	64	86
5	Magnesium Hardness	CaCo3	ppm	62	96	62	72	72			68	122	64	64		72	52	74
6	Total Alkalinity	CaCo3	ppm	184	178	160	164	182			182	186	174	164		182	140	158
8	Silica	SiO2	ppm	18	12	20	24	32			12	24	22	20		24.6	16	16
9	Total Suspended Solids	-	ppm	1	4	0	0	2			2	1	1	18		1	4	6
10	Sodium	Na	ppm	16	26.0	18.0	18.0	18.0			40.6	28.0	18.0	16.0		18.8	16	14
11	Chlorides	Cl	ppm	21	22.0	20.4	12.0	18.4			30.2	20.2	16.0	18.0		16.8	14	12
12	Sulphates	So4	ppm	14	18.0	10.0	18.0	14.0			16.0	1.0	1.0	1.2		14.0	10	10

JANUARY -2017

Sl. No.	ANALYSIS	As	Unit	PHASE - I					PHASE - II									
				BW 1	BW 2	BW 3	BW 4	BW 5	BW1	BW2	BW3	BW4	BW5	BW6	BW7	BW8	BW9	BW10
1	pH	-	-	7.21	7.12	6.92	7.64	6.98	Not in Use	Not in Use	7.12	7.24	7.12	7.60	Not in Use	7.92	7.82	8.18
2	Conductivity	-	µs/Cm	992	1022	678	640	740			998	1124	712	652		582	684	740
3	Total Hardness	CaCo3	ppm	128	180	114	120	136			124	226	132	134		136	114	160
4	Calcium Hardness	CaCo3	ppm	52	68	50	56	64			52	104	60	70		64	68	84
5	Magnesium Hardness	CaCo3	ppm	76	112	64	64	72			72	122	72	64		72	46	76
6	Total Alkalinity	CaCo3	ppm	192	192	172	182	182			192	186	186	182		182	152	164
8	Silica	SiO2	ppm	22	20	22	28	32			18	24	28	26		26.8	14	24
9	Total Suspended Solids	-	ppm	1	4	0	0	2			4	1	1	18		1	2	4
10	Sodium	Na	ppm	20	32.0	16.0	20.0	18.0			42.6	28.0	18.0	18.0		20.2	14	16
11	Chlorides	Cl	ppm	24	28.0	20.8	10.0	18.4			40.2	20.2	16.0	16.0		16.8	12	14
12	Sulphates	So4	ppm	16	16.0	12.0	16.0	14.0			18.0	1.0	1.0	1.2		14.8	12	10

M. J. J.



FEBRUARY- 2017

ANALYSIS	As	Unit	PHASE - I					PHASE - II									
			BW 1	BW 2	BW 3	BW 4	BW 5	BW1	BW2	BW3	BW4	BW5	BW6	BW7	BW8	BW9	BW10
pH	-	-	7.68	7.72	7.52	8.08	7.52	Not in Use	Not in Use	7.82	8.02	7.68	8.12	Not in Use	8.24	8.12	8.69
Conductivity	-	µs/Cm	1052	1234	872	720	740			1152	1452	780	692		612	712	780
Total Hardness	CaCo3	ppm	178	242	158	144	152			170	320	146	162		152	150	150
Calcium Hardness	CaCo3	ppm	78	86	72	70	70			78	152	68	78		72	88	80
Magnesium Hardness	CaCo3	ppm	100	156	86	74	82			92	168	78	84		80	62	70
Total Alkalinity	CaCo3	ppm	292	310	210	210	202			215	214	212	202		192	172	220
Silica	SiO2	ppm	34	32	42	32	40			20	40	42	38		40	18	44
Total Suspended Solids	-	ppm	1	8	0	0	4			8	1	1	26		1	4	4
Sodium	Na	ppm	32	60.2	20.8	24.0	16.8			50.6	36.0	24.0	20.0		22.8	18.0	17.7
Chlorides	Cl	ppm	30	62.8	26.2	12.0	20.2			48.2	28.8	20.0	20.0		30.8	12.0	24.6
Sulphates	So4	ppm	24	32.0	16.0	20.0	16.0	22.0	1.0	1.0	1.2	16.2	18.0	14.0			

