

Minutes of the 7th meeting of Project Appraisal & Approval Committee (PAAC-EPC)

The 7th meeting of PAAC-EPC headed by Chairman CPCB was held on June 20, 2018 at CPCB, Delhi. List of Participants is placed at **Annexure-I**. The meeting was convened in particular for the consideration of the proposals recommended for revision by the PAAC-EPC during past meetings.

The meeting commenced with briefing on status of funds & projects under EPC by Dr. Prashant Gargava, Head AQM Div., CPCB followed by a detailed presentation by Mr. V. K Shukla, Sc. 'D', AQM Div. The committee was apprised about status of projects and funds accrued in CPCB's EPC account.

Eleven proposals were placed before PAAC-EPC for consideration. The observations & decisions of the committee is summarized below:

1. **Air pollution hot spots in western Indo –Gangetic Plains: Implications on agro ecosystem and Human health:** The revised proposal presented by JNU focussed on impact assessment of stubble burning on human health and development of agro-productivity index. The time line of the project was also reduced by 6 months. The committee felt that components of health assessment and productivity index development are independent of each other and accordingly advised for re-submission of two separate proposals - one related to development of Agro-productivity index in stubble burning prone areas and the other on health assessment studies with inclusion of medical professionals in the team.
2. **Air quality impact on travel choice (A-Quit):** The revised proposal presented by TERI university along with IIT-Delhi agreed for using existing air quality monitoring network of Delhi along with reduced timeline and cost. The committee felt studies on assessment of behavioural changes of commuters on travel choices vis-à-vis pollution and weather conditions is not available in Indian context and the same facilitate steps for minimizing exposure to school children.

The Committee sanctioned the study to TERI University at the cost of Rs 38.48 lakhs (inclusive of GST).

3. **Impact of Traffic on Asthma amongst School Children in Delhi :** The proposal presented by International Institute of Health Management Research (IIHMR), Delhi was revised considering optimal resources utilization through existing air quality monitoring network of Delhi, objectives clarity and cost reduction. The revised scope was enhanced with assessment of more pulmonary disease besides asthma, inclusion of only school vicinity residents as subjects and use of retrospective approach for health assessment.

The committee appreciate that school children are the most vulnerable to air pollution and felt that there is scarcity of Indian epidemiological data in support of the same. The committee observed that this study will generate epidemiological data on traffic induced pulmonary disease amongst school children in India and the same may assist in developing future policies related to schools siting and designing school buildings.

The Committee sanctioned this study to IIHMR, Delhi at a cost of Rs 59.24 lakhs (inclusive of GST).

4. **Development of customized nozzle spraying systems for mitigating pollution in Delhi-NCR region:** The proposal was revised and submitted for development of customized nozzle sprays for optimal suppression of the dust considering its sources, particle size and use of chemical for prolonged suppression. Chairman advised proponents to assess ability & constraints of existing deployed systems

for the suppression and control of dust so that the design of the proposed system can be enhanced accordingly. The proponents were also advised to visit existing C&D management facilities. The committee recommended resubmission of the proposal with inclusion of preliminary assessment report and future approach. The DST may also be consulted for assessing the effectiveness of the nozzle sprays and customised design for various applications.

5. **Measurement of environmental noise emission and noise mapping over Delhi:** The proposal presented by CSIR-NPL was revised considering general noise rather than vehicular noise as advised earlier. The study envisaged development of noise map of entire NCT based on noise monitoring at certain locations and land use pattern and other data inputs in an established software. The committee felt that proposed only one set of noise monitoring for 24 hours per location is inadequate for the development of a representative noise map. Representative from IMD advised consideration of seasonal variations in ambient temperature & air density while developing noise maps. The committee hence advised for further review of proposal in consultation with CPCB.
6. **A computational framework for cost effectiveness assessment and deployment optimization of air pollution abatement in Delhi/ NCR:** The proposal was related to development of a computational software for cost effective analysis of various pollution control interventions enabling selection of optimal options. Though the committee felt the approach is innovative as a decision making tool, it was sceptical on availability of requisite data for optimal running of the model. Hence, the committee opined submission of revised proposal along with an inception report prepared in consultation with concerned stakeholders, addressing the issues of data requirements & availability.
7. **Proxy relationship of ultrafine particles numbers & concentration, new particle formation and its growth rate in transport microenvironment in Delhi, India:** As suggested, the proposal was revised vis-à-vis with respect to reduction in cost & timeline, optimal resource utilization and clarity on outcome. The proposal aimed at developing relationship between ultrafine particles in terms of their numbers volumetric & mass concentration and presence of precursors in a transport microenvironment, which shall assist in selection of optimal transport related interventions. The scope involved simultaneous analysis of particulate number, concentration & mass at a given location. The representative from IMD, based on their experience, stated SMPS analyser limitation in capturing formation of nascent particles in city conditions. The proponents, however, cited international case studies in support of the same.

The committee felt absence of data on ultrafine particles in Indian scenario, and agreed for pilot scale study for a period of four months (September to December) to assess the outcome, deliverables & utility, prior to initiate comprehensive study. The project proponents were requested to resubmit the proposal accordingly.

8. **Delhi air quality experiment- A paradigm shifts in source apportionment:** The revised proposal was presented by IIT-Kanpur via video conferencing. The Committee was informed by Prof. Tripathi that IIT Kanpur has already done an exercise to ascertain sources of pollutants on real time basis in Delhi and findings of this study are expected by of October 2018. Therefore, Committee felt that before approving the proposal for Real Time Source Apportionment on wider scale, it would be appropriate to understand the findings of the on-going study. This would enable the committee to appreciate the need and utility of the proposed study under EPC funding.

