

Orientation Workshop for MPPCB Officials on Central Server Application for Real-time Monitoring

November 15th, 2019

Venue – New Conference Hall, MPPCB-HQ, Bhopal

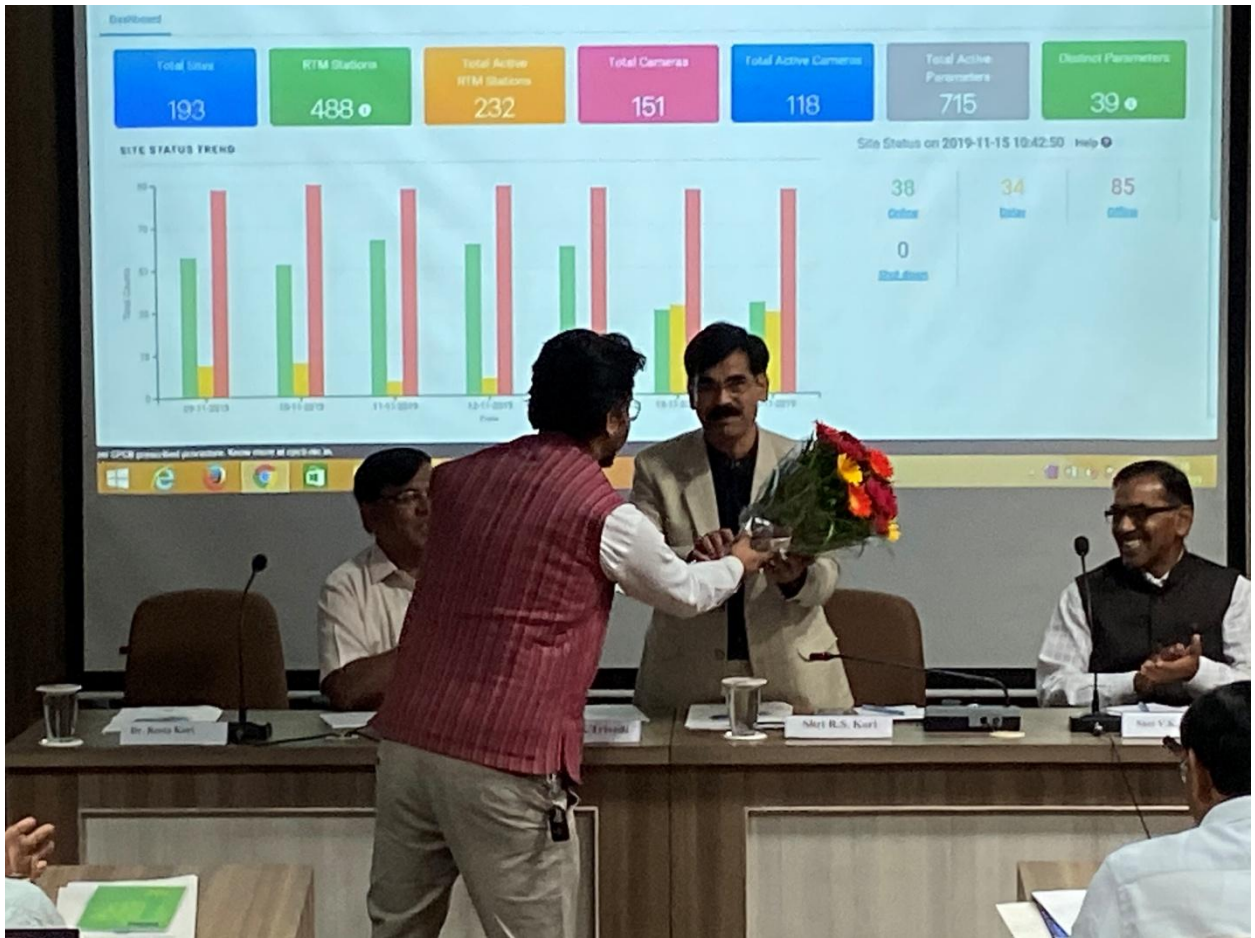
Preamble :

The MoEF&CC, GoI has initiated a scheme of 'Self Monitoring of Compliance' under which the target industries are required to install real-time monitoring systems (RTMS) to assess the pollutants status. The RTMS are connected with State Environment Regulatory Authority for transmission of data on real-time basis. The quantum of RTM data is too high to manage manually in a structured way and its proper interpretation becomes a herculean task for quick decision support. In order to take care of this important issue, and make best use of available RTM data, the Environment Surveillance Centre, M.P. Pollution Control Board (MPPCB) has developed a Central Server Software (CSS) which provides an interface between industries and MPPCB to support various requirements of real-time monitoring. The CSS provides a unified web-based access-controlled platform which is accessible to all the Unit Heads at Headquarters, all the Regional Offices and other concerned employees from anywhere for real-time monitoring of industries. The task of validation and management of real-time monitoring data is handled through Central Server System Software in better way and this has led to the concept of this project.

