

OPG POWER GENERATION PVT. LTD.
CIN : U40109TN2005PTC055442

OPGPG: EHS /2016-17/1386

29-12-2016

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: April 2016 to September 2016

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 April 2016 to September 2016.

Thanking you

Yours faithfully,

For **OPG POWER GENERATION PRIVATE LIMITED**

29 Dec 2016
D.Sabari Gireaswaran
Station Head



Encl.:

1. Environmental Clearance No.J-13012/111/2009-IA.II (T) General Conditions – Compliance status as on December 2016
2. Environmental Clearance No.J-13012/111/2009-IA.II (T) Special Conditions – Compliance status as on December 2016

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

3. Environmental Clearance No.J-13012/111/2009-IA.II (T) Amendment for the augmentation from 160MW to 180MW Conditions – Compliance status as on December 2016
4. MoEF. Lr. No. J-13011/81/2007-IA.II (T), Dated: 31.03.2008 Specific Conditions – Compliance status as on December 2016.
5. Monthly Ash utilization Report – April 2016 to September 2016.
6. Bore well water Analysis report
7. TNPCB analysis reports for Sewage effluent, Bore well water, Industrial effluent (Recycled)
8. CSR Activity report
9. Rain Water Harvesting report
10. Third party analysis reports on AAQ and Stack
11. Report on control of Spontaneous combustion of coal
12. Fly Ash customer list
13. LDO storage License copy
14. Copy of Annual Environmental Statement for the Financial Year 2015-16 in form 5
15. Noise Level Report

CC: The District Environmental Engineer, Thiruvallore without Encl.

COMPLIANCE STATUS

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 2016
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	We obtained approval from Indian railways New Delhi for the construction of railway line. However the national High ways has suggested a modification in the final alignment in the GNT Road for Road Over Bridge (RoB). Upon obtaining the clearance from the NHAI, the erection work will be commenced with immediate effect.
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.
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.

Signature

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.	This will be strictly adhered. 100% Fly Ash and Bottom Ash is being utilised in Cement plants/Brick making plants. The report is annexed. 6 months reports for the period April 2016 to September 2016 are attached as appendix.
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.

B. M.

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

A- Special Condition:

Compliance Status Update

S. No.	Stipulated Conditions	Compliance Status As on 29 th December 2016
1.	Vision document specifying prospective plan for the site shall be formulated and submitted to the Ministry within six month	Document available in the 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.	Document available in the website.
3.	High Efficiency Electrostatic Precipitators (ESPS) Shall be installed to ensure that particulate emission does not exceed 50 mg/Nm ³ . 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.	99.9% Efficiency ESP has Been installed to ensure the PM level below 50 mg/Nm ³ . Bag filters are installed In all the transfer towers to control dust emission. Online data for SO _x /NO _x /SPM is being uploaded to TNPCB website.
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.	We are importing coal from Indonesia which has the maximum sulphur % of 0.10 and indigenous coal is having the maximum sulphur % of 0.4. We are ensuring that both the Sulphur and Ash content shall not exceed the prescribed norms. Documents posted in our official website

Signature

S. No.	Stipulated Conditions	Compliance Status As on 29 th December 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 were 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.	There is no de - generated water bodies in the plant area.
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 540 KLD & 820 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.	Detailed hydrogeological study is made and the report is available in the website. www.opgpower.com Harvested rainwater stored & is used during the lean period.

Bhym

S. No.	Stipulated Conditions	Compliance Status As on 29 th December 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. The reports from TNPCB are also attached. 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.

Aljma

S. No.	Stipulated Conditions	Compliance Status As on 29 th December 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>There is no Ash storage inside the plant. Fly ash and bottom Ash is disposed instantaneously.</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>This is being done under CSR Activity.</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 www.opgpower.com</p>

Bhym

S. No.	Stipulated Conditions	Compliance Status As on 29 th December 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. Document is posted in our official website. www.opgpower.com
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. www.opgpower.com

Signature

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:

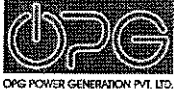
A. SPECIFIC CONDITION:		Compliance Status Update
S. No.	Stipulated Conditions	Compliance Status As on 29 th December 2016
i.	The total land requirement for the project shall be restricted to 79.105 acres.	The land area utilized for power plant is 73.435 acres.
ii.	Sulphur and ash contents in the coal 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 0.1% 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.	We obtained approval from Indian railways New Delhi for the construction of railway line. However the national High ways has suggested a modification in the final alignment in the GNT Road for Road Over Bridge (RoB). Upon obtaining the clearance from the NHAI, the erection work will be commenced with immediate effect.

Signature

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.
vii.	Ash pond shall be lined with LDPE lining. Adequate safety measures shall also be implemented to protect the ash dyke from getting breached.	There is no ash storage inside the plant. Fly ash and Bottom ash is disposed instantaneously.
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 4.3m ³ /hr.	Clearance obtained from TNPCB for using ground water and the monthly reports are being submitted to <ol style="list-style-type: none"> 1. Chief Engineer – GWD 2. Superintend Engineer – GWD 3. Executive Engineer – GWD 4. Geologist - GWD 5. TNPCB

ASH UTILISATION REPORT

(April 2016 – Sep 2016)



MONTHLY FLYASH AND BOTTOM ASH
GENERATION, UTILIZATION DETAILS

APRIL 16

NAME AND ADDRESS OF THE SUPPLIER : OPG POWER GENERATION PRIVATE LIMITED
MADHARPAKKAM ROAD, PERIYA OBULAPURAM VIL.
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	173820 MT
2	Average ash content in the coal	8.69 %
3	Generation of Fly ash	12084 MT
4	Generation of Bottom Ash	3020 MT

ASH DISPOSAL

Fly Ash

1	To Cement Industries	12084 MT
2	To Brick Industries	NIL
3	Total disposal of Fly ash	12084 MT

Bottom Ash

1	To Brick Industries	3020 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
2. Lakshmi Agencies
3. Ultra Tech Cements Ltd
4. THirumalaI agencies
5. Pugalmathi & Co
6. Sri Praveen Enterprises
7. Vasantham Enterprises
6. OM Muruga
7. The India cements Ltd
8. Sri Ram construction
9. Munusamy & co
10. Sri Velavan Traders



MONTHLY FLYASH AND BOTTOM ASH
GENERATION, UTILIZATION DETAILS

MAY 16

NAME AND ADDRESS OF THE SUPPLIER : OPG POWER GENERATION PRIVATE LIMITED
MADHARPAKKAM ROAD, PERIYA OBULAPURAM VIL.
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 coal used during this month	1,48,487 MT
2	Average ash content in the coal	9 - 10 %
3	Generation of Fly ash	11100 MT
4	Generation of Bottom Ash	2775 MT

ASH DISPOSAL

Fly Ash

1	To Cement Industries	11100 MT
2	To Brick Industries	NIL
3	Total disposal of Fly ash	11100 MT

Bottom Ash

1	To Brick Industries	2775 MT
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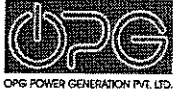
ASH ACCUMULATION

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%

Ash sent to the following industries

1. Abhinaya Agency
2. Lakshmi Agencies
3. Ultra tech Cements Ltd.
4. Thirumalai agencies
5. Pugal Mathi & Co
6. Vasantham Enterprises
7. OM Muruga
8. The India cements Ltd.
9. Sri Ram Construction.
10. Munusamy & Co

Signature



MONTHLY FLYASH AND BOTTOM ASH
GENERATION, UTILIZATION DETAILS

JUNE 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	128629 MT
2	Average ash content in the coal	10.61 %
3	Generation of Fly ash	13647 MT
4	Generation of Bottom Ash	2729 MT

ASH DISPOSAL

Fly Ash

1	To Cement Industries	13647 MT
2	To Brick Industries	NIL
3	Total disposal of Fly ash	13647 MT

Bottom Ash

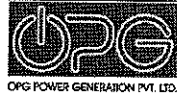
1	To Brick Industries	2729 MT
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ASH ACCUMULATION

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
2. Lakshmi Agencies
3. Ultra Tech Cements Ltd
4. THirumalal agencies
5. Pugalmathi & Co
6. Sri Praveen Enterprises
7. Vasantham Enterprises
6. OM Muruga
7. The India cements Ltd
8. Sri Ram construction



MONTHLY FLYASH AND BOTTOM ASH
GENERATION, UTILIZATION DETAILS

JULY 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	130153 MT
2	Average ash content in the coal	9.05 %
3	Generation of Fly ash	9431 MT
4	Generation of Bottom Ash	2357 MT

ASH DISPOSAL

Fly Ash

1	To Cement Industries	9431 MT
2	To Brick Industries	NIL
3	Total disposal of Fly ash	9431 MT

Bottom Ash

1	To Brick Industries	2357 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
2. Lakshmi Agencies
3. Ultra Tech Cements Ltd
4. THirumalal agencies
5. Pugalmathi & Co
6. Sri Praveen Enterprises
7. Vasantham Enterprises
6. OM Muruga
7. The India cements Ltd
8. Sri Ram construction



MONTHLY FLYASH AND BOTTOM ASH
GENERATION, UTILIZATION DETAILS

AUGUST 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	141860 MT
2	Average ash content in the coal	6.65 %
3	Generation of Fly ash	7858.09 MT
4	Generation of Bottom Ash	1571.62 MT

ASH DISPOSAL

Fly Ash

1	To Cement Industries	7858.09 MT
2	To Brick Industries	NIL
3	Total disposal of Fly ash	7858.09 MT

Bottom Ash

1	To Brick Industries	1571.62 MT
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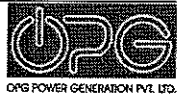
ASH ACCUMULATION

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

Signature



MONTHLY FLYASH AND BOTTOM ASH
GENERATION, UTILIZATION DETAILS

SEP 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	87525 MT
2	Average ash content in the coal	16.1 %
3	Generation of Fly ash	11278.41 MT
4	Generation of Bottom Ash	2819 MT

