

## Retrofit of Existing SICK CEMS, Application Design, Engineering, Supply, Installation and Commissioning of Emerson Quantum Cascade CEMS at BQPS-2, Karachi

### Customer:

Customer is one of the Combined Cycle Power Plant with 560 MW production capacity, is committed to its mission of tackling the challenges of the new energy future. Customer's aim is to meet the energy needs of society, in ways that are economically, socially and environmentally viable, now and in the future.



### Challenges:

- It's a Retrofit Project, i.e Dismantling of Old CEMS(SICK), Design, Engineering, Integration, installation & Commissioning of CEMS System
- Old CEMS System was not able to Measure Ultra-Low Ranges i.e Normal NOx 5-10ppm and that system was provided by EPC.
- Customer contacted SICK global regarding the issue being faced but they referred the case to EPC and EPC refused to take the responsibility as they already handed over the project. Customer contacted the Sick global again and upon many email refreshers, sick team referred the case to their local representative.
- Local representative was contacted by customer and even after requesting several times they didn't even visited the site to check what the actual problem is.
- Customer was desperately looking for solution to measure Ultra Low Ranges i.e NOx 5-10ppm during Gas Firing and NOx 18-28ppm during Oil Firing.
- Lastly Customer Contacted Emerson local representative EE to help them in the situation where they don't know what could be done to resolve the issue.



Existing SICK CEMS

### Solution:

- Upon Customer request EE Certified Engineer visited the customer site on priority bases and evaluated the CEMS system transparently and submitted the report that system was poorly designed to reduce the overall project cost, and cost of repairing the current system was as same as the procuring the new system.
- Customer requested EE to advise more reliable solution for their application. EE engineer worked with customer to collect actual process parameters and composition to design a system which is more suitable for process in Ultra Low Ranges, requires less maintenance and infrequent calibrations.
- EE worked with Emerson experts to finalize the new system design. New CEMS system is based on custom design as per customer process parameters
- EE is now providing Emerson **Quantum Cascade Laser CEMS System** to ensure High Measurement Accuracy in Ultra Low Ranges over longer operation time periods with minimum maintenance requirement to operate system.
- QCL CEMS Analyzers maintain Measurement Accuracy, Repeatable & Reliable Readings using Self-Diagnostics Characteristics. On top of that it requires NO Calibrations at all. Having all these benefits QCL is one of the most demanding CEMS systems among industries.



Emerson Quantum Cascade CEMS

### Results:

EE is working deliberately with customer in order to win CEMS Retrofit Project.