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Dual-Fuel (Diesel + Gas) Conversions for D.G. Sets



Gas-Train
Totally Dungs, Heinzmann-Germany Kit

Powertech Generators

(E-mail : jaiswalpowertech.gen@gmail.com)

“ off: 20th Mile Stone, G.T. Road, (Near HSEB Power House) Sonapat-131029 (Hr.) ”

Dear Sir,

As per pollution deptt. & state govt. D.G.'s are ban to run on diesel.
For that we are installing 'Dual -Fuel' (Diesel+Gas) conversion kit on D.G set.

It works on partially gas usage technology. In this system diesel & gas both will consumed as a fuel. This system is recommended by HSPCB.

We are working on this technology for last three years.

It is necessary to convert D.G. Set into gas conversion up to 30/9/2022.
As per Govt. Notification it should be.



HARYANA STATE POLLUTION CONTROL BOARD
C-11, SECTOR-6 PANCHKULA
Ph-0172-577870-73, E-mail: hspcbaircell@gmail.com

Office Order

Whereas, the Ministry of Environment, Forest and Climate Change (MoEF & CC) has release the National Clean Air Program (NCAP) to tackle air pollution and bring down concentration of particulate matter by 30% by 2024. The NCAP recognizes stationary DG sets as a major source of Pollution, contributing upto 18% of the total Pollution in cities.

Whereas, the Hon'ble National Green Tribunal, in OA No. 681/2018 vide order dated 06.08.2019 has noted that the air pollution caused by DG Sets in (non-attainment Cities) needs to be part of the action plans which may, if necessary, require retrofitting of emission-control devices on generators already in use. CPCB may consider this aspect. The NCAP itself provides following action points:

..... "6. Evolve standards and norms for in-use DG sets below 800 KW category. 7. For DG Sets already operational, ensure usage of either of the two options: (a) use of retrofitted emission control equipment having a minimum specified PM capturing efficiency of at least 70%, type approved by one of the 3 CPCB recognized labs; or (b) shifting to gas-based generators by employing new gas-based generators or retrofitting the existing DG sets for partial gas usage

Whereas, the matter regarding DG sets has been placed in TAC meeting held on 27.05.2020 and after deliberation, it recommended to implement the action points as prescribed in NCAP regarding retrofitting of emission control equipments having a minimum specified PM capturing efficiency of at least 70%, type approved by one of CPCB recognized labs, at all DG sets in operation with capacity 500 KVA and above, or shifting to gas-based generators by employing new gas-based generators or retrofitting the existing DG sets for partial gas usage within 03 months initially in five districts of NCR area i.e. Faridabad, Gurugram, Bahadurgarh, Sonapat & Panipat.

Therefore, in view of the above, it is hereby ordered that all DG sets in operation with capacity 500 KVA and above are required either to retrofit the emission control equipments having a minimum specified PM capturing efficiency of at least 70%, type approved by one of CPCB recognized labs, at, or shifting to gas-based generators by employing new gas-based generators or retrofitting the existing DG sets for partial gas usage within 03 months initially in five districts of NCR area i.e. Faridabad, Gurugram, Bahadurgarh, Sonapat & Panipat. All the concerned Regional Officers will comply the directions and submit action taken report to their respective Branch In-Charges at Head office on the same.

These orders shall come into force with immediate effect.

Dated Panchkula, the
23rd June, 2020

Ashok Kheterpal
Chairman

Endst. No. HSPCB/SSC/2020/4320-44

Dated :- 25/6/2020

A copy of the above is forwarded to the following for information and immediate necessary action please;

1. All section In-charges in Head Office of the Board.
2. All Regional Officers of the Board in the field.
3. Nodal officer (IT) for uploading the order on the website of the Board.

Fms
98636

Sr. Scientist (HQ)
For Chairman

Dated :-

Endst. No. HSPCB/SSC/2020/

A copy of the above is forwarded to the following for information please;

1. P.S. to ACS, Environment and Climate Change Department, Govt. of Haryana.
2. P.S. to Chairman.
3. P.A. to Member Secretary.

