

THE CONTRIBUTION & ELABORATION IN THE FIELD OF POLLUTION REDUCTION AND FILTERING

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Preface:

- Our cement factory – one of our activities - is distinctive from the early beginning of commissioning, in view of the care and attention as for periodic or preventative maintenance specially in the dedusting systems.
- Our activities could be specified in /4/ categories:

A- Maintaining the electrostatic precipitator (E.S.P):

A-1- Ten years ago and due to the high wear occurred on the collecting electrodes and since the imported ones are not easily obtained, a successful job was achieved by manufacturing the single electrode from /4/ sheet pieces, spot welded together. The trial was tested in Aleppo University from the view of Ω resistance limit assurance under the allowed operational conditions. Later on, we manufactured single-piece electrode by means of a local made mould shaper, at different stages which was similar to the original corrugated profile. The operational efficiency was satisfactory.

A-2- During the kiln shutdowns, a comprehensive repair and steel reinforcement are applied to the worn-out spots of the ESP casing to avoid in-leakage.

B- Maintaining bag filters:

The fabric bags are replaced periodically and prematurely, during sudden or normal machinery shutdowns. The defected valves are replaced immediately while the adjustment intervals are done to the different bags rows in conformity of emission rate demands. The replacement of defected bearing, ventilators and screws are followed regularly.

C- The continuous service and efforts for the dust elimination:

C-1- The cleaning facilities are well arranged for daily or weekly tasks at the different departments.

C-2- The accumulations resulted out of any machinery due to any tech. reasons are removed immediately.

D- Developments & modifications on the filtering systems:

D-1- Some of the centralized filters (such as cement mill filter) receive the dusted air through long pipings connected to the different emission resources. Blocking of these pipings were encountered at the early beginnings of operation, due to water vapor condensation wintrily and due to the lowered dust velocity. The local solution was to manufacture an additional complete filter and installing it at a shortest length apart from the daily clinker tank. The pipings were completely isolated and a hot gas generator were installed aside to raise dusted air temperature.

D-2- An additional optic alarm assembly was equipped to the filter control system to instruct the furthest observer of which bag row is under back flushing and to determine the intervals between two adjacent rows.

- Obstacles:

- 1- Crushed limestone and basalt are stacked & homogenized in an open area yards. The need is to be covered to avoid dust pollution and winter moisture.
- 2- Raw meal silos being afforded the duty of storing and homogenizing in a single volume, the matter of maintaining a steady CaCO_3 ratio in kiln feed, necessitate E.S.P tripping out of service, specially at low level raw meal storing.
- 3- The need for emission & moisture instrumentation before and after filtering systems, are essential.

- wishes:

- 1- We kindly request whose concerns are relevant, to keep in touch in the view of corporation to serve in pollution reduction.
- 2- Delegates who are interested in visiting are cordially welcome to see and evaluate our trials in manufacturing dedusting equipment and the modifications done in filtering aspect.

Enclosed: Photograph for local manufactured bag filter.