

# HARYANA STATE POLLUTION CONTROL BOARD



## MINUTES

of the

182<sup>nd</sup> Meeting of the Board

held on 15-10-2018 at 11:30 A.M.

PANCHKULA



HARYANA STATE POLLUTION CONTROL BOARD

C-11, SECTOR 6, PANCHKULA.

Ph. No. 0172-2577870-873

No. HSPCB/Estt./2018/EG-36/ 6227-6243

Dated: 17/10/18

To

1. The Chairman,  
Haryana State Pollution Control Board,  
C-11, Sector-6, Panchkula.
2. The Director,  
Environment & Climate Change Department, Haryana,  
SCO No. 1-3, Sector 17-D, Chandigarh.
3. The Director General,  
Urban Local Bodies Department, Haryana,  
Bays No. 11-14, Sector-4, Panchkula.
4. The Principal Chief Conservator of Forests,  
Forest Department, Haryana,  
Van Bhawan, C-18, Sector-6, Panchkula.
5. The Transport Commissioner, Haryana,  
30-Bays Building, Chandigarh.
6. The Engineer-in-Chief,  
Public Health Engineering Department, Haryana,  
Bays No. 13-18, Sector-4, Panchkula.
7. The Director Technical,  
Haryana Powers Generation Corporation Limited (HPGCL),  
Urja Bhawan, C-7, Sector-6, Panchkula.
8. The Chief Engineer or any other technical officer  
equivalent of the rank of Chief Engineer of  
Haryana State Industrial Infrastructure  
Development Corporation (HSIIDC), Panchkula.
9. Smt. Renu Bala Gupta, Mayor,  
Municipal Corporation, Karnal  
# 39-40, Chaudhary House Colony, Karnal.
10. Shri Sanjay Kumar, Chairman,  
Municipal Council,  
Charkhi Dadri,  
Ward No. 7, Railway Road, Charkhi Dadri.
11. Shri Gurdyal Sunheri, Chairman,  
Zila Parishad, Kurukshetra.  
VPO Sunheri Khalsa, District Kurukshetra.

12. Shri Kalyan Chauhan, Chairman,  
Zila Parishad, Gurugram, VPO Wazirpur,  
District Gurugram.
13. Shri Pushpinder Kumar, MC,  
Ward No. 8, Municipal Corporation,  
Ambala.  
# 706, Durga Nagar, Ambala City.
14. Shri Satish Singhal,  
Singhal Industrial Screws Pvt. Ltd.  
Near Oil Mill, Link Road,  
Faridabad Old.
15. Shri Dinesh Arora,  
Plot No. 55-56, Industrial Estate, Phase-I,  
Panchkula.
16. Professor Narsi R. Bishnoi,  
Department of Environmental Sciences & Engineering,  
Guru Jambheshwar University of Science and Technology,  
Hisar.
17. The Member Secretary,  
Haryana State Pollution Control Board,  
Panchkula.

**Subject: Minutes of the 182<sup>nd</sup> meeting of the Haryana State Pollution Control Board held on 15.10.2018.**

Kindly refer to this office letter No. HSPCB/Estt./2018/EG-36/6195-6211 dated 11.10.2018 on the subject cited above.

Please find enclosed the Minutes of the 182<sup>nd</sup> meeting of the Board held on 15.10.2018 for information and necessary action.

DA/As above.

Endst. No. HSPCB/Estt./2018/EG-36/ 6244

Dated: 17/10/18

A copy of the above is forwarded to the Additional Chief Secretary to Government of Haryana, Environment & Climate Change Department, Chandigarh for information with reference to this office letter Endst. No. HSPCB/Estt./2018/EG-36/6212 dated 11.10.2018.

MEMBER SECRETARY

MEMBER SECRETARY

Minutes of 182<sup>nd</sup> meeting of the Haryana State Pollution Control Board, Panchkula, held at 11.30 A.M. on 15.10.2018 under the Chairmanship of Sh. Ashok Kheterpal, Chairman, Haryana State Pollution Control Board, Panchkula.

The 182<sup>nd</sup> meeting of the Haryana State Pollution Control Board was convened at 11.30 P.M. on 15.10.2018 in its Conference Room under the Chairmanship of Sh. Ashok Kheterpal, Chairman, HSPCB. The list of participants is at **Annexure-I**. Leave of absence was granted to the Members who could not attend the meeting. The Member Secretary of the Board welcomed all the participants and presented the agenda items before the Board. A detailed discussion was held on all the agenda items and the minutes of the meeting are presented as below.

**Agenda Item No. 182.1**

**Confirmation of the Minutes of 181<sup>st</sup> meeting of the Haryana State Pollution Control Board.**

Minutes of 181<sup>st</sup> meeting were confirmed.

**Agenda Item No. 182.2**

**Action taken on the minutes of the 181<sup>st</sup> meeting of the Haryana State Pollution Control Board held on 08.08.2018.**

The Board members were apprised of the action taken on the decisions taken in the 181<sup>st</sup> meeting and the same were noted.

**Agenda Item No. 182.3**

**Promotion to the post of Senior Scientist.**

The proposal contained in Agenda Note was approved.

**Agenda Item No. 182.4**

**Grant of relaxation in experience for promotion to the post of Scientist 'C' from the post of Scientist - 'B'.**

The proposal contained in Agenda Note was approved.

**Agenda Item No. 182.5**

**Ex-Post-Facto approval of Rs. 1.0 Crore regarding contribution of CM Relief Fund of Government of Haryana released by Haryana State Pollution Control Board as a contribution to Kerala victims.**

The proposal contained in Agenda Note was approved.

**Agenda Item No. 182.6**

**Estt. Group A – Regarding Promotion to the post of Senior Environmental Engineer.**

The proposal contained in Agenda Note was approved.

**Agenda Item No. 182.7**

**Regarding the decision for streamlining the authorization under Bio-Medical Waste Management Rules and CTE/CTO for Health Care Facilities.**

The proposal contained in Agenda Note was approved.

**Agenda Item No. 182.8**

**Appointment of 2 Software Developers from Haryana Knowledge Centre Ltd. through Haryana State Electronics Development Corporation Ltd. Panchkula.**

The proposal contained in Agenda Note was approved.

**Agenda Item No. 182.9**

**Exemption from additional consent fees (late fees) for obtaining consent to establish and consent to operate under Water Act, 1974 and Air Act, 1981 for the residential building projects falling under the provisions of EIA notification no. S.O. 3999 (E) dated 09.02.2016.**

The proposal contained in Agenda Note was approved.

**Agenda Item No. 182.10**

**Annual Action Plan of the Board for the year 2018-19 for consideration and Ex-post approval.**

The proposal contained in Agenda Note was approved.

**Agenda Item No. 182.11 (S)**

**Sanction for GST @ 18% on annual payment of GIS Cell.**

The proposal contained in Agenda Note was approved.

**Agenda Item No. 182.12 (S)**

**Purchase of land for construction of office building of Regional Office, Panipat.**

The proposal contained in Agenda Note was approved.

**Agenda Item No. 182.13 (S)**

**Voluntary Retirement of Sh. Chand Saini, Senior Environmental Engineer.**

The proposal contained in Agenda Note was approved.

**Agenda Item No. 182.14 (S)**

**Study on "Quantification and Contribution of Paddy Stubble burning emissions in Haryana to PM2.5 concentrations on surrounding regions".**

The proposal contained in Agenda Note was approved.

**Agenda Item No. 182.15 (S)**

**Procedure for obtaining authorization under Hazardous and other Waste (Management & Transboundary Movement) Rules, 2016.**

The proposal contained in Agenda Note was approved.

LIST OF PARTICIPANTS

1. Sh. Ashok Kheterpal,  
Chairman,  
Haryana State Pollution Control Board, Panchkula.
2. Dr. A.K. Hooda, IFS,  
Principal Chief Conservator of Forests,  
Forest Department, Haryana, Panchkula.
3. Sh. Manpal Singh,  
Engineer-in-Chief,  
Public Health Engineering Department, Haryana,  
Panchkula.
4. Smt. Renu Bala Gupta, Mayor,  
Municipal Corporation, Karnal  
# 39-40, Chaudhary House Colony, Karnal.
5. Shri Sanjay Kumar, Chairman,  
Municipal Council,  
Charkhi Dadri,  
Ward No. 7, Railway Road, Charkhi Dadri.
6. Shri Gurdayal Sunheri, Chairman,  
Zila Parishad, Kurukshetra.  
VPO Sunheri Khalsa, District Kurukshetra.
7. Shri Kalyan Chauhan, Chairman,  
Zila Parishad, Gurugram, VPO Wazirpur,  
District Gurugram.
8. Shri Pushpinder Kumar, MC,  
Ward No. 8, Municipal Corporation,  
Ambala.  
# 706, Durga Nagar, Ambala City.
9. Shri Satish Singhal,  
Singhal Industrial Screws Pvt. Ltd.  
Near Oil Mill, Link Road,  
Faridabad Old.
10. Shri Dinesh Arora,  
Plot No. 55-56, Industrial Estate, Phase-I,  
Panchkula.

11. Professor Narsi R. Bishnoi,  
Department of Environmental Sciences & Engineering,  
Guru Jambheshwar University of Science and Technology,  
Hisar.
12. Sh. S. Narayanan, IFS,  
Member Secretary,  
Haryana State Pollution Control Board,  
Panchkula.

**Agenda Item No. 182.11(S)**

**Sanction for GST@18% on  
annual payment of GIS Cell**

In the 176<sup>th</sup> meeting held on 19.12.2016 vide Agenda Item No. 176.12, the Board had approved a sum of Rs.21,60,000/- for the establishment of GIS Cell and Rs.20,45,160/- per year on the manpower for Geographical Information System (GIS) Cell in the Board for geo-mapping of all the industries/STPs/ CETPs and waste management/ treatment facilities established in the State of Haryana which will help map district boundaries, national parks sanctuaries, forests, monuments etc. The Board has accordingly engaged Haryana Space Application Centre (HARSAC) and made initial payment of Rs.21,60,000/- for establishment of GIS Cell in the Board.

The HARSAC has spent the said budget for manpower of GIS Cell upto 30.6.2018 and asked the payment for further period (2018-2019). The Board had paid an amount of Rs.1809967/- (Principal amount Rs.1533870/-+ GST@18% Rs.276097/-) for the remaining financial year i.e. upto 31.3.2019.

In the 176<sup>th</sup> meeting held on 19.12.2016 only principal amount was sanctioned i.e. Rs.20,45,160/- annually but the GST implemented by the Government from 1.7.2017.

In view of above It is submitted that a sanction for Rs.20,45,160/- annually has already been sanctioned by the Board in its 176<sup>th</sup> meeting. The matter for Ex-post facto sanction of GST @18% on the payment of Rs.20,45,160/- made to/ to be made to HARSAC is placed before the Board for approval Please.

**Purchase of land for construction of office building of Regional Office, Panipat.**

R.O. Panipat vide his letter No. HSPCB/PR/2018/1337 dated 27.07.2018 (**Annexure - 1**) has submitted that the regional office building of Panipat is in deplorable condition. The total covered area of the building is only 100 sq. yards. and does not possess enough space for sitting of officer/official. There is no computer room, clerk room and no proper space for sitting of AEE/Sc 'B' posted in this Region. There is only ground floor where all the office activity takes place and the space is not enough for day to day activities. The basement available with this office building is also not in proper condition as during the rainy season the water gets logged in the basement area and it gets difficult to cope-up with the situation during that period. Two times electric fire has also taken place in past in this office building and it is not fit for official use. Also due to continuous rain from 25/07/2018 to 27/07/2018 the roof of the office got leak from different part and put the office in deplorable condition.

With the increase in strength of staff and continuous upgradation of technology, there is urgent need to invest in infrastructure for this office. The matter was discussed at Head office level during various RO meetings. As per direction of Head Office this office approached to Haryana Shahri Vikas Pradhikaran (HSVP), Panipat to submit the detail of vacant plot available with the authority for office purpose and same was sent to Head Office vide this office letter No.HSPCB/2018/2888 dated 21/03/2018 and letter No.HSPCB/PR/2018/77 dated 10/04/2018. The sites submitted by HSVP were inspected by the team of officers of this office consisting of Regional Officer, Panipat and Field Officer, Panipat and it was found that site i.e. **Four Nos. bays (1079 sq. mtr.) including corner side which are nearer to Income Tax Office Building, Sector-6, Panipat** has been selected for construction of office building and also asked to HSVP to quote the rates for purchase of land. Other Govt. Offices such as Income Tax Department, Office of UHBVN 33 KVA Sub Station, Office of Excise and Taxation Department (under construction) have already been constructed in Sector-6, Panipat. Also the said selected site is located behind the Mini Secretariat, Panipat. HSVP has submitted vide its letter dated 04/06/2018 that approved institutional rate for the above said site in respect of Panipat for the year 2018-19 is Rs.21,000/- per sqm. (FAR 1.5 valid upto 31/03/2019) conveyed by CCF, HSVP, Panchkula and has requested to submit consent from HSPCB. The site mentioned above is proper for construction of new office complex as the following facilities are required as per latest demand to carry out proper official working in public interest, which are as under:

1. Office room facility for the officers of Regional Office.
2. Computer room with video conferencing facility
3. Dedicated IT Cell room to check the continuous monitoring facility provided by different units.
4. Laboratory infrastructure to carry out Water/Air/Noise testing.
5. Sitting arrangement for other officials with proper record room
6. Visitor room/waiting room.
7. Separate toilets for Male and Female
8. Conference room to carry out meetings and awareness programs time to time
9. Adequate parking space for officer/official/visitors vehicles.
10. Adequate staying facility for chowkidar.
11. Night halt staying facility for the official returning from tour.

Further, R.O. Panipat has intimated that the total amount calculated is calculated as Rs. 2,26,59,000/- plus taxes as applicable.

The sanction of Rs.2,26,59,000/-and taxes extra as applicable for the above mentioned site with area 1079 sq. mtrs @ Rs. 21,000/- sq. mtr. has already been accorded by Chairman, HSPCB vide Head Office letter Endst. No. HSPCB/2018/1730-34 dated 30.08.2018 (**Annexure -2**) for purchase of land from HSVP.

Agenda is placed for ex-post facto approval of the Board for the purchase the plot from HSVP having area 1079 sq.mtr. @ Rs.21,000/- sq. mtr i.e. total Rs.2,26,59,000/-and taxes extra as applicable for HSPCB office complex for Panipat, please.



**HARYANA STATE POLLUTION CONTROL BOARD**  
**SCO No.55, SECTOR-25, HUDA, PANIPAT**

Ph. - (0180) 2672037, Telefax - 2664951, E-mail: [hspcbpr@gmail.com](mailto:hspcbpr@gmail.com)

12/2/135

FTMS-7  
30/07

No. HSPCB/PR/2018/1337

Dated 27/7/18

for NA To

02/08/18

The Chairman,  
Haryana State Pollution Control Board,  
Panchkula.

CT Sub:

Purchase of land for construction of office building of Regional Office,  
Panipat.

Ref:

This office letter No.HSPCB/PR/2017/2888 dated 21/03/2018 and  
No.HSPCB/PR/2018/639 dated 19/06/2018.

In this regard, it is submitted that the office building of Regional Office, Panipat is in deplorable condition. The total covered area of the building is 100 sq. yards. and does not posses enough space for sitting of officer/official. There is no computer room, clerk room and no proper space for sitting of AEE/Sc 'B' posting in this Region. There is only ground floor where all the office activity takes place and the space is not enough. The basement available with this office building is also not in proper condition as during the rainy season the water get logged in the basement area and its get difficult to cop-up the situation during that period. Two time electric fire has also taken place in past in this office building and is not fit for office use. Also due to continuous rain from 25/07/2018 to 27/07/2018 all the roof of the office get started leakage from different part and put the office in deplorable condition.