MARCH -2017

ANALYSIS	As	Unit	PHASE - I							PHASE - II									
			BW 1	BW 2	BW 3	BW 4	BW 5	BW1	BW2	BW3	BW4	BW5	BW6	BW7	BW8	BW9	BW10	Borewell 10	
pH	-	-	7.39	7.41	7.43	7.53	7.50	7.45	8.14	7.15	7.47	7.24	7.44	Not in use	7.40	7.33	7.29	7.44	
Electrical Conductivity	-	µs/Cm	1197	1446	1180	622	767	752	1478	596	1285	1058	766		709	676	808	917	
Silica	SiO2	ppm	89.75	88.13	98.05	86.01	83.14	91.17	135.27	90.91	79.65	110.05	100.61		98.33	89.11	84.04	86.58	
Total Hardness	CaCo3	ppm	460	430	450	280	325	355	500	265	450	390	360		350	385	345	400	
Calcium Hardness	CaCo3	ppm	170	165	260	170	185	160	280	150	195	230	175		190	205	165	210	
Magnesium Hardness	CaCo3	ppm	290	265	190	110	140	195	240	115	255	160	185		160	180	180	190	
Chlorides	Cl	ppm	116.98	166.61	102.80	21.27	42.54	70.90	159.52	42.54	124.07	85.08	53.17		46.08	67.35	81.53	81.53	
Sulphates	So4	ppm	59.20	85.30	59.70	43.80	54.40	49.10	73.50	44.90	64.60	63.30	54.10		33.50	42.90	65.90	43.40	

Bhagane

TNPCB ANALYSIS REPORT

October 2016 – March 2017

TNPCB Bore well Analysis Report For the Period from Oct 2016 - March 2017

Date of Sample Collection		18-Oct-16	22-Dec-16	3-Jan-17	8-Feb-17	3-Mar-17								
S.No.	Sample Description	ETP Out	STP Out	Evaporatio n Pond	BBD Storm Water Drain	Percolatio n pond	SEPTreated	Pond	ETP Out	STP Out	STP Out	STP Out	RO permeate	SEP Treated
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
1	pH	8.32	7.41	8.3	8.56		8.68	7.97	7.73	7.49	7.18	7.79	7.79	8.37
2	Conductivity													
3	Total Suspended Solids	28	58	24	10	52	18	58	10	12	18	12	14	
4	Total Dissolved Solids	682		892	148	362	712	322	368				368	1012
5	Chlorides	95		240	60	95	260	120	135				155	485
6	Sulphates	5		154	9	10	45	14	66				4	4
7	Oil and Grease	<1		<1	<1	<1	<1	<1	<1				<1	<1
8	BOD at 27 °C for 3 days	3	14	5	3	10	5	10	4	3	4	2	2	3
9	COD	24	128	40	24	64	32	72	32	24	32	16	24	24
10	Potassium	<1												
11	Sulphides	<1												
12	Copper	<0.0015		<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015					
13	Zinc	<0.0015		<0.0015	<0.0015	0.056	<0.0015							
14	Cadmium	<0.0008		<0.0008	<0.0008		<0.0008							
15	Lead	<0.015		<0.015	<0.015	<0.0008	<0.0008							
16	Nickel	<0.006		<0.006	<0.006	<0.006	<0.006							
17	Total Phosphate													
18	Total Chromium	<0.01		<0.01	<0.01	<0.01	<0.01							
19	Total Alkalinity													
20	Total Kjeldhal Nitrogen													
21	Fluoride													
22	Mercury													
23	Total Nitrogen (NO3+NO2)		2		0.4					<0.15	<0.15	<0.15	<0.15	<0.15
24	Ammonical Nitrogen		10		<0.3					<0.3	<0.3	<0.3	<0.3	<0.3
25	Fecal Coliform		FNA		FNA					FNA	FNA	FNA	FNA	FNA
26	Hexavalent Chromium	<0.01		<0.01	<0.01	<0.01	<0.01							

Bygone



TAMILNADU POLLUTION CONTROL BOARD
District Environmental Laboratory, Ambattur.

From
Dr.S.Sukumar.M.Sc.,M.Phil.,Ph.D.,
Chief Scientific Officer (Lab),
District Environmental Laboratory,
No.77-A South Avenue Road,
Ambattur Industrial Estate, Ambattur,
Chennai 600 058.

To
✓ **M/s.OPG Power Generation Pvt Ltd.**
Obulapuram,
Gummidipoondi,
Tiruvallur Dt,
Pin Code-601 201.

Lr.No.TNPCB/DEL/AMB/AIR/ 59 /AAQS/SM/2016-17.

