

Minutes of the 15th Meeting of Project Appraisal & Approval Committee (PAAC-EPC)

The 15th meeting of PAAC-EPC was held on June 20, 2019 at CPCB, Delhi. Meeting was chaired by Chairman CPCB. List of Participants is placed at **Annexure-I**.

The meeting commenced with briefing on status of EPC funds, project proposals under consideration and a presentation on the progress of sanctioned projects under EPC funds. It was apprised to the Committee that so far 98 proposals have been received, out of which 79 have been placed before the PAAC-EPC. Out of 79 proposals, 26 proposals have been sanctioned, 21 proposals are under various stages of consideration, 14 proposals have been rejected and 02 withdrawn while remaining 16 are to be discussed by PAAC-EPC during this meeting.

Committee reviewed the progress of 25 sanctioned projects and made following observations:

- TERI project "Evaluation of modelling techniques for air quality management in Delhi" to be presented to the committee in its next meeting.
- Revised schedule and date of completion for Projects entitled "Delineation of Air Shed for Air Quality Management in Delhi-NCR" and "Proxy relationship of ultrafine particles number concentration, new particle formation and its growth rate in transport microenvironment in Delhi" to be finalized and informed to the committee in next meeting.
- Quarterly progress to be submitted by PIs to CPCB for all projects awarded under EPC funds.

Two revised and four new proposals were placed before PAAC-EPC for consideration. The observations & decisions of the committee are summarized below:

1. **Investigations into mass and chemical characterization of fugitive dusts and setting up environmental guidelines for control of these emissions in Delhi-NCR submitted by IIT Kanpur:** Dr. Mukesh Sharma presented the revised proposal, focussing on chemical characterization and development of size specific profile for source apportionment studies with respect to three specific sources of fugitive dusts in Delhi-NCR i.e. road dust, C&D activities and fly ash pond. Project will also include development of environmental guidelines and best management practices for prevention and control of fugitive dust emissions from these sources. PAAC was informed that probably TERI had developed the profile of PM_{2.5} for road dust which may be confirmed from TERI. PAAC expressed that if profiles have already been developed, IITK may review and submit revised proposal.
2. **Air Quality Management through Big Data, Machine Learning and AQI Predictive Modelling approaches applied towards assessing, estimating and predicting pollution levels in Delhi-NCR submitted by Kam Kanakdurga Education & Consultancy Services Pvt Ltd.:** Proposal, presented by KKD team, aims to depict a live representation of ambient pollution levels and provide daily, weekly and monthly forecast of AQI for Delhi/NCR through predictive model developed using big data and machine learning. Besides IT experts, domain expert is also involved in order to check and guide for improvement in performance of predictive model. Performance of model will be improved on the basis of learning from data sets. Committee expressed a proof of concept needs to established through implementation on small scale. PAAC-EPC recommended constitution of expert group comprising of Head, IT Division, CPCB; Head, AQM Division, CPCB and Shri M P George, DPCO and member of KKD team to work out revised proposal for establishing proof of concept including setting requirements of CPCB Dash Board for data sharing.

 

3. **A Computational Framework for Cost-effectiveness Assessment and Deployment Optimization of Air Pollution Abatement Interventions in Delhi/NCR submitted by IIT Delhi:** PAAC-EPC was briefed that this proposal was discussed during 7th meeting of EPC. It focusses on development of tool/model to assess cost effectiveness of air pollution mitigation measures in terms of health & ecology benefits enabling selection of optimal options. PI was advised to revise the proposal along with submission of an inception report prepared in consultation with concerned stockholders, addressing the issues of data requirement and availability. PI informed that the inception report has been submitted on how the data requirements would be met and presented the revised proposal. PAAC-EPC expressed that there are tools already developed to analyse health & ecology benefits from pollution abatement measures such as Benmap. PAAC-EPC suggested PI to check tools already available and also discuss with health experts about the proposed methodology for development of model and its feasibility.
4. **Techno-Economical Demonstration of Utilization of Paddy Straw to Prevent Air Emissions from Open Field burning and Improve Air Quality of New Delhi submitted by Himachal Pradesh University:** Dr. Arvind Bhatt presented the proposal, which aims to setup plant in order to demonstrate techno-economic feasibility of process for recovering various products utilizing paddy straw and therefore address problem of air pollution due to stubble burning. The committee expressed that this is a new technology project and recommended to forward the proposal to DST technical committee for examination before consideration by PAAC-EPC.
5. **Near-real time fire emission estimation and fire forecasting system for Delhi Air Quality submitted by C-DAC:** Dr. Santosh Kulakrni with Co-PI presented proposal through video conferencing. Proposal aims to develop high-resolution emission inventory for crop residue burning (PM_{2.5}, BC, OC, CO, NO_x, etc.) over Northern region and decision making algorithm for near real time fire emission estimation and fire forecast. PI informed that it would be possible to provide fire counts, emission estimation and contribution of each state towards air pollution on daily basis. The developed product will be hosted on CPCB website. Committee approved sanction of EPC funds for the project to C-DAC at cost of ₹ 49.90 lacs.
6. **A prospective Cohort study of Air Pollution Impact on Respiratory System submitted by IIT Delhi:** Dr. Sagnik Dey presented the proposal. Proposal aims to check attribution of risk of COPD due to air (PM_{2.5} and O₃) pollution in Delhi. PI explained that COPD is considered because it is medically linked to air pollution and prevalence has increased manifolds in India but is reported lower in Delhi compared to other cities which may be attributed due to other factors. Study will involve retrospective assessment of identified cases and prospective cohort of new COPD cases. Exposure data will be generated for Delhi for last 20 years using satellite derived products for Retrospective cohort. Committee expressed that there is requirement of this study as it will help in understanding the relative importance of air pollution on Chronic Obstructive Pulmonary Disease (COPD) relative to other risk factors in India. The committee approved the proposal in principle and suggested that proponent to submit detailed budget break-up along with justification.