ASH DISPOSAL

Fly Ash

1	To Cement Industries	11278.41 MT
2	To Brick Industries	NIL
3	Total disposal of Fly ash	11278.41 MT

Bottom Ash

1	To Brick Industries	2819 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. Pugaimathi & 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

Alpome

BORE WELL ANALYSIS REPORT

(April 2016 – Sep 2016)

BORE WELL WATER ANALYSIS

Apr-16									
S.No	Phase	Bore well No	pH	EC μS/cm	Silica ppm	Total Hardness in ppm as CaCO3 mg/L	Calcium Hradness as CaCO3 mg/L in ppm	Magensium Hardness as CaCO3 mg/L in ppm	Chloride as cl in ppm mg/L
1	I	1	7.65	1350	84.2	460	120	340	118
2		2							
3		3	7.68	1215	85.2	390	190	200	90
4		4	7.55	800	86.2	295	195	100	39
5		5	7.38	815	91.2	340	148	192	60
6		6	7.48	774	72.0	292	96	196	50
1	II	1							
2		2	7.60	680	92.8	270	156	114	48
3		3	7.50	1350	48.0	350	120	230	120
4		4	7.80	1490	110.6	650	312	338	89
5		5	7.90	870	99.6	290	132	158	61
6		6	7.88	805	109.0	350	148	202	56
7		7							
8		8	7.90	907	98.4	430	184	246	65
9		9	7.68	780	90.0	260	138	122	68
10		10	7.70	1002	89.5	450	172	278	75

May-16									
S.No	Phase	Bore well No	pH	EC μS/cm	Silica ppm	Total Hardness in ppm as CaCO3 mg/L	Calcium Hradness as CaCO3 mg/L in ppm	Magensium Hardness as CaCO3 mg/L in ppm	Chloride as cl in ppm mg/L
1	I	1	7.70	1360	80.8	435	120	315	115
2		2							
3		3	7.55	1230	84.6	382	190	192	92
4		4	7.69	755	78.5	268	195	73	42
5		5	7.45	855	75.4	350	148	202	55
6		6	7.35	830	80.2	300	96	204	52
1	II	1	-	-	-	-	-	-	-
2		2	7.70	750	90.7	300	156	144	56
3		3	7.54	1450	55.8	380	120	260	132
4		4	7.63	1420	105.6	620	312	308	97
5		5	7.36	850	90.7	300	132	168	64
6		6	7.82	835	106.0	342	148	194	59
7		7	-	-	-	-	-	-	-
8		8	7.83	950	93.2	444	184	260	69
9		9	7.69	805	91.0	280	138	142	72
10		10	7.85	1050	93.7	485	172	313	79

(Handwritten Signature)

Jun-16									
S.No	Phase	Bore well No	pH	EC μ S/cm	Silica ppm	Total Hardness in ppm as CaCO3 mg/L	Calcium Hradness as CaCO3 mg/L in ppm	Magensium Hardness as CaCO3 mg/L in ppm	Chloride as cl in ppm mg/L
1	I	1	7.85	1430	79.6	426	120	306	110
2		2	-	-	-	-	-	-	-
3		3	7.60	1150	80.3	390	190	200	86
4		4	7.70	800	75.2	280	195	85	40
5		5	7.50	890	72.0	320	148	172	51
6		6	7.41	850	81.7	315	96	219	59
1	II	1	-	-	-	-	-	-	-
2		2	7.65	810	88.4	317	156	161	60
3		3	7.75	1507	60.5	398	120	278	118
4		4	7.48	1450	108.9	638	340	298	104
5		5	7.28	776	78.5	268	132	136	49
6		6	7.60	789	96.0	325	148	177	51
7		7	-	-	-	-	-	-	-
8		8	7.70	1005	95.2	450	184	266	75
9		9	7.73	950	90.6	305	138	167	78
10		10	7.49	1080	92.4	475	172	303	69

Jul-16									
S.No	Phase	Bore well No	pH	EC μ S/cm	Silica ppm	Total Hardness in ppm as CaCO3 mg/L	Calcium Hradness as CaCO3 mg/L in ppm	Magensium Hardness as CaCO3 mg/L in ppm	Chloride as cl in ppm mg/L
1	I	1	7.45	1382	75.7	430	120	310	107
2		2	-	-	-	-	-	-	-
3		3	7.51	1107	81.5	384	190	194	81
4		4	7.57	810	74.1	272	195	77	51
5		5	7.66	903	73.7	320	148	172	56
6		6	7.85	808	78.2	298	96	202	49
1	II	1	-	-	-	-	-	-	-
2		2	7.55	856	89.7	360	156	204	71
3		3	7.83	1490	61.7	403	120	283	123
4		4	7.50	1410	110.7	650	340	310	120
5		5	7.36	808	79.2	275	132	143	55
6		6	7.26	770	83.0	298	148	150	45
7		7	-	-	-	-	-	-	-
8		8	7.43	980	90.1	397	184	213	68
9		9	7.47	960	87.4	322	138	184	70
10		10	7.55	980	89.2	437	172	265	62

(Signature)

Aug-16									
S.No	Phase	Bore well No	pH	EC μ S/cm	Silica ppm	Total Hardness in ppm as CaCO ₃ mg/L	Calcium Hradness as CaCO ₃ mg/L in ppm	Magensium Hardness as CaCO ₃ mg/L in ppm	Chloride as cl in ppm mg/L
1	I	1	7.87	1450	78.9	450	120	330	123
2		2	-	-	-	-	-	-	-
3		3	7.62	1130	83.1	390	190	200	86
4		4	7.44	790	73.1	268	195	73	53
5		5	7.70	930	79.8	341	148	193	62
6		6	7.90	890	83.7	325	96	229	60
1	II	1	-	-	-	-	-	-	-
2		2	7.81	897	90.0	355	160	195	73
3		3	7.65	1505	68.9	430	120	310	131
4		4	7.59	1470	109.5	610	340	270	143
5		5	7.45	890	80.9	300	132	168	59
6		6	7.37	800	80.0	300	148	152	50
7		7	-	-	-	-	-	-	-
8		8	7.52	1007	90.4	370	184	186	70
9		9	7.50	970	86.0	330	138	192	67
10		10	7.40	950	84.5	405	172	233	58

Sep-16									
S.No	Phase	Bore well No	pH	EC μ S/cm	Silica ppm	Total Hardness in ppm as CaCO ₃ mg/L	Calcium Hradness as CaCO ₃ mg/L in ppm	Magensium Hardness as CaCO ₃ mg/L in ppm	Chloride as cl in ppm mg/L
1	I	1	7.40	1350	90.2	430	120	310	120
2		2	-	-	-	-	-	-	-
3		3	7.85	1260	92.7	425	196	229	90
4		4	7.55	810	85.6	307	128	179	42
5		5	7.50	760	80.9	300	148	152	60
6		6	7.50	910	75.0	310	96	214	59
1	II	1	-	-	-	-	-	-	-
2		2	7.65	670	95.6	290	156	134	55
3		3	7.55	1390	58.0	350	120	230	113
4		4	7.70	1460	110.9	580	312	268	105
5		5	7.54	860	88.7	297	132	165	60
6		6	7.50	905	107.4	350	148	202	56
7		7	-	-	-	-	-	-	-
8		8	7.44	937	97.5	430	184	246	55
9		9	7.55	780	90.0	280	128	152	68
10		10	7.60	1001	85.9	450	172	278	90

TNPCB ANALYSIS REPORT PERIOD FROM April 2016 - sep 2016

Date of Sample Collection		6-Apr-16		23-May-16		8-Jun-16		24-Aug-16		28-Sep-16		
Sample Description	RO permeat	STP out let	Bore well	Bore well	Bore well	RO permeat	STP out let	ETP Out	ETP Out	STP Out	STP Out	
DEE Code No.	VP 101	VP 102	VP 103	VP 104	VP 105	VP 106	VP 802	VP 1602	VP 401	VP 402	VP 101	
Lab Code	25	26	27	28	29	30	397	578	1191	1192	1357	
Parameter	Unit	2	3	4	5	6	2	1	1	2	1	
1	pH	8.25	7.79	7.61	8.03	8.2	6.77	7.49	7.8	7.71	7.73	7.85
2	Conductivity	848	1071	1280	823	796	603		312			1207
3	Total Suspended Solids	8	10	12	8	12	14	10	10	22	10	14
4	Total Dissolved Solids	520	674	810	500	498	372	706	182			714
5	Chlorides	150	209	250	100	169	105	265	60			300
6	Sulphates	63	22	51	21	15	18	35	4			72
7	Oil and Grease	<1	<1	<1	<1	<1	<1	<1	<1			<1
8	BOD at 27 °C for 3 days	3	3	3	4	3	4	4	2	5	2	3
9	COD	24	32	32	40	24	32	40	24	32	24	32
10	Potassium	1	2	<1	<1	1	5	6.2	1			5
11	Sulphides	<1	<1	<1	<1	<1	<1	<1	<1			<1
12	Copper	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.015	<0.0015			<0.0015
13	Zinc	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	0.028	<0.0015			<0.0015
14	Cadmium	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008			<0.0008
15	Lead	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015			
16	Nickel	<0.006	<0.006	<0.006	<0.006	<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	<0.01	<0.01	<0.01			<0.01
19	Total Alkalinity											
20	Total Kjeldhal Nitrogen											
21	Fluoride											
22	Mercury											
23	Total Nitrogen (NO3+NO2)						1.12	<0.15				0.6
24	Ammonical Nitrogen						3	1				6
25	Feccal Coliform											FNA

Dhymc

CSR ACTIVITY REPORT

Minutes of Meeting

Purpose: CSR - Committee meeting for the year 2016-17

Date : 18.04.2016

Venue : Conference Hall, Admin Building

Committee Members:

1. Mr.Sabari Gireaswaran
2. Mr.Velan
3. Mr.M.R.Saravanan
4. Mr.Gnanaguru Pandian
5. Mr.Chakkravarthi

POINTS DISCUSSED:

- A Dispensary has been built in Siddha Raja Kandigai (for SR Kandigai Panchayat) village with complete amenities.
- A Dispensary has been built in Periyaobulapuram Village (for Periyaobulapuram Panchayat) with complete amenities.
- A Community Hall is under construction for the benefit at Kayalamedu Village.