Dated: 28/02/2017.

Sir,

Sub: Furnishing of Report of Analysis of Ambient Air Quality/Stack Monitoring /
Ambient Noise Level Survey-regarding.

Ref: 1. T.O.Lr.No 61/2016-17
2. Yr ltr. No.Nil
3. Cash Receipt No.8193
Rs. 70,000

Dated: 08/07/2016
Dated: 12/10/2016
Dated: 13/10/2016

The Report of Analysis of Ambient Air Quality /Stack Monitoring/Ambient Noise Level
Survey conducted in the vicinity of your Industry on 22/02/17. along with the Bill for Rs. 60700
(Rupees Sixty Thousand Seven Hundred only) is furnished herewith.

Kindly acknowledge the receipt of the above without fail

[Handwritten signature]

[Handwritten signature]
Chief Scientific Officer(Lab)
DEL, Ambattur

Encl: As above
Copy Submitted:

1. The Joint Chief Environmental Engineer (Mointoring) Chennai.
2. The Director (Lab) TNPCB, Chennai.
3. The District Environmental Engineer, Thiruvallur (Dt).
4. To File.



TAMILNADU POLLUTION CONTROL BOARD
District Environmental Laboratory, Ambattur.
Ambient Air Quality Survey Report

Report No. 59 /AAQS/2016-17

Dated: 28/02/2017.

1. Name of the Industry : M/s.OPG Power Generation Pvt Ltd.
2. Address of the Industry : Obulapuram,
Gummidip/foondi,
Tiruvallur Dt.
3. Date of survey : 22/02/17.
4. Duration of Survey : Eight hours
5. Category : 17
6. Classification : Red Large
7. Consent Order No. : 160824411901
8. Time of survey started in Hrs : 6.00
9. Time of survey closed in Hrs : 14.30

Ambient Temperature (°C)	Min	Max	Relative Humidity (%)	Min	Max
	25.0	34.0		44	88
Weather Condition	Clear Sky		Rain Fall (mm)	Nil	
Predominant Wind Condition	NE-SW		Mean Wind Speed (Km/hr)	6.87	

Ambient Air Quality Survey Report of Analysis

Sl. No	Location	Direction *	Distance (m)	Height from GL (m)	Pollutants Concentrations (µg/m ³)			
					PM _{2.5}	PM ₁₀	SO ₂	NO ₂
1	On house top of Thiru Jambulingam ja Periyaobulapuram	N	400	5.0	---	76	12.2	15.0
2	On top of scaffolding near near Church at Kayalarmedu	NE	400	5.0	36	81	12.7	14.6
3	On house top at OPG guest house, Billakuppam.	SE	600	5.0	---	78	11.8	14.8
4	On house top Thiru Durai at S.R.Kandigai	SS W	200	5.0	40	86	12.4	13.9
5	On top of scaffolding at M/s.Aquafina at G.R.Kandigai.	SW	1000	5.0	---	84	13.9	14.3
6	On house top Thirusuresh at N.R.Kandigai	NW	350	5.0	---	79	11.8	15.8

[Signature]
11/8/17

[Signature]
28/2/2017
Chief Scientific Officer(Lab)
DEL, Ambattur



TAMILNADU POLLUTION CONTROL BOARD
District Environmental Laboratory, Ambattur.
Stack Monitoring Survey - Report of Analysis

Report I59 /SM/2016-17

Dated: 28/02/2017.

1. Name of the Industry : M/s.OPG Power Generation Pvt Ltd.
2. Address of the Industry : Obulapuram,
Gummidipoondi,
Tiruvallur Dt,
3. Date of survey : 22/02/17.
4. Consent Order No. : 160824411901
5. Classification : Red Large

Stack Analysis Report

Sl. No	Stack attached to	Stack Temp °C	Velocity in (M/sec)	Discharge rate in (Nm ³ /Day)	Pollutants (mg/Nm ³)		
					PM	SO ₂	Nox
1	Boiler Unit No-1 (320TPH), Generation -80 MW, Fuel-Coal, APC-ESP.	147	24.2	15562803.8	36.1	433.0	206.4
2	Boiler Unit No-2 (320TPH), Generation -80 MW, Fuel-Coal, APC-ESP.	159	23.5	14692844.5	36.3	316.8	196.3
3	Boiler Unit No-4 (490TPH), Generation -180 MW, Fuel-Coal, APC-ESP.	139	25.3	15677476.5	38.4	306.3	213.2

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28/2/2017

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Chief Scientific Officer(Lab)
DEL, Ambattur



TAMILNADU POLLUTION CONTROL BOARD
District Environmental Laboratory, Ambattur.