Sr. Scientist (HQ)
For Chairman

emission-control devices on generators already in use. CPCB may consider this aspect. The NCAP itself provides following action points:

- *1. Introduction of gaseous fuels and enforcement of new and stringent SO_2 - NO_x / $PM_{2.5}$ standards for industries using solid fuels.
2. Stricter enforcement of standards in large industries through continuous monitoring.
3. Full enforcement of zig-zag brick technology in brick kilns.
4. Elimination of DG set usage by provision of 24x7 electricity.
5. Control by emission control pipe control technologies.
6. Enforce standards and norms for in-use DG sets below 800 KW category.
7. For DG Sets already operational, ensure usage of either of the two options: (a) use of retrofitted emission control equipment having a minimum specified PM capturing efficiency of at least 70%, type approved by one of the 5 CPCB recognized labs; or (b) shifting to gas-based generators by employing new gas-based generators or retrofitting the existing DG sets for partial gas usage
8. Utilize the Gujarat case study for a compelling case for other states to adopt third-party audits for polluting industries for enhancing implementation(States)."

Thus, DG Sets should also be covered by the action plans for all the States/UTs.

21. The action plans also need to incorporate provisions for action against black carbon generators.
22. One of the causes of air pollution is growth of unplanned industrial activities in residential areas. At some places, such activities though prohibited, have been regularized without regard to environmental norms. The same can no longer be allowed to continue and provision has to be made for closing/shifting as per law laid down in *M.C. Mehta vs. Union of India*, (2004) 6SCC 588. The master plans need to be reviewed and wherever such activities are against existing or new norms, the same need to be closed/shifted.

**COMMISSION FOR AIR QUALITY MANAGEMENT
IN NATIONAL CAPITAL REGION AND ADJOINING AREAS**
17th Floor, Jawahar Vyapar Bhawan (STC Building)
Tolstoy Marg, New Delhi-110001

F. No. A-110018/01/2021-CAQM/7847-7872 Dated: 18th May, 2022

**Subject: Use of Biomass fuels for new industries in NCR
beyond the jurisdiction of GNCTD** Govt. of NCT of Delhi

WHEREAS, emissions from industries using polluting fuels like coal etc. have adverse impact on air quality in the National Capital Region and Adjoining Areas and shifting of Industries to PNG/cleaner fuels has also been a priority for the Commission for Air Quality Management in NCR and adjoining areas;

2. WHEREAS, directions were issued by CPCB vide Letter No. CPCB/IPCI-VI/PNG dated 27.11.2020 mandating that only such new industrial units shall be permitted to be set up in NCR - Delhi which use cleaner fuels namely Natural Gas (PNG/ CNG), Liquefied Petroleum Gas (LPG), Biogas, Propane, Butane etc.;

3. WHEREAS, to this effect, the Commission, through statutory Direction No. 31 dated 12.08.2021 had *inter-alia* directed the State Governments of Haryana, Uttar Pradesh and Rajasthan to audit and inspect the industries, which are already connected to PNG supply and ensure that those industries are not using any other polluting fuels like coal etc. and prepare an implementable Action Plan by clearly specifying definite time lines for switching over of all identified industries units to PNG, where infrastructure and supply of gas are already available;

4. WHEREAS, it also came to light that other than in GNCTD, majority of industries in industrial areas across NCR, where gas infrastructure and supply is available, are, however, still not fully

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operating with PNG/ cleaner fuels and continue to also use polluting fuels such as coal, HSD etc.;