Recurring Activity

- A dispensary with full time Doctor and Male nurse is being run in SR Kandigai village.
- A dispensary with full time Doctor and Male nurse is being run in Periyaobulapuram village.

B. N. Srinivasan

- Medicines cost, Doctor Salary and Male nurse salary for both the dispensaries are being bared by the Company.
- Frequent health and eye camps are being conducted to all the nearby villages
- Salary is being paid to 11 teachers on Monthly basis through Parent Teacher Association
- School uniform materials with stitching cost are being issued to all the school children in the nearby villages.
- School note books, School bags, School shoes are being issued to all the school children in the nearby villages.
- Education aid is being given to adopted Girl children in all the nearby villages
- Donations were given to nearby schools for their infrastructure improvements.
- Food and Water supply were given to all the nearby villages during natural calamities.
- Sponsorship amount is being issued to all the nearby villages for the cultural programs, Cricket matches, and Kabaddi matches etc.,
- Civil Materials like Gravels, Sand, and Cement are being issued to SR Kandigai, NR Kandigai and Eguvarpalayam Village for infrastructure development.

(Signature)

OPG POWER GENERATION PVT LTD
CSR EXPENDITURES FOR 2016 - 2017

S.No.	Programme	Item Description	Month												Total Expenses				
			Apr-16	May-16	Jun-16	Jul-16	Aug-16	Sep-16	Oct-16	Nov-16	Dec-16	Jan-17	Feb-17	Mar-17		TOTAL			
1		Uniform Materials for School children	-	4,31,116	-	-	-	-	-	-	-	-	-	-	-	-	4,31,116	Annually	27,72,703
2		Uniform Materials for School children	-	4,49,760	-	-	-	-	-	-	-	-	-	-	-	-	8,47,940	Annually	
3		School Notebooks for School Children	-	2,79,045	-	-	-	-	-	-	-	-	-	-	-	-	2,79,045	Annually	
4		School Bags for School children	-	2,20,925	-	-	-	-	-	-	-	-	-	-	-	-	2,20,925	Annually	
5	Education	School Shoes for School Children	-	2,56,177	-	-	-	-	-	-	-	-	-	-	-	-	2,56,177	Annually	
6		Education Assistance to school children	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Annually
7		PTA Teachers Salary (11 Teachers)	59,000	59,000	59,000	59,000	59,000	59,000	59,000	59,000	59,000	59,000	59,000	59,000	59,000	59,000	4,72,000	Monthly	
8		Donations	-	-	1,40,500	-	-	-	-	-	-	-	-	-	-	-	1,40,500	One time	
9		Adopted Girl Children Education Aid	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Annually
10		Doctor Salary (SDK)	55,000	55,000	61,534	-	-	-	-	-	-	-	-	-	-	-	1,71,534	Monthly	
11	Medical	Plant Nurse Salary (SDK)	16,000	16,000	-	-	-	-	-	-	-	-	-	-	-	-	32,000	Monthly	
12		S.R.K Dispensary Nurse Salary	8,000	8,000	-	-	-	-	-	-	-	-	-	-	-	-	16,000	Monthly	
13		S.R.K Dispensary Helper Salary	4,000	4,000	-	-	-	-	-	-	-	-	-	-	-	-	8,000	Monthly	
14	Environment	Medicines	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Monthly	
15		Bio Medical Waste Removal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Monthly	
16		Water Sprinkling for Dust Control	25,000	25,000	-	-	-	-	-	-	-	-	-	-	-	-	25,000	Monthly	
17		Cricket Match Prize Sponsor - Chinna Obulapuram	-	18,000	-	-	-	-	-	-	-	-	-	-	-	-	18,000	One time	
18	Youth Sports	Cricket Match Prize Sponsor - Kayalarmedu	-	14,444	-	-	-	-	-	-	-	-	-	-	-	-	14,444	One time	
19		Kabadi Match Prize Sponsor - Chinna Obulapuram	-	15,000	-	-	-	-	-	-	-	-	-	-	-	-	15,000	One time	
20		Kabadi Match Prize Sponsor - Periya Obulapuram	-	15,000	-	-	-	-	-	-	-	-	-	-	-	-	15,000	One time	
21		Kabadi Match Prize Sponsor - Elavur	-	-	-	-	-	5,000	-	-	-	-	-	-	-	-	5,000	One time	
22		Gravel Supply to S.R.Kandigai Temple	14,34,680	2,01,317	1,08,304	-	-	-	-	-	-	-	-	-	-	-	17,44,301	One time	
23		Gravel Supply - R.Prabhu	-	1,98,000	-	-	-	-	-	-	-	-	-	-	-	-	1,98,000	One time	
24	Others	Pooja Expenses - N.R.Kandigai Temple	-	2,00,000	-	-	-	-	-	-	-	-	-	-	-	-	2,00,000	One time	
25		Function Expenses - Eguvaralayam Temple	-	10,000	-	-	-	-	-	-	-	-	-	-	-	-	10,000	One time	
26		Welfare of Contract workmen like soap,jaggar & towel	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Monthly	
27		Sri durga Mandhir temple	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	One time	
28		Tiles Sponsor - Pothuraja Temple	1,20,800	-	-	-	-	-	-	-	-	-	-	-	-	-	1,20,800	One time	
29		Total	17,22,480	24,25,784	3,69,338	3,59,000	1,89,000	4,57,180	1,94,084	1,10,084	3,00,000	1,20,800	58,25,866	58,25,866	58,25,866	58,25,866	58,25,866	One time	

OPG POWER GENERATION PVT LTD
 PIN 601 201
 Signature: *[Handwritten Signature]*

S.No	Consolidated Expenses Description	Amount
1	Education	27,72,703
2	Medical	2,27,534
3	Environment	75,000
4	Youth Sports	67,444
5	Others	26,83,185
	Grand Total	58,25,866

THIRD PARTY ANALYSIS REPORT

TEST REPORT

Accredited by **NABL** (Chemical & Biological)
Recognized by **BIS** as per IS 15316

AMBIENT AIR QUALITY SURVEY

Report No:	ECI-NN-AAQ-292/09/2016	Report Date:	20.09.2016
Customer Name & Address	M/s. OPG Power Generation Pvt Ltd OPG Nagar, Periyaobulapuram village Madharpakkam Road, Gummidipoondi-601201 Tamil Nadu, India		
Customer Reference	4540001630 Dt: 07/09/2016	Sample Reference No:	ECI-NN-AAQ-292/09/2016
Sample Drawn By	ECI	Sample Received On	15.09.2016
Sample Collected Date	13.09.2016	Test Commenced On	15.09.2016
Qty. of Sample Received	Filter Paper & 25ml Solution	Test Completed On	19.09.2016
Sample Description	Ambient Air	Sampling Method	IS 5182:P14:2000(R:2005)
Sample Mark	Near Lab		

S.No	PARAMETERS	UNITS	RESULTS	TEST METHOD	Permissible limits of NAAQs (Industrial/Residential)
1.	Ammonia (as NH ₃)	µg/m ³	< 1.0	IS 11255:Part 06:1999 RA: 2003	400
2.	Arsenic (as As)	ng/m ³	< 0.1	IS 5182:Part 22: 2004 & AAS-VGA Flame Method	6.0
3.	Benzene (C ₆ H ₆)	µg/m ³	< 1.0	IS 5182:Part 11:2006	5.0
4.	Benzo-a-Pyrine (BaP)	ng/m ³	< 1.0	IS 5182:Part 12:2004	1.0
5.	Carbon Monoxide (as CO)	mg/m ³	< 1.2	ECI-SOP-SAM-08 /Instrument Manual	2.0
6.	Lead (as Pb)	µg/m ³	< 0.1	IS 5182:Part 22: 2004	1.0
7.	Nickel (as Ni)	ng/m ³	< 0.1	IS 5182:Part 22: 2004 & AAS Method	20
8.	Nitrogen dioxide (as NO ₂)	µg/m ³	11.2	IS 5182 :Part 06:2006	80
9.	Ozone (as O ₃)	µg/m ³	<9.8	IS 5182:Part 09: 1971	180
10.	Particulate Matter (PM _{2.5})	µg/m ³	37.5	Lab SOP No :ECI-SOP-A-21 Based on EPA 40 CFR Part 50 & CPCB Guide Line 2011	60
11.	Respirable Particulate Matter (PM ₁₀)	µg/m ³	79.8	IS 5182: Part 04:1999 RA 2005	100
12.	Sulphur Dioxide (as SO ₂)	µg/m ³	6.8	IS 5182:Part 02: 2001	80

<--- End of Report --->

Verified By : *A. Sheik Muzibur*

Remarks : ---

For **ENVIRO CARE INDIA PRIVATE LIMITED**
(Laboratory Division)



Authorized Signatory

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NOTE: The results relate only to the items tested.
The report should be read in conjunction with the test report and in the same font size as the report.
The results are valid for 15 days from the date of issue of the report.
The total liability of the laboratory is limited to the amount mentioned above.
Any use of the report for purposes other than those mentioned above is at the user's risk.