Ambient Noise Level Survey-Report of Analysis

Report No. 59 /NSL/2016-17 Dated: 28/02/2017.

1	Name of the Industry	M/s.OPG Power Generation Pvt Ltd.
2	Address of the Industry	Obulapuram, Gummidipondi, Tiruvallur Dt,
3	Date of survey	22/02/17.
4	Classification & Consent Order No.	Red Large 160824411901
5	Land Use Classification	Industrial

Type of survey	Ambient	Time Of Survey	Day
Meteorological Conditions		Calm	

Logging Parameters

Instrument Used	Larsen & Davis	Serial No.	824A2033
Logging Interval	10 Minutes in each point	Measuring Range	50-110 dB(A)
Weighting	"A"	Time Weighting	Slow
Sound Incidence	Random	Time of survey in Hrs.	10.45-12.15

Location	Duration (m)	Distance (m)	Direction	Sound Level -dB(A)		
				L _{eq}	L _{Min}	L _{Max}
Near Jambuligam house	10	400	N	54.2	48.5	65.7
Near Main security gate at Kayalarmedu	10	300	NE	58.6	54.2	70.2
Near Bachelors Quarters at Billakuppam	10	500	SE	51.8	47.1	65.1
Near Aquafina plant at G.R.kandigai	10	1000	SW	51.4	48.2	63.4
Near Suresh House at N.R.Kandigai	10	350	NW	60.4	55.9	74.2

[Signature]
11/3/17

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28/2/2017
Chief Scientific Officer(Lab)
DEL, Ambattur

RAIN WATER HARVESTING REPORT

October 2016 – March 2017

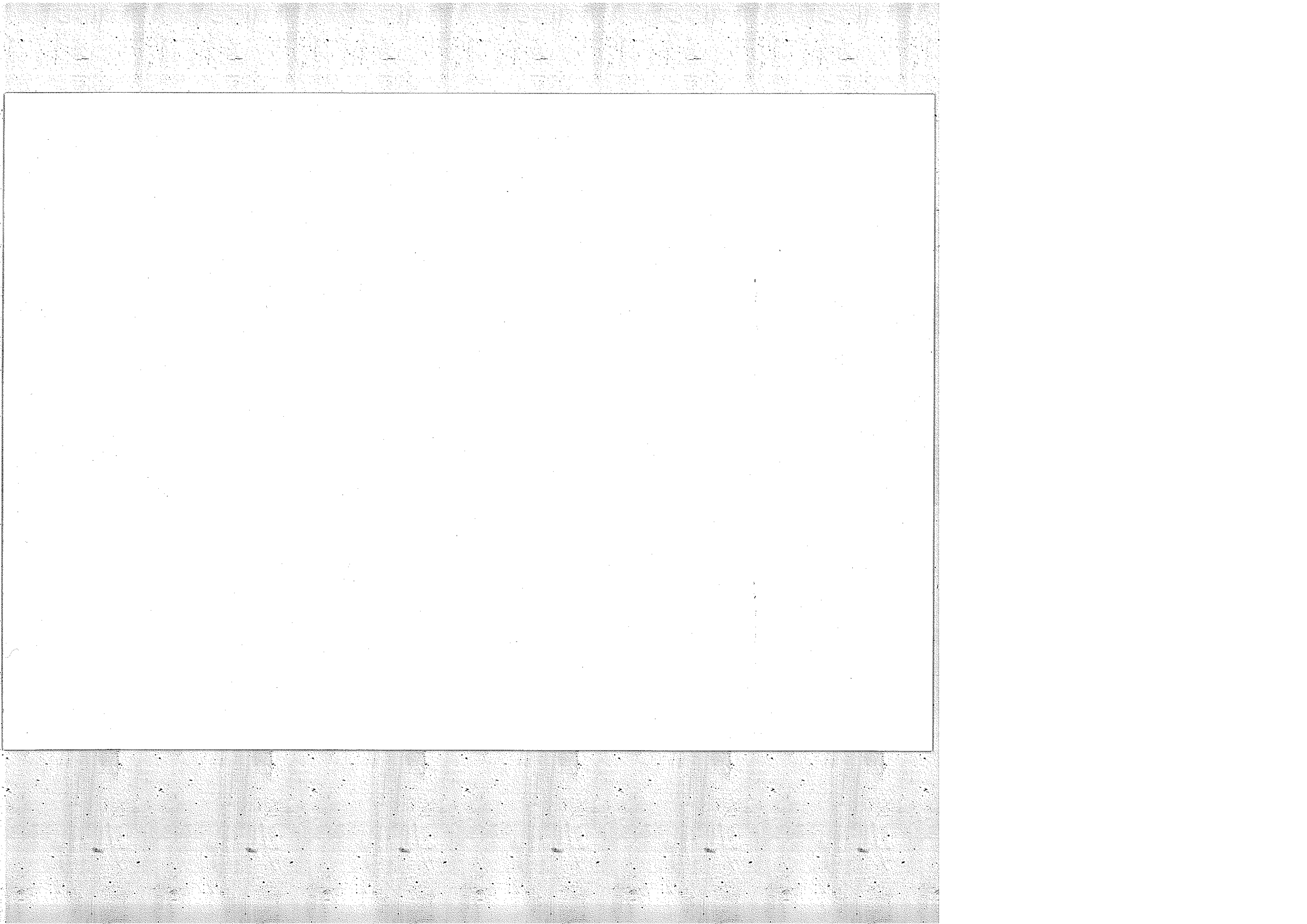
TECHNICAL AUDIT OF RAIN WATER HARVESTING,
GROUND WATER RECHARGE AND DEVELOPMENT IN
THERMAL POWER PLANTS AT
BHADRESHWAR AND GUMMIDIPUNDI