5. WHEREAS, it was further *inter-alia* reiterated in terms of Direction No. 44 dated 16.11.2021 that "All industries in NCR having gas connectivity shall be run only on Gas as a fuel and that all industries in NCR where gas connectivity is available shall immediately be shifted to gas and the State Governments to furnish industry wise date of shifting;
6. WHEREAS, the Hon'ble Supreme Court in its Order dated 03.12.2021 in the matter "Aditya Dubey & Anr. Vs Union of India & Ors." also directed for the proposal to be submitted to switch over all the industries to PNG/ cleaner fuels in a time-bound manner;
7. WHEREAS, a large number of associations, federations and individuals submitted before the Commission their requests for permitting use of biomass fuels in addition to PNG, citing that biomass-based fuels are much more environment friendly than fossil fuels like HSD and Coal etc. in terms of carbon emissions and also their PM emissions are much controlled;
8. WHEREAS, the technical and process requirements in different industrial sectors were assessed and deliberated in detail in the Commission. An analysis of PM emissions from industries presently using biomass fuels for boiler operations indicates that biomass fuels are much superior than conventional fossil fuels like coal, diesel oil etc. in terms of the PM emissions and that the advantages of using such fuels far outweigh the environmental and technical concerns towards proper scientific disposal of large volumes of rice husk and other biomass as also the rampant open burning of paddy straw;
9. WHEREAS, biomass fuels, internationally are categorised and used as relatively clean fuels and technical reports and scientific

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studies indicate that biomass fuels like rice husk and paddy straw etc. are carbon neutral fuels as the CO₂ released during combustion of such fuels is less than the amount of CO₂ sequestered during the entire growth cycle of the biomass, thus facilitating net carbon neutrality;

✓ 10. WHEREAS, in this light, the Commission vide Direction No. 53 dated 04.02.2022 inter-office decided that in respect of industries in NCR beyond the jurisdiction of GNCTD, which despite availability of natural gas infrastructure and supply have still not shifted to PNG/ cleaner fuels shall under all circumstances completely switch over to PNG or biomass fuels, latest by 30.09.2022, failing which such industries shall be closed down and not permitted to schedule their operations thereafter and that the industries in the jurisdiction of GNCTD shall necessarily be run only on PNG and electricity;

11. WHEREAS, the Commission, in exercise of its powers under Section 12 of the Act referred to above, considering the levels of PM emissions generally observed/achieved in respect of existing industries using biomass fuels and applicable international standards, stipulated the standards for emissions through use of biomass fuels for industrial applications vide Direction No. 62 dated 17.03.2022;

12. WHEREAS, large number of representations were received in the Commission and clarifications were sought on whether the aforesaid Directions bearing No. 53 and 62 would also be applicable to new / under commissioning industrial set ups in NCR, as the Directions of the Central Pollution Control Board dated 27.11.2020 do not permit the new industries in the NCR to run on biomass fuels;

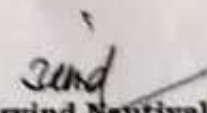
and

13. WHEREAS, it was requested for a necessary clarification in the CPCB directions as above and the matter was also deliberated upon jointly with the CPCB and MoEFCC;

14. WHEREAS, vide MoEFCC vide their OM No. Q-16017/31/2021-CPA dated 21.04.2022 asked for harmonising the regulatory directions issued by CAQM and CPCB in this regard;

15. WHEREAS, CPCB vide its OM dated 29.04.2022 has written to the Commission to issue separate Directions/clarification in this regard;

16. NOW, THEREFORE, in exercise of its powers under Section 12 of the Act referred to above, considering all the aspects, the Commission hereby permits use of biomass fuels as an alternative option in addition to PNG or other cleaner fuels even in new / under commissioning industries in the NCR, beyond the jurisdiction of the NCT of Delhi, subject to strict compliance of the conditions as stipulated under Directions No. 53 and 62 issued by the Commission dated 04.02.2022 and 17.03.2022 respectively.


(Arvind Nautiyal)
Member-Secretary

Tel No.: 011-23701197

Email: arvind.nautiyal@gov.in

To,

1. The ACS/Pr.Secretary, Industries Department, Govt of Haryana.
2. The ACS/Pr.Secretary, Industries Department, Govt of Rajasthan.
3. The ACS/Pr.Secretary, Industries Department, Government of Uttar Pradesh.
4. The ACS/Pr.Secretary, Industries Department, Government of NCT of Delhi.
5. Member Secretary, Haryana State Pollution Control Board.
6. Member Secretary, Rajasthan State Pollution Control Board.
7. Member Secretary, Uttar Pradesh State Pollution Control Board.
8. Member Secretary, Delhi Pollution Control Committee.