TEST REPORT

Accredited by **NABL** (Chemical & Biological)
Recognized by BIS as per IS-14543

AMBIENT AIR QUALITY SURVEY

Report No	ECI-NN-AAQ-293/09/2016	Report Date	20.09.2016
Customer Name & Address	M/s. OPG Power Generation Pvt Ltd OPG Nagar, Periyaobulapuram village Madharpakkam Road, Gummidipoondi-601201 Tamil Nadu , India		
Customer Reference	4540001630 Dt: 07/09/2016	Sample Reference No	ECI-NN-AAQ-293/09/2016
Sample Drawn By	ECI	Sample Received On	15.09.2016
Sample Collected Date	13.09.2016	Test Commenced On	15.09.2016
Qty of Sample Received	Filter Paper & 25ml Solution	Test Completed On	19.09.2016
Sample Description	Ambient Air	Sampling Method	IS 5182:P14:2000(R.2005)
Sample Mark	Near North Gate		

S.No	PARAMETERS	UNITS	RESULTS	TEST METHOD	Permissible limits of NAAQs (Industrial/Residential)
1.	Ammonia (as NH ₃)	µg/m ³	< 1.0	IS 11255:Part 06:1999 RA: 2003	400
2.	Arsenic (as As)	ng/m ³	< 0.1	IS 5182:Part 22: 2004 & AAS-VGA Flame Method	6.0
3.	Benzene (C ₆ H ₆)	µg/m ³	< 1.0	IS 5182:Part 11:2006	5.0
4.	Benzo-a-Pyrene (BaP)	ng/m ³	< 1.0	IS 5182:Part 12:2004	1.0
5.	Carbon Monoxide (as CO)	mg/m ³	< 1.2	ECI-SOP-SAM-08 /Instrument Manual	2.0
6.	Lead (as Pb)	µg/m ³	< 0.1	IS 5182:Part 22: 2004	1.0
7.	Nickel (as Ni)	ng/m ³	< 0.1	IS 5182:Part 22: 2004 & AAS Method	20
8.	Nitrogen dioxide (as NO ₂)	µg/m ³	15.6	IS 5182 :Part 06:2006	80
9.	Ozone (as O ₃)	µg/m ³	<9.8	IS 5182:Part 09:1974	180
10.	Particulate Matter (PM _{2.5})	µg/m ³	49.7	Lab SOP No :ECI-SOP-A-21 Based on EPA 40 CFR Part 50 & CPCB Guide Line 2011	60
11.	Respirable Particulate Matter (PM ₁₀)	µg/m ³	87.5	IS 5182: Part 04:1999 RA 2005	100
12.	Sulphur Dioxide (as SO ₂)	µg/m ³	7.3	IS 5182:Part 02: 2001	80

<--- End of Report --->

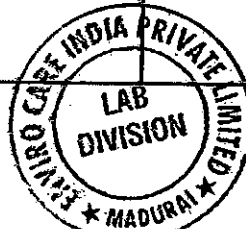
Verified By : *A. Sheik Muzibur*

Remarks : ---

For **ENVIRO CARE INDIA PRIVATE LIMITED**
(Laboratory Division)

A. Sheik Muzibur
Authorized Signatory

A. Sheik Muzibur Rahuman
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TEST REPORT

Accredited by **NABL** (Chemical & Biological)
Recognized by BIS as per IS 14543

AMBIENT AIR QUALITY SURVEY

Report No	ECI-NN-AAQ-294/09/2016	Report Date	20.09.2016
Customer Name & Address	M/s. OPG Power Generation Pvt Ltd OPG Nagar, Periyaobulapuram village Madharpakkam Road, Gummidipoondi-601201 Tamil Nadu , India		
Customer Reference	4540001630 Dt: 07/09/2016	Sample Reference No	ECI-NN-AAQ-294/09/2016
Sample Drawn By	ECI	Sample Received On	15.09.2016
Sample Collected Date	13.09.2016	Test Commenced On	15.09.2016
Qty of Sample Received	Filter Paper & 25ml Solution	Test Completed On	19.09.2016
Sample Description	Ambient Air	Sampling Method	IS 5182:P14:2000(R:2005)
Sample Mark	Near 110 KVA Switch Yard		

S.No	PARAMETERS	UNITS	RESULTS	TEST METHOD	Permissible limits of NAAQs (Industrial/Residential)
1.	Ammonia (as NH ₃)	µg/m ³	< 1.0	IS 11255:Part 06:1999 RA: 2003	400
2.	Arsenic (as As)	ng/m ³	< 0.1	IS 5182:Part 22: 2004 & AAS-VGA Flame Method	6.0
3.	Benzene (C ₆ H ₆)	µg/m ³	< 1.0	IS 5182:Part 11:2006	5.0
4.	Benzo-a-Pyrene (BaP)	ng/m ³	< 1.0	IS 5182:Part 12:2004	1.0
5.	Carbon Monoxide (as CO)	mg/m ³	< 1.2	ECI-SOP-SAM-08 /Instrument Manual	2.0
6.	Lead (as Pb)	µg/m ³	< 0.1	IS 5182:Part 22: 2004	1.0
7.	Nickel (as Ni)	ng/m ³	< 0.1	IS 5182:Part 22: 2004 & AAS Method	20
8.	Nitrogen dioxide (as NO ₂)	µg/m ³	18.5	IS 5182 :Part 06:2006	80
9.	Ozone (as O ₃)	µg/m ³	<9.8	IS 5182:Part 09:1974	180
10.	Particulate Matter (PM _{2.5})	µg/m ³	41.2	Lab SOP No :ECI-SOP-A-21 Based on EPA 40 CFR Part 50 & CPCB Guide Line 2011	60
11.	Respirable Particulate Matter (PM ₁₀)	µg/m ³	93.7	IS 5182: Part 04:1999 RA 2005	100
12.	Sulphur Dioxide (as SO ₂)	µg/m ³	9.6	IS 5182:Part 02: 2001	80

<--- End of Report --->

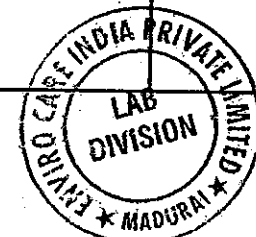
Verified By : *A. H. Jay*

Remarks : ---

For ENVIRO CARE INDIA PRIVATE LIMITED
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Authorized Signatory

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TEST REPORT

AMBIENT AIR QUALITY SURVEY

Report No	ECI-NN-AAQ-295/09/2016	Report Date	20.09.2016
Customer Name & Address	M/s. OPG Power Generation Pvt Ltd OPG Nagar, Periyaobulapuram village Madharpakkam Road, Gummidipoondi-601201 Tamil Nadu , India		
Customer Reference	4540001630 Dt: 07/09/2016	Sample Reference No	ECI-NN-AAQ-295/09/2016
Sample Drawn By	ECI	Sample Received On	15.09.2016
Sample Collected Date	13.09.2016	Test Commenced On	15.09.2016
Qty of Sample Received	Filter Paper & 25ml Solution	Test Completed On	19.09.2016
Sample Description	Ambient Air	Sampling Method	IS 5182:P14:2000(R:2005)
Sample Mark	Near Security South Gate		

S No	PARAMETERS	UNITS	RESULTS	TEST METHOD	Permissible limits of NAAQS (Industrial Residential)
1.	Ammonia (as NH ₃)	µg/m ³	1.2	IS 11255:Part 06:1999 RA 2003	400
2.	Arsenic (as As)	ng/m ³	< 0.1	IS 5182:Part 22: 2004 & AAS-VGA Flame Method	6.0
3.	Benzene (C ₆ H ₆)	µg/m ³	< 1.0	IS 5182:Part 11:2006	5.0
4.	Benzo-a-Pyrine (BaP)	ng/m ³	< 1.0	IS 5182:Part 12:2004	1.0
5.	Carbon Monoxide (as CO)	mg/m ³	< 1.2	ECI-SOP-SAM-08 /Instrument Manual	2.0
6.	Lead (as Pb)	µg/m ³	< 0.1	IS 5182 Part 22: 2004	1.0
7.	Nickel (as Ni)	ng/m ³	< 0.1	IS 5182:Part 22: 2004 & AAS Method	20
8.	Nitrogen dioxide (as NO ₂)	µg/m ³	17.2	IS 5182 :Part 06:2006	80
9.	Ozone (as O ₃)	µg/m ³	<9.8	IS 5182 Part 09:1974	180
10.	Particulate Matter (PM _{2.5})	µg/m ³	42.7	Lab SOP No :ECI-SOP-A-21 Based on EPA 40 CFR Part 50 & CPCB Guide Line 2011	60
11.	Respirable Particulate Matter (PM ₁₀)	µg/m ³	91.2	IS 5182: Part 04:1999 RA 2005	100
12.	Sulphur Dioxide (as SO ₂)	µg/m ³	10.5	IS 5182:Part 02: 2001	80

<--- End of Report --->

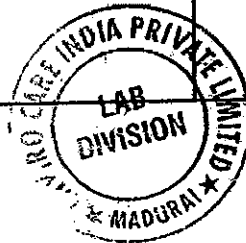
Verified By : *A. Sheik Muzibur*

Remarks : ---

For ENVIRO CARE INDIA PRIVATE LIMITED
(Laboratory Division)

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TEST REPORT

INDOOR AIR QUALITY SURVEY

Report No	ECI-NN-IAQ-79/09/2016	Report Date	20.09.2016
Customer Name & Address	M/s. OPG Power Generation Pvt Ltd OPG Nagar, Periyaobulapuram village Madharpakkam Road, Gummidipoondi-601201 Tamil Nadu , India		
Customer Reference	4540001630 Dt: 07/09/2016	Sample Reference No	ECI-NN-IAQ-79/09/2016
Sample Drawn By	ECI	Sample Received On	15.09.2016
Sample Collected Date	14.09.2016	Test Commenced On	15.09.2016
Qty of Sample Received	Filter Papers & 25 ml Soln	Test Completed On	19.09.2016
Sample Description	Indoor Air	Sampling Method	IS 5182 :P14:2000(R:2005)
Sample Mark	CHP-I Conveyor Side(Middle)		

