ਪੰਜਾਬ ਪ੍ਰਦੂਸ਼ਣ ਰੋਕਥਾਮ ਬੋਰਡ
PUNJAB POLLUTION CONTROL BOARD

No. SEE(HQ-2) F. No.505 /2024/ 10756-71 Dated: 25/4/24

Through Email only

To

The Environmental Engineer
Punjab Pollution Control Board,
Regional Office, Patiala/ Ludhiana- 1/2/3/4/ Batala/ Sangrur/
Jalandhar-1/2/ Amritsar/ Hoshiarpur/ SAS-Nagar/
Roopnagar/ Bathinda/ Faridkot/ Fatehgarh Sahib

Subject: Guidelines for Promoting Community Boiler for Cluster of Small-Scale Industries issued by CPCB.

CPCB has issued the Guidelines for Promoting Community Boiler for Cluster of Small-Scale Industries, which is available on CPCB website cpcb.nic.in at link https://cpcb.nic.in/openpdffile.php?id=TGF0ZXN0RmlsZS80MDdfMTcwOTYzNjMzNV9tZWRpYXBob3RvMjc4OTEucGRm#:~:text=ix)%20Community%20boiler%20should%20be,proper%20ash%20and%20wastewater%20management.

The guidelines are forwarded for information & meticulous compliance alongwith request to circulate the guidelines amongst the industrial associations in respective area of jurisdiction for necessary action.

Ranjeet 25/4/24
Environmental Engineer (HQ-2/3)

Endst. No. SEE(HQ-2)/F. No. 505/2024/ 10772-77 Dated 25/4/24

A copy of the above is forwarded to the following for information and further necessary action please:

1. The Chief Environmental Engineer, Punjab Pollution Control Board, Patiala/ Ludhiana /Jalandhar and Bathinda.
2. The Senior Environmental Engineer, Punjab Pollution Control Board Zonal Office, Patiala-I/II Ludhiana-I/II, Jalandhar/Amritsar and Bathinda.
3. The Environmental Engineer, (Computer), , Punjab Pollution Control Board, Patiala for uploading on the Website of the Board.
4. The Scientific officer (Water/Air Lab/ Jalandhar/ Ludhiana , Punjab Pollution Control Board,
5. The Senior Law Officer, , Punjab Pollution Control Board, Head Office, Patiala.
6. PS to Chairman /Pa to Member Secretary, Punjab Pollution Control Board, Patiala.

Ranjeet 25/4/24
Environmental Engineer (HQ-2/3)

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Guidelines for Promoting Community Boiler for Cluster of Small-Scale Industries

CENTRAL POLLUTION CONTROL BOARD
(Ministry of Environment, Forest and Climate Change, Govt. of India)
Parivesh Bhawan, East Arjun Nagar
Delhi-110032

March, 2024

Index

Guidelines for Promoting Community Boiler for Cluster of Small-Scale Industries

1. Background

According to the Ministry of Micro, Small and Medium Enterprises (MSMEs), Government of India, there are about 10.5 million small scale industries (SSI) located in the country, with a large number of SSIs located in the states of Uttar Pradesh (16.23%), Andhra Pradesh (8.32%), Maharashtra (7.64%), Madhya Pradesh (7.54%) and Tamil Nadu (7.49%). About 44% units are in the service sector, 40% units are engaged in manufacturing & allied activities and 16% units are engaged in repair and maintenance activities. It is assumed that significant number of units engaged in manufacturing & allied activities have installed steam boilers for manufacturing activities. Depending upon the scale of operation and requirement of steam, there are about 4 million steam boilers with capacities ranging from less than 2 TPH to more than 15 TPH.

Industrial steam boilers are one of the sources of air pollution in the country. In case of SSIs, the presence of small and numerous steam boilers poses a challenge for enforcement and maintaining ambient air quality. Potentially, the need of multiple small industries can be met with a centralized facility supplying steam to these small units. Such a concept is called as ‘common boiler’ or ‘community boiler’, which is essentially a centralized system of boilers within an industrial area to generate steam for supply through a pipeline network to its member industrial units. This concept of community boiler has been adopted in clusters of small-scale industries at Surat, Vapi and Ankleshwar in Gujarat.

2. Need of Community Boiler in the country

Installation, operation and maintenance of small boilers require significant investment. In addition to this, the unit is required to install air pollution control devices at individual level and further these units would require to obtain consents at individual level from the concerned State Pollution Control Board (SPCB)/Pollution Control Committee (PCC). Besides, this requires regulators also

to monitor large number of small boilers. To overcome the above issues, there is a need to explore and promote installation of community boilers in clusters of small-scale industries.