With the increase in strength of staff and continuos advance in upgradation of technology, there is urgent need to invest in infrastructure of this office. The matter was discussed at Head office level during RO meetings. As per direction of Head Office this office approached to Haryana Shahri Vikas Pradhikaran (HSVP), Panipat to submit the detail of vacant plot available with the authority for office purpose and same was sent to Head Office vide this office letter No.HSPCB/2018/2888 dated 21/03/2018 and letter No.HSPCB/PR/2018/77 dated 10/04/2018. The sites submitted by HSVP was inspected by the team of officer of this office consisting of Regional Officer, Panipat and Field Officer, Panipat and it was found that site i.e. Four Nos. bays (1079 sq. mtr.) including corner side which are nearer to Income Tax Office Building, Sector-6, Panipat has been selected for construction of office building and same was sent to Head Office vide this office letter No.HSPCB/PR/2018/638 dated 19/06/2018 and also asked to HSVP to submit the rate for purchase of land. Other Govt. Offices such as Income Tax Department, Office of UHBVN 33 KVA Sub Station, Office of Excise and Taxation Department (under construction) are already been constructed at Sector-6. Also the said selecte sie locate behind the Mini Secretariat, Panipat. HSVP has submitted vide its letter dated 04/06/2018 that approved institutional rate for the above said site in respect of Panipat for the year 2018-19 is Rs.21,000/- per sqm. (FAR

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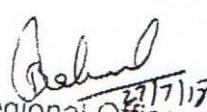
1.5' valid upto 31/03/2019) conveyed by CCF, HSVP, Panchkula and has requested to submit consent from Pollution Control Board Department. The site mentioned above is proper for construction of new office building as the following facilities are required as per latest demand to carry out proper official working in public interest, which are as under:

1. Proper office room facility for the officers.
2. Proper computer room with video conferencing facility
3. Dedicated IT Cell room to check the continous monitoring facility provided by different units.
4. Proper Laboratory to carry out Water/Air/Noise testing/monitoring
5. Proper sitting arrangement for other officials with proper record room
6. Proper visitor room/waiting room.
7. Seprate toilets for Male and Female
8. Conference room to carry out meetings and awareness programs time to time
9. Proper parking space for official vehicles.
10. Proper staying facility for chowkidar
11. Proper night halt staying facility for the official returning from tour.

The total amount calculated for the selected site as referred above with area 1079 sq. mtrs. with rate Rs.21,000/- sq. mtr. Is calculated as Rs. 2.26.59.000/- plus taxes as applicable. You are requested to give consent for purchase fo land for office building at the above said site at the rate mentioned above so that further action in this regard could be taken by this office.

It is for your information and further necessary action, please.

- DA/1. Copy of this office letter dated 10/04/2018 & 19/06/2018.  
2. Copy of HSVP letter dated 12/03/2018 and 04/06/2018

  
Regional Officer  
Panipat Region

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FTMS-15902

10/4/18



## HARYANA STATE POLLUTION CONTROL BOARD

**SCO No.55, SECTOR-25, HUDA, PANIPAT**

Ph. - (0180) 2672037, Telefax - 2664951, E-mail: [hspcbopr@gmail.com](mailto:hspcbopr@gmail.com)



HSPCB/PR/2018/ 77

Dated 10/4/18

The Chairman,  
Haryana State Pollution Control Board,  
Panchkula.

Sub: Sanction for purchase of vacant plot for construction of office building of Regional Office, Panipat.

Ref. Letter No.1323 dated 12/03/2018.

In this regard, it is submitted that information has been sought from Haryana Shehari Vikas Pradhikaran (HSVP), Panipat regarding the vacant plot available with department for construction of office building for Regional Office, Panipat. The detail of vacant plot received from the department are as under:-

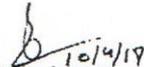
Sr.No.	Sector	Proposed site	Area
1.	6	1 (Semi Public)	760 Sqm.
2.	6	2 (Four nos bays including corner side)	1079 Sqm.
3.	6	3 (Public and Semi Public use)	5140 Sqm. (part thereof after planning)
4.	25 P-II	4 (Approved site Export Exhibit Centre and refused by the Industry Deptt. & now vacant)	7500 Sqm. (Part thereof after planning)
5.	13-17	5 (unplanned land laying vacant near commercial shopping centre)	New planning is to be made.

The above mentioned sites are available with Haryana Shehari Vikas Pradhikaran (HSVP) and will be allotted as per demand of the Board.

In view of the above, you are requested to give permission to confirm the plot for construction of office building from the above said sites. Copy of site plan is attached herewith for your information, please.

It is for your kind information and further necessary action, please.

- DA/1. Copy of letter dated 12/03/2018 from HSVP  
2. Copy of site plan showing sites of vacant plot.

  
10/4/18  
Regional Officer  
Panipat Region

12/5/138

FTMS/

30338

19/6/18



**HARYANA STATE POLLUTION CONTROL BOARD**  
**SCO No.55, SECTOR-25, HUDA, PANIPAT**

Ph. - (0180) 2672037, Telefax - 2664951, E-mail: [hspcbropr@gmail.com](mailto:hspcbropr@gmail.com)

No. HSPCB/PR/2018/ 638

Dated 19/6/18

To

The Estate officer,  
Haryana Shahri Vikas Pradhikaran,  
Panipat

Sub:

Allotment of land for construction of office building of Pollution Control Board, Panipat, Haryana.

Ref.

Your office Letter No.A-1/2018 dated 12/03/2018.

In this regard, it is intimated that site have been marked by your good office on respective plan of sectors vide letter under reference. The said marked site report was sent to Head office vide letter No.2888 dated 21/03/2018 and matter for selection of site was discussed during Regional Officer meeting held on 25/05/2018. As per proceeding of Regional Officer meeting letter No.4374-4409 dated 01/06/2018. It has been directed to initiate action for purchase of Plots for construction of office building.

As per detail of vacant land available with your good office received vide letter under reference site at serial No.2 has been selected for purchase of plot for office building which is as under:

Sector	Proposed site	Area
6	2 (Four nos bays including corner side)	1079 Sqm.

The site has been physically checked by the team of officers of this office and found it suitable for office building.

In view of the above, you are requested to give rate for purchase of others related formalities w.r.t. of the purchase of Plot i.e. four nos. bays (1079 Sgm) including corner side which are nearer to Income Tax Office Building, Sector-6, Panipat. The information may be supplied to this office at the earliest, so that further necessary action may be taken in the matter and may be apprised to Head Office.

Endst.No.HSPCB/PR/18/ 639

A copy of the above is forwarded to the Chairman, Haryana State Pollution Control Board, Panchkula for kind information and further necessary action, please.

*[Signature]*  
Regional Officer  
Panipat Region

Dated 19/6/18

*[Signature]*  
Regional Officer  
Panipat Region

fc

Estate Officer,  
HSVP, Panipat

The Administrator,  
HSVP, Rohtak.

Memo No. A-I-2018/

Dated

**Allotment of land for construction of office building of Pollution Control Board, Haryana, Panipat.**

In this regard it is submitted that Regional Officer, Pollution Control Board, Panipat submit an application for allotment of peace of land measuring 1000 sqm. to 1500 sqm. in U.IE, Panipat for construction of office building. After examine of the letter and discussion with R.O. by this office <sup>anyone else</sup> five following sites have been proposed to be allotted to the department. All the sites have been marked on the respective plan of Sector is attached herewith. The detail of land is as under:

Sr. No.	Sector	Proposed site	Area
1.	6	1 (Semi Public)	760 Sqm.
2.	6	2 (four nos. bays including corner side)	1079 Sqm.
3.	6	3 (public and semi public use)	5140 Sqm. (part thereof after planning)
4.	25 P II	4 (Approved site Export Exhibit Centre and refused by the Industry Deptt & now vacant)	7500 Sqm. (part thereof after planning).
5.	13-17	5 (unplanned land laying vacant near commercial shopping centre)	New planning is to be made.

The case is forwarded for taking further necessary action to allot the site to the Haryana State Pollution Control Board for the above said purposes.

ESTATE OFFICER,  
HSVP, PANIPAT

12/7/140

No. A I 2018/ 1399

Dated 12-3-2018

A copy of the above is forwarded to the following for information:-

1. The Chief Administrator, H.SVP, Panchkula.
2. The Chairman, Haryana State Pollution Control Board, Chandigarh.
3. The Regional Officer, Haryana State Pollution Control Board, Panipat

w.r.t his office letter No. 2803 dated 12/3/2018.

  
ESTATE OFFICER,  
HSVP, PANIPAT

FTMS 11702

12/8/141

Tel: 0172-2564048  
 Website: www.huda.gov.in  
 Toll Free No. 1800-180-3030  
 E-mail Id: ad@huda3@gmail.com  
 Address: C-3 HUDA HQ, Sector-6, Panchkula

The Administrator,  
HSVP, Rohtak.

Memo No. A-3-UB-2018/ 112220

Dated: 9/8/18

**Subject: Allotment of land for construction of office building of Pollution Control Board, Haryana, Panipat.**

This is with reference to your office memo No. 2051 dated 19.03.2018 on the subject cited above.

It is intimated that the approved institutional rate in respect of Panipat for the year 2018-2019 is Rs.21,000/- per sqm. (FAR 1.5 valid upto 31.03.2019) conveyed by CCF, HSVP, Panchkula memo No. 73791-92 dated 13.04.2018.

You are therefore, requested to obtain the consent from Pollution Control Board Department, Panipat, and send the same to this office immediately, so that further in the matter could be taken accordingly.

  
 R.S. Verma,  
 Administrator (HQ) HSVP,  
 Panchkula

12/9/142



**HARYANA STATE POLLUTION CONTROL BOARD**  
C-11, SECTOR-6, PANCHKULA  
Ph. 0172-2577870-73  
Email-hspcbho@gmail.com  
OFFICE ORDER

Sanction of Rs.2,26,59,000/- (Two crores twenty six lac fifty nine thousand only) and taxes extra as applicable is hereby accorded for purchase of land for HSPCB office complex, Panipat @ 21000/- per sq. mtr. for 1079 sq. mtr. plot from HSVP in reference to R.O. Panipat letter No. HSPCB/PR/2018/1337 dated 27.07.2018.

Dated Panchkula, the  
30<sup>th</sup> August, 2018

Ashok Kheterpal  
Chairman

Endst. No. HSPCB/2018/1770-34

Dated:- 30/8/18

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

1. Estate Officer, HSVP, Panipat.
2. Regional Officer, Panipat.
3. Sr. Accounts Officer (HQ).
4. PS to Chairman.
5. PA to Member Secretary.

29/08/2018  
Estate Officer (HQ)  
For Chairman, HSPCB

02 copies Received  
27/08/2018

Agenda Item No. 132.13(S)

**Subject:- Voluntary Retirement of Sh. Chand Saini, Senior Environmental Engineer.**

Sh. Chand Saini, Sr. Env. Engineer-II, HSPCB vide letter dated 03.10.2018 (**Annexure-1**) has intimated that due to his health problem and personal reasons, he want to seek voluntary retirement from Board's service. He has further intimated that this communication may be treated as noticed under section 146 (1) of Haryana Civil Services (General) Rules 2016.

Sub (1) of rule 146 of Haryana Civil Services (General) Rules 2016 (**Annexure-2**) provides that a Government employee of any group may, by giving a notice of not less than three months in writing to the appointing authority, seek voluntary retirement from service on completion of minimum twenty years' qualifying service irrespective of his age or on attaining the prescribed age irrespective of his length of service, subject to acceptance of notice by the appointing authority. Further, sub rule (2) of rule 146 of these rules, also provides that the retirement shall become effective from the date of expiry of the notice period, where the appointing authority does not refuse to grant the permission for voluntary retirement before the expiry of the said period.

Sh. Chand Saini was initially appointed as Jr. Environmental Engineer in the Board on 10.03.1988 and he joined as such on 14.03.1988 (F.N.). Thereafter, he was promoted to the post Assistant Environmental Engineer, Environmental Engineer and then Sr. Environmental Engineer. He rendered more than 30 years of service in the Board. No disciplinary action or contemplated proceeding against the officer is pending. He is fulfilling the criteria for voluntary retirement as specified in the existing Haryana Civil Services (General) Rule 2016.

As far as the competency for acceptance of voluntary retirement of an Board's employee, it is submitted that according to the Haryana State Pollution Control Board (**Group A, B, C & D**) Service Regulations, 2004, the competency lies with the Board for group 'A' employee of the Board and the Board vide resolution no. 144.7 authorized it's Chairman for taking decision in the service matter of the employee of Group 'A' subject to the decision so taken in respect of Group 'A' employee, shall be placed in ensuring meeting of the Board.

The case is submitted before the Board of Directors for information and concurrence please.

41-54637  
3/10/18

Annexure - 1

503

~~13/2/144~~

To,

The Chairman,  
Haryana State Pollution Control Board,  
Panchkula

**Sub:- Voluntary Retirement.**

R/Sir

CHAIRMAN

3.10.18

With due respect undersigned seeks voluntary retirement due to health and personal reasons. Undersigned has completed more than 30 years of service in Haryana State Pollution Control Board. This communication may be treated as notice u/s 146 (1) of Haryana Civil Services (General) Rules, 2016.

Kindly accept my request and oblige.

New.  
4/2

SA II

CLB  
4/2/18

C I Chand Saini  
3/10/2018  
(Chand Saini)  
Sr. Env. Engineer-II (HQ)

## HARYANA CIVIL SERVICES (GENERAL) RULES, 2016

*Note 1.— Pay and allowances in lieu of three months' notice shall include basic pay in the pay scale, special pay in lieu of higher time scale, personal pay, dearness allowance and house rent allowance only. As the pay and allowances paid in lieu of notice period are, "Salary" and therefore, income tax shall be deducted at source.*

*Note 2.— The payment of pay and allowances in lieu of the notice period shall be made simultaneously with the order of retirement.*

**146. Voluntary retirement on attaining the prescribed age or qualifying service.—**

- (1) A Government employee of any group may, by giving a notice of not less than three months in writing to the appointing authority, seek voluntary retirement from service on completion of minimum twenty years' qualifying service irrespective of his age or on attaining the prescribed age irrespective of his length of service, subject to acceptance of notice by the appointing authority and also subject to Rule 10 of the Haryana Civil Services (Pension) Rules, 2016. The minimum age prescribed for the purpose is :-
- (i) 50 years for the Government employees who are working on a post of Group 'A' or 'B' and joined service on any post before attaining the age of thirty five years;
  - (ii) 55 years for the Government employees who are working on a post of Group 'A' or 'B' and joined service on any post after attaining the age of thirty five years; and
  - (iii) 55 years for all other Government employees.

Provided that in the case of Judicial Officer, he shall have the option to retire on or after attaining the age of fifty-eight years, which should be exercised by him in writing before he attains the age of fifty-seven years. A Judicial Officer who does not exercise such option before he attains the age of fifty-seven years, would be deemed to have opted for continuing in service till the age of superannuation.

- (2) The retirement shall become effective from the date of expiry of the notice period, where the appointing authority does not refuse to grant the permission for voluntary retirement before the expiry of the said period;

Agenda Item No. 182.14 (S)

Study on "Quantification and Contribution of Paddy Stubble burning emissions in Haryana to PM2.5 concentrations on surrounding regions".

A proposal was received from Sh. Mukesh Khare, Professor, IIT Delhi through email on dated 23.07.2018 to conduct a apportionment study on Impact of stubble burning on air pollution in NCR and NCT Delhi. Accordingly a meeting / presentation was fixed with Sh. Mukesh Khare's team including representative of NEERI on dated 31.08.2018 in Haryana State Pollution Control Board.

In reference of above said meeting, IIT Delhi in coordination with NEERI submitted detailed proposal alongwith financial aspects for study on above said project. The copy of same is enclosed as **Annexure -A**.

The proposal submitted by IIT Delhi was considered and same was conveyed to IIT Delhi vide this office letter no. 2272 dated 17.09.2018 (enclosed as **Annexure-B**). The financial conditions to release the payment to IIT Delhi and NEERI were further amended as requested by both the institutes and same was also conveyed to both the institutes vide this office letter no. 4512-14 dated 11.10.2018 (enclosed as **Annexure-C**).

The matter is placed before the Board for ex-post facto approval please.