S.No	PARAMETERS	UNITS	RESULTS	TEST METHOD	Permissible limits of NAAQs (Industrial/Residential)
1.	Carbon Di-Oxide (CO ₂)	ppm	356	ECI-SOP-SAM-28	NA
2.	Carbon Monoxide (as CO)	mg/m ³	< 1.2	ECI-SOP-SAM-08 /Instrument Manual	2.0
3.	Suspended Particulate Matter (SPM)	µg/m ³	435.6	IS 5182:Part 04:1999 (Reaff 2005)	---

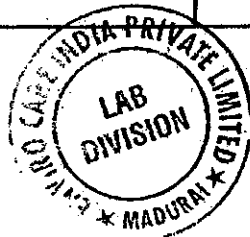
<--- End of Report --->

Verified By : *[Signature]*

Remarks : NA - Not Applicable

For **ENVIRO CARE INDIA PRIVATE LIMITED**
(Laboratory Division)

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Authorized Signatory



A.Sheik Muzibur Rahuman
Technical Manager





TEST REPORT

INDOOR AIR QUALITY SURVEY

Report No :	ECI-NN-IAQ-80/09/2016	Report Date :	20.09.2016
Customer Name & Address	M/s. OPG Power Generation Pvt Ltd OPG Nagar, Periyaobulapuram village Madharpakkam Road, Gummidipoondi-601201 Tamil Nadu , India		
Customer Reference	4540001630 Dt: 07/09/2016	Sample Reference No	ECI-NN-IAQ-80/09/2016
Sample Drawn By	ECI	Sample Received On	15.09.2016
Sample Collected Date	14.09.2016	Test Commenced On	15.09.2016
Qty of Sample Received	Filter Papers & 25 ml Soln	Test Completed On	19.09.2016
Sample Description	Indoor, Air	Sampling Method	IS 5182 : P14:2000(R:2005)
Sample Mark	CHP-I Conveyor Side (North)		

S.No	PARAMETERS	UNITS	RESULTS	TEST METHOD	Permissible limits of NAAQS (Industrial/Residential)
1.	Carbon Di-Oxide (CO ₂)	ppm	318	ECI-SOP-SAM-28	NA
2.	Carbon Monoxide (as CO)	mg/m ³	< 1.2	ECI-SOP-SAM-08 /Instrument Manual	2.0
3.	Suspended Particulate Matter (SPM)	µg/m ³	698.7	IS 5182:Part 04:1999 (Reaff 2005)	---

<--- End of Report --->

Verified By : *A. Vijay*

Remarks : NA - Not Applicable

For ENVIRO CARE INDIA PRIVATE LIMITED
(Laboratory Division)

[Signature]
Authorized Signatory



TEST REPORT

Accredited by **NABL** (Chemical & Biological)
Recognized by **BIS** as per IS - 14543

INDOOR AIR QUALITY SURVEY

Report No:	ECI-NN-IAQ-81/09/2016	Report Date:	20.09.2016
Customer Name & Address	M/s. OPG Power Generation Pvt Ltd OPG Nagar, Periyaobulapuram village Madharpakkam Road, Gummidipoondj-601201 Tamil Nadu, India		
Customer Reference:	4540001630 Dt: 07/09/2016	Sample Reference No:	ECI-NN-IAQ-81/09/2016
Sample Drawn By:	ECI	Sample Received On:	15.09.2016
Sample Collected Date:	14.09.2016	Test Commenced On:	15.09.2016
Qty of Sample Received:	Filter Papers & 25 ml Soln	Test Completed On:	19.09.2016
Sample Description:	Indoor Air	Sampling Method:	IS 5182 :P14:2000(R:2005)
Sample Mark:	CHP-2 4A Conveyor Side (Middle)		

S.No	PARAMETERS	UNITS	RESULTS	TEST METHOD	Permissible limits of NAAQS (Industrial/Residential)
1.	Carbon Di-Oxide (CO ₂)	ppm	372	ECI-SOP-SAM-28	NA
2.	Carbon Monoxide (as CO)	mg/m ³	< 1.2	ECI-SOP-SAM-08 /Instrument Manual	2.0
3.	Suspended Particulate Matter (SPM)	µg/m ³	675.6	IS 5182:Part 04:1999 (Reaff 2005)	—

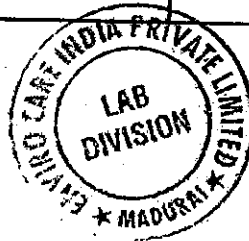
<--- End of Report --->

Verified By : *A. M. Jay*

Remarks : NA - Not Applicable

For ENVIRO CARE INDIA PRIVATE LIMITED
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TEST REPORT

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Recognized by **BIS** as per IS 14513-2

INDOOR AIR QUALITY SURVEY

Report No:	ECI-NN-IAQ-82/09/2016	Report Date:	20.09.2016		
Customer Name & Address	M/s. OPG Power Generation Pvt Ltd OPG Nagar, Periyaobulapuram village Madharpakkam Road, Gummidipoondi-601201 Tamil Nadu , India				
Customer Reference:	4540001630 Dt: 07/09/2016	Sample Reference No:	ECI-NN-IAQ-82/09/2016		
Sample Drawn By:	ECI	Sample Received On:	15.09.2016		
Sample Collected Date:	14.09.2016	Test Commenced On:	15.09.2016		
Qty of Sample Received:	Filter Papers & 25 ml Soln	Test Completed On:	19.09.2016		
Sample Description:	Indoor Air	Sampling Method:	IS 5182 :P14:2000(R:2005)		
Sample Mark:	CHP-2 4A Conveyor Side (South)				

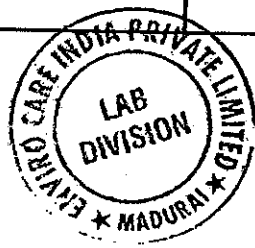
S.No	PARAMETERS	UNITS	RESULTS	TEST METHOD	Permissible limits of NAAQs (Industrial Residential)
1.	Carbon Di-Oxide (CO ₂)	ppm	406	ECI-SOP-SAM-28	NA
2.	Carbon Monoxide (as CO)	mg/m ³	< 1.2	ECI-SOP-SAM-08 /Instrument Manual	2.0
3.	Suspended Particulate Matter (SPM)	µg/m ³	395.8	IS 5182:Part 04:1999 (Reaff 2005)	—

<--- End of Report --->

Verified By : *A. Sheik Muzibur Rahuman*

Remarks : NA - Not Applicable

	<p>For ENVIRO CARE INDIA PRIVATE LIMITED (Laboratory Division)</p> <p><i>A. Sheik Muzibur Rahuman</i> Authorized Signatory</p>
--	--



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TEST REPORT

Accredited by **NABL** (Chemical & Biological)
Recognized by BIS as per IS 14543

INDOOR AIR QUALITY SURVEY

Report No	ECI-NN-IAQ-83/09/2016	Report Date	20.09.2016		
Customer Name & Address	M/s. OPG Power Generation Pvt Ltd OPG Nagar, Periyaobulapuram village Madharpakkam Road, Gummidipoondi-601201 Tamil Nadu , India				
Customer Reference	4540001630 Dt: 07/09/2016	Sample Reference No.	ECI-NN-IAQ-83/09/2016		
Sample Drawn By	ECI	Sample Received On	15.09.2016		
Sample Collected Date	14.09.2016	Test Commenced On	15.09.2016		
Qty of Sample Received	Filter Papers & 25 ml Soln	Test Completed On	19.09.2016		
Sample Description	Indoor Air	Sampling Method	IS 5182 :P14:2000(R:2005)		
Sample Mark	CHP-2 4B Conveyor Side (North)				

S.No	PARAMETERS	UNITS	RESULTS	TEST METHOD	Permissible limits of NAAQs (Industrial Residential)
1.	Carbon Di-Oxide (CO ₂)	ppm	318	ECI-SOP-SAM-28	NA
2.	Carbon Monoxide (as CO)	mg/m ³	< 1.2	ECI-SOP-SAM-08 /Instrument Manual	2.0
3.	Suspended Particulate Matter (SPM)	µg/m ³	397.8	IS 5182:Part 04:1999 (Reaff 2005)	---

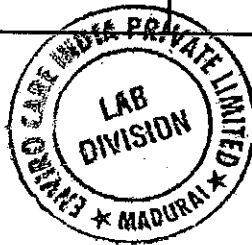
<--- End of Report --->

Verified By : *A. Sheik Muzibur*

Remarks : NA - Not Applicable

For ENVIRO CARE INDIA PRIVATE LIMITED
(Laboratory Division)

A. Sheik Muzibur
Authorized Signatory



A. Sheik Muzibur Rahuman
Technical Manager



TEST REPORT

STACK MONITORING

Report No.	ECI-NN-SM-283/09/2016	Report Date	20.09.2016
Customer Name & Address	M/s. OPG Power Generation Pvt Ltd OPG Nagar, Periyaobulapuram village Madharpakkam Road, Gummidipoondi-601201 Tamil Nadu, India		
Customer Reference	4540001630 Dt: 07/09/2016	Sample Reference No.	ECI-NN-SM-283/09/2016
Sample Drawn By	ECI	Sample Received On	15.09.2016
Sample Collected Date	13.09.2016	Test Commenced On	15.09.2016
Qty of Sample Received	Thimble & 50 ml Soln	Test Completed On	19.09.2016
Sample Description	Stack	Sampling Method	IS :11255:P1:1985(R:2003)
Sample Mark	DG 500 KVA Unit III- Silencer		