Above are govt. Notifications



Loose Parts Of 'Gas-Kit'.

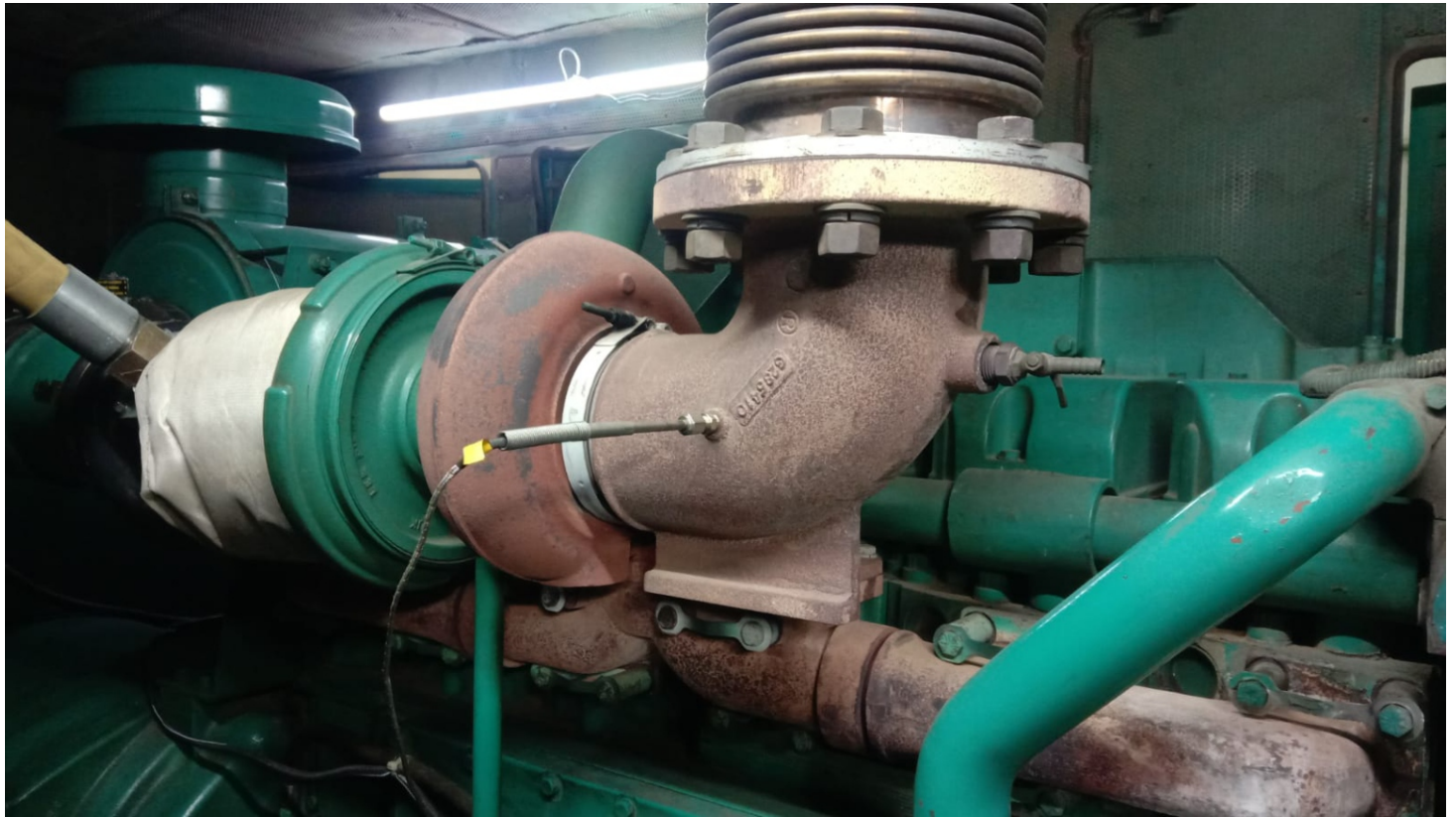


Assembled 'Gas-Kit'.