Annexure-1 14/2/147  
**INDIAN INSTITUTE OF TECHNOLOGY DELHI**  
Environmental Engineering Group  
Department of Civil Engineering  
HAUZ KHAS, NEW DELHI - 110 016 INDIA

**MUKESH KHARE, Ph.D. Engg. (UK)**  
Professor

FMS-49027  
10-09-18

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Website  : www.urbanindiaresearch.com

To  
The Member Secretary  
Haryana State Pollution Control Board  
Panchkula, Haryana

MS  
S. Singh  
10/9

Date: 04<sup>th</sup> September 2018

**Ref:** Meeting/presentation by project team at HSPCB office, Panchkula on 31<sup>st</sup> August 2018.

**Subject:** Submission of proposal titled "*Quantification and contribution of paddy stubble burning emissions in Haryana to PM<sub>2.5</sub> concentrations on surrounding regions*" by IIT Delhi and CSIR-NEERI Delhi Zonal Centre.

Dear Shri Narayanan,

This letter is in reference to our team visit to your office for discussion on the issues related to paddy stubble burning, which is assumed to be the major contributor to air pollution in the surrounding regions of Delhi NCR. In view of the occurrence of air pollution episode during stubble burning period and request of HSPCB, IIT Delhi along with CSIR-NEERI Delhi Zonal Centre, proposed a study on quantification and contribution of paddy stubble burning in Haryana to overall PM<sub>2.5</sub> concentrations in north Indian cities.

The specific objectives of the study are:

1. Critical analysis of past trend of PM<sub>2.5</sub> concentrations in Haryana state using secondary data.
2. Analysis of meteorological data of different regions of Haryana using secondary data.
3. Carrying out chamber studies to estimate emission factors of SO<sub>2</sub>, NO<sub>x</sub> and PM<sub>2.5</sub> from paddy stubble burning.
4. Development of emission inventory for paddy stubble burning in Haryana state.
5. PM<sub>2.5</sub> dispersion modelling using advanced regional scale model, WRF-Chem.
6. Validation of model predictions using ground based CPCB measurements, NASA's satellite based AOD data and SAFAR AQI data.
7. Comparison of results from WRF-Chem simulation by IIT Delhi & NEERI with GEOS-Chem simulation carried out by TATA-MIT group.
8. Estimating the contributions of Haryana paddy burning to total PM<sub>2.5</sub> in north Indian cities.
9. Estimating the expected change in temperature in north Indian cities due to projected paddy burning emissions in Haryana.

The study will be conducted jointly by IIT Delhi, CSIR-NEERI Delhi Zonal Centre and TATA-MIT. The role and responsibilities of each institutes are described in the enclosed proposal. In summary, the expertise of the participating institutes is:

14/3/148



# INDIAN INSTITUTE OF TECHNOLOGY DELHI

Environmental Engineering Group  
Department of Civil Engineering  
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MUKESH KHARE, Ph.D. Engg. (UK)  
Professor

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Website : www.urbanindiaresearch.com

1. IIT Delhi: Prof. Mukesh Khare and Dr. Sri Harsha Kota of IIT Delhi have vast experience in air quality modelling and development of emission factors. They have carried out numerous projects on source apportionment of air pollutants, urban and regional air quality modelling sponsored by DST, CPCB and NERC-UK.
2. CSIR-NEERI Delhi Zonal Centre: Dr. S.K. Goyal and Dr. Sunil Gulia of CSIR-NEERI are experts in data analysis and developing emission inventories. They carried out numerous projects on air pollution sponsored by MOEFCC and CPCB.
3. TATA-MIT: Prof. Les Norford, Prof. Steve Barrett and Ms. Ruoyu Lan from TATA-MIT group, USA are experts in global scale air quality modelling.

The main deliverable of this study is estimating contribution of stubble burning in Haryana to PM<sub>2.5</sub> concentrations in north Indian cities including Delhi.

The specific deliverables are:

1. Dispersion potential by analysis of secondary meteorological, historical air quality data and satellite fire count data.
2. Emission rates of SO<sub>2</sub>, NO<sub>2</sub> and PM<sub>2.5</sub> from Haryana paddy stubble burning.
3. Contribution of Haryana paddy stubble burning emissions to PM<sub>2.5</sub> concentrations and temperature increase in north Indian cities.

The total duration of the study will be one year from the date of award of the project and transfer of the funds to IITD and NEERI. The budget of the study would be Rs. 24, 00, 000 + GST as per GoI norms (as applicable). The payment should be separately transferred to IIT Delhi and CSIR-NEERI as per their budget (*the details of the bank for transfer of funds for IITD and NEERI are attached*). The other project partner, TATA-MIT group, do not need any financial support but only need logistical support in terms of quantity of stubble burnt in Haryana since 2005, etc.

A detailed proposal including the specific objectives, methodology, time schedule, budget, responsibilities of participating institutions and brief CV of the team is enclosed for your kind perusal.

Please contact us for any further clarification required in this regard.

Thank you  
  
Mukesh Khare

Encl:

1. Detailed proposal

14/4/149

# INDIAN INSTITUTE OF TECHNOLOGY DELHI

Environmental Engineering Group  
Department of Civil Engineering  
HAUZ KHAS, NEW DELHI - 110 016 INDIA



**MUKESH KHARE**, Ph.D. Engg. (UK)  
Professor

A collaborative Research Proposal  
On

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## Quantification and contribution of paddy stubble burning emissions in Haryana to PM<sub>2.5</sub> concentrations on surrounding regions



नैरी  
NEERI  
ISO 9001:2008



Massachusetts  
Institute of  
Technology

### Project Partners

Indian Institute of Technology Delhi  
Prof. Mukesh Khare, Dr Sri Harsha Kota

CSIR-NEERI Delhi, Zonal Centre  
Dr. S.K. Goyal, Dr. Sunil Gulia

Massachusetts Institute of Technology  
Prof. Les Norford, Prof. Steve Barrett, Ms. Ruoyu Lan

## Introduction

High air pollution level in terms of particulate matter in Delhi and surrounding cities is a matter of concern by Public and regulators throughout the year. However, episodic situations (air pollution episode) during the months of October-November from last few years is well known problem and one of the prime topics in Indian media every year. Few days of this period, a thick blanket of smog covers the northern states such as Punjab, Haryana, Delhi etc. Hazy weather was witnessed recently which might have been due to the pollution levels caused during post-Diwali period and smoke generated from burning of agriculture stubble. Agricultural stubble burning may emit significant quantity of air pollutants like NO<sub>x</sub>, SO<sub>2</sub>, CO, NH<sub>3</sub> and particulate matter (Mittal et al., 2009). The burning of agriculture residue (Paddy Crop's residue) in states of Haryana and Punjab during this period is reported extensively by media as one of the major sources of air pollution in Delhi for last few years (HT, 2015; HT, 2016, Indian Express, 2017).

Based on the source apportionment analysis using monitoring data of Delhi city, Sharma and Dikshit (2016) have estimated that burning of biomass contributes almost 13.43-35.35% in winter and 5.24-27.24% in summer which is further linked with the burning of agriculture residue in and outside Delhi. However, roadside open burning of organic and plastic waste, burning of wood during winter for cooking and heating and the unintentional burning of municipal solid waste at landfill sites are common practices in Delhi city. Though Delhi has been a focal point, however, many other neighbouring cities also get impacted.

Therefore, it is important to fill the knowledge gap pertaining to quantification and contribution of Paddy Stubble burning towards in the state of Haryana to overall concentration of particulate matter in Haryana, Delhi and surrounding cities. The assessment of paddy crop residue burning in the Haryana states and its impact on surrounding air quality before the next cycle.

In view of the occurrence of air pollution episode in Delhi NCR when Paddy stubble burning happens in the state of Haryana, the Haryana State Pollution Control Board, (HSPCB), Panchkula desires that IIT Delhi delineate a study plan in terms of a proposal carrying out the quantification and contribution of Paddy stubble burning in Haryana to overall PM level in the surrounding regions. The study is proposed to be undertaken jointly by IIT Delhi and CSIR-NEERI-Delhi Zonal Centre.

Agricultural stubble is the biomass left in the field after harvesting of the grain part of the crop. Large quantities of crop residues are generated every year from paddy and wheat crop. Processing of farm produce through milling also produces large amount of residues. These residues are used as animal feed, thatching for rural homes, residential cooking fuel and

industrial fuel. However, a large portion of the crop residues is not utilized and left in the fields. The disposal of such a large amount of crop residues is a major challenge. To clear the field rapidly and inexpensively and allow tillage practices to proceed unimpeded by residual crop material, the crop residues are burned in situ. Farmers opt for burning because it is a quick and easy way to manage the large quantities of crop residues and prepare the field for the next crop well in time. Money and time are the two main factors which persuade farmer to burning the stubble.

### **Scope of the Proposed Study**

Source apportionment study conducted with specific reference to the quantification and contribution of paddy stubble burning in Haryana state to  $PM_{2.5}$  concentration in surrounding cities of Haryana and Delhi.

### **Specific Objectives**

1. Critical Analysis of past trend of  $PM_{2.5}$  concentrations in Haryana state using secondary data.
2. Analysis of meteorological data of different region of Haryana using secondary data.
3. Carrying out chamber studies to estimate emission factors of  $SO_2$ ,  $NO_x$  and  $PM_{2.5}$  from paddy stubble burning.
4. Development of emission inventory for paddy stubble burning in Haryana state.
5.  $PM_{2.5}$  dispersion modelling using advanced regional scale model WRF-Chem.
6. Validation of model predictions using ground based CPCB measurements, NASA's satellite based AOD data and SAFAR AQI data.
7. Comparison of results from WRF-Chem simulation by IIT Delhi & NEERI and GEOS-Chem simulation carried out by TATA-MIT group.
8. Estimating the contributions of Haryana Paddy burning to total  $PM_{2.5}$  in north Indian cities.
9. Estimating the estimated change in temperature in north Indian cities due to projected paddy burning emissions in Haryana.

### **Methodology**

1. Ambient air quality trends of Haryana and Delhi regions will be evaluated using the collected data from CAAQM stations of Haryana and Delhi city. The analysis will include annual, seasonal, monthly and daily variations. Air quality data will be collected from all 24 CAAQM stations located in Haryana and representative stations of Delhi city.

2. The meteorological data of different CAAQMS and IMD stations located in Haryana will be collected and analysed for the year 2018. The analysis of meteorological condition provide understanding of dispersion potential of the atmosphere in the region.
3. The district wise cropping patterns of Haryana State will be analysed and used for emission inventory development. Chamber studies will be carried out to calculate the PM<sub>2.5</sub>, NO<sub>2</sub>, SO<sub>2</sub> and NH<sub>3</sub> emitted per unit weight of paddy stubble burnt. Further, district wise PM<sub>2.5</sub> emission load generated due to burning of stubble will be estimated.
4. The PM<sub>2.5</sub> dispersion modelling will be carried out using developed emission inventory and meteorological data. The emissions will be generated based on modified TERI emission inventory. The TERI inventory will be modified to incorporate the paddy stubble burning emission inventory developed in this study. The WRF-Chem model will be used for the dispersion of pollutants. The 4×4 km resolution model which is centred in Haryana, will include all the north Indian states. Two different sets of simulations, one with emissions from all the sources (base case) and another with only emissions from paddy stubble burning will be carried out. Hourly concentrations of PM<sub>2.5</sub> will be predicted for the entire simulation year (2018). The results from the base case simulations will be validated using all the ground based measurements carried out by CPCB and other pollution control boards. The estimated AOD from the base case simulation in different grids will be compared with that NASA's MODIS AOD data. Moreover, the base case model's results will be used to estimate AQI, which will be validated using SAFAR's AQI at respective locations.
5. The ratio of concentrations from the two simulations will help in estimating the contribution of paddy stubble burning on PM<sub>2.5</sub> concentrations at selected cities, including New Delhi in different seasons of the year.
6. The probable change in ambient temperature in north Indian states due to the emissions from paddy stubble burning will be estimated.

### Study Region

Haryana state along with Punjab is the rice bowl state of India. Almost 90-95% of Paddy area in Punjab, Haryana and Western UP is under intensive Rice-Wheat-System (RWS). RWS in Haryana is mostly concentrated in the north-eastern and north-western part of Yamuna and Ghaggar flood plains. The total cultivated area for rice crop was increased from 9.13 Lakh ha. in year 1997 to 14.22 ha. in year 2017 which shows an increment of 56%. Fig. 1 shows the google map of Haryana State.

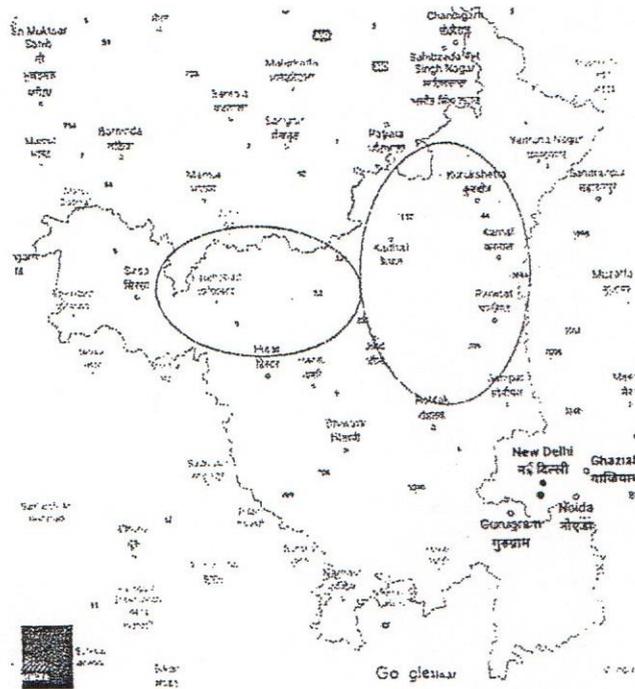


Fig. 1: Google Map of Haryana State (Circle represent maximum Paddy Growing area)

**Details about chamber in IIT Delhi to estimate emission rates**

This chamber has dimensions as per EPA-5G, where the iso-kinetic sampling is strictly ensured with the two devices dedicatedly installed for it. Also, the dilution chamber installed ensures the better sample measurements. Instruments such as GRIMM, Gas analysers etc. will used to measure particulates and gases like NO<sub>2</sub>, CO, CO<sub>2</sub> etc. Moreover, there is a facility to attach filter paper to this set up to generate source chemical speciation profile of PM.

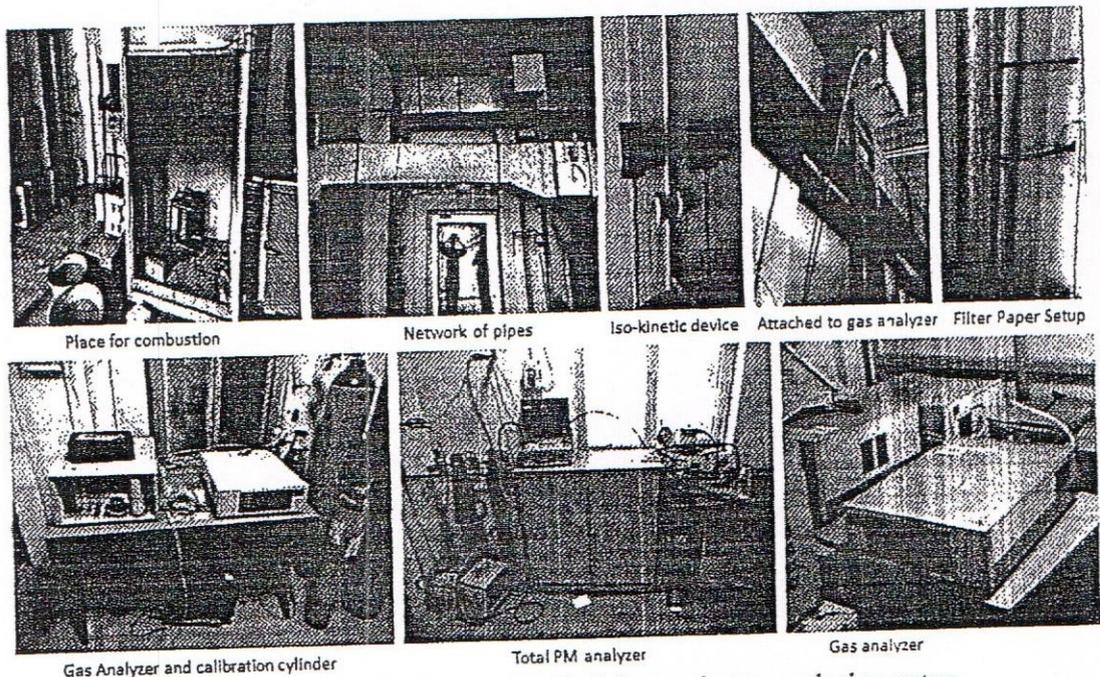


Fig. 2: Chamber facility in IIT Delhi to estimate emission rates.