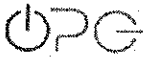
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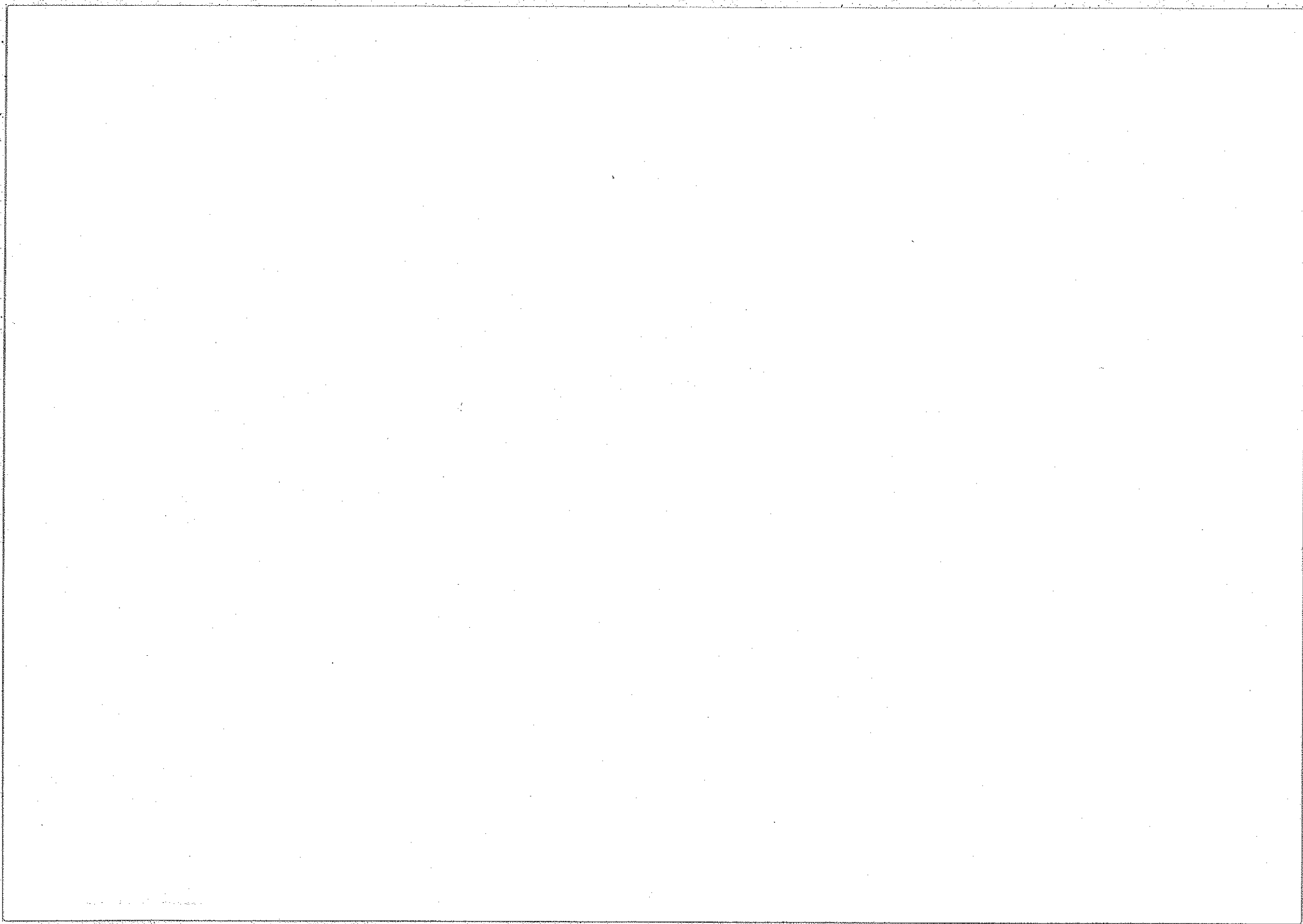