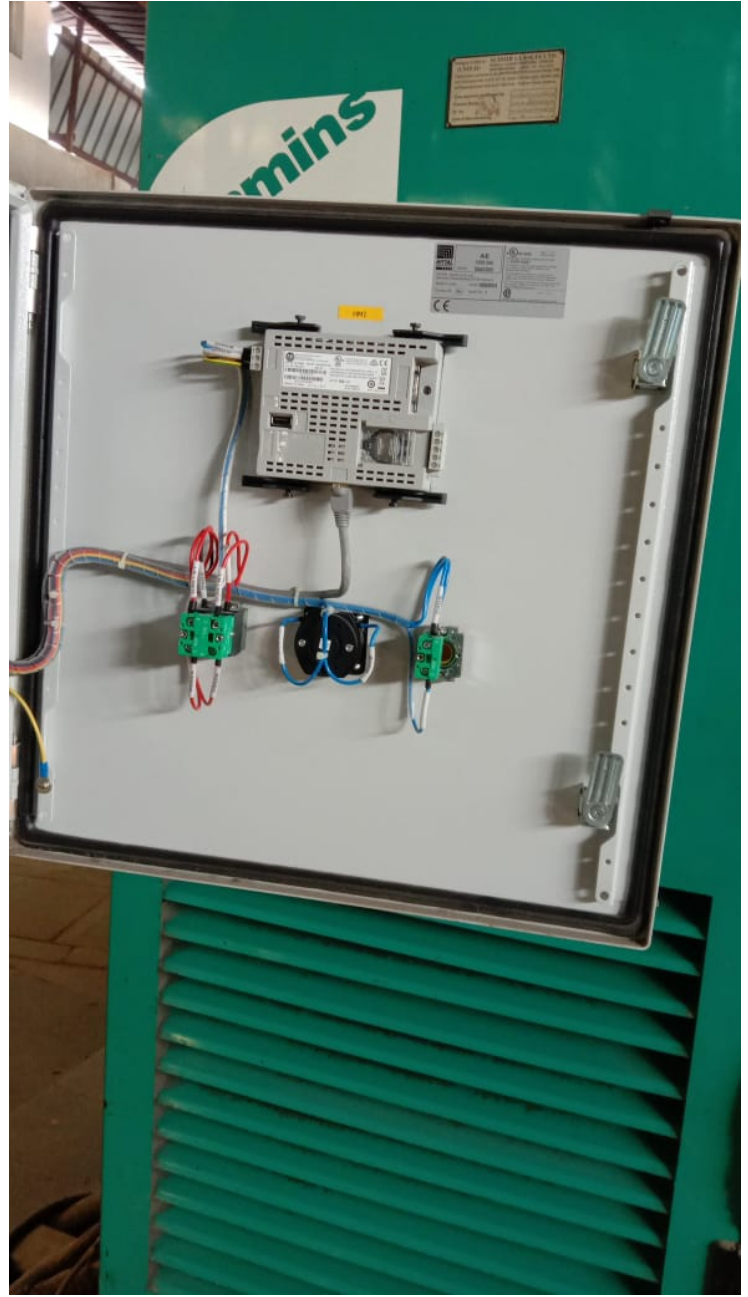


Installed top of knop. no disturbance on engine. Gas train inlet conn. Is given to gas pipe line & outlet conn. Is given to turbo inlet.









**Electronic(Plc) Controle Pannel Fitted With Kit.
Sensors exhaust temp, Map, Mat & engine vibration (Vib.)
fitted on engine as required**



‘Gas-Kit’ Installed on 750 KVA D.G. Set