The Environment Surveillance Centre, MPPCB organised a one-day Orientation Workshop for MPPCB officials on 'Central Server Application for Real-Time Monitoring' on 15.11.2019 at HQ-Bhopal to get them familiarized with CSS tools and develop a thorough understanding on its various functions and utilities for its beneficial and meaningful use.

Proceedings :

The workshop started with the floral welcome of Shri R.S. Kori, Member Secretary, MPPCB, Shri P.K. Trivedi, Director (Environment) and Shri V.K. Ahirwar, Director (Environment), MPPCB. The other senior officials of MPPCB at HQ and field offices were also welcomed on the occasion. Shri Sudheesh Narayanan, Chief Executive Officer of the service provider firm, M/s Knowledge Lens Pvt. Limited, Bengaluru, who was the expert guest faculty on the occasion, was also given a warm welcome.



Floral Welcome of Shri R.S. Kori, Member Secretary, MPPCB on the occasion



Opening remarks by Scientist, ESC



Issues for Immediate Attention



Floral Welcome of Expert Guest Faculty on the occasion

After extending warm welcome to all, Dr. Rajendra Chaturvedi, Scientist, Environment Surveillance Centre (ESC), M.P. Pollution Control Board in his opening remarks briefed the participants about the genesis of Central Server Application, its multiple uses for various needs, present status of real-time monitoring in the State, plan for shifting of CAAQMS from industry premises to the other location of the city, selection criteria for CEMS, mandatory requirement of remote calibration, loop-in the concerned departments through EnvAlert App to attend the environment related complaints etc. He also given an understanding to the participants as how this CSS can revolutionize the real-time monitoring programme in the State. He also introduced Shri Sudheesh Narayanan, CEO, M/s Knowledge Lens Pvt. Ltd., Bengaluru to the participants who was present on the occasion to demonstrate various features of CSS w.r.t. industry as well as regulators' perspective and how this can be put to use effectively for decision support.

During the opening talk Dr. Chaturvedi discussed about Air Quality Index (AQI). The calculation of sub-index values of each parameters, their interpretation and significance

of AQI were all elaborated in detail. A clarification was also made during the presentation on misconception about AQI and misinterpretation of its values on EnvAlert and Sameer App. In reply to a query, the participants were made aware about the progress of indigenous certification agency for RTMS being constituted by GoI and temporary relaxation granted to the industries w.r.t. MCERTS/TUV certification.

The selection of CEMS technology, which is sector as well as process specific, was discussed in detail. The issue related with non compliance of monitoring of mercury parameter by thermal power plants and other process parameters, viz.CO₂, CO, O₂, moisture, gas velocity, stack temperature etc was also talked during the workshop. The mandatory provision of remote calibration, daily and weekly schedule of auto calibration etc., required to ensure reliability and quality of data, were also presented in detail.



Shri R.S. Kori, Member Secretary, MPPCB addressing the Participants

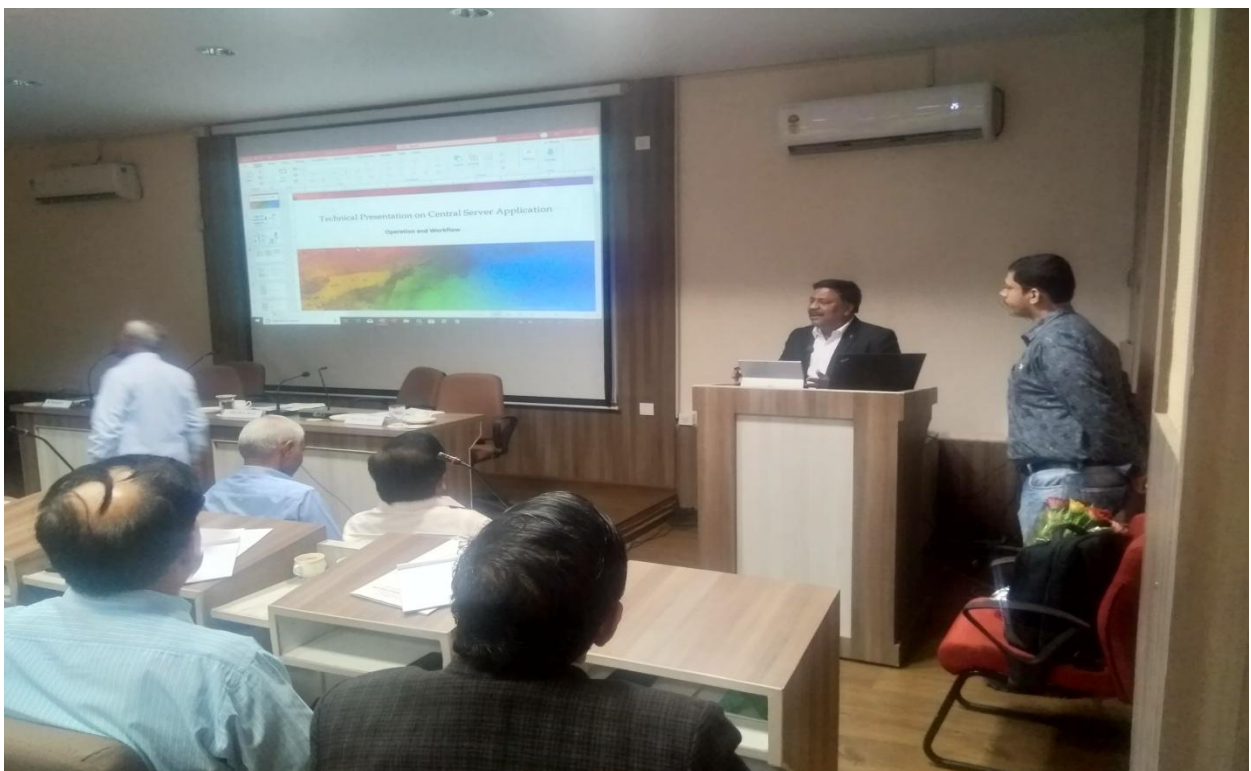
Shri R.S. Kori, Member Secretary, MPPCB, in his key note address, admired timely accomplishment of CSS development task and organising this orientation workshop on the occasion of its commissioning. He praised the idea of inviting all the MPPCB officials on a single platform and organising this orientation meet to get insights of the CSS and develop an understanding about all the features of CSS for speedy decisions in day to day matters. He appealed all the officials to make best use of this platform and leave no chance to interact with and take advantage of vast experience of technical chief Shri Sudheesh Narayanan of the service provider company, Bengaluru. Shri Kori emphasized the need to explore the ways as how this CSS tool can be useful in process and emission control for the betterment of environment. He also said that the task of alerting the non-compliant industries and validation of data should be automated in order to support quick action.