### Study Duration

One Year from the date of the award of the project.

### Gantt chart

S.No.	Action Plan	Year					
		02	04	06	08	10	12
1	Recruitment & Setting up of chamber	■					
2	Collection and Analysis of past secondary data		■	■	■		
3	Analysis of fire count data		■				
4	Chamber study & Modifying emission inventory		■				
5	Air Quality Modelling • Base case simulation and validation of model			■			
6	Air Quality Modelling • Estimating contribution of stubble burning Haryana to PM <sub>2.5</sub> and change in temperature in north Indian cities				■	■	
7	Documentation (Report writing)						■

### Contribution of different institutes

#### A. IIT Delhi (Prof. Mukesh Khare and Dr. Sri Harsha Kota)

- Chamber studies to estimate PM<sub>2.5</sub>, NO<sub>2</sub>, SO<sub>2</sub> and NH<sub>3</sub> emitted per unit weight of paddy stubble burnt.
- Predicting concentrations of pollutants using WRF-Chem, and validating predictions using ground based concentrations data, satellite based AOD data and SAFAR AQI.
- Estimating the contributions of paddy stubble burning in Haryana on PM<sub>2.5</sub> in north Indian cities.
- Predicting change in ambient temperature in north Indian cities due to contributions of paddy stubble burning in Haryana.

#### B. CSIR-NEERI Delhi (Dr. S.K. Goyal and Dr. Sunil Gulia)

- Critical analysis of secondary historical PM<sub>2.5</sub> concentrations and meteorological data to assess dispersion potential PM<sub>2.5</sub> concentration of all CAAQMS of HSPCB and manual stations (if any) will be collected for last three years. The meteorological data of HSPCB stations and IMD stations will be collected to evaluate the seasonal variation in dispersion potential of the study region with special focus on stubble burning period.
- Analysis of fire count data during the stubble burning period of last three years using satellite data and to develop correlation between air quality data and fire count data.

- Developing emission inventory of paddy stubble burning in Haryana using emission factors developed by IIT Delhi.

#### Reference

1. HT, 2016. Delhi chokes on smoke from neighbouring states, 24<sup>th</sup> October, 2016. <http://www.hindustantimes.com/delhi/delhi-chokes-on-smoke-from-neighbouring-states/story-zAkXkfile5MoUXLNYfZa0H.html>.
2. HT, 2015. Deadly burning of crop residue in nearby states leads to a blanket of smoke over Delhi. Hindustan Times (Gurgaon), 26<sup>th</sup> October 2015 (<http://www.pressreader.com/india/hindustan-times-gurgaon/20151026/281500750109279>).
3. Indian Express (2017): <https://indianexpress.com/article/explained/delhi-air-pollution-smog-crop-stubble-burning-delhi-school-shut-odd-even-scheme-manish-sisodia-amarinder-singh-arvind-kejriwal-punjab-farmers-4930457/> 9<sup>th</sup> Nov. 2017

#### Budget Estimate

S. No.	Items	Amount (Rs.)		
		IIT Delhi	CSIR-NEERI DZC	Total
1.	Man Power (JRF-2- No's) (Rs.25,000+ HRA)	4,00,000	4,00,000	8,00,000
2.	Consumables	3,00,000	3,00,000	6,00,000
3.	Non-recurring	1,00,000	0,00,000	1,00,000
3.	Travel	1,00,000	1,50,000	2,50,000
4.	Contingencies	1,00,000	1,50,000	2,50,000
5.	Overhead expenses (20%)	2,00,000	2,00,000	4,00,000
<b>Total</b>		<b>12,00,000</b>	<b>12,00,000</b>	<b>24,00,000</b>

The Total budget for the proposed will be Rs. 24,00,000 + GST as per Gov norms.

#### Payment Terms

100% of project fee (Rs. 24,00,000 + GST) in advance with work order to initiate the study.

Note: The payment to IIT Delhi (Rs. 12,00,000 + GST) and CSIR-NEERI (Rs. 12,00,000 + GST) should be made separately. Bank details of both organizations are attached with the proposal.

The study findings can be published in national/international journals/conferences by project investigators jointly for wider scientific interests with due acknowledgement to the HSPCB.

### Brief CV of Project Investigators

#### Prof. Mukesh Khare

**Professor Mukesh Khare** is the Fellow of Institution of Engineers India and Fellow of Wessex Institute of Great Britain. He is a Chartered Engineer and was born in Varanasi, India. He obtained his Ph.D. degree in Faculty of Engineering from Newcastle University, UK and has managed a range of environmental projects throughout his professional career. With a specialization in air quality modelling, Prof. Khare's experience has covered research and development studies, teaching, consulting, modelling, editorial activities. In addition, Prof. Khare has authored more than 150 research publications primarily for peer reviewed journals and conference proceedings. He has two sons and lives and work in Indian Institute of Technology Delhi, India.

#### Contact Information

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Room No 220, Civil Engineering Department, IIT Delhi, Hauz Khas, New Delhi

Pin Code-110016

Tel (during hours): 91-11-26591212; Fax: +91 11 2658 1117

#### Professional Education

- 1984-1989: Ph.D. (Faculty of Engineering), Newcastle University, UK
- 1977-1979: M. Tech (Civil Engineering) University of Roorkee, India
- 1973-1977: B. Tech (Civil Engineering), University of Roorkee, India.

#### Relevant Publications

- Prashant Kumar, Suresh Jain, B.R. Gurjar, Prateek Sharma, **Mukesh Khare**, Lidia Morawska (2013). "New Directions: Can a Blue Sky Return to a Indian Megacities?", Atmospheric Environment, 71, pp. 1-4.
- Sumit Sharma, Prateek Sharma and **Mukesh Khare** (2013). "Hybrid modelling approach for effective simulation of reactive pollutants like Ozone", Atm. Env. 80. pp408-14.
- Sunil Gulia, S.M. Shiva Nagendra and **Mukesh Khare** (2014), "Performance evaluation of ISCST3, ADMS-Urban and AERMOD for urban air quality management in a mega city of India", Intern. J. of Sustainable Development and Planning, Vol. 9 (6) pp. 778- 793.
- Sunil Gulia, S.M. Shiva Nagendra, **Mukesh Khare**, Khanna, I. (2015), "Urban air quality management-A review", Atmospheric Pollution Research, doi: 10.5094/APR.2015.033.

- Sunil Gulia, Akarsh Shrivastava, A.K. Nema and **Mukesh Khare** (2015). Assessment of urban air quality around a heritage site using AERMOD: A case study of Amritsar city, India. *Environmental Modelling and Assessment*, DOI: 10.1007/s10666-015-9446-6.
- Gulia S., Kumar A., and **Khare M.** (2015). Performance Evaluation of CALPUFF and AERMOD dispersion model for air quality assessment of an Industrial complex. *Journal of Scientific and Industrial Research*, 74 (05), 302-307.
- Isha Khanna, **Mukesh Khare**, Prashant Gargava (2015). Health Risks Associated with Heavy Metals in Fine Particulate Matter: A Case Study in Delhi City, India. *Journal of Geoscience and Environment Protection*, 2015, 3, 72-77
- Sunil Gulia, S.M. Shiva Nagendra, **Mukesh Khare** (2015) Comparative Evaluation of Air Quality Dispersion Models for PM<sub>2.5</sub> at Air Quality Control Regions in Indian and UK Cities, *MAPAN*, 30(04), 249-260.
- Kumar, P., **Khare, M.**, Harrison, R. M., Bloss, W. J., Lewis, A., Coe, H., & Morawska, L. (2015). New Directions: Air pollution challenges for developing megacities like Delhi. *Atmospheric Environment*.

**Dr. Sri Harsha Kota****Outline of Relevant Experience**

Dr. Sri Harsha Kota is an Assistant Professor in Department of Civil Engineering at Indian Institute of Technology Delhi. He has more than ten years of research experience in the field of air quality modeling and monitoring. His main areas of interests lie in development of air quality models, estimation of emission factors, regional air quality modelling, using machine learning tools to understand the relation between air pollution and human health, and source apportionment of air pollutants. He is actively engaged in research collaborations with scientists in India, US and China. He has authored more than thirty journal publications.

**Employment History**

- May 2018- Assistant Professor, Indian Institute of Technology, Delhi (IITD), India
- Aug 2014-May 2018 Assistant Professor, Indian Institute of Technology, Guwahati (IITG), India
- Dec 2016-Jan 2017 Visiting Professor, Louisiana State University, USA
- Jan 2014-Jul 2014 Graduate Researcher, Texas Transportation Institute, Texas, USA
- Aug 2007-Dec 2013 Graduate Research Assistant, Texas A&M University (TAMU), Texas, USA

**Educational Background**

- PhD in Civil Engineering, Texas A&M University (TAMU), USA
- PG in Environmental Law & Policy in National Law University, India
- MS in Civil Engineering, Texas A&M University (TAMU), USA
- BE in Civil Engineering, Osmania University, India

**Relevant Publications**

- **Sri Harsha Kota**,... 2018. Year-long simulation of gaseous and particulate air pollutants in India. *Atmospheric Environment*, 180, 244-255.
- Hao Guo, **Sri Harsha Kota**,... 2017. Source apportionment of PM<sub>2.5</sub> in North India using a source-oriented regional air quality model. *Environmental Pollution*, 231, 426-436.
- Shovan Kumar Sahu and **Sri Harsha Kota**. 2017. Significance of PM<sub>2.5</sub> air quality in the Indian capital. *Aerosol and Air Quality Research*, 17(2), 588-597.
- **Sri Harsha Kota**,... 2015. Evaluation of MEGAN Predicted Biogenic Isoprene Emissions at Urban Locations in Southeast Texas. *Atmospheric Environment*, 110, 54-64.

- **Sri Harsha Kota**,... 2014. Evaluation of On-road Vehicle CO and NO<sub>x</sub> National Emission Inventories Using an Urban-scale Source-oriented Air Quality Model. *Atmospheric Environment*, 85, 99-108.
- **Sri Harsha Kota**,... 2013. Simulating Near-road Reactive Dispersion of Gaseous Air Pollutants using a Three-Dimensional Eulerian Model. *Science of the Total Environment*, 454-455, p348-357.

**Dr. S.K. Goyal**

*Sr. Principal Scientist & Head*

*CSIR-NEERI, Delhi Zonal Centre,*

*A 93/94, Naraina Industrial Area, Phase I*

*New Delhi 110028, India*

*Email: sk\_goyal@neeri.res.in; goyalneeri@gmail.com*

*Mobile: +91-9423400470; Tel: +91-11-45609107, Fax: +91-11-45609106*

**Educational Qualification**

- B.E. (Pulp & Paper), IIT Roorkee, 1987, 3<sup>rd</sup> Rank
- M.E. (Chemical), IIT Roorkee, 1989, Gold Medalist
- Ph.D. (Environmental Engineering), RTM Nagpur University, Nagpur, 2002

**Research Experience (1987- Feb 2013)**

**[1987-1989 – IIT Roorkee, Roorkee and Jan 1990 till date ... CSIR-NEERI, Nagpur]**

His research experience is in multi-disciplinary areas which include quantification and minimization of uncertainties associated with ambient air monitoring (monitoring method sensitivity analysis, audit system development), preparation of emission inventory for industrial, vehicular & areas sources, and air quality modeling for different sources of air pollution leading to air resource management with the overall objective of improvement in air quality.

He has significantly contributed to various projects relating to Carrying Capacity based developmental planning studies for different topographical zones leading to sustainable development of the region like Doon Valley, National Capital Region, Jamshedpur Region and Greater Kochi Region), environmental impact assessment for different industrial sectors (refinery, power plants, paint industry), assimilative capacity based industrial development planning studies, stack emission monitoring with QA/QC and performance evaluation of pollution control systems, **energy recovery from distillery and hospital wastewaters through bench and pilot scale studies using fixed film reactor technology**, paper manufacturing process optimization (pulping, bleaching & paper making) and waste management for non-conventional raw materials based pulp and paper mills with economic evaluation.

He has also conducted air quality review studies in India, Thailand, Indonesia, Sri Lanka, Myanmar and Nepal under the project on Review of GEMS/Air Monitoring Stations in South East Asia Region for UNEP/WHO, Geneva.

### Publications

Based on the research work carried out, he has published more than 80 research papers in peer reviewed international and national journals/conference proceedings. He has also contributed 13 chapters in edited books and more than 50 technical reports, and delivered more than 100 presentations/lectures in international/national conferences/ workshops/ training programs.

He has authored three technical guidance documents, 1) "Air Quality Monitoring Network Design Considerations for Developing Countries" for WHO-SEARO, New Delhi, 2) 'Urban Air Pollution in India: Status and Challenges' for Indian National Science Academy (INSA), New Delhi, and 3) "Contribution of Energy Sector to NO<sub>x</sub> Emissions" for Indian Nitrogen Group (ING), New Delhi.

### Some of the Publications in air quality

1. Sivacoumar, R., Bhanarkar, A. D., Goyal, S. K., Gadkari, S. K., & Aggarwal, A. L. (2001). Air pollution modeling for an industrial complex and model performance evaluation. *Environmental Pollution*, 111(3), 471-477.
2. Goyal S.K. (2002). Effect of Sample Flow rate and Sampling Duration on Absorption of NO<sub>2</sub> in the Sodium Arsenite Monitoring Method. *Journal of Environmental Monitoring (UK)*, Vol. 4 (4), pp. 579-582.
3. Goyal S.K. (2003). Comparison of Two Manual Methods of Nitrogen Dioxide Determination in Ambient Air. *Environmental Monitoring and Assessment*, Vol. 89 (3), pp. 305-314.
4. Goyal S.K. Gavane A.G. ( 2005). Effect of Analytical Techniques on Measured NO<sub>2</sub> Concentration Levels in Ambient Air. *Environmental Monitoring and Assessment*, Vol. 105. pp. 1-9.
5. Bhanarkar, A. D., Goyal, S. K., Sivacoumar, R., & Rao, C. C. (2005). Assessment of contribution of SO<sub>2</sub> and NO<sub>2</sub> from different sources in Jamshedpur region, India. *Atmospheric Environment*, 39(40), 7745-7760.
6. Goyal S.K. Ghatge S.V. Nema P., Tamhane S.M. (2006). Understanding Urban Vehicular Pollution Problem vis-a-vis Ambient Air Quality –Case Study of a Megacity (Delhi, India). *Environmental Monitoring and Assessment*, 119 (1-3), pp. 557-569.
7. Goyal S.K. (2006). Effect of Reagent (Dye) Addition in Wet Chemical Method of Sulfur Dioxide Determination in Ambient Air. *Environmental Monitoring and Assessment*, 120 (1-3), pp. 461-476.

8. Goyal S.K. and Chalapati Rao C.V. (2007). Assessment of Atmospheric Assimilation Potential for Industrial Development in an Urban Environment: Kochi (India). *Science of the Total Environment*, April 2007; 376/1-3, 27-39.
9. Goyal S.K. and Chalapati Rao C.V. (2007). Air Assimilative based Environment Friendly Siting of New Industries – A Case Study of Greater Kochi Region, India. *Journal of Environment Management*, 84 (4), pp. 473-483
10. Goyal S.K., Goel Sangita and Tamhane S.M. (2009). Assessment of Environmental Benefits of Flyover Construction over Signalized Junctions: A Case Study. *Environmental Monitoring and Assessment*, Jan 2009, Vol. 148, pp. 397-408. DOI 10.1007/s 10661-008-0170-4.

