

Minutes of the 6th meeting of PAAC-EPC held on April 26, 2018 at CPCB

The 6th meeting of PAAC-EPC Committee was held on April 26, 2018 at CPCB for appraisal and approval of projects submitted under EPC funds. The meeting was chaired by Chairman, Central Board. List of participants is enclosed at Annexure- I.

Dr. Prashant Gargava, Head, AQM Div., CPCB, commenced the meeting with briefing on Status of EPC funds & constitution of the Sub-Committee on PAAC-EPC by CPCB for evaluation of proposals under EPC as approval in 5th PAAC –EPC held on January 24, 2018.

Subsequently, Shri V.K Shukla, Sc “D” AQM, presented recommendations of the 1st meeting of the sub-committee held on April 17, 2018. As per the recommendations, 14 proposals were recommended for consideration in 6th PAAC-EPC meeting, DST’s feedback was sought in 7 proposals, 7 proposals were not recommended for consideration, while remaining proposals were referred for consideration in the upcoming meetings.

PAAC recommended to reconsider seven (07) not recommended proposals and submits its status report in next PAAC meeting.

Out of total 14 proposals recommended to PAAC-EPC only 11 proposals were discussed as three proponents could not come for the meeting. The observations and decisions of committee on these 11 proposals are summarized below:

Proposals Approved:

- i. **Estimation of Fuel Losses and Assessment of Air Quality at selected traffic intersections in Delhi submitted by CSIR- CRRRI:** The proposal was related to development of correlation between traffic characteristics, idling fuel losses and ambient air quality at a given traffic intersection. The correlation factor so developed will serve as input for prediction of ambient air quality at various other intersections. The major deliverable of the study is a software based advisory on operation of traffic signals and on switching off vehicles for minimizing idling emissions at traffic signals. On a query from IFD, MoEF&CC, representative of CRRRI informed that institute overhead charges are between 12-20% and agreed to revise it at 12%.

The committee approved sanction of EPC funds for this study at revised cost Rs 26.712 lakhs including overhead charges of 12% (Plus GST)

Proposals for Resubmission:

- ii. **Delhi air quality experiment- A paradigm shifts in source apportionment submitted by IIT Kanpur:** The proposal aimed at real time source apportionment of the air quality in Delhi using advance techniques such as continuous automatic analysers. The committee advised for resubmission of the proposal with elaboration on value addition in outcomes and deliverables vis-a vis conventional source apportionment studies and also cost reworking based on availability of existing monitoring network in Delhi.

DPCC conveyed that Delhi Government is also in process of awarding a study on real time source apportionment of air quality in Delhi to Washington University and its scope will be shared with CPCB within 15 days. The committee advised CPCB to wait & examine scope of the referred study to avoid work duplication.

- iii. **Development and usage of pyrotechnic devices for cloud seeding to fight Delhi-NCR winter smog under EPC funds submitted by Shri Kalishwari Fireworks Pvt. Ltd.:** The proposal was related to enhancing precipitation of the ambient pollutants using ground based pyrotechnic device for cloud seeding. The proponents informed that lab testing of these devices was successful and now it is proposed to carry out its pilot study in Delhi-NCR.

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The Committee recommended to seek feedback of DST's & IITM's on the proposal.

iv. **Investigations of the Impacts of Carbonaceous Aerosols & other short lived Climate Pollutants at Households level in Delhi-NCR and devising of mitigation measures submitted by Sriram Institute of Industrial Research, Delhi:** The study aimed at house hold level assessment of various pollutants owing to use of polluted cooking fuel in various Districts of National Capital Region & NCT of Delhi. The scope also included source apportionment analysis, mass awareness and devising future remedial measures. The fuel consumption data (2011 census) presented was felt to be obsolete vis-a vis recent government interventions for supply of clean cooking fuel across the country. The committee advised for resubmission of the proposal with clarity on objectives, outcomes & deliverables.

v. **Development of Stabilized Zirconia-based Highly Sensitive and Selective Exhaust Gas Sensors for Implementation in Urea-SCR DeNOx Vehicular-Emission Control System submitted by Pondicherry University.** The proposal presented via video conferencing., was related to development of proto type of zirconia based sensor for optimising dose of urea catalyst during selective catalytic reduction for NOx reduction in future vehicles. The committee recommended feedback from Society of Indian Automobile Manufacturers (SIAM) in view of product utility to the Automobile Industry in meeting future norms.

vi. **Three aspects of air quality management for Delhi/NCR: Intervention development, cost effectiveness assessment and deployment optimization submitted by IIT Delhi:** The proposal focussed on air quality improvement in Delhi through developing optimal intervention tools. It involved development of customized water sprays followed by assessment of cost effectiveness of various intervention tools and prescribing cost effective optimal intervention tools

The committee, felt that the presented proposal contained two standalone proposals i.e development of customized nozzle water sprays for Delhi -NCR through PM characterization. Secondly development of a software on assessment of cost effectiveness of various interventions & proposing a complete framework of various interventions. The committee, hence advised proponents to resubmit two separate proposals, with clear scope, objectives and outcomes.

vii. **Study of vehicular noise emission and noise mapping over Delhi-NCR submitted by CSIR-NPL:** The proposals focussed on development of a noise level map of the entire city, identification of noise hotspots & development of noise control action plan for Delhi-NCR. Approach involved monitoring of noise levels at 50 selected traffic intersections for development of Delhi- NCR noise level map.