Percolation pit cleaning activities as on 22.03.2017

Pit Numbers	% of Work Completion				
	Removal of Gravels/ pebbles up to 3 feet	Cleaning of Gravels	Refill of gravels up to one feet	Refill of pebbles up to one feet	Refill of sand in top layer
1	0%				
2	0%				
3	100%				
4	100%				
5	100%	100	100		
6	100%	75			
7	75%				
8	100%	100	100		
9	100%	100	50		
10	100%				
11	100%				
12	100%				
13	75%				
14	75%				
15	75%				
16	0%				
17	75%				
18	100%				
19	75%				
20	100%				
21	75%				
22	100%				
23	100%				
24	20%				
25	20%				

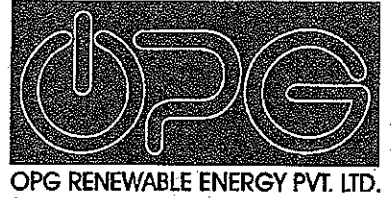
water has been stored.
Continuous water usage from
near by tank at the entrance
of labour shed gate

FLY ASH CUSTOMER LIST



FORM V

2016 – 2017



OPG RENEWABLE ENERGY PVT. LTD.

28-April-17

OPGPG: JMD/PCB/2016-17/76

The Joint Chief Environmental Engineer
Tamil Nadu Pollution Control Board
Chennai Region
77A, South Avenue Road,
Ambattur Industrial Estate
Chennai - 600058.

Sir,

Sub: TNPCB Industries – M/S OPG Power Generation Private Limited – Submission of Environmental Statement – Reg.


We Herewith submit the Annual Environmental Statement in Form V for the financial year 2016-2017 ending with March 2017

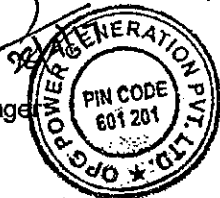
This is for your kind information and Documentation.

For further any clarification or data if required we are at your disposal.

Thanking you,

Yours Sincerely,
For OPG POWER GENERATION PRIVATE LIMITED


G. Mohan
EHS – Manager



Cc: 1. The Member Secretary, TNPCB Board, Chennai 32 with Encl.

2. The District Environmental engineer, Thiruvallore District – Only Copy of letter

New No. 6, Sardar Patel Road, Guindy, Chennai - 600 032.
Phone : +91 44 4291 1222, Fax : +91 44 4291 1209

E-mail : admin@opgpower.com

Website : www.opgpower.com

FORM 5

ENVIRONMENTAL STATEMENT FOR THE FINANCIAL YEAR ENDING THE 31ST MARCH 2017

PART A

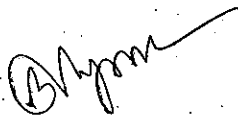
(i)	Name and address of the owner/ occupier of the industry, operation or process.	T.CHANDRAMOULEE JOINT MANAGING DIRECTOR OPG POWER GENERATION PVT. LTD No : 6, SARDAR PATEL ROAD GUINDY CHENNAI - 600032
(ii)	Industry category Primary -(STC Code) Secondary- (STC Code)	1048 , Thermal Power Plant Red Large
(iii)	Production capacity-Units-	2x77+1x80+1x180 MW
(iv)	Year of Establishment	Apr 2010/Sep 2012/May 2013/Jul 2015
(v)	Date of last environmental statement submitted	27 th April 2016