**Area of Work (March 2013 - August 2016) as Head of EIRA Division, NEERI, Nagpur**

- Environmental Impact Assessment Studies for Different Sectors/ Regions
- Assimilative Capacity based Sustainable Industrial Development
- Carrying Capacity based Regional Development Planning for Sustainable Development

**Current Area of Work (Sept 2016 onwards...) as Head, NEERI-Delhi Zonal Centre, Delhi**

- EIA / Regional EIA, Assimilative/Carrying Capacity, Sustainable Development, and Air & Water/ wastewater related studies

**Dr. Sunil Gulia**

Scientist Fellow

CSIR-NEERI, Delhi Zonal Centre

Email: s\_gulia@neeri.res.in, sunilevs@gmail.com,

Contact No.: 08447505460

Dr. Gulia is a progressive environmentalist with more than 08 years of technical experience in Air Quality Modeling and Urban Air Quality Management, Environment Impact Assessment, Vehicular Pollution Management, Indoor Air Quality. NABET accredited FAE of Air Pollution Modeling and Meteorology, Expertise on Air Pollution Dispersion Modeling Software, i.e., CALPUFF, AERMOD, ADMS\_ Urban, EDMS, ISCST3 and CALINE-4. Sound knowledge of air quality monitoring methods and instrumentations.

**Professional Career**

1. **CSIR-NEERI Delhi Zonal Centre:** October, 2016- till date  
Scientist Fellow
2. **IIT Delhi:** September, 2013 – Sept.2016  
Senior Project Scientist
3. **Central Road Research Institute, New Delhi:** March, 2013 – August, 2013  
Senior Project Fellow
4. **IIT Delhi:** May, 2010 – February, 2013  
Senior Research Fellow
5. **M/s. Ireo Pvt. Ltd., Gurgaon:** December, 2009 – April, 2010  
Assistant Manager- Environment
6. **M/s. Voyants Solution Pvt. Ltd., Gurgaon:** July, 2008 – November, 2009  
Assistant Manager-Environment Management System
7. **Central Road Research Institute, New Delhi:** October, 2007- June. 2008  
Project Trainee

**Educational Qualifications**

- PhD, IIT Delhi, 2015
- M.Tech (Environmental Sc. & Engg.), G.J.U.S & T, Hisar, Haryana, 2008  
*Division: First, CGPA-8.31*
- M.Sc. (Environnemental Sciences), G.J.U.S & T, Hisar, Haryana, 2006  
*Division: First, 65%*

**Ph.D. RESEARCH**

**Thesis Title:** *Urban* Local Urban Air Quality Management (ULAQM) Framework for NO<sub>2</sub> and PM<sub>2.5</sub> using Hybrid Models. Civil Engineering Department, IIT Delhi, India

**RESEARCH PROJECTS**

1. **Carrying Capacity based Environmentally Sustainable Iron & Manganese Ore Mining Activities in Keonjhar, Sundergarh and Mayurbhanj Districts of Odisha State**
2. **ECO-innovative, Safe and Energy Efficient wall panels and materials for a healthier indoor environment (ECOSEE): Funded by EU under FP7;**  
**Role: Sr. Project Scientist, IIT Delhi**
  - Interaction mechanism of VOCs and building materials
3. **Evaluation of economic Loss due to idling of vehicles at Signalized Intersection and Mitigation measures (ELSIM): Funded under 12<sup>th</sup> Five year plan**  
**Role: Senior Project Fellow, CRRI, New Delhi**
  - Fuel consumption during vehicles in idling condition at traffic signals.
  - Supervision of traffic fleet and fuel station survey.
  - Development of emission inventory of pollutants during idling conditions.
4. **Evaluation of quantitative dispersion model for urban air quality assessment,; Sponsored by UKIERI,**  
**Role: Senior Research Fellow, IIT Delhi**
  - Performance evaluation of five Gaussian based air quality models namely DFLSM, GFLSM, CALINE4, AERMOD and ADMS for Indian and UK urban traffic conditions.
  - Identification of most suitable air quality model for Indian conditions for urban air quality assessment.

**SELECTED RESEARCH PUBLICATIONS**

1. **Sunil Gulia, S. M. Shiva Nagendra, Mukesh Khare (2016).** Extreme Events of Reactive Ambient Air Pollutants and their Distribution Pattern at Urban Hotspots. *Aerosol and Air Quality Research*. doi: 10.4209/aaqr.2016.06.0273.
2. **Sunil Gulia, Akarsh Shrivastava, A.K. Nema, Mukesh Khare (2015).** Assessment of urban air quality around a heritage site using AERMOD: A case study of Amritsar city, India. *Environmental Modelling and Assessment*, 20(6), 599-608.

3. **Sunil Gulia**, S.M. Shiva Nagendra, Mukesh Khare, Isha Khanna (2015). Urban air quality management—A review. *Atmospheric Pollution Research*, 6, 286-304.
4. **Gulia, S.**, Nagendra, S., & Khare, M. (2015). Comparative Evaluation of Air Quality Dispersion Models for PM<sub>2.5</sub> at Air Quality Control Regions in Indian and UK Cities. *MAPAN*, 30(4), 249-260.
5. **Gulia S.**, Kumar A., and Khare M., (2015). Performance Evaluation of CALPUFF and AERMOD dispersion model for air quality assessment of an Industrial complex. *Journal of Scientific and Industrial Research Journal of Scientific & Industrial Research*, 74, 302-307.
6. **Sunil Gulia**, S.M. Shiva Nagendra and Mukesh Khare (2014). Performance evaluation of ISCST3, ADMS-Urban and AERMOD for urban air quality management in a mega city of India. *International journals of sustainable development and planning*, 9 (6), 778 – 793.
7. Dhyani R., Singh A., Sharma N., **Gulia S.**, (2013). Performance Evaluation of CALINE4 Model in Complex Terrain – A case study of Himachal Pradesh, India. *International Journal of Environment and Pollution*, Vol.52, No.3/4, pp.244-262.
8. **Sunil Gulia**, Richa Sehgal, Sumit Sharma, Mukesh Khare (2016). Emission Inventorisation and Modelling of Non-Methane Volatile Organic Compounds from Petrol Distribution Centres in an Urban Area. *Proceeding of International conference on Water, Environment, Energy and Society*, at Bhopal, during 15-18<sup>th</sup> March.



HARYANA STATE POLLUTION CONTROL BOARD  
C-11, SECTOR-6, PANCHKULA  
Ph-2577870-73 E-mail: [drpkmkhspcb@gmail.com](mailto:drpkmkhspcb@gmail.com)

No. HSPCB/Aircell/2018/2272

Dated: 17-9-2018

To

Sh. Mukesh Khare, Professor,  
Department of Civil Engineering,  
Indian Institute of Technology, Delhi.

**Sub:-** Study proposal on "Quantification and Contribution of Paddy Stubble Burning emissions in Haryana to PM<sub>2.5</sub> concentrations on surrounding regions".

Please refer to your letter dated 04.09.2018 vide which you have submitted the proposal for the study on "Quantification and Contribution of Paddy Stubble Burning emissions in Haryana to PM<sub>2.5</sub> concentrations on surrounding regions". Your proposal has been carefully examined and considered by the Board. The study has been accorded sanction with the following terms and conditions;

**Terms & Conditions:-**

**1) Study**

The source apportionment study shall be conducted with specific reference to the Quantification and Contribution of Paddy Stubble Burning emissions in Haryana to PM<sub>2.5</sub> concentrations on surrounding cities of Haryana and Delhi, with the following specific objectives;

- i. Critical Analysis of past trend of PM<sub>2.5</sub> concentrations in Haryana state using secondary data.
- ii. Analysis of meteorological data of different region of Haryana using secondary data.
- iii. Carrying out chamber studies to estimate emission factors of SO<sub>2</sub>, NO<sub>x</sub> and PM<sub>2.5</sub> from paddy stubble burning.
- iv. Development of emission inventory for paddy stubble burning in Haryana state.
- v. PM<sub>2.5</sub> dispersion modelling using advanced regional scale model WRF-Chem.
- vi. Validation of model predictions using ground based CPCB measurements, NASA's satellite based AOD data and SAFAR AQI data.

- vii. Comparison of results from WRF-Chem simulation by IIT Delhi & NEERI and GEOS-Chem simulation carried out by TATA-MIT group.
- viii. Estimating the contributions of Haryana Paddy burning to total PM2.5 in north Indian cities.
- ix. Estimating the estimated change in temperature in north Indian cities due to projected paddy burning emissions in Haryana.

**2) Time period.**

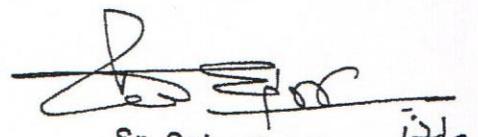
The time period for the study will be One year from the date of acceptance of this offer and final report of the study including all objectives proposed in the study, shall be submitted immediately after completion of the study. No extension will be granted after the study period.

**3) Financial Conditions.**

The study is approved at a cost of Rs. 24 Lakh + GST. The whole payment will be made to IIT Delhi and IIT Delhi will share the amount applicable with CSIR-NEERI at its own level. The payment will be made in four installments i.e.

- i. 25% amount will be released at the beginning of the study.
- ii. 50% amount will be released after six months of the beginning of the study.
- iii. 25% amount will be released after 12 months or at the time of completion of the study. And the 2<sup>nd</sup> and 3<sup>rd</sup> installments shall be released subject to a certificate from your organization on utilization of the previous installment released and the percentage of work completed.

You are requested to send your consent for the terms and conditions mentioned above, for further necessary action at our end.

  
Sr. Scientist (HQ) 17/19  
For Chairman  
09/1



Annexure-III

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HARYANA STATE POLLUTION CONTROL BOARD  
C-11, SECTOR-6, PANCHKULA  
Ph-2577870-73 E-mail: [drpkmkhspcb@gmail.com](mailto:drpkmkhspcb@gmail.com)

No. HSPCB/Aircell/2018/2511

Dated: 11-10-2018

To

Sh. Mukesh Khare, Professor,  
Department of Civil Engineering,  
Indian Institute of Technology, Delhi.

**Sub:- Study proposal on "Quantification and Contribution of Paddy Stubble Burning emissions in Haryana to PM<sub>2.5</sub> concentrations on surrounding regions".**

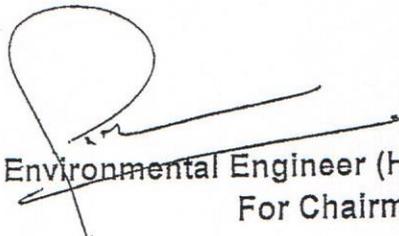
Please refer to this office letter no. 2272 dated 17.09.2018, no. 2406 dated 01.10.2018 and your email dated 04.10.2018 vide which you have requested that payment of 50% to project cost may be released in advance separately to each institute i.e. Rs. 6 Lakhs to IIT Delhi and Rs. 6 Lakhs to NEERI.

In view of above, in continuation of this office letters referred above, the financial conditions of the study project are amended as under;

- 1) The 1st installment of Rs. 12 lakhs (Rs. 6 Lakhs to IIT Delhi and Rs. 6 lakhs to NEERI).
- 2) The 2nd installment of Rs. 12 Lakhs + GST (Rs. 6 Lakhs to IIT Delhi and Rs. 6 lakhs + GST (i.e. @ 18% of Rs. 12 Lakhs) to NEERI) after completion of the study.

The other terms and conditions will remain same as already conveyed vide this office letter no. 2272 dated 17.09.2018 (copy enclosed).

DA/ As above.

  
Environmental Engineer (HQ)  
For Chairman

Agenda Item No. 182, 15(S)

Procedure for obtaining authorization under Hazardous and other Waste (Management & Transboundary Movement) Rules, 2016.

The Ministry of Environment, Forest & Climate Change, Govt. of India has notified the Hazardous & Other Wastes (Management & Transboundary Movement) Rules, 2016 on 04.04.2016 in supersession of Hazardous Waste (Management, Handling & Transboundary Movement) Rules, 2008.

As per HOWM Rules, 2016, any facility, transporter and traders for import engaged in facilities of handling, generation, collection, storage, packaging, transportation, use, treatment, processing, recycling, recovery, pre-processing, co-processing, utilization, offering for sale, transfer or disposal of the hazardous wastes and other wastes, required authorization for such activities from concerned State Pollution Control Board or Pollution Control Committee.

The Board has already issued the procedure for obtaining authorization under the Rule for (i) Recyclers/ Re-processors of Hazardous Waste defined by Schedule-IV for the Rules, vide order No. HSPCB/HW/2016/405-25 dated 19.8.2016 (ii) Actual users of Hazardous and Other Waste including for utilization of Hazardous & Other Waste for which standard Operating Procedure (SOPs)/ guidelines issued by CPCB, vide Board order No. HSPCB/HW/2016/426-46 dated 19.8.2016. (iii) Trader units desirous of import of other waste as per Part-D of Schedule-III of Rules, vide order No. HSPCB/2016/160-177 dated 14.6.2016. These procedures were Ex post facto approved in the 176<sup>th</sup> Board meeting held on 19.12.2016. As per these procedures the applications were received on hard copy in HO/ RO office and authorizations were approved at the level of Chairman.

Thereafter, vide orders No. HSPCB/SEE1/HWM/2017/2950-55 dated 3.1.2018 the applications for recyclers, re-processors, utilization of hazardous & other waste to be applied through HEPC online portal only. Also the traders desirous of import of other waste on behalf of actual user as per Part-D of Schedule-III of the Rules vide orders No. HSPCB/WMC/2018/999-1021 dated 2.7.2018, also need to apply through HEPC online portal only.

The facilities engaged in the processes of generation, handling, reception, storage, reuse and transportation, are obtaining the authorization under the Rules through HEPC Portal, but no specific procedure is defined for such authorization. Also for the facilities established outside the State and desirous of authorization for collection and transportation of Hazardous and Other Waste for recycling or utilization including co-processing, no procedure is in vogue.

The prior inspection is desired for processing the applications of authorization for recyclers/ re-processors of hazardous waste defined by Schedule-IV of the Rules and actual users of hazardous & other waste for utilization of hazardous & other waste for which SOPs/ guidelines have been issued by the CPCB. As per the existing approved procedure, such inspections are to be carried out by a team of officers consisting the concerned Regional Officer and AEE/ Scientist-B of the Region alongwith AEE/Scientist-B / JEE of the adjoining Region. As per the Rules, the application for authorization has to be decided within 120 days. However, the Administrative Reforms Department, Govt. of Haryana, vide notification dated 31<sup>st</sup> October, 2017, under Right to Service Act, 2014, has defined the period of 30 days for clearing the applications for authorization under Hazardous & Other Waste (Management & Transboundary Movement) Rules, 2016. The requirement of officer from the adjoining Region for carrying out the inspections for such authorizations, making it difficult to match the shrunked timeline of 30 days for clearance of applications for authorization. The Regional Officers have also raised this issue in the Regional Officers meeting held on 6.9.2018. So, such requirement of officer from the adjoining region for carrying out the prior inspections for disposal of authorization applications under the Rules desired to be exempted.

The various procedures, orders and amendments in the orders have been issued for various type of authorization from time to time under the Hazardous & Other Waste (Management & Transboundary Movement) Rules, 2016, which desired the simplification, compilation and necessary amendments. Moreover, the procedure for the facilities engaged in generation, handling, collection, reception, storage, reuse, transportation other than the facilities engaged in recycling/ re-processing/ utilization of Hazardous & Other waste needs to be prescribed. Also the procedure for authorization

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for collection and transportation of Hazardous Waste for recycling or utilization including co-processing for the facilities established outside the State need to be defined.

Therefore, a comprehensive procedure for obtaining the authorization under Hazardous & Other Waste (Management & Transboundary Movement) Rules, 2016 has been prepared and submitted for information of the Board.