A total of 55 officials from headquarters and various field offices of MPPCB were present during this live interactive and demonstration session.



Proceedings of Technical Sessions

The workshop was scheduled for one day and was basically aimed to give a thorough understanding about multifold advantages of CSS to all the participating officials. In addition to this the other issues of common interest were also taken up during the orientation workshop.



Presentation on CSS Operation & Work flow by Shri Sudheesh Narayanan

The technical session, which was mostly aimed at CSS, was taken up by Technical Chief of M/s Knowledge Lens Pvt. Limited, Bengaluru. The technical session was divided into two parts with presentation on Central Server Application – Operation and Work Flow in the first session and the technical session covering Regulators’ and Industry Perspective w.r.t. CSS.

He started his deliberation with overview of online real-time monitoring systems in which the monitoring of industrial pollutants is done remotely and the encrypted monitoring data is transmitted to a highly scalable central server location securely which is located at State Data Centre of GoMP at Bhopal. He also briefed about how the RTM data can be used for effective environment decision making, live monitoring of pollution levels, generation of automated real-time alerts through SMS or E.mail, publication of environment data for general public etc. The data communication protocols (Analog output, RS-232/RS-484 output), gateways (USB, LAN, WiFi, GPRS) and IoT gateway devices were all explained.

The key concepts of the CSS, viz. monitoring site, monitoring station, different types of analysers, candidate parameters, delayed data, calibration data, error data, diagnostic data, average data, exceedance data, availability of data etc were all elaborated in his presentation.



Dignitaries and Participants engrossed in workshop presentations

Important features of the portal <https://esc.mp.gov.in>, viz. Dashboard details - connectivity across all the connected sites, site summary of a particular site and live status – current status of site and live camera in a single view and viewing current status on map, etc. were also explained in detail by Shri Narayanan. The report part, which comprehensively covers most of the requirements of MPPCB as well as industries, was explained very well during the talk. The report on exceedance count, customized reports,

scheduled reports, data availability report, report on exceedance summary, real-time report, calibration report, average report etc were all practically shown to the officials. Generation of alarms and workflow features were also narrated by him.

The concept of open Application Program Interface (API) and ISO protocol was made clear to the forum which helps in establishing connectivity and transfer of data of industries with the central server irrespective of vendor or manufacturer of RTMS. All the features of CSS were shown live.



Exchanging views and thoughts during Lunch Session

During the session the participants raised several queries related with CSS and RTM which were responded by the expert faculty during presentation. The query included issues related with data capture rate, delayed transmission of data from industry end to the server end, functioning of IoT device, remote calibration etc which were all responded to the satisfaction of the participants by Shri Narayanan. He informed that the process of remote calibration is being looked into further, as desired by MPPCB, to ensure greater reliability. He also informed that one of company's engineer is stationed at ESC for requisite technical support, besides online support from company's bengaluru team.

The queries by participating officials on different issues kept the entire session live and energised. The programme ended with words of thank to the Chair, expert resource persons and participating officials of MPPCB.

