

**Minutes of the 21<sup>st</sup> meeting of Project Appraisal & Approval Committee (PAAC-EPC)**

The 21<sup>st</sup> meeting of PAAC-EPC, chaired by Chairman, CPCB, was held on February 02, 2021 via video conferencing. List of participants is placed at Annexure - I.

02. Chairman, CPCB welcomed the committee members to the meeting. AQM division briefed about the status of EPC projects and funds. A total of 106 proposals have been received, of which 85 have been scrutinized and appraised and 21 proposals are to be placed before the committee for consideration. Out of the 85 proposals, 28 projects have been sanctioned, 31 proposals rejected and 26 proposals are pending for revision by the proponents or review by CPCB/other agencies. Total amount received as on January 29, 2021 in the EPC account is Rs 210.35 crores and the total cost of sanctioned projects is Rs 73.47 crores + additional "As per actual cost" in seven sanctioned projects. Rs 18 crores have been estimated as the tentative cost for the "as per actuals cost" of these 7 projects.

03. Considering that 26 proposals are awaiting further action for a long time, the PAAC-EPC expressed that those proponents who were required to submit revised proposals may be asked to submit the same within one month's time. If revised proposal is not received during this time limit, the proposal shall be returned back to project proponent and would be considered as withdrawn. However, the proponent would be at liberty to re-submit the proposal to CPCB, but the same would be examined and evaluated as a fresh/new proposal. Similarly, the project proposals wherein ministries/departments/organizations comments were sought and are awaited, the comments may be obtained within one month's time through regular follow-up.

04. Subsequently, AQM division apprised the committee about the agenda of the meeting. The final findings of one project, CPCB recommendation on one revised proposal, progress of smog tower project and recommendations on the 21 proposals yet to be placed before PAAC based on internal evaluation by CPCB, were placed before the PAAC-EPC for consideration. Discussion and decisions of the committee are summarized below:



**A. Deployment and Evaluation of air purification units for traffic junction pollution abatement in Delhi:**

Sh. Sunil Gulia, NEERI presented a new proposal "Innovative Technologies of Pollution Abatement for Urban hotspot in Delhi". The cost of the proposal was informed as Rs 2.03 crore excluding GST for 01 year duration in which the air purification units (existing and new designs) will be operated for 8 months (Oct 2021-May 2022) and performance would be monitored. NEERI informed that it will not directly operate these devices and will be involved in performance evaluation. NEERI would indicate an agency that would fabricate and install new designs and operate and maintain all devices as per the SOP prepared by NEERI. The proposal would also identify the new locations where these devices may be operated. Further, particle size distribution analysis and chemical characterization of collected dust would be conducted for each site for selected samples, and, the efficiency of VOC and CO removal through these devices would also be evaluated. NEERI also briefed about new innovations/designs in air purification units such as SMART Tree (organic light tower consisting of metal framework covered with living plants) and pillar shape purification unit. The Committee enquired about efficiency of the new design in reducing PM<sub>2.5</sub> levels and expected enhanced efficiency of the new designs. NEERI responded that they are planning to add one more layer of specialized PM<sub>2.5</sub> filter to the air purification unit for improved efficiency in the expected range of 50-60%. This is based on chamber testing performance results observed at NEERI laboratory. PAAC-EPC expressed that considering the change of filter module and WAYU design, the proposal may be considered as pilot R&D project, however, operation period of 2-3 months may be sufficient for testing/ evaluating the performance of WAYU units. Hence, the proposal needs to be revised. Further, NEERI needs to provide lab scale results on efficiency data for new filter design, information on cost benefit analysis and explore methods of ease of operation and scaling up of the technology/design so as to increase the zone of influence. Accordingly, PAAC-EPC asked NEERI to submit a revised proposal by incorporating information on the aforementioned points. PAAC-EPCA also asked NEERI to clearly indicate that funding for performance testing of new improved designs is not done from any other ministry/ institute.

*Review*

**B. Air Quality Management through Big Data, Machine Learning and AQI Predictive Modelling approaches applied towards assessing, estimating and predicting pollution levels in Delhi-NCR:**

The committee was briefed that the proposal was discussed in the 17th PAAC-EPC meeting held on 28.01.2020 wherein it was approved in principle to award phase I of the project i.e. Standard Dashboard for Decision Support System, and, the project proponent was asked to re-work the financials and submit it to CPCB for examination.