**Procedure for obtaining authorization under Hazardous and other Waste  
(Management & Transboundary Movement) Rules, 2016**

1. Every occupier of the facility who is engaged in handling, generation, collection, storage, packaging, transportation, use, treatment, processing, recycling, recovery, pre-processing, co-processing, utilization, offering for sale, transfer or disposal of the hazardous wastes and other wastes, import of other waste listed in part D of schedule III, shall required to make an application on the online portal of HEPC i.e. <http://investharyana.in>
2. No processing fee is applicable for such authorization.
3. Checklist of documents required for obtaining authorization, is given at **Annexure-A**.
4. Regional Officer mark the application to the concerned field officer for scrutiny, verification and recommendation.

The cases/applications of authorization applied by a facility outside the state for collection and transportation of hazardous and other waste from the state for recycling and utilization including co-processing, shall be processed by the incharge of waste management cell in the Head Office

5. Site Inspection :
  - a) The site inspection of the units who applies for first time authorization for generation, collection, storage, packing, transportation except the authorization desired for the activities defined under Schedule IV, Part D of Schedule III, Utilization as per Rule 9 and authorization for transport and collection desired by the facility outside the state for recycling or utilization including co-processing, shall be carried out by the concerned field officer as per inspection report at **Annexure B (I)**. For renewal of such authorization under the Rules, inspection shall only be carried out by the concerned field officer if the satisfactory inspection report available in the record is older than one year.
  - b) The site inspection of the units apply for the authorization for recycling/reprocessing of the hazardous waste as per schedule IV of the Rules, shall be carried out by the concerned Regional officer alongwith concerned field officer as per the inspection report at **Annexure-B (II)**.

- c) The site inspection of the units/ actual users who apply for the authorization for utilization of Hazardous & Other Waste for which standard Operating Procedure (SOPs)/ guidelines issued by CPCB, shall be carried out by the Regional officer alongwith concerned field officer as per the inspection report at **Annexure-B (III)**.
  - d) No inspection is required for the traders who apply for authorization on behalf of actual users for import of other wastes as per Part D of Schedule III of the Rules.
  - e) No inspection is required for the units located outside the state who are desirous of authorization for collection and transportation of Hazardous and other wastes for recycling and utilization including co-processing from the units in the state. Also no inspection is required for the units who apply for authorization for transportation for sending their hazardous waste outside the state for recycling and utilization including co-processing.
6. After scrutiny of the application and site inspection of the industry, case will be recommended for grant of authorization by the field officer to the Regional Officer in case application and inspection is found satisfactory as per the Rules.
7. As per the instructions already laid down, the Regional Officer forwards the case to the Nodal Officer of the Board with HEPC with his recommendation for grant of authorization in case the projects having investment more than Rs. 10 crores and all the applications for recycling/reprocessing of hazardous waste as per Schedule IV of the Rules, applications for authorization for utilization including co-processing or any other use for which SOP/Guidelines has been issued by the CPCB or approval granted by CPCB and applications of traders on behalf for import of other waste as per part D of Schedule III of the Rules on behalf of the actual users. Then, with approval or with observations the applications are returned back by Nodal Officer, HEPC to the Regional Officer for issuance of authorization certificate or completion of observations raised. In case the project is having investment upto Rs. 10 crore then the authorization's issued at the level of Regional Officer itself through online system.

The cases/applications for authorization for collection and transportation of hazardous and other waste from the state for recycling and utilization including co-processing by a facility outside the state, shall be processed and authorization

certificate will be issued by the incharge waste management cell in the Head Office. The such authorization certificates will be issued as per formats at **Annexure C(I)/C(II)/C(III)/C(IV)/C(V)** as per applicability.

8. After verification if the application is found incomplete or discrepancies are observed at site, show cause notice for refusal of authorization is issued for 15 days by the Regional Officer or in-charge, Waste Management Cell (Head Office) as the case applicable. The format of SCN is enclosed as per **Annexure-D**.
9. If the unit submits the satisfactory compliance report, the procedure as defined at Sr. No. 7 will be followed.
10. The validity of authorization will be 5 years, except traders desirous of import of other wastes as per part D of Schedule III wherein one time authorization is issued.
11. Existing, If the reply of show cause notice submitted by the unit is not found satisfactory or the unit fails to submit the reply of show cause notice within time period, then the case is recommended by field officer to Regional Officer for refusal of the application.

Thereafter, the Regional Officer forward the case to the Nodal Officer of the Board with HEPC with his recommendation for refusal of authorization in case of the projects having investment more than Rs. 10 crores and all the applications for recycling/reprocessing of hazardous waste as per Schedule IV of the Rules, applications desirous of authorization for utilization including co-processing or any other use for which SOP/Guidelines has been issued by the CPCB or approval granted by CPCB, and applications of traders on behalf for import of other waste as per part D of Schedule III of the Rules on behalf of the actual users. Then the approved application or any observation raised is reverted by the Nodal Officer HEPC to the Regional Officer for issuance of refusal certificate or compliance of observations.

In case of the projects having investment upto Rs. 10 crore then the authorization is refused at the level of Regional Officer itself through online system.

The cases/applications for authorization for collection and transportation of hazardous and other waste from the state for recycling and utilization including co-processing by a facility outside the state, shall be processed by the incharge of

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waste management cell in the Head Office and refusal of authorization will be issued by the Incharge Waste Management Cell.

The such refusal order will be issued as per **Annexure-E**

12. As per already laid down instructions, issuance of certificate of grant for authorization, the passbook for entry of hazardous & other waste, procured for recycling/ reprocessing, utilization including co-processing or any other use, imported, shall be issued by the Regional Officer to the unit. Red passbook will be issued to the recyclers/ re-processors of hazardous waste of Schedule-IV of the Rules. Orange passbook will be issued to the actual user of the hazardous & other waste for which SOP/ guidelines/ NOC has been issued by the CPCB. The blue passbook will be issued to the Traders desirous of import of other waste as per Part-D of Schedule-III of the Rules.
13. The units shall operate their projects or activities for which authorization is required under the Rules, only after obtaining prior authorization under the Rules
14. The overall time period for deciding the application for authorization under the Rules is 30 days.

Annexure-A

Checklist of document for obtaining Authorization under Section 6 of HOWM Rules, 2016:

**A. List of common documents for all kind of authorizations:**

1. Duly filled up application in form – 1 (**Online**)
2. Copy of Consent to Establish (CTE) granted by the Board (**for first time authorization**) or, Copy of valid Consent to Operate (CTO) under Water Act, 1974 and Air Act, 1981 granted by the Board (**in case of renewal of authorization**)
3. Occupier/Authorized person Certificate issued by the Management of the applicant industry
4. Copy of emergency response plan regarding procedures for dealing with emergency situations (viz. spillage or release or fire) as specified in the guidelines of CPCB (refer column no. 4 of part A of application form)
5. Undertaking or declaration to comply with all provisions including the scope of submitting bank guarantee in the event of spillage, leakage or fire while handling the hazardous and other waste (refer column no. 5 of part A of application form)
6. Plan showing the details of secured storage of Hazardous Waste wastes with storage capacity including mode of disposal
7. Process flow sheet indicating equipment details, inputs and outputs (raw materials, chemicals, products, by-products, wastes, emissions, waste water etc.) - (refer column no. 1 (b) of part B of application form)
8. Copy of proof of application submitted to the operator of CHWTSDF for registration / membership and /or agreement made with the actual user of the Hazardous Waste as the case may be (**for first time authorization**) or, Copy of agreement made with the operator of CHWTSDF and /or with the actual user of the Hazardous Waste as the case may be, authorized from concerned SPCB/PCC with copy of valid authorization issued from concerned SPCB/PCC (**in case of renewal of authorization**)
9. Self-certified compliance report in respect of the conditions specified in the authorization granted earlier (**in case of renewal of authorization**)
10. Copies of annual returns of last 3 years (**in case of renewal of authorization**)

**B. In case the unit is engaged in the activity of recycling/re-processing for the hazardous waste as per schedule-IV of HOWM Rules, 2016, the following additional documents apart from the documents as prescribed at A:**

1. Registration issued by the District Industries Centre showing installed capacity of unit (**for first time authorization**)

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2. Proof of installed capacity of plant and machinery for processing the hazardous waste issued by the District Industries Centre or any other government agency authorized in this behalf **(for first time authorization)**
  3. Design scheme of pollution control systems such as Effluent Treatment Plant, Air Pollution Control measures such as scrubbers, etc. including mode of disposal. **(for first time authorization)**
  4. Detail of storage facility for raw material and hazardous waste generated **(for first time authorization)**
  5. Report on the compliance of the guidelines issued by CPCB from time to time, for Environmentally Sound recyclers of Hazardous Waste, in case of recycling of HW
  6. Self-certified compliance report in respect of effluent, emission standards supported with latest analysis report under Water Act, 1974 and Air Act, 1981 as applicable and the conditions specified in the authorization for hazardous and other wastes alongwith copies of annual returns of last 3 years **(in case of renewal of authorization)**
- C. In case of the unit is engaged in Utilization of hazardous and other waste as per Rule 9 of the Hazardous and Other Wastes (Management and Transboundary movement) Rules, 2016 following additional documents apart from A above, will also be required:
1. Design scheme of pollution control systems such as Effluent Treatment Plant, Air Pollution Control Measures such as scrubbers, etc. including mode of disposal **(for first time authorization)**
  2. Detail of storage facility for raw material and hazardous waste generated **(for first time authorization)**
  3. Detailed Report on Standard Operating Procedure and Checklist of Minimal Requisite Facilities for utilization of hazardous waste under Rule 9 of the Hazardous and Other Wastes (Management and Transboundary movement) Rules, 2016, as per the Guidelines, directions, standards issued by the CPCB
  4. Self-certified compliance report in respect of effluent, emission standards supported with latest analysis report under Water Act, 1974 and Air Act, 1981 as applicable and the conditions specified in the authorization for hazardous and other wastes alongwith copies of annual returns of last 3 years **(in case of renewal of authorization)**
- D. In case of the Common Hazardous Waste Treatment, Storage And Disposal Facility (CHWTSDF) following additional documents apart from A above, will also be required:

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1. Copy of prior Environmental Clearance (refer column no. 3 of part C of application form) **(for first time authorization)**
  2. Design scheme of pollution control systems such as Effluent Treatment Plant, Air Pollution Control Measures such as scrubbers, etc. with Environment Management Plan **(for first time authorization)**
  3. Layout/location map of the site **(for first time authorization)**
  4. Report on the compliance with the Guidelines regarding development and operation of TSDF issued by Central Pollution Control Board as amended from time to time
  5. Self-certified compliance report in respect of effluent, emission standards supported with latest analysis report /AAQ and Ground Water Monitoring reports and the conditions specified in the authorization earlier granted and Environmental Clearance where ever applicable alongwith copies of annual returns of last 3 years **(in case of renewal of authorization)**
- E. In case unit who is a trader, importing waste on behalf of actual users, apply for one time authorization as per rule 13 for import of other waste listed in part D(\*\*) of schedule III of Hazardous and Other Wastes (Management and Transboundary movement) Rules, 2016, the following documents are required:
1. Proof of Name and address of the trader unit.
  2. Photocopy of valid trade license of godown address issued by the local authority if any.
  3. Copy of registration certificate of TIN/VAT Number/ GST No.
  4. Photocopy of the certificate of the Importer-Exporter Code issued by the Ministry of Commerce & Industry govt. of India.
  5. Copy of valid consent to operate under Water Act, 1974/Air Act, 1981/authorization under HWM Rules issued by concerned State Pollution Control Board in favor of authorized actual user(s) duly signed and stamped by the authorized actual and applicant.
  6. In case the waste proposed to be imported is covered under schedule-IV of the said Rules, then copy of registration under Hazardous Waste (Management Handling & Trans-boundary Movement) Rules, 2008 or Hazardous & Other Waste (Management & Trans-boundary Movement) Rules, 2016, as the case may be, in favor of actual user(s) for which the applicant intended to import hazardous waste, issued by concerned SPCB/PCC, for re-processing/recycling of hazardous waste covered under Schedule-IV,.
  7. Authority letter in favor of applicant to sign the said Rules.
  8. Description and quantity of waste to be imported for actual user(s) has to be provided with Basel No. separately for individual actual user(s), in column no. 3.

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- F. For the facilities established outside the State and desirous of authorization for collection and transportation of Hazardous and Other Waste for recycling or utilization including co-processing from the units operating in the state, the following documents will be required
1. Details of the units along with category and quantity of waste from where hazardous and other waste will be collected and Copy of the consent to operate and relevant authorization under the Rules granted to such units.
  2. Copy of consent to operate and relevant authorization granted to the unit from the concerned State Pollution Control Board (outside the state)
  3. Copy of the Standard Operating Procedure issued by the CPCB for the hazardous and other waste for which authorization is applied for collection and transportation (where ever applicable)

Annexure-B (I)

Verification report for the application of authorization for Hazardous Waste generators (Industries except recycling facilities as per schedule IV, Actual users as per Rule 9 of the Rules) as per Hazardous & Other Waste (M&TM) Rules, 2016 regarding M/s

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1. Name of the unit :
2. Location of the unit :
3. Date of Receipt of application :
4. Capital investment cost of the unit :
5. Date of issuance of CTE with validity date :
6. Date of issue of CTO with validity date :
7. Date of completion of the project :
8. Date of inspection :
9. Name & designation of the inspecting officer :
10. Details of Hazardous waste generated : Define Categories as per HOWM Rules 2016 along with Quantities
11. Detail of storage facility at site for storage of hazardous waste material :
12. Mode of final disposal of Hazardous Waste :
13. Status regarding membership/ agreement with CHWTSDF :
14. Detail of ETP/APCM installed along with components :
15. Status of Energy meter installed on PCD :
16. Quantity of effluent & its final mode of disposal : Quantity Mode of Disposal
 

Domestic Effluent		
Trade Effluent		
17. Height of Stack(s) attached with Process, from ground level (in meters) :
18. Stack height of DG sets from ground level (in meters) :
19. Give details regarding compliance of the conditions specified in the authorization/ registration earlier granted (for renewal cases) :
20. Remarks

21. Recommendations

a. (In case of grant)

Certified that the applicant is utilizing environmentally sound technologies and possesses adequate technical capabilities, requisite facilities and equipment to recycle / reprocess hazardous waste. Therefore authorization to the applicant is recommended.

b. (In case of refusal)

In case the applicant is not complying the above mentioned stipulations then the Regional Officer will issue show cause notice for refusal of authorization to the unit before sending the case for rejection and will submit final recommendations thereafter on the basis of reply submitted by the applicant.

Signature of Field Officer  
Name & Designation

Annexure-B (II)

Verification report for the application of authorization for recycling/re-processing of Hazardous Waste listed in schedule-IV of Hazardous & Other Waste (M&TM) Rules, 2016 regarding M/s \_\_\_\_\_

1. Name of the unit :
2. Location of the unit :
3. Date of Receipt of application :
4. Capital investment cost of the unit :
5. Date of issuance of CTE with validity date :
6. Date of issue of CTO with validity date :
7. Date of completion of the project :
8. Date of inspection :
9. Name & designation of the inspecting officers :
10. Details of Hazardous waste generated : Define Categories as per HOWM Rules 2016 along with Quantities
11. Details of source of Hazardous Waste :
12. Quantity of Hazardous Waste to be reprocessed/ recycled : Define Categories as per HOWM be Rules 2016 along with Quantities
13. Installed capacity of unit for reprocessing the hazardous waste :
14. Mode of final disposal of Hazardous Waste :
15. Status regarding membership/ agreement with CHWTSDF :
16. Detail of ETP/APCM installed (along with component) :
17. Detail of storage facility at site for storage of raw material (hazardous waste to be processed) & hazardous waste to be generated :
18. Status of Energy meter installed on PCD :
19. Quantity of effluent & its final mode of disposal : Quantity Mode of Disposal  
Domestic Effluent  
Trade Effluent
20. Height of Stack(s) attached with process from ground level (in meters) :
21. Stack height of DG sets from :

- ground level (in meters)
22. Comments & details on compliance of :  
guidelines followed by the unit for  
installation of Environmental sound  
technology regarding commonly  
recyclable Hazardous Waste as per  
schedule IV of HW(TM) Rules prepared  
by CPCB in January, 2010 or as amended  
from time to time.
23. Give details regarding compliance :  
of the conditions specified in the  
authorization/ registration earlier  
granted (for renewal cases)
24. Remarks
25. Recommendations
- a. (In case of grant)

Certified that the applicant is utilizing environmentally sound technologies and possesses adequate technical capabilities, requisite facilities and equipment to recycle / reprocess hazardous waste. Therefore authorization to the applicant is recommended.

b. (In case of refusal)

In case the applicant is not complying the above mentioned stipulations then the Regional Officer will issue show cause notice for refusal of authorization to the unit before sending the case for rejection and will submit final recommendations thereafter on the basis of reply submitted by the applicant.