PART B

Water and Raw Material Consumption

(1) Water consumption m³/d

Process	316 KLD
Cooling	NIL (Air Cooled Condenser)
Domestic	23 KLD



Sl. No.	Name of the Products	Process water consumption per unit of product output l/kwh	
		During the previous financial year	During the current financial year
		(1)	(2)
1.	Electricity	0.073 liter/kwh – Unit 1 0.054 liter/kwh – Unit 2 0.072 liter/kwh – Unit 3 0.048 liter/kwh – Unit 3	0.038 liter/kwh – Unit 1 0.058 liter/kwh – Unit 2 0.061 liter/kwh – Unit 3 0.046 liter/kwh – Unit 4

(2) Raw Material Consumption (Specific Coal consumption)

Sl. No.	Name of the Raw materials	Consumption of raw material per unit	
		During the previous financial year	During the current financial year
		(1)	(2)
1.	Blended Coal	0.777 kg/kwh –Unit 1 0.740 kg/kwh –Unit 2 0.748 kg/kwh –Unit 3 0.641 kg/kwh –Unit 4	0.764 kg/kwh –Unit 1 0.780 kg/kwh –Unit 2 0.739 kg/kwh –Unit 3 0.598 kg/kwh –Unit 4

*Industry may use codes if disclosing details of raw material would violate contractual obligations, otherwise all industries have to name the raw materials used.

Bhpm

PART E

SOLID WASTES

	Total quantity	
	During the previous financial year	During the current financial year
(a) From process	Fly Ash 174316 MT	Fly Ash 129815 MT
	Bottom Ash 40644 MT	Bottom Ash 30142 MT
(b) From pollution control facilities	Nil	Nil
(c) (1) Quantity recycled or re-utilised with in the unit	Nil	Nil
(2) Sold	Fly Ash 174316 MT	Fly Ash 129815 MT
	Bottom Ash 40644 MT	Bottom Ash 30142 MT
(3) Disposed	Nil	Nil

PART F

Please specify the characterization (in terms of composition and quantum) of hazardous as well as solid wastes and indicate disposal practice adapted for both these categories of wastes.

- Hazardous waste production: Approximately 1000 kg of used/spent oil of all 4 units disposed to authorized recycler.

- Dry Fly ash and Bottom ash Disposal Practice:

Dry Fly ash : 100% disposal to end-user – Cement industries & brick making

Dry Bottom ash : 100% disposal to end-user – Filling for Road laying & Brick making

- Typical Fly ash analysis:

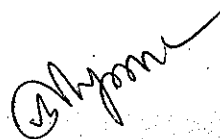
Unburnt carbon: <1%	SiO ₂ : 51.29 %	Al ₂ O ₃ : 28.52 %
Fe ₂ O ₃ : 5.48 %	CaO: 7 %	MgO: 1.91 %
TiO ₂ : 1.28 %	Na ₂ O: 0.7 %	K ₂ O: 0.84 %
P ₂ O ₅ : 0.1 %	SO ₃ : 0.4 %	

(Handwritten Signature)

PART G

Impact on pollution abatement measures taken on conservation of natural resources and on the cost of production.

- a) Green belt developed in more than 33% of the total area and additional 2000 is planned for this year 2017-18.
- b) 40 m³/hr capacity RO based Effluent treatment plant is functioning and 90% of the effluent is recycled in the process.
- c) Sewage treatment plants is working satisfactorily and the treated water is totally used in our green belt
- d) Bag filters, ESP are working satisfactorily
- e) Continuous stack Emissions for all the stacks and Ambient Air qualities from 2 Ambient Air quality monitoring stations are being streamed to Care Air Centre & CPCB
- f) Continuous effluent monitoring station for the recommended effluent parameters (Flow Totalizer and Web Camera for the Solar Pond) are procured and connected to Water Quality monitoring center.
- g) 4 Nos of ground water recharge pits are in operation for ground water recharge and additional 5 Nos are under construction.
- h) Drip irrigation system is under operation.