The committee, however, felt that it may not be justifiable to develop vehicle noise map of the entire Delhi-NCR based on noise monitoring at 50 intersections in view of heterogeneous land use pattern across Delhi-NCR. The committee advised proponents to resubmit the proposal for mapping general noise including vehicle noise as it is not feasible to isolate vehicle noise from the ambient background noise.

viii. **Air quality impact on travel choice (A-Quit) submitted by TERI university & IIT Delhi:** The proposal was pertaining to assessment of individuals travel behaviours in view of air quality and extreme weather events impact in Delhi along with estimation of contribution of transport sector to emission levels in future scenarios. The scope involved assessment of existing air quality and travel patterns with future projections on travel demands and emissions and recommendations on short & long terms mitigation strategies. The committee advised for resubmission of the proposals before the committee considering resource optimization using existing air quality network in Delhi along with revised cost & timelines.

ix. **Proxy relationship of ultrafine particles number concentration, new particle formation and its growth rate in transport microenvironment in Delhi, India submitted by DTU:** The proposal focused on detailed analysis of ambient Ultrafine Particulates in transport microenvironment of Delhi. The scope also involved establishment of proxy relationship between particle formation & growth of UFPs, with ambient precursors

and with meteorology at various traffic scenarios & seasons in Delhi. The committee advised proposal resubmission considering more value addition and clarity on outcomes, timeline & cost reworking based on existing monitoring network in Delhi.

- x. **Development of hybrid land use regression model for spatially resolved exposure assessment of air pollutants and estimating the cardiovascular risk in Delhi city submitted by IIT Delhi:** The proposal aimed at understanding linkage between ultrafine and fine particulate number and their mass concentration with cardiovascular parameters. It involved development of a hybrid model considering both land use regression model & dispersion model. The committee advised resubmission considering cost cutting, through resource optimization using existing monitoring network & revised timelines. CPCB informed that MoEF&CC has recently initiated health based studies in 20 cities across the country. Hence PAAC advised that this study may be considered only after ascertaining that, MoEF&CC is not doing similar work
- xi. **Impact of Traffic on Asthma amongst School Children in Delhi submitted by International Institute of Health Management Research, Delhi:** The proposal intended to investigate the occurrence, severity, and persistence of asthma symptoms in children in relation to the proximity of their residential / school distance to the major roadway. The study involved exposure assessment using personalized samplers, epidemiological studies, surveys, transport modelling & GIS based analysis. The committee felt that the proposal was important in view of rise in air pollution and winter smog episodic events in Delhi-NCR. The committee advised for utmost attention while selection of the study locations. The committee also felt that professional charges being claimed were unreasonable
The committee, hence advised for resubmission of the proposal considering resource optimization based existing air quality monitoring network of Delhi, reduced time lines and cost of the project

Meeting ended with thanks to the Chair.

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List of participants:

1. Shri S. P. Singh Parihar, Chairman, Central Pollution Control Board
2. Shri A. Sudhakar, Member Secretary, Central Pollution Control Board.
3. Dr. Prashant Gargava, Head, AQM
4. Dr. V. K. Shukla, Head Air Lab
5. Dr. V. K. Soni, Head, EMRC, IMD/MoES
6. Shri J. V. B. Reddy, Sc. 'D', DST.
7. Shri Neeraj Khare, officer Biofuel cell, MoPNG
8. Shri R. K. Jaiswal, Development officer, DHI
9. Shri Rajesh Kumar Makkar, Under Secretary, MoEF&CC
10. Dr. M. P. George, Sc. 'D', DPCC
11. Dr. Rashid Hasan, Advisor, SIAM
12. Dr. U. C. Shukla, A.S.O. UPPCB, Ghaziabad
13. Shri J. P. Maurya, AEE UPPCB, Noida
14. Dr. Jai Bhagwan, RO HSPCB, Gurugram
15. Mrs. R. Ramila, SO IFD, MoEF&CC
16. Mrs. Meetu Puri, SSA, AQM
17. Sh. Tosesh Bhargava, JRF, AQM
18. Ms. Parinita Baruah, JRF, AQM

List of Proponents:

1. Dr. S. N. Tripath, Prof., IIT Kanpur
2. Shri Dilip Ganguly, Asst. prof., IIT Delhi
3. Shri K. Lakshman, Sri Kaliswari Fireworks Pvt Ltd.
4. Shri Kathiresan, Sri Kaliswari Fireworks Pvt Ltd.
5. Dr. V. K. Varma, Joint Director, EPD, Shriram Institute
6. Dr. Jagdish Kumar, Asst. Director & Chief, Shriram Institute
7. Dr. Neeraj Sharma, Sc. CRRI, New Delhi
8. Ms. Mukti Advani, Sc. CRRI, New Delhi
9. Dr. Nitish Dogra, Assoc. prof., IIMR, New Delhi
10. Dr. Anuradha Shukla, Chief Sc., CRRI
11. Dr. Bahni Ray, Asst. prof., M.E., IIT Delhi
12. Dr. Varun Rama Mohan, Asst. prof., M.E., IIT Delhi
13. Dr. Mahavir Singh, CSIR-NPL
14. Dr. Kirti Soni, CSIR-NPL
15. Dr. Rajeev Kumar Mishra, Asst. prof., DTU
16. Dr. B. R. Gurjar, Prof. IIT Roorkee
17. Ms. Deepty Jain, Asst. prof., TERI-SAS
18. Dr. Kamna Sachdeva, Assoc. prof., TERI-SAS, New Delhi
19. Dr. Manoj M., Asst. prof. civil, IIT Delhi
20. Dr. Gazala Habib, Asst. prof., IIT Delhi