Signature of Field Officer  
Name & Designation

Signature of Regional Officer  
Name

Annexure-B (III)

Verification report for the application of authorization for actual users of Hazardous or other Wastes (as per Rule 9) under Hazardous & Other Waste (M&TM) Rules, 2016 regarding M/s \_\_\_\_\_

1. Name of the unit :
2. Location of the unit :
3. Date of Receipt of application :
4. Capital investment cost of the unit :
5. Date of issuance of CTE with validity date :
6. Date of issue of CTO with validity date :
7. Date of completion of the project :
8. Date of inspection :
9. Name & designation of the officers inspected the unit :
10. Details of Hazardous waste generated : Define Categories as per HOWM Rules 2016 along with Quantities
11. Details of source of Hazardous Waste/ other waste to be procured :
12. Quantity of Hazardous/ other Waste to be utilized : Define Categories as per HOWM be Rules 2016 along with Quantities
13. Installed capacity of unit for utilization the hazardous/other waste :
14. Mode of final disposal of Hazardous Waste :
15. Status regarding membership/ agreement with CHWT/SDF :
16. Detail of ETP/APCM installed (along with component) :
17. Detail of storage facility at site for storage of raw material (hazardous/ other waste to be utilised) & hazardous waste to be generated :
18. Status of Energy meter installed on PCD :
19. Quantity of effluent & its final mode of disposal : Quantity Mode of Disposal  
Domestic Effluent  
Trade Effluent
20. Height of Stack(s) attached with process from ground level (in meters) :
21. Stack height of DG sets from :

ground level (in meters)

22. Detailed Report on Standard Operating Procedure and Checklist of Minimal Requisite Facilities for utilization of hazardous waste under Rule 9 of the Hazardous and Other Wastes (Management and Transboundary movement) Rules, 2016, as per the Guidelines, directions, standards issued by the CPCB : Attach report as Annexure

23. Give details regarding compliance of the conditions specified in the authorization earlier granted (for renewal cases) :

24. Remarks

25. Recommendations

a. (In case of grant)

Certified that the applicant is utilizing environmentally sound technologies and possesses adequate technical capabilities, requisite facilities and equipment to utilize hazardous/other waste. Unit is complying with the standard operating procedure defined by the CPCB and the facility is established as per SOP. Therefore authorization to the applicant is recommended.

b. (In case of refusal)

In case the applicant is not complying the above mentioned stipulations then the Regional Officer will issue show cause notice for refusal of authorization to the unit before sending the case for rejection and will submit final recommendations thereafter on the basis of reply submitted by the applicant.

Signature of Field Officer  
Name & Designation

Signature of Regional Officer  
Name

Annexure-C(I)

To

M/s \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_**Sub: Grant of Authorization under Hazardous and Other Wastes(Management & Transboundary Movement) Rules, 2016**

1. Reference of your application no.: \_\_\_\_\_ dated: \_\_\_\_\_

2. M/s \_\_\_\_\_ is hereby granted an authorization for \_\_\_\_\_ on the premises situated at \_\_\_\_\_  
\_\_\_\_\_Detail of Authorization

Sr. No.	Name of process and Category of Hazardous Waste as per the Schedules I, II and III of these rules	Authorized mode of disposal or recycling or utilization or co-processing, etc.	Quantity

1. The authorization shall be valid for a period of \_\_\_\_\_ to \_\_\_\_\_

2. The authorization is subject to the following general and specific conditions :-

**General Conditions:**

1. The authorised person shall comply with the provisions of the Environment (Protection) Act, 1986, and the rules made there under.
2. The authorization or its renewal shall be produced for inspection at the request of an officer authorised by the State Pollution Control Board.
3. The person authorised shall not rent, lend, sell, transfer or otherwise transport the hazardous and other wastes except what is permitted through this authorization.

4. Any unauthorised change in personnel equipment or working conditions as mentioned in the application by the person authorised shall constitute a breach of this authorization.
5. The person authorised shall implement Emergency Response Procedure (ERP) for which this authorization is being granted considering all site specific possible scenarios such as spillages, leakages, fire etc. and their possible impacts and also carry out mock drill in this regard at regular interval of time.
6. The person authorised shall comply with the provisions outlined in the Central Pollution Control Board guidelines on "Implementing Liabilities for Environmental Damages due to Handling and Disposal of Hazardous Waste and Penalty".
7. The occupier handling hazardous or other wastes and operator of the treatment, storage and disposal facility shall ensure that the hazardous and other wastes are packaged in a manner suitable for safe handling, storage and transport as per the guidelines issued by the Central Pollution Control Board from time to time. The labelling shall be done as per Form 8 as per the Rules and The label shall be of non-washable material, weather proof and easily visible.
8. The transport of the hazardous and other waste shall be in accordance with the provisions of these rules and the rules made by the Central Government under the Motor Vehicles Act, 1988 and the guidelines issued by the Central Pollution Control Board from time to time in this regard.
9. The occupier shall provide the transporter with the relevant information in Form 9, regarding the hazardous nature of the wastes and measures to be taken in case of an emergency and shall label the hazardous and other wastes containers as per Form 8.
10. In case of transportation of hazardous and other waste for final disposal to a facility existing in a State other than the State where the waste is generated, the sender shall obtain 'No Objection Certificate' from the State Pollution Control Board of both the States. In case of transportation of hazardous and other waste for recycling or utilisation including co-processing, the sender shall intimate both the State Pollution Control Boards before handing over the waste to the transporter.
11. In case of transit of hazardous and other waste for recycling, utilisation including coprocessing or disposal through a State other than the States of origin and destination, the sender shall give prior intimation to the concerned State Pollution Control Board of the States of transit before handing over the wastes to the transporter. In case of transportation of hazardous and other waste, the responsibility of safe transport shall be either of the sender or the receiver whosoever arranges the transport and has the necessary authorisation for transport from the concerned State Pollution Control Board. This responsibility should be clearly indicated in the manifest. The authorisation for

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transport shall be obtained either by the sender or the receiver on whose behalf the transport is being arranged.

12. Where an accident occurs at the facility of the occupier handling hazardous or other wastes and operator of the disposal facility or during transportation, the occupier or the operator or the transporter shall immediately intimate the State Pollution Control Board through telephone, e-mail about the accident and subsequently send a report in Form-11.

13. The occupier handling hazardous or other wastes and operator of disposal facility shall maintain records of such operations in Form 3. The occupier handling hazardous and other wastes and operator of disposal facility shall send annual returns to the State Pollution Control Board in Form 4, by 30th June.

14. The sender of the waste shall prepare and maintain the manifest as per Form 10 of Rule 19.

15. The occupiers of facilities may store the hazardous and other wastes for a period not exceeding ninety days and shall maintain a record of sale, transfer, storage, recycling, recovery, pre-processing, co-processing and utilisation of such wastes and make these records available for inspection

16. An application for the renewal of an authorization shall be made as laid down under these Rules.

17. Any other conditions for compliance as per the guidelines issued by the Ministry of Environment, Forest and Climate Changes or Central Pollution Control Board from time to time.

18. The non compliance of the rules are punishable under Section 5/15 of Environment (Protection) Act, 1986.

**Specific Conditions:**

1. \_\_\_\_\_
2. \_\_\_\_\_

Da/Field Inspection Report

Regional Officer  
Haryana State Pollution Control Board

Annexure-C(II)

To

M/s \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Sub: Grant of authorization for Recycling of Hazardous Waste as listed in Schedule - IV under Hazardous & Other Waste (Management & Transboundary Movement) Rules, 2016.

1. Reference of your application no.: \_\_\_\_\_ dated: \_\_\_\_\_

2. M/s \_\_\_\_\_ is hereby granted an authorization for \_\_\_\_\_ on the premises situated at \_\_\_\_\_

Detail of Authorization

Sr. No.	Name of process and category of Hazardous waste as per Schedule IV of the Rules	Authorized mode of disposal or recycling or utilization or co-processing, etc.	Quantity

1. The authorization shall be valid for a period of \_\_\_\_\_ to \_\_\_\_\_

2. The authorization is subject to the following general and specific conditions :-

**General Conditions:**

1. The authorised person shall comply with the provisions of the Environment (Protection) Act, 1986, and the rules made there under.
2. The authorization or its renewal shall be produced for inspection at the request of an officer authorised by the State Pollution Control Board.
3. The person authorised shall not rent, lend, sell, transfer or otherwise transport the hazardous and other wastes except what is permitted through this authorization.

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4. Any unauthorised change in personnel equipment or working conditions as mentioned in the application by the person authorised shall constitute a breach of this authorization.
5. The person authorised shall implement Emergency Response Procedure (ERP) for which this authorization is being granted considering all site specific possible scenarios such as spillages, leakages, fire etc. and their possible impacts and also carry out mock drill in this regard at regular interval of time.
6. The person authorised shall comply with the provisions outlined in the Central Pollution Control Board guidelines on "Implementing Liabilities for Environmental Damages due to Handling and Disposal of Hazardous Waste and Penalty".
7. The occupier handling hazardous or other wastes and operator of the treatment, storage and disposal facility shall ensure that the hazardous and other wastes are packaged in a manner suitable for safe handling, storage and transport as per the guidelines issued by the Central Pollution Control Board from time to time. The labelling shall be done as per Form 8 as per the Rules and The label shall be of non-washable material, weather proof and easily visible.
8. The transport of the hazardous and other waste shall be in accordance with the provisions of these rules and the rules made by the Central Government under the Motor Vehicles Act, 1988 and the guidelines issued by the Central Pollution Control Board from time to time in this regard.
9. The occupier shall provide the transporter with the relevant information in Form 9, regarding the hazardous nature of the wastes and measures to be taken in case of an emergency and shall label the hazardous and other wastes containers as per Form 8.
10. In case of transportation of hazardous and other waste for final disposal to a facility existing in a State other than the State where the waste is generated, the sender shall obtain 'No Objection Certificate' from the State Pollution Control Board of both the States. In case of transportation of hazardous and other waste for recycling or utilisation including co-processing, the sender shall intimate both the State Pollution Control Boards before handing over the waste to the transporter.
11. In case of transit of hazardous and other waste for recycling, utilisation including coprocessing or disposal through a State other than the States of origin and destination, the sender shall give prior intimation to the concerned State Pollution Control Board of the States of transit before handing over the wastes to the transporter. In case of transportation of hazardous and other waste, the responsibility of safe transport shall be either of the sender or the receiver whosoever arranges the transport and has the necessary authorisation for transport from the concerned State Pollution Control Board. This responsibility should be clearly indicated in the manifest. The authorisation for

15/23/191

transport shall be obtained either by the sender or the receiver on whose behalf the transport is being arranged.

12. Where an accident occurs at the facility of the occupier handling hazardous or other wastes and operator of the disposal facility or during transportation, the occupier or the operator or the transporter shall immediately intimate the State Pollution Control Board through telephone, e-mail about the accident and subsequently send a report in Form-11.

13. The occupier handling hazardous or other wastes and operator of disposal facility shall maintain records of such operations in Form 3. The occupier handling hazardous and other wastes and operator of disposal facility shall send annual returns to the State Pollution Control Board in Form 4, by 30th June.

14. The sender of the waste shall prepare and maintain the manifest as per Form 10 of Rule 19.

15. The occupiers of facilities may store the hazardous and other wastes for a period not exceeding ninety days and shall maintain a record of sale, transfer, storage, recycling, recovery, pre-processing, co-processing and utilisation of such wastes and make these records available for inspection

16. The imported hazardous and other wastes, if any, shall be fully insured for transit as well as for any accidental occurrences and its clean-up operation

17. The record of consumption and fate of the imported hazardous and other waste, if any, shall be maintained

18. The hazardous waste including residue generated from the recycling process shall be disposed off as per the Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016

19. In case of import of hazardous waste by the unit, the relevant provisions for import of the hazardous waste in the Hazardous and Other Waste (Management and Transboundary Movement) Rules, 2016 shall be complied with and the unit shall bear the cost of import or export and mitigation of damages if any.

20. Unit shall maintain the Environmentally sound management technologies at site as prescribed by CPCB and declared at the time of inspection and shall meet the Environmental Discharge Standards.

21. An application for the renewal of an authorization shall be made as laid down under these Rules.

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22. Any other conditions for compliance as per the guidelines issued by the Ministry of Environment, Forest and Climate Changes or Central Pollution Control Board from time to time.

23. The non compliance of the rules are punishable under Section 5/15 of Environment (Protection) Act, 1986.

Specific Conditions:

1. \_\_\_\_\_
2. \_\_\_\_\_

Da/Field Inspection Report

Regional Officer  
Haryana State Pollution Control Board

15/25/193

Annexure-C(III)

To \_\_\_\_\_  
M/s \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Sub: Grant of authorization for Utilization of Hazardous and Other Waste as a resource or after pre-processing either for co-processing or recycling or for any other use under Rule 9 of Hazardous & Other Wastes (Management and Transboundary Movement) Rules, 2016..**

1. Reference of your application no.: \_\_\_\_\_ dated: \_\_\_\_\_
2. M/s \_\_\_\_\_ is hereby granted an authorization for \_\_\_\_\_ on the premises situated at \_\_\_\_\_

Detail of Authorization

Sr. No.	Detail of Hazardous Waste and other waste (to be utilized)	Authorised processing activity Utilization as resource/preprocessing for co-processing /recycling/ any other use	Quantity

1. The authorization shall be valid for a period of \_\_\_\_\_ to \_\_\_\_\_
2. The authorization is subject to the following general and specific conditions :-

**General Conditions:**

1. The authorised person shall comply with the provisions of the Environment (Protection) Act, 1986, and the rules made there under.
2. The authorization or its renewal shall be produced for inspection at the request of an officer authorised by the State Pollution Control Board.

15/26/194

3. The person authorised shall not rent, lend, sell, transfer or otherwise transport the hazardous and other wastes except what is permitted through this authorization.
4. Any unauthorised change in personnel equipment or working conditions as mentioned in the application by the person authorised shall constitute a breach of this authorization.
5. The person authorised shall implement Emergency Response Procedure (ERP) for which this authorization is being granted considering all site specific possible scenarios such as spillages, leakages, fire etc. and their possible impacts and also carry out mock drill in this regard at regular interval of time.
6. The person authorised shall comply with the provisions outlined in the Central Pollution Control Board guidelines on "Implementing Liabilities for Environmental Damages due to Handling and Disposal of Hazardous Waste and Penalty".
7. The occupier handling hazardous or other wastes and operator of the treatment, storage and disposal facility shall ensure that the hazardous and other wastes are packaged in a manner suitable for safe handling, storage and transport as per the guidelines issued by the Central Pollution Control Board from time to time. The labelling shall be done as per Form 8 as per the Rules and The label shall be of non-washable material, weather proof and easily visible.
8. The transport of the hazardous and other waste shall be in accordance with the provisions of these rules and the rules made by the Central Government under the Motor Vehicles Act, 1988 and the guidelines issued by the Central Pollution Control Board from time to time in this regard.
9. The occupier shall provide the transporter with the relevant information in Form 9, regarding the hazardous nature of the wastes and measures to be taken in case of an emergency and shall label the hazardous and other wastes containers as per Form 8.
10. In case of transportation of hazardous and other waste for final disposal to a facility existing in a State other than the State where the waste is generated, the sender shall obtain 'No Objection Certificate' from the State Pollution Control Board of both the States. In case of transportation of hazardous and other waste for recycling or utilisation including co-processing, the sender shall intimate both the State Pollution Control Boards before handing over the waste to the transporter.
11. In case of transit of hazardous and other waste for recycling, utilisation including coprocessing or disposal through a State other than the States of origin and destination, the sender shall give prior intimation to the concerned State Pollution Control Board of the States of transit before handing over the wastes to the transporter. In case of transportation of hazardous and other waste, the responsibility of safe transport shall be

15/27/195

either of the sender or the receiver whosoever arranges the transport and has the necessary authorisation for transport from the concerned State Pollution Control Board. This responsibility should be clearly indicated in the manifest. The authorisation for transport shall be obtained either by the sender or the receiver on whose behalf the transport is being arranged.