3. Benefits and Shortcoming of Community Boiler

The concept of community boiler for small scale industries in the cluster would be techno-economical and eco-friendly. There are several benefits of switching from small boiler to Community boiler, and these are as follows:

a) Reduction in:
   - number of air pollution sources (centralized boiler instead of multiple small boilers);
   - burden of regulating a number of small-scale industries in cluster;
   - financial burden on industries for installation and maintenance of boiler, air pollution control devices (APCDs) and handling of fuel;
   - ash generation and its handling cost;

b) Community boiler will provide a continuous supply of saturated steam for use in processing and manufacturing industries. Generation of electricity in co-generation community boiler will meet the in-house electricity requirement and can potentially supply surplus power to other industrial units or to the Power Grid.

c) Community boiler with adequate pollution control equipment will result in improvement of air quality in the surrounding areas.

d) Community boiler uses technology like Fluidized Bed Combustion (FBC) boilers, thus results into reduction of air pollution, reduce occupational hazards/risks and better control on steam production.

Issue with community boiler concept is the shutdown period, which can be overcome by installing a stand-by boiler.

4. Guidelines for Promoting Community Boiler for Cluster of Small Scale Industries

i) For new industrial clusters, Town Planning Department/Industrial Estate Development Department of the State/UT should plan for Community boilers as part of the utility sector for an industrial area in their respective development plan. The concerned department should allot requisite land for such infrastructure during initial development phase of the area.

ii) For existing industrial clusters, concerned SPCB/PCC in collaboration with industrial association should carry out a feasibility study in terms of identification of cluster(s), availability of land for establishment of "Community boiler" and capacity & no. of community boilers required to be installed in their State/UT.

iii) An Industrial Cluster Level Committee led by the Industrial Development Department and comprising of representatives from SPCB/PCC, Boiler Directorate and Industries/Industrial Association should be constituted to install community boiler, review the progress of project (pre-commissioning and post-commissioning phases) at regular intervals and financial assistance for such projects.

The aforesaid Committee may also look after the financial support for setting up of Community Boiler and contribution in this regard to be borne by the Member Units/Industrial Associations. Funding from the State Government/SPCB/PCC may also be explored.

iv) Community boiler shall comply with the emission norms for boilers notified by the Ministry of Environment, Forest and Climate Change (MoEF&CC), Government of India.

v) Community boilers shall use only approved fuels prescribed by SPCBs/PCCs in their consent and be encouraged to use environment friendly fuels such as refuse-derived fuel (RDF), bio-mass briquettes/pellets, PNG, etc.

vi) Proprietor should adopt the best available technology boiler depending on the type of fuel used for generation of good quality steam such as; atmospheric fluidized bed combustion (AFBC), circulating fluidized bed combustion (CFBC), reciprocating grate, gas fired, etc.

vii) Community boiler to be operated by skilled manpower for its proper operation & maintenance and equipped with automatic fuel feeding, adequate pollution control equipment, permanent source emission monitoring facility (such as sampling port, work platform, etc.) as per the CPCB's "Guidelines on Methodologies for Source Emission Monitoring" issued in August 2012 and "Emission Regulations Part-III" issued in December, 1985, Online Continuous Emission Monitoring System (OCEMS) and infrastructure for reuse of condensate.

viii) Structure built for installation of steam pipeline network in an industrial cluster of small-scale industries should be as per the applicable state Government rules/regulations. The community boiler steam pipeline network design should be duly approved by the concerned agencies.

ix) Community boiler should be equipped with economizer and air pre-heater to enhance boiler efficiency and energy savings.

x) To overcome the issue of shutdown period, a stand-by boiler should be installed.

xi) Community boiler should ensure proper ash and wastewater management.

xii) Community boiler should comply with the rules and regulations relating to health & safety aspects of workers and the environment. An audit by an authorized safety auditor should be carried out annually.

xiii) Community boiler should maintain an emergency management plan as per the provisions of the Factory Act, 1948.

xiv) Community Boiler proprietor, member industrial unit and Industrial Area Development Agency should enter into an agreement for supply of steam, electricity, layout of pipeline network and supply of condensate for long-term operation of this establishment.

xv) Community boiler should supply saturated steam continuously and surplus electricity to member industrial units through grid for use in processing & manufacturing industries and to meet electricity requirement, respectively.

xvi) Community boiler should maintain adequate temperature to minimize emissions of volatile organic compounds (VOCs) and other organic gases.

xvii) Community boiler should install a system for automatic distribution of steam to the client and monitor leakages in pipeline network to minimize steam and energy losses.

xviii) Member industrial units should return condensate water to community boiler for reuse. Industries with steam consumption above 2 TPH may return good quality condensate to the community boiler to the extent possible.

xix) SPCBs/PCCs should issue revised Consent to Operate where Community boiler have been installed.

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