Subsequently, a revised proposal was received from KKD with total cost of the project as Rs. 2,88,96,000 including AMC and Support cost, with Rs. 1,53,17,125.00 and Rs. 1,35,78,875.00 for Phase-I (Standard Dashboard for Decision Support System) and Phase-II (Prediction based Dashboard for Decision Support System) of the project, respectively. A committee was formed at CPCB for examination of the cost and the costs proposed by the committee (excluding taxes) are Rs. 48,16,369/- for Phase-I and Rs. 49,09,164/- for Phase-II respectively.

Dr. V.K. Soni, Head-EMRC, IMD, expressed that the Commission for Air Quality Management in NCR and adjoining areas (CAQM) is also working on developing a Decision Support System with IIT-Delhi, IMD, NEERI, IITM, TERI and C-DAC. Member Secretary, CPCB informed that the Decision Support System being developed under the guidance of CAQM is in preliminary stage. However, more details regarding the decision support system being developed by CAQM may be ascertained to ensure that there is no conflict and overlap between the two.

Dr. P.K. Banerjee, Executive Director, SIAM, expressed that M/s. KKD is a private company and normally projects are not sanctioned to private companies. It is also not clear whether the funds will be sanctioned and released to M/s. KKD or IIT-Delhi. He also expressed that from the note it is not clear that what will be the mutual roles and responsibilities of M/s. KKD and IIT-Delhi in implementing this project.

MS, CPCB informed that the project is originally submitted by M/s. KKD and subsequently they have approached Prof. Mukesh Khare and Dr. Harsha Kota of IIT-Delhi who have agreed



to provide technical guidance to M/s. KKD. As per the proposal, award of the project and release the funds to M/s. KKD is under consideration. The role of IIT-D is limited to providing consultancy services by two of its faculty members to M/s. KKD.

PAAC-EPC discussed the matter in detail and made the following observations:

- (i) Details of the proposed Decision Support System being developed by CAQM may be ascertained.
- (ii) Award of project to M/s. KKD may be examined in the light of provisions of GFR and the observations made above.
- (iii) Cost component worked out by CPCB may also be shared with the project proponent. However that should not be considered as approval of the project.

PAAC-EPC decided to again deliberate on the project post receipt of response on above observations [Sr.No. (i), (ii) and (iii)]

**C. Pilot study for assessment of reducing air pollution in urban areas by using outdoor cleaning system (sometimes called as Smog Tower):**

PAAC-EPC was briefed about the present progress of the project and that, out of the major project components i.e. filters, frames and fans, only filters are being purchased from Minnesota, USA while other two components are purchased from India. The smog tower is expected to be commissioned by 04.06.2021. Further, the committee was apprised about the release of funds under the project. ₹ 7 crores and ₹ 1,97,46,048/- have been transferred to NBCC India Ltd. and IITB, respectively by CPCB.

Further, as per the MoU, cost of laying electrical cables and transformers to draw power to the facility was not included in the cost of project and was to be released as per actuals. Accordingly, ₹ 68,35,881 has been released to NBCC for release to TPL for transformers and other electrical works and ₹ 3,26,32,524 (including contingency and NBCC PMC Charges) has been released to NBCC for release to BSES for electricity connection of 1027 KVA (including Extra High Tension cost @ Rs. 1.25 crore per MVA, cable laying cost and costs of HT Feeder, RMU, etc.). MS, CPCB expressed that expenses made towards electricity supply

related works were necessary for timely execution of the project, and, hence post-facto approval is needed from PAAC-EPC for the EPC funds utilized for this project. PAAC-EPC provided its concurrence for the said payments.

PAAC-EPC was apprised that since the MoU for the smog tower project covers the activities till commissioning, the issue of Operation and Annual Maintenance Services for Smog Tower is to be discussed. Earlier, PAAC-EPC had decided to award O&M to Tata Projects Limited but it may not be feasible being a private party. CPCB informed that besides TPL, the other options available are to identify a third party through tendering process or award the O&M to NBCC which in turn may give it to TPL. The committee expressed that considering that this project is implemented for the first time in the country, it would be difficult to identify a third party with adequate experience for operation and maintenance of medium scale air purifiers (smog tower) and that since TPL was building the tower and had gained enough experience in view of the collaboration with UoM, it would have the necessary expertise to operate and maintain it. However, considering the issue of direct award of work to a private party, the PAAC-EPC recommended that NBCC may be approached for this task and NBCC may, in turn, get this done through TPL.