12. Where an accident occurs at the facility of the occupier handling hazardous or other wastes and operator of the disposal facility or during transportation, the occupier or the operator or the transporter shall immediately intimate the State Pollution Control Board through telephone, e-mail about the accident and subsequently send a report in Form-11.
13. The occupier handling hazardous or other wastes and operator of disposal facility shall maintain records of such operations in Form 3. The occupier handling hazardous and other wastes and operator of disposal facility shall send annual returns to the State Pollution Control Board in Form 4, by 30th June.
14. The sender of the waste shall prepare and maintain the manifest as per Form 10 of Rule 19.
15. The occupiers of facilities may store the hazardous and other wastes for a period not exceeding ninety days and shall maintain a record of sale, transfer, storage, recycling, recovery, pre-processing, co-processing and utilisation of such wastes and make these records available for inspection
16. The imported hazardous and other wastes, if any, shall be fully insured for transit as well as for any accidental occurrences and its clean-up operation
17. The record of consumption and fate of the imported hazardous and other waste, if any, shall be maintained
18. The hazardous waste including residue generated from the recycling process shall be disposed off as per the Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016
19. In case of import of hazardous waste by the unit, the relevant provisions for import of the hazardous waste in the Hazardous and Other Waste (Management and Transboundary Movement) Rules, 2016 shall be complied with and the unit shall bear the cost of import or export and mitigation of damages if any.
20. Unit shall maintain the Environmentally sound management technologies at site as prescribed by CPCB and declared at the time of inspection and shall meet the Environmental Discharge Standards or unit shall maintain the facility and its operation

15/28/196

as per the Standard Operating Procedure defined by the Central Pollution Control Board.

21. An application for the renewal of an authorization shall be made as laid down under these Rules.

22. Any other conditions for compliance as per the guidelines issued by the Ministry of Environment, Forest and Climate Changes or Central Pollution Control Board from time to time.

23. The non compliance of the rules are punishable under Section 5/15 of Environment (Protection) Act, 1986.

Specific Conditions:

1. \_\_\_\_\_
2. \_\_\_\_\_

Da/Field Inspection Report

Regional Officer  
Haryana State Pollution Control Board

15/29/197

Annexure-C(IV)

To

M/s \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**Sub: Authorization under Rule 13 as Trader for importing the other wastes (\*\*)  
specified in Part D of Schedule-III on behalf of actual user (s) under  
Hazardous and other Wastes (Management & Transboundary Movement)  
Rules, 2016.**

1. Reference of your application no.: \_\_\_\_\_ dated: \_\_\_\_\_

In this connection, it is intimated that your application for grant of Authorization as Trader for importing, on behalf of actual user (s), the other wastes (\*\*)  
specified in Part D of Schedule- III under Hazardous and other Wastes (Management & Transboundary Movement) Rules, 2016, received vide your letter under reference, has been considered and after examination it has been decided by the competent authority to grant the authorization under section 13 the above said rules as trader to import the other wastes (\*\*)  
specified in Part D of Schedule-III, on behalf of the actual user (s) as per detail given below:-

Detail of Authorization

Sr. No.	Description of other waste to be imported	Quantity of other waste to be imported	Name and address of actual user (s)

The one time authorization so granted is subject to compliance of the provisions as specified in the above said Hazardous and other Wastes (Management & Transboundary Movement) Rules, 2016 regarding import of other waste by the trader on behalf of the actual user (s) and with the following conditions:-

- i) The authorization will be valid for import of other wastes (\*\*)  
only on behalf of the actual user (s) as per detail given above subject to the availability of facility for processing the other waste (\*\*)  
with the actual user (s) authorized

15/30/198

by concerned State Pollution Control Board (SPCB)/Pollution Control Committee (PCC).

- ii) Import is permitted only on behalf of actual user (s) of the imported waste who have valid consent under Water Act, 1974, Air Act, 1981 & Authorization under Hazardous and other Wastes (Management and Transboundary Movement) Rules, 2016 as applicable from the concerned State Pollution Control Board and facility, for recycling/reprocessing of other waste (\*\* mentioned above.
- iii) The importer should obtain a letter /certificate from the actual user (s) prior to import stating that the importer is importing the hazardous wastes on his behalf.
- iv) Annual returns will be submitted by the trader importing the other waste in the prescribed form to this Board along with copies of Bill of Lading, Bill of Entry etc.
- v) All imported Hazardous Waste are to be transferred from the Port directly to the Actual User (s) on whose behalf the import has been made. The manifest system for transport of Hazardous waste in Form -10 as per Rule 19 (1) shall be followed and packing & labeling and transportation of hazardous waste shall be done in accordance with the provision of rule 17 & 18 of Hazardous and other Wastes (M&TM) Rules, 2016 as amended from time to time.
- vi) In case of illegal import of hazardous waste or import of hazardous wastes other than those mentioned above, listed in Part-D of the Hazardous and other Wastes (M&TM) Rules, 2016, the waste will be re-exported by the Importer at his own cost within a period of 90 days from the date of its arrival in India.
- vii) That the authorization so granted shall be applicable for trading of hazardous waste on behalf of actual user (s) only, failing which authorization will be cancelled without any notice. M/s Industrial engineering solution
- viii) Only items and quantities of waste/ hazardous waste as mentioned above will be imported by said applicant.
- ix) The applicability of authorization is subject to compliance of directions of Ministry of Environment & Forests, Govt. of India as issued from time to time.
- x) The Importer shall comply with all provisions of the Environment (protection) Act, 1986 and Rules made there under as applicable.

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- xi) The authorization shall be made available for inspection to officials authorized by this Board, CPCB or MoEF & CC.
- xii) The Trader unit will supply the imported other waste only to the authorized recyclers/re-processors of other waste, authorized/registered by concerned SPCB/PCC under Hazardous Waste (Management, Handling & Transboundary Movement) Rules, 2008 or Hazardous and other Wastes (M&TM) Rules, 2016 as the case may be.
- xiii) The Trader will submit details of material imported and particulars of the actual user along with quantity to Haryana State Pollution Control Board on annual basis or before the 30th day of June, following the financial year to which that the return relates, as per Sub-Rule 8 of rule 13 of Hazardous and other Wastes (M&TM) Rules, 2016 as amended time to time and the said authorization so granted would be liable for cancellation/ suspension in case of failure to furnish the above mentioned annual returns.
- xiv) The trader unit will comply all the Provision/Rules related to import of other waste (\*\*) prescribed under Hazardous and other Wastes (Management, & Transboundary Movement) Rules, 2016 and will obtain necessary & required clearance from the concerned authorities as per provisions of the said Rules before importing the waste.
- xv) Authorization will be cancelled or revoked in case the unit fails to comply with any of the conditions imposed in this authorization.

Specific Conditions:

- 1. \_\_\_\_\_
- 2. \_\_\_\_\_

**Environmental Engineer  
Haryana State Pollution Control Board**

Annexure C(V)

To

M/s \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**Sub: Authorization under Rule 6 for collection and transportation of Hazardous Waste outside the State under the Hazardous and other Wastes (Management & Transboundary Movement) Rules, 2016**

1. Reference of your application no.: \_\_\_\_\_ dated: \_\_\_\_\_
2. M/s \_\_\_\_\_ is hereby granted an authorization for \_\_\_\_\_ for collection and transportation of hazardous wastes outside the State for processing.

S.No	Plant	Type of Hazardous Waste	Category of Hazardous waste	Quantity of Hazardous waste (MT/Annum)

1. The authorization shall be valid for a period of \_\_\_\_\_ to \_\_\_\_\_
2. The authorization is subject to the following general and specific conditions :-

**General Conditions:**

1. The authorised person shall comply with the provisions of the Environment (Protection) Act, 1986, and the rules made there under.
2. The authorisation shall be produced for inspection at the request of an officer authorised by the State Pollution Control Board or Central Pollution Control Board or Ministry of Environment, Forest & Climate Change.
3. The person authorised shall not rent, lend, sell, transfer or otherwise transport the hazardous and other wastes except what is permitted through this authorization.

4. Any unauthorised change in personnel, equipment or working conditions as mentioned in the application by the person authorised shall constitute a breach of his authorization.
5. The person authorised shall implement Emergency Response Procedure (ERP) for which this authorisation is being granted considering all site specific possible scenarios such as spillages, leakages, fire etc. and their possible impacts and also carry out mock drill in this regard at regular interval of time.
6. The person authorised shall comply with the provisions outlined in the Central Pollution Control Board guidelines on "Implementing Liabilities for Environmental Damages due to Handling and Disposal of Hazardous Waste and Penalty".
7. The occupier handling hazardous or other wastes and operator of the treatment, storage and disposal facility shall ensure that the hazardous and other wastes are packaged in a manner suitable for safe handling, storage and transport as per the guidelines issued by the Central Pollution Control Board from time to time. The labelling shall be done as per Form 8 as per the Rules and The label shall be of non-washable material, weather proof and easily visible.
8. The transport of the hazardous and other waste shall be in accordance with the provisions of these rules and the rules made by the Central Government under the Motor Vehicles Act, 1988 and the guidelines issued by the Central Pollution Control Board from time to time in this regard.
9. The occupier shall provide the transporter with the relevant information in Form 9, regarding the hazardous nature of the wastes and measures to be taken in case of an emergency and shall label the hazardous and other wastes containers as per Form 8.
10. In case of transportation of hazardous and other waste for final disposal to a facility existing in a State other than the State where the waste is generated, the sender shall obtain 'No Objection Certificate' from the State Pollution Control Board of both the States. In case of transportation of hazardous and other waste for recycling or utilisation including co-processing, the sender shall intimate both the State Pollution Control Boards before handing over the waste to the transporter.
11. In case of transit of hazardous and other waste for recycling, utilisation including coprocessing or disposal through a State other than the States of origin and destination, the sender shall give prior intimation to the concerned State Pollution Control Board of the States of transit before handing over the wastes to the transporter. In case of transportation of hazardous and other waste, the responsibility of safe transport shall be either of the sender or the receiver whosoever arranges the transport and has the necessary authorisation for transport from the concerned State Pollution Control Board. This responsibility should be clearly indicated in the manifest. The authorisation for transport shall be obtained either by the sender or the receiver on whose behalf the transport is being arranged.

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12. Where an accident occurs at the facility of the occupier handling hazardous or other wastes and operator of the disposal facility or during transportation, the occupier or the operator or the transporter shall immediately intimate the State Pollution Control Board through telephone, e-mail about the accident and subsequently send a report in Form-11.
13. The occupier handling hazardous or other wastes and operator of disposal facility shall maintain records of such operations in Form 3. The occupier handling hazardous and other wastes and operator of disposal facility shall send annual returns to the State Pollution Control Board in Form 4, by 30th June.
14. The sender of the waste shall prepare and maintain the manifest as per Form 10 of Rule 1914.
15. The occupiers of facilities may store the hazardous and other wastes for a period not exceeding ninety days and shall maintain a record of sale, transfer, storage, recycling, recovery, pre-processing, co-processing and utilisation of such wastes and make these records available for inspection.
16. The imported hazardous and other wastes, if any, shall be fully insured for transit as well as for any accidental occurrences and its clean-up operation
17. The record of consumption and fate of the imported hazardous and other waste, if any, shall be maintained.
18. The hazardous waste including residue generated from the recycling process shall be disposed off as per the Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016
19. In case of import of hazardous waste by the unit, the relevant provisions for import of the hazardous waste in the Hazardous and Other Waste (Management and Transboundary Movement) Rules, 2016 shall be complied with and the unit shall bear the cost of import or export and mitigation of damages if any.
20. The responsibility of safe transport shall be of the receiver and responsibility should be clearly indicated in the manifest
21. The transporter shall not accept hazardous waste from any generator for transport unless it is accompanied with the relevant copies of manifest prescribed under Hazardous & Other Waste (Management & Transboundary Movement) Rules, 2016.
22. The transporter shall be responsible for the cost of mitigation/remediation in case of any damage to the environment due to mishandling and inappropriate transportation of the hazardous waste

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23. Unit shall maintain the Environmentally sound management technologies at site as prescribed by CPCB and declared at the time of inspection and shall meet the Environmental Discharge Standards.
24. An application for the renewal of an authorization shall be made as laid down under these Rules.
25. Any other conditions for compliance as per the guidelines issued by the Ministry of Environment, Forest and Climate Changes or Central Pollution Control Board from time to time.
26. The Board, may, if in its opinion the holder of the authorisation has failed to comply with any of the conditions of the authorisation or with any provisions of the Environment (Protection) Act, 1986 or Hazardous & Other Waste (Management & Transboundary Movement) Rules, 2016, cancel or suspend the authorisation for such period as it considers necessary in the public interest.

**Specific Conditions:**

1. \_\_\_\_\_
2. \_\_\_\_\_

**Environmental Engineer (HQ)  
For Chairman  
On behalf of HSPCB**

15/36/204

Annexure-D

To

M/s \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**Sub: Show Cause notice for refusal of authorization under Hazardous and other waste (management and tranboundary) Rules, 2016.**

Please refer to your application for authorization under Hazardous and other waste (management and tranboundary) Rules, 2016 received in the Board on dated \_\_\_\_\_.

Whereas, your application has been processed and following incompleteness/deficiencies observed in your application for authorization.

**Incompletion/deficiencies:**

- 1.
- 2.

Therefore, you are hereby show caused for \_\_\_ days for the compliance of above deficiencies/ incompleteness in your application. It is intimated that no further opportunity for compliance of above deficiencies will be awarded and authorization sought vide your above referred application will be refused.

In future, your unit would be discharging the hazardous and other waste or activities at your own risk in violation of the above said rules and rendering your unit liable for closure/legal action under Section 5/15 of Environment (Protection) Act, 1986.

**Environmental Engineer/Regional Officer  
Haryana State Pollution Control Board**

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Annexure-E

To

M/s \_\_\_\_\_  
\_\_\_\_\_

**Sub: Refusal of Authorization under Hazardous and Other Wastes (Management and Transboundary Movement) Rules 2016.**

Please refer to your application no. \_\_\_\_\_ dated \_\_\_\_\_ received in the Board for Authorization under Hazardous and other Wastes (M & TM) Rules, 2016.

Your above referred application has been examined by the Board and it has been established that the application submitted by you is incomplete and not conforming to the requirement of the provisions of Hazardous and Other Wastes (M & TM) Rules, 2016 and as per policy of the Board. Accordingly, a Show Cause Notice dated \_\_\_\_\_ for refusal of Authorization under said Rules containing the shortcomings/ incompleteness as below was issued to your unit.

Deficiencies :

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_

You have till date failed to submit the satisfactory reply of the above said show cause notice and submit compliance of the observations. You have failed to take corrective measures for the deficiencies and incompleteness in your application referred above.

In view of the above stated facts, the Authorization of Hazardous and Other Wastes (M & TM) Rules, 2016 sought vide your above referred application, is hereby refused due to the above deficiencies/ incompleteness in your application.

In future your unit would be discharging the Hazardous Waste or activities at your own risk in violation of the above said Rules and rendering yourself liable for legal action section 5/15 of Environment (Protection) Act, 1986.

**Environmental Engineer/Regional Officer  
Haryana State Pollution Control Board**