7. **Other Rejected Proposals:** Committee was briefed that a few proposals were examined by DST and sub-committee in their meetings and these are not recommended for further consideration by PAAC-EPC under EPC funds. Committee agreed to reject the following proposals:

- a) Proposal for setting up one unit of Mokshda Green Cremation System totally free from SPM in Delhi/NCR to improve ambient air quality of the region submitted by Mokshda, Paryavaran Evam Van Suraksha Samiti
- b) Comprehensive study on locating pathways for mitigation paddy straw burning in Punjab submitted by TERI
- c) Mapping and impact analysis of Stubble burning problem and S & T interventions for its management through scientometric analysis and Primary survey submitted by CSIR - National Institute of Science, Technology & Development Studies, New Delhi
- d) Assessment of Exposure to Traffic Related Air Pollution in Different Transport Modes submitted by CSIR - CRRI
- e) A new tool for air quality management and pollution control: Delhi air quality modelling and simulation platform submitted by Air Quality Vaisala Oyj, Finland
- f) Real time modelling of ambient air quality in Delhi using modified DST-SERB assisted multiplume source complex model submitted by Annamalai University
- g) Development of City Specific Driving Cycle-A case of Delhi submitted by CSIR - CRRI
- h) 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
- i) Fuel system materials compatibility with higher ethanol-gasoline blends (E85) submitted by ARAI
- j) PIND- pollution indication and notification device submitted by SRM* University

Meeting ended with vote of thanks to the Chair.

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List of Participants:

1. Sh. S. P. Singh Parihar, Chairman, Central Pollution Control Board
2. Dr. Prashant Gargava, Member Secretary, Central Pollution Control Board
3. Ms. Simmi Narnaulia, Under Secretary, DII/MoII&PE
4. Ms. R. Ramila, SO, IFD, MoEF&CC
5. Dr. V. K. Soni, Head, EMRC and Sec. 'E', IMD/MoES
6. Dr. J.B.V. Reddy, Sec. 'D', DST/MoST
7. Dr. M. P. George, Sec. 'D', DPCC
8. Dr. Rashid Hasan, Advisor., SIAM
9. Sh. Anil Kumar Singh, RO, UPPCB, Noida

List of Proponents:

1. Dr. Mukesh Sharma, Professor, IIT Kanpur
2. Sh. Mounik Pani, Kam Kanakdurga Education & Consultancy Services Pvt Ltd.
3. Sh. Vishal Agarwal, Kam Kanakdurga Education & Consultancy Services Pvt Ltd.
4. Sh. Shinjan Sarangi, Kam Kanakdurga Education & Consultancy Services Pvt Ltd.
5. Sh. Animesh Kujur, Kam Kanakdurga Education & Consultancy Services Pvt Ltd.
6. Dr. Varun Ramamohan, Asst. Professor, IIT Delhi
7. Dr. Sagnik Dey, Assoc. Professor, IIT Delhi
8. Prof. (Dr.) Arvind Kumar Bhatt, Himachal Pradesh University, Shimla (via VC)
9. Sh. Santosh Kulkarni, C-DAC, Pune (via VC)

CPCB Officials:

1. Sh. V. K. Shukla, Sec. 'E' and Head, AQM, CPCB
2. Sh. Vinod Babu, Sec. 'E' and Head, IT Division, CPCB
3. Sh. Ankush Tewani, Sec. 'D', AQM, CPCB
4. Sh. Foshesh Bhargava, JRF, AQM
5. Sh. Hrishi Kaushik, SRF, IT Division
6. Sh. Kanak Gupta, SA, IT Division