S.No	PARAMETERS	UNITS	RESULTS	TEST METHOD	Max. Permissible TNPCC norms for General Emission Standards
1.	Ambient Temperature	°C	35	IS 11255:Part 03:2008	NA
2.	Carbon Monoxide (as CO)	% (v/v)	0.4	IS 13270:1992 (RA:2003)	1.0
3.	Flow rate	Nm ³ /hr	1285	IS 11255:P03:2008	NA
4.	Flue Gas velocity	m/sec	11.8	IS :11255:P03:2008	NA
5.	Hydrocarbon (HC)	% (v/v)	< 0.2	IS 13270:1992 (RA:2003)	NA
6.	Oxides of Nitrogen (as NO _x)	mg/Nm ³	25.6	IS 11255:Part 07:2005 & IS 5182 :Part 06:2006	NA
7.	Particulate Matter (PM)	mg/Nm ³	101.2	IS 11255:Part 01:1985 (RA:2003)	150
8.	Port hole Height from G Level	M	4.0	---	NA
9.	Stack Diameter at port hole	m	0.25	---	NA
10.	Stack Height from G Level	m	4.0	---	NA
11.	Stack Temperature	°C	209	IS 11255:P03:2008	NA
12.	Sulphur Dioxide (as SO ₂)	mg/Nm ³	16.7	IS 11255:Part 02: 1985 (RA:2003)	NA

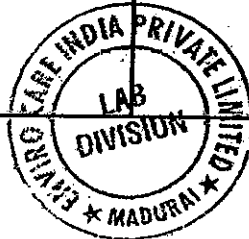
<--- End of Report --->

Verified By : *A. Sheik*

Remarks : NA - Not Applicable

For **ENVIRO CARE INDIA PRIVATE LIMITED**
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TEST REPORT

STACK MONITORING

Report No:	ECI-NN-SM-284/09/2016	Report Date:	20.09.2016
Customer Name & Address	M/s. OPG Power Generation Pvt Ltd OPG Nagar, Periyaobulapuram village Madharpakkam Road, Gummidipoondi-601201 Tamil Nadu , India		
Customer Reference:	4540001630 Dt: 07/09/2016	Sample Reference No:	ECI-NN-SM-284/09/2016
Sample Drawn By:	ECI	Sample Received On:	15.09.2016
Sample Collected Date:	13.09.2016	Test Commenced On:	15.09.2016
Qty. of Sample Received:	Thimble & 50 ml Soln	Test Completed On:	19.09.2016
Sample Description:	Stack	Sampling Method:	IS :11255:P1:1985(R:2003)
Sample Mark:	DG 625 KVA- Silencer		

S.No	PARAMETERS	UNITS	RESULTS	TEST METHOD	Max Permissible TNPCE norms for General Emission Standards
1.	Ambient Temperature	°C	35	IS 11255:Part 03:2008	NA
2.	Carbon Monoxide (as CO)	% (v/v)	0.6	IS 13270:1992 (RA:2003)	1.0
3.	Flow rate	Nm ³ /hr	1179	IS 11255:P03:2008	NA
4.	Flue Gas velocity	m/sec	11.3	IS :11255:P03:2008	NA
5.	Hydrocarbon (HC)	% (v/v)	< 0.2	IS 13270:1992 (RA:2003)	NA
6.	Oxides of Nitrogen (as NO _x)	mg/Nm ³	29.7	IS 11255:Part 07:2005 & IS 5182 :Part 06:2006	NA
7.	Particulate Matter (PM)	mg/Nm ³	96.5	IS 11255:Part 01:1985 (RA:2003)	150
8.	Port hole Height from G Level	M	8.0	---	NA
9.	Stack Diameter at port hole	m	0.25	---	NA
10.	Stack Height from G Level	m	8.0	---	NA
11.	Stack Temperature	°C	231	IS 11255:P03:2008	NA
12.	Sulphur Dioxide (as SO ₂)	mg/Nm ³	17.2	IS 11255:Part 02: 1985 (RA:2003)	NA

<--- End of Report --->

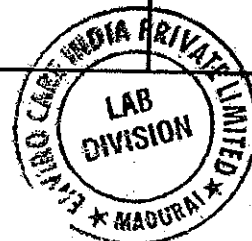
Verified By : *A. Sheik*

Remarks : NA - Not Applicable

For ENVIRO CARE INDIA PRIVATE LIMITED
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TEST REPORT

Accredited by **NABL** (Chemical & Biological)
Recognized by BIS as per IS : 14549 : 2

STACK MONITORING

Report No	ECI-NN-SM-285/09/2016	Report Date	20.09.2016
Customer Name & Address	M/s. OPG Power Generation Pvt Ltd OPG Nagar, Periyaobulapuram village Madharpakkam Road, Gummidipoondi-601201 Tamil Nadu, India		
Customer Reference	4540001630 Dt: 07/09/2016	Sample Reference No	ECI-NN-SM-285/09/2016
Sample Drawn By	ECI	Sample Received On	15.09.2016
Sample Collected Date	13.09.2016	Test Commenced On	15.09.2016
Qty of Sample Received	Thimble & 50 ml Soln	Test Completed On	19.09.2016
Sample Description	Stack	Sampling Method	IS :11255:P1:1985(R:2003)
Sample Mark	DG 500 KVA Unit I- Silencer		

S.No	PARAMETERS	UNITS	RESULTS	TEST METHOD	Max. Permissible TNPCB norms for General Emission Standards
1.	Ambient Temperature	°C	35	IS 11255:Part 03:2008	NA
2.	Carbon Monoxide (as CO)	% (v/v)	0.4	IS 13270:1992 (RA:2003)	1.0
3.	Flow rate	Nm ³ /hr	1214	IS 11255:P03:2008	NA
4.	Flue Gas velocity	m/sec	11.1	IS .11255.P03:2008	NA
5.	Hydrocarbon (HC)	% (v/v)	< 0.2	IS 13270:1992 (RA:2003)	NA
6.	Oxides of Nitrogen (as NO _x)	mg/Nm ³	21.3	IS 11255:Part 07:2005 & IS 5182 :Part 06:2006	NA
7.	Particulate Matter (PM)	mg/Nm ³	94.5	IS 11255:Part 01:1985 (RA:2003)	150
8.	Port hole Height from G Level	M	4.0	---	NA
9.	Stack Diameter at port hole	m	0.25	---	NA
10.	Stack Height from G Level	m	4.0	---	NA
11.	Stack Temperature	°C	207	IS 11255:P03:2008	NA
12.	Sulphur Dixide (as SO ₂)	mg/Nm ³	15.2	IS 11255:Part 02: 1985 (RA:2003)	NA

---- End of Report ----

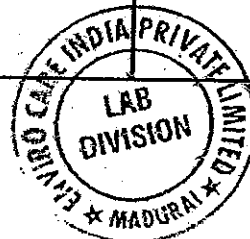
Verified By : *A. Sheik Muzibur*

Remarks : NA - Not Applicable

For **ENVIRO CARE INDIA PRIVATE LIMITED**
(Laboratory Division)

A. Sheik Muzibur
Authorized Signatory

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TEST REPORT

Accredited by **NABL** (Chemical & Biological)
Recognized by BIS as per IS - 14543 : 2004

STACK MONITORING

Report No.	ECI-NN-SM-286/09/2016	Report Date	20.09.2016
Customer Name & Address	M/s. OPG Power Generation Pvt Ltd OPG Nagar, Periyaobulapuram village Madharpakkam Road, Gummidipoondi-601201 Tamil Nadu , India		
Customer Reference	4540001630 Dt: 07/09/2016	Sample Reference No.	ECI-NN-SM-286/09/2016
Sample Drawn By	ECI	Sample Received On	15.09.2016
Sample Collected Date	13.09.2016	Test Commenced On	15.09.2016
Qty. of Sample Received	Thimble & 50 ml Soln	Test Completed On	19.09.2016
Sample Description	Stack	Sampling Method	IS :11255:P1:1985(R:2003)
Sample Mark	DG 500 KVA Unit II- Silencer		

S.No	PARAMETERS	UNITS	RESULTS	TEST METHOD	Max. Permissible INPCB norms for General Emission Standards
1.	Ambient Temperature	°C	35	IS 11255:Part 03:2008	NA
2.	Carbon Monoxide (as CO)	% (v/v)	0.4	IS 13270:1992 (RA:2003)	1.0
3.	Flow rate	Nm ³ /hr	1384	IS 11255:P03:2008	NA
4.	Flue Gas velocity	m/sec	12.2	IS :11255:P03:2008	NA
5.	Hydrocarbon (HC)	% (v/v)	< 0.2	IS 13270:1992 (RA:2003)	NA
6.	Oxides of Nitrogen (as NO _x)	mg/Nm ³	19.8	IS 11255:Part 07:2005 & IS 5182 :Part 06:2006	NA
7.	Particulate Matter (PM)	mg/Nm ³	89.7	IS 11255:Part 01:1985 (RA:2003)	150
8.	Port hole Height from G Level	M	4.0	---	NA
9.	Stack Diameter at port hole	m	0.25	---	NA
10.	Stack Height from G Level	m	4.0	---	NA
11.	Stack Temperature	°C	139	IS 11255:P03:2008	NA
12.	Sulphur Dioxide (as SO ₂)	mg/Nm ³	11.2	IS 11255:Part 02: 1985 (RA:2003)	NA

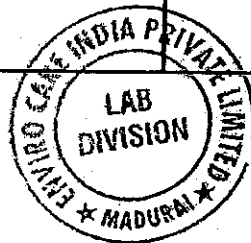
<--- End of Report --->

Verified By : *[Signature]*
Remarks : NA - Not Applicable

For ENVIRO CARE INDIA PRIVATE LIMITED
(Laboratory Division)

[Signature]
Authorized Signatory

A. Sheik Muzibur Rahuman
Technical Manager



CHENNAI Tel : +91 (44) 42867084
Mobile : 9944938637
e-mail : ecichennai@envirocareindia.com

MADURAI Tel : +91 (452) 4355103
Mobile : 8220015870
e-mail : lab@envirocareindia.com

COIMBATORE Tel : +91 (422) 4204
Mobile : 8054766966
e-mail : ecicbe@envirocareindia.com