**D. Evaluation of modelling techniques for Local air quality management planning in Delhi:**

PAAC-EPC was briefed that the project was awarded in November 2017 at a cost of Rs 48.78 lakhs plus taxes and the final report was submitted in March 2020. The project has been completed and as per the MoU final payment is to be released on acceptance of project/findings report by PAAC-EPC. Accordingly, PI has been invited to present the findings of the project.

Dr. Sumit Sharma, TERI presented the final findings of the project. In this study, TERI with support from VITO customized a spatial mapping and a forecasting model for the city of Delhi. Both models have been successfully setup, validated, and tested for the city of Delhi. In case of spatial model (using validated RIO model), PM has been more adequately mapped than other gaseous pollutants with the spatial maps showing distinct seasonal variation, and the hotspot regions in the city. Forecasting of pollutants using the OVL model shows satisfactory performance for most part of the year, except during peak pollutant concentrations scenarios.



PAAC-EPC accepted the findings and recommended release of final installment. PAAC-EPC made the following suggestions regarding the project:

- The report may be shared with concerned stakeholders of Delhi-NCR for reference.
- Further, development of air quality forecasts are planned for non-attainment cities under NCAP, by MoES, thus TERI should discuss with MoES regarding optimization of their present model.

05. PAAC-EPC was informed that 21 proposals received at CPCB for consideration under EPC funds, have yet not been placed before PAAC. These 21 proposals have been examined by an internal committee and the recommendations of the internal committee were placed before the PAAC-EPC. Member Secretary, CPCB suggested that these 21 proposals along with CPCB recommendations be shared with PAAC-EPC members for their comments. These proposals can then be discussed on the basis of merit, importance from R&D point of view and utility. Proposals can be grouped under the categories of rejected, put forward for consideration of PAAC-EPC or requires revision/clarification. Further discussions on these proposals, after review of PAAC-EPC members, can be held in the next meeting. PAAC-EPC agreed to the suggestion made.

06. PAAC-EPC recommended that findings of the projects that have been completed and closed, should be shared via webinars or other media for implementation by concerned stakeholders and for public dissemination .

07. Meeting ended with vote of thanks to the Chair.

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**List of Participants:**

1. Sh. Shiv Das Meena, Chairman, Central Pollution Control Board
2. Dr. Prashant Gargava, Member Secretary, Central Pollution Control Board
3. Sh. Manoj Srivastava, Deputy Secretary, IFD, MoEF&CC (via VC)
4. Sh. Sushil T Williams, Deputy Secretary (Oil Refinery), MoPNG (via VC)
5. Sh. A. K. Singh, Director, DHI (via VC)
6. Dr. V. K. Soni, Head IMD (via VC)
7. Dr. J. B. V. Reddy, Scientist 'E', DST (via VC)
8. Sh. B. L. Chawla, Sr. Environmental Engineer, DPCC (via VC)
9. Dr. P. K. Banerjee, Executive Director, SIAM (via VC)
10. Dr. Rashid Hasan, Advisor., SIAM (via VC)
11. Sh. Sohal Lal, RO Bhiwadi, RSPCB (via VC)
12. Representative, RO, Noida, UPPCB (via VC)

**List of Proponents:**

1. Sh. Sunil Gulia, NEERI (via VC)
2. Dr. Sumit Sharma, TERI (via VC)
3. Sh. Shivang Agarwal, TERI (via VC)
4. Sh. R. Suresh, TERI (via VC)

**CPCB Officials:**

1. Sh. P. K. Gupta, Sc. 'E' and Head, AQM Division
2. Sh. Vinod Babu, Sc. 'E' and Head, IT Division
3. Dr. Abhijeet Pathak, Sc. 'D', Air Lab.
4. Sh. Sharandeep Singh, Scientist 'D', AQM
5. Sh. Ankush Tewani, Scientist 'D', AQM
6. Sh. Gautam Kumar Sharma, Scientist 'B', AQM
7. Sh. Toshesh Bhargava, SRF, AQM
8. Sh. Rajendra, SA, IT Division