Prof. Tripathi, however, opined that such an approach is likely to cause difficulty to project proponents as some of the equipment have been borrowed from Institutions located abroad and it is

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unlikely that these institutes wait till end of October 2018 for sanction of the proposal. EPC Appraisal Committee, however, felt that it would be appropriate to consider the proposal only after the findings of the on-going study are examined by the Committee.

9. **Indoor Air Quality Monitoring for air quality management in Delhi-NCR: Monitoring and analysing how building breathes using IOT and AI approach:** The proposal was revised by CSIO-CSIR, Chennai as per the recommendation of the PAAC considering development of guidelines on Indoor Air Quality Management. Proponents requested to increasing the monitoring locations from suggested two to three for better representation. The committee approved for pre-feasibility study of limited duration, at three monitoring locations before deciding on comprehensive study and requested for final resubmission of proposal.
10. **Development of hybrid land use regression model for spatially resolved exposure assessment of air pollutants and estimating the cardiovascular risk in Delhi city:** The revised proposal considering reduction in project cost and timelines was presented by IIT Delhi for its consideration via video conferencing. The study intended to develop a hybrid of dispersion and land use regression model for assessment of cardiovascular risk vis-a-vis implementation of various control intervention. The committee opined for the consideration of the proposal after receiving feedback from MoEF&CC related to scope of health studies in 20 cities initiated to avoid duplication.
11. **Strengthening of legislative/regulatory role of CPCB:** The revised proposal was to be presented through video conferencing, however due network problem at proponents end the same could not be presented.
12. **Improvisation & Management of Air quality in Delhi NCR by removing pollutants at source:** The proposal submitted by IIT Delhi was related to desulphurization of diesel and gasoline using mutated variants of microbes. The proposal was referred to DST and the same was discussed before the expert panel constituted by DST during its meeting held on May 07, 2018. The expert panel screened out the proposal stating that the proposed study is more on R&D study rather than applied research.

The committee rejected the proposal as advised by DST.

13. **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.:** PAAC advised to forward the proposal to IITM and DST for examination and feedback. The expert panel at DST has screened out the proposal during its meeting on May 07, 2018. However, the response from IITM is not yet received. The committee suggested to wait and take final decision after the receipt of IITM response.
14. **Other issues:** Chairman, CPCB asked AQM division to strictly monitor timelines of the sanctioned projects. He also asked for the circulation of the progress status of sanctioned project amongst PAAC-Members and upload relevant information on CPCB website.

Meeting ended with vote of thanks to the Chair.

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. V. K. Soni, Head, EMRC, IMD/MoES
4. Shri Rmakant Singh, Director, DHI
5. Shri Atanu Ganguli, Dy. Exec. Dir., SIAM
6. Shri G. V. Raghunath Reddy, Sc. 'E', DST
7. Dr. Priti Singh. Sc. 'C', MoEF&CC
8. Shri Neeraj Khare, officer Biofuel Cell, MoPNG
9. Ms. Sapna Srivastav, ASO UPPCB, Ghaziabad
10. Dr. J. B. Sharma, RO HSPCB, Gurugram
11. Shri Sohan Lal, JSO RSPCB, Bhiwadi

List of Proponents:

1. Ms. Usha Mina, Assoc. prof., SES, JNU, New Delhi
2. Shri Sudesh Yadav, Assoc. prof., SES, JNU, New Delhi
3. Dr. Kamna Sachdeva, Assoc. prof., TERI-SAS, New Delhi
4. Shri Amit Sharma, Project Scientist, IIT Delhi
5. Dr. Nitish Dogra, Assoc. prof., IIHMR, New Delhi
6. Dr. Anuradha Shukla, Chief Scientist, CSIR-CRRI, New Delhi
7. Dr. Anandhi Ramachandra, Asst. prof., IIHMR, Delhi
8. Dr. Bahni Ray, Asst. prof., IIT Delhi
9. Dr. Mahavir Singh, Sr. principal Scientist, CSIR-NPL
10. Dr. Kirti Soni, Scientist, CSIR-NPL
11. Dr. Varun Rama Mohan, Asst. prof., IIT Delhi
12. Dr. Rajeev Kumar Mishra, Asst. prof., DTU
13. Shri Shalendra Kumar Yadav, PhD scholar, DTU
14. Dr. S. N. Tripath, Professor, IIT Kanpur
15. Shri Anand V. P., Scientist, CSIR-CSIO, Delhi
16. Ms. Sudesh Yadav, Scientist, CSIR-CSIO, Delhi
17. Shri Dharendra Bansal, Scientist, CSIO - Delhi centre
18. Dr. Gazala Habib, Asst. prof., IIT Delhi
19. Dr. Jai Prakash, Sr. project Scientist, IIT Delhi

CPCB Officials:

1. Dr. Prashant Gargava, Head, AQM, CPCB
2. Dr. V. K. Shukla, Head, Air Lab, CPCB
3. Mrs. Meetu Puri, SSA, AQM
4. Ms. Parinita Baruah, JRF, AQM
5. Sh. Toshesh Bhargava, JRF, AQM
6. Sh. H. R. Kaushik, JRF, IT Division
7. Sh. Rakesh Chandra Dalakoti, MTS, AQM