PART I

Any other particulars for improving the quality of environment

- a) Green belt is developed in more than 33% of the total area and this task is kept in continual improvement
- b) ISO 14001: 2004 Environment Management System and OHSAS 18001:2007 Occupational Health & Safety Accreditation System certificates were obtained and the systems are maintained well.
- i) Rainwater harvesting by infiltration-recharge pits and open ponds were established based on independent hydrological study
- c) 100% disposal of fly ash and bottom ash are being ensured.
- d) All the noise generating equipment were covered with acoustics to avoid the noise pollution

(Signature)

NOISE LEVEL REPORT

October 2016-March 2017



OCTOBER- 2016

Date	Day Time (6.00 AM to 10.00 PM)				Night Time (10.00 PM to 06.00 AM)			
	North Gate	South Gate	Kanishk Gate	RR Thulasi	North Gate	South Gate	Kanishk Gate	RR Thulasi
Limits in dB	55				45			
07.10.2016	51.2	51.8	52.2	52.8	42.4	42.6	42.2	42.1
15.10.2016	50.1	51.2	51.6	50.4	41.8	42.2	41.8	41.6
24.10.2016	50.4	50.1	51.2	51.2	42.4	41.8	42	42
30.10.2016	50.4	51.2	50.8	51	41.8	41.4	41.8	41.8

NOVEMBER -2016

Date	Day Time (6.00 AM to 10.00 PM)				Night Time (10.00 PM to 06.00 AM)			
	North Gate	South Gate	Kanishk Gate	RR Thulasi	North Gate	South Gate	Kanishk Gate	RR Thulasi
Limits in dB	55				45			
07.12.2016	51.2	51.6	51.7	50.8	45.3	42.1	42	42.2
15.12.2016	50.8	52.8	51.2	51.8	42.1	42.1	41.9	41.8
21.12.2016	51.2	51.4	50.8	51.2	41.8	42.4	42	42.2
28.12.2016	50.2	50.8	48.2	50.9	41.2	42.6	41.8	42

DECEMBER -2016

Date	Day Time (6.00 AM to 10.00 PM)				Night Time (10.00 PM to 06.00 AM)			
	North Gate	South Gate	Kanishk Gate	RR Thulasi	North Gate	South Gate	Kanishk Gate	RR Thulasi
Limits in dB	55				45			
03.11.2016	51.8	51.4	52.1	51.1	41.8	42.8	41.8	42.3
09.11.2016	51.3	51.7	51.9	52.3	41.2	42.6	41.1	42.1
18.11.2016	51.4	51.2	51.2	52.7	41.7	42.3	41.7	42.7
26.11.2016	51.7	51.6	51.8	53.6	41.5	42.7	41.5	42.5

Signature



JANUARY -2017

Date	Day Time (6.00 AM to 10.00 PM)				Night Time (10.00 PM to 06.00 AM)			
	North Gate	South Gate	Kanishk Gate	RR Thulasi	North Gate	South Gate	Kanishk Gate	RR Thulasi
Limits in dB	55				45			
04.01.2017	51.2	51.8	52.2	52.8	42.4	42.6	42.2	42.1
12.01.2017	50.1	51.2	51.6	50.4	41.8	42.2	41.8	41.6
19.01.2017	50.4	50.1	51.2	51.2	42.4	41.8	42	42
27.01.2017	50.4	51.2	50.8	51	41.8	41.4	41.8	41.8

FEBRUARY- 2017

Date	Day Time (6.00 AM to 10.00 PM)				Night Time (10.00 PM to 06.00 AM)			
	North Gate	South Gate	Kanishk Gate	RR Thulasi	North Gate	South Gate	Kanishk Gate	RR Thulasi
Limits in dB	55				45			
02.02.2017	51.2	51.8	52.2	52.8	42.4	42.6	42.2	42.1
08.02.2017	50.1	51.2	51.6	50.4	41.8	42.2	41.8	41.6
15.02.2017	50.4	50.1	51.2	51.2	42.4	41.8	42	42
23.02.2017	50.4	51.2	50.8	51	41.8	41.4	41.8	41.8

MARCH -2017

Date	Day Time (6.00 AM to 10.00 PM)				Night Time (10.00 PM to 06.00 AM)			
	North Gate	South Gate	Kanishk Gate	RR Thulasi	North Gate	South Gate	Kanishk Gate	RR Thulasi
Limits in dB	55				45			
08.03.2017	52	51.8	51.8	52.2	41.4	42.1	41.6	41.8
16.03.2017	53	52.6	51.8	52.2	44.1	41.2	41.6	39.8
22.03.2017	51.2	52.1	53.8	52.3	42.1	42.1	44.1	39.6
29.03.2017	52.1	52.1	51.8	52.1	41.8	41.4	44.2	41.1

B. Myr...