FLY ASH CUSTOMER LIST

Fly Ash Customer Details			
S no	Name	Contact Person	Address
1	Amba Recycler	Ashok	Chennai
2	Amma Fly ash Bricks	Murali	21B, By pass road, Gummidipoondi-601201
3	Amman Roadways Agency Pvt Ltd		200A, Padmavathy complex, Salem Road, Namakkal-637001
4	B.Sekar	Sekar	Chennai
5	Hyderabad Industrial Ltd (HIL)	Sasthri	Kanigapuram, Periyapalayam, Thiruvallur
6	Kavery Industries	R.V Reddy	Nemalure, Matharapakkam
7	Lakshmi Agencies	Parasuraman	59/29, Arunachalam 2nd St, (Opp Sivan Kovil), Arakkonam-631001
8	Methra Industries India Pvt Ltd	Manokaran	New No: 62, Panjalyamman kovil st, Arumbakkam, Chennai-106
9	Munusamy & Co		Chennai
10	Om Muruga	Prakash	No 27, Madhalaayar st, Mannelore, Gummidipoondi Taluk, Thiruvallur-601201
11	Sastha Enterprises		Ambattur, Chennai
12	Sri Balaji Agencies	Srinivasan	Chennai
13	Sri Kameshwaran Fly Ash Bricks		Ponneri - 601204
14	Sri Preeven Enterprises	Mony	25, Indranagar, Nanganailur, Mathavaram, Chennai-600061
15	The India Cements Ltd	Mohammad	PSN Nagar, Dalavoi, Ariyalur-621704
16	Thirumalai Agencies	Gopal	Mathavaram
17	Ultra Tech Cements Ltd	Arulprakash	Reddypalayam Post, Reddypalayam, Ariyalur-621704
18	Vasantham Enterprises	Selvaraj	No 19, By-pass road, Gummidipoondi
19	Boomi Brick Industries		Boomi Brick Industries, Veeraraghavapuram village, Thiruvallur-602001
20	Vijay Agency		11E,21A Michael Thottam, Housing Unit, Metturdam-636401
21	Saravana Supply		GNT Road, Kavaraipettai-601206
22	Raydium Fiyash Bricks		126/2A,2B Vannipakkam Village 601203 Ponneri Taluk,
23	Sri Nithya Supplier		3/33, Nagaraja kandigai village, Gummidipoondi - 601201
24	Sree Kandan Traders		Sree Kandan Traders, Veeraraghavapuram Village, Thiruvallur District - 602021
25	Thirumurugan Concrete Blocks		12/3 Big street, Dhimmavaram, Chengalpattu - 603101

Bhajan

RAIN WATER HARVESTING REPORT

Date: 04.12.2016

RAIN WATER HARVESTING PROGRESS IN OPG THERMAL POWERPLANT

- **PURPOSE:**

The purpose of this report is to monitor and follow up action on the work progress on Rain water harvesting recommendations given by Mr. Chandra Reddys & Mr. Jayakumar (Ground Water).

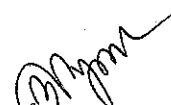
- **PROCESS:**

Find below the MAJOR Recommendations.

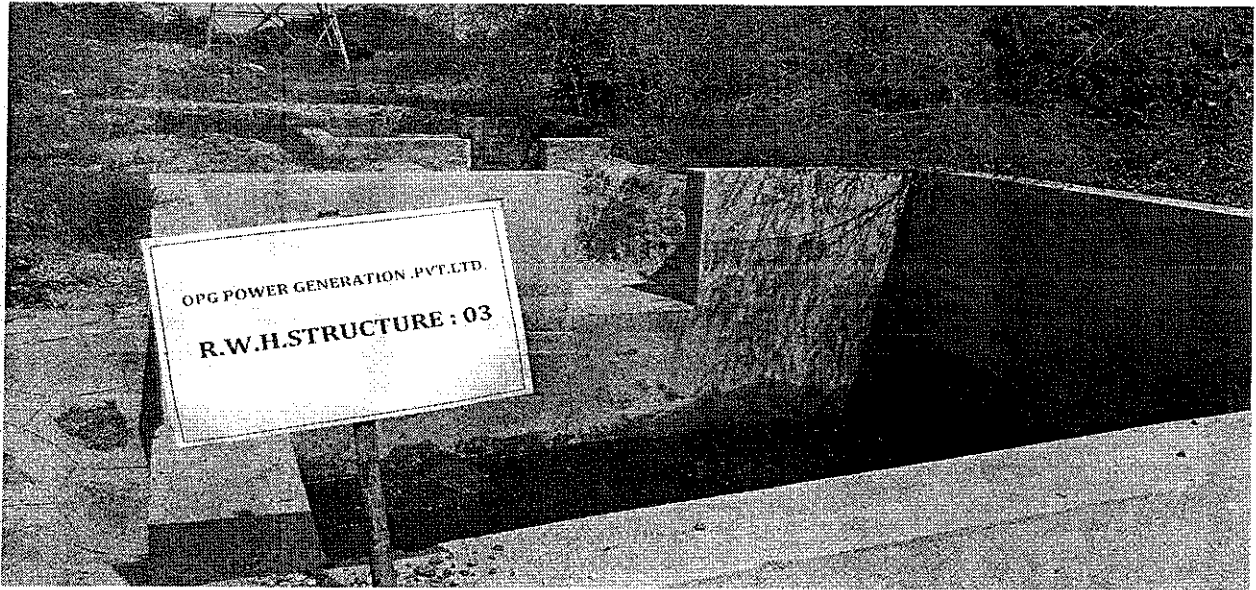
- Modification on existing Tube wells.
- Recharge Pits along with De- Silting Chamber – 9 Locations.
- Infiltration Pit at regular Interval in storm water drain line.
- Existing Rain water Gutter pipes to be connected with raw water storage tank.
- Piezometer Nests to be provided – 3 Locations – To monitor ground water level.

- **MODIFICATION ON EXISTING TUBE WELLS:**

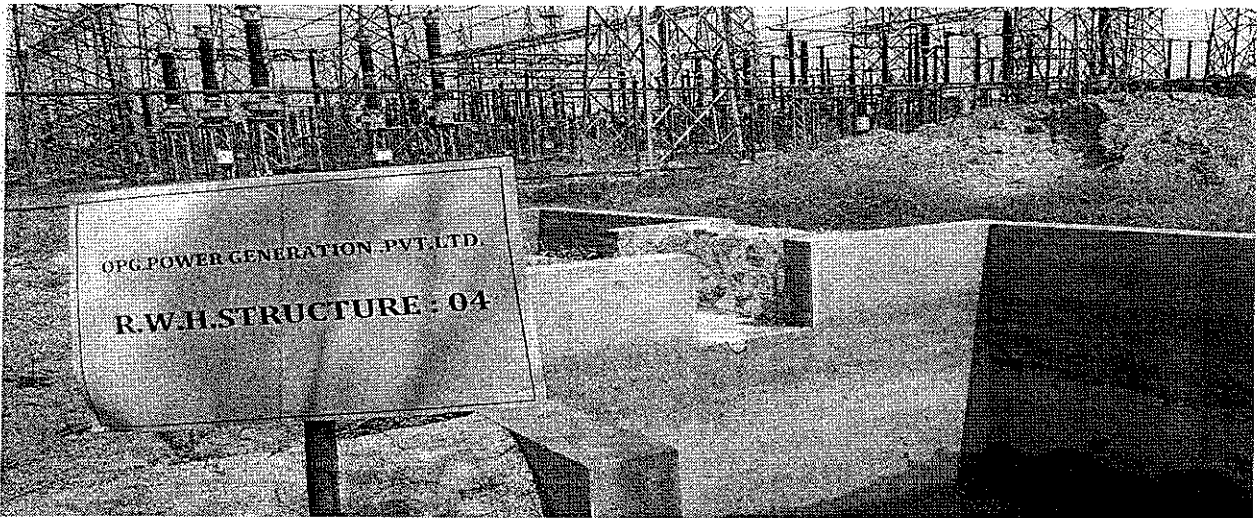
S.No	Recommended	Action taken	Reason
1	Pump capacity replacement with 5 HP	Out of 17, 15 Tube wells were replaced with 5 HP pumps	1. 1 No of pump (Not able to replace with 5 H.P due to chock with soil) crusher house 2. 1 No is for monitoring tube well.
2	Controlled pumping	No Bore wells are running continuously more than 6 hrs. Running Hrs. schedule were prepared and logged	-
3	Existing Tube wells protection from entry of rain water to avoid disturbs gravel packaging, destabilize casing pipes.	It has been completed.	-



• EAST SIDE OF UNIT-1 SWITCH YARD



• UNIT IV SWITCH YARD



- In the entire Pits Storm water Drains to De Silting Chamber and Input to recharging Pit to be cleared. - Completed
- Both the existing Recharging Pits found full of grass, to be cleared – **It was cleared.**
- Top surface of the Existing pits has to be raised 10 – 15 cm to avoid silting on the pit.
- Gravels which is inside the existing Pits to be cleared off silt.
- A protective fencing has to be provided around new constructed pits.

B. N. N.

4. On the Store:

In the northern side of the storm water drain line, 2 or 3 infiltration pit to be constructed.

Existing gutter pipes to be routed to that infiltration pit.

- INFILTRATION PITS

- RECOMMENDATIONS:

- ✓ There are 22 no's of infiltration pits are located in our premises in storm water drain line.
- ✓ Most of the pits are found full of grass, to be cleaned. – **It was cleaned.**
- ✓ Gravels in the pit to be cleaned or replaced. – **Replaced with new gravels.**
- ✓ Perimeter of the pits to be slightly increased to avoid silt deposit.

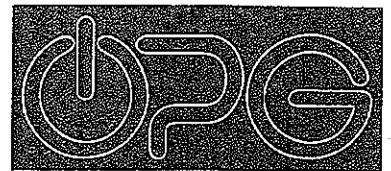
- ACTION TAKEN:

- ✓ Already 10 no's of the pits were cleaned.



Signature

Annual Environmental Statement
Form V (2015 -2016)



OPG POWER GENERATION PVT. LTD.
CIN : U40109TN2005PTC055442

OPGPG: EHS/TNPCB/CTO/2016-17/

27 - 04 - 2016

Joint Chief Environmental Engineer (M),

Tamil Nadu Pollution Control Board, Chennai Region,

77A, South Avenue Road,

Ambattur Industrial Estate,

Chennai - 600 056

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 5 for the financial year 2015-16, ending March 2016.

This is for your kind information and records please.

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

Thanking You.

Yours Sincerely,

For OPG Power Generation Private Limited


Govindasamy M

Head-EHS

- Cc: 1. The Member Secretary, TNPC Board, Chennai-32 with Encl. for kind information
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



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	0.045 liter/kwh – Unit 1 0.051 liter/kwh – Unit 2 0.065 liter/kwh – Unit 3 Under Commission – Unit 4	0.073 liter/kwh – Unit 1 0.054 liter/kwh – Unit 2 0.072 liter/kwh – Unit 3 0.048 liter/kwh – Unit 4

(2) Raw Material 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	0.80 kg/kwh –Unit 1 0.74 kg/kwh –Unit 2 0.75 kg/kwh –Unit 3 Under Commission – Unit 4	0.777 kg/kwh –Unit 1 0.740 kg/kwh –Unit 2 0.748 kg/kwh –Unit 3 0.641 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.

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PART E

SOLID WASTES

	Total quantity	
	During the previous financial year	During the current financial year
(a) From process	Fly Ash 141578 MT Bottom Ash 31624 MT	Fly Ash 174316 MT Bottom Ash 40644 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 141578 MT Bottom Ash 31624 MT	Fly Ash 174316 MT Bottom Ash 40644 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 : 58 %	Al ₂ O ₃ : 24 %
Fe ₂ O ₃ : 6 %	CaO: 2 %	MgO: 1 %
TiO ₂ : 1.1 %	Na ₂ O: 0.5 %	K ₂ O: 1 %
P ₂ O ₅ : 0.1 %	SO ₃ : 5 %	

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2016

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
- e) Wind shield around the Coal Stock yard was replaced, since it got damaged in the heavy rain.
- f) RO based effluent treatment plant is commissioned and the treated effluent water is recycled in the process, which reduced the raw water consumption to 50%.

Signature
27/4

LDO Storage License copy



भारत सरकार
 Government of India
 वाणिज्य और उद्योग मंत्रालय
 Ministry of Commerce & Industry
 पेट्रोलियम तथा विस्फोटक सुरक्षा संगठन (पेसो)
 Petroleum & Explosives Safety Organisation (PESO)
 वाघदा तला, ए-ब्लॉक, सी.जी.ओ. कॉम्प्लेक्स, सेमिनरी हिल्स
 नागपुर - 440005
 5th Floor, A-Block, CGO Complex, Seminary Hills,
 Nagpur - 440006

E-mail: explosives@explosives.gov.in
 Phone/Fax No: 9712-2510248, Fax: 2510277

संख्या (No): PIHQ/TN/15/4786 (P226617)

दिनांक (Dated) 08/01/2015

सेवा में (To)

M/s. M/s OPG Power Generation Pvt. Ltd.,
 167 St. Marys Road Alwarpet,
 NA,
 Chennai,
 District: CHENNAI,
 State: Tamil Nadu
 PIN: 600018

विषय (Subj): Pict No. S. No. 195/2A, NA, Pappankuppam, Taluka Thiruvallur, District: THIRUVALLUR, State: Tamil Nadu, PIN: 999999 में विद्यमान पेट्रोलियम वर्ग B प्रमाणपत्र - पेट्रोलियम नियम 2002 के अंतर्गत प्रत्यक्ष XV में जारी अनुमति सं PIHQ/TN/15/4786 (P226617) संशोधन के तदर्थ में।
 Existing Petroleum Class B Installation at Pict No. S. No. 195/2A, NA, Pappankuppam, Taluka: Thiruvallur, District: THIRUVALLUR, State: Tamil Nadu, PIN: 999999. Licence No: PIHQ/TN/15/4786 (P226617) granted under XV under Petroleum Rules 2002 - Amendment regarding

संदर्भ (Ref)

कृपया आधर उपर्युक्त विषय से संबंधित पर सद्यः OPGPGJMD/CCOe/1443/14-15 दिनांक 05/01/2014 का संदर्भ ग्रहण करें।
 Reference to your letter No. OPGPGJMD/CCOe/1443/14-15 dated 05/01/2014 on the above subject

दिनांक 31/12/2019 तक वैध अनुमति सद्यः PIHQ/TN/15/4786 (P226617) दिनांक 08/01/2015 निम्नलिखित वर्ग एट अंतर्गत में पेट्रोलियम अड्डा के लिए तथा संशोधित कर इस पर के साथ जोड़ा जा रही है।
 Licence No. PIHQ/TN/15/4786 (P226617) dated 08/01/2015 valid upto 31/12/2019 is returned herewith duly amended with respect to Capacity Amendment

पेट्रोलियम का विवरण (Description of Petroleum)	किसी/कुछ में अनुमति क्षमता (Quantity licensed in KL)
वर्ग A प्रपुल पेट्रोलियम (Petroleum Class A in bulk)	NIL
वर्ग A प्रपुल पेट्रोलियम से भिन्न (Petroleum Class A otherwise than in bulk)	NIL
वर्ग B प्रपुल पेट्रोलियम (Petroleum Class B in bulk)	271.00 KL
वर्ग B प्रपुल पेट्रोलियम से भिन्न (Petroleum Class B otherwise than in bulk)	NIL
वर्ग C प्रपुल पेट्रोलियम (Petroleum Class C in bulk)	NIL
वर्ग C प्रपुल पेट्रोलियम से भिन्न (Petroleum Class C otherwise than in bulk)	NIL
कुल क्षमता (Total)	271.00 KL

कृपया राबरी दें।

Please acknowledge the receipt

Note: Your Balance Amount with the Organisation is Rs. 5000/- which will be used for processing of the same Licence in future

भवदीय (Yours faithfully)

(भार पी सिंह)
 (R. P. Singh)
 उप मुख्य विस्फोटक नियंत्रक
 Dy. Chief Controller of Explosives
 कृष्ण मुख्य विस्फोटक नियंत्रक
 For Chief Controller of Explosives
 नागपुर
 Nagpur

Copy forwarded to:-

- The District Revenue Officer, Thiruvallur (T.N.), THIRUVALLUR (Tamil Nadu) with reference to his NOC No/Rc 97212/08 M3 Dated 17/06/2009
- Jt. Chief Controller of Explosives, South Circle Office, CHENNAI. A Copy of the licence along with approved plan is enclosed.
- Dy. Chief Controller of Explosives, Sivakasi, VIRUDHUNAGAR. A Copy of the licence along with approved plan is enclosed.

"For Chief Controller of Explosives,
 Nagpur

AMBIENT NOISE LEVEL
(April 2016-Sep 2016)

Jul-16								
Date	Day Time in db				Night Time in db			
	North	South	East	west	North	South	East	west
07.07.16	51.4	52	52.4	52.8	41.1	42.4	42.6	42.1
15.07.16	51.8	51.4	51.8	52.4	41.8	42.2	42.2	42.8
24.07.16	52.1	51.6	52	52.2	42.4	41.8	41.4	41.8
31.07.16	52.6	52	52.2	51.8	41.8	42.1	42.2	42
Limits	< 55 in db				< 45 in db			

Aug-16								
Date	Day Time in db				Night Time in db			
	North	South	East	west	North	South	East	west
07.08.16	51.2	51.8	52.2	52.8	42.4	42.6	42.2	42.1
16.08.16	50.1	51.2	51.6	50.4	41.8	42.2	41.8	41.6
24.08.16	50.4	50.1	51.2	51.2	42.4	41.8	42	42
31.08.16	50.4	51.2	50.8	51	41.8	41.4	41.8	41.8
Limits	< 55 in db				< 45 in db			

Sep-16								
Date	Day Time in db				Night Time in db			
	North	South	East	west	North	South	East	west
02.09.16	51	52	52.1	51.2	42.1	42.1	42.6	42
10.09.16	52	51.2	52	52.2	44.1	42.8	42	41
18.09.16	51	51	54	52	42.1	41.8	44.1	41
27.09.16	51.4	51.2	52.8	51.4	41.8	42.2	44.2	42.1
Limits	< 55 in db				< 45 in db			

Signature

AMBIENT NOISE LEVEL MONITORING (APRIL 2016 – SEPTEMBER 2016)

Apr-16								
Date	Day Time in db				Night Time in db			
	North	South	East	west	North	South	East	west
05.04.16	51.4	52.1	51.8	50.8	42.1	41.8	42.1	41
13.04.16	50.2	51.4	50.4	51.2	41.2	40.6	41.8	40
20.04.16	50.1	51.2	50.6	51.5	41.3	40.8	41.3	40
26.04.16	52.1	51.6	50.3	51.8	41.3	40.2	41.7	40
Limits	< 55 in db				< 45 in db			

May-16								
Date	Day Time in db				Night Time in db			
	North	South	East	west	North	South	East	west
03.05.16	51.8	51.4	52.1	51.1	41.8	42.8	41.8	42.3
15.05.16	51.3	51.7	51.9	52.3	41.2	42.6	41.1	42.1
21.05.16	51.4	51.2	51.2	52.7	41.7	42.3	41.7	42.7
31.05.16	51.7	51.6	51.8	53.6	41.5	42.7	41.5	42.5
Limits	< 55 in db				< 45 in db			

Jun-16								
Date	Day Time in db				Night Time in db			
	North	South	East	west	North	South	East	west
04.06.16	51.2	51.6	51.7	50.8	45.3	42.1	42	42.2
15.06.16	50.8	52.8	51.2	51.8	42.1	42.1	41.9	41.8
22.06.16	51.2	51.4	50.8	51.2	41.8	42.4	42	42.2
26.06.16	50.2	50.8	48.2	50.9	41.2	42.6	41.8	42
Limits	< 55 in db				< 45 in db			

(Signature)