



BEDESCHI

CTPTeam
A BEDESCHI COMPANY

BEDESCHI AND CTP_{TEAM} PROJECTS AND ACTIVITIES IN THE MIDDLE EAST

Bedeschi SpA, with more than one hundred-year experience in equipment and plants supply for bulk material handling, managed in 2009-2010 years several projects in North Africa and Middle East countries. Main efforts have been deployed in cement industry (raw material handling and pre-homogenization storages) leading to successful results with some of the major cement industry groups.

CTP_{Team} (Bedeschi Group) since 1970 is a leading provider of filtration, gas treatment, equipment and services for the following markets:

- ✓ Cement
- ✓ Metals
- ✓ Waste to Energy
- ✓ Glass

Its success is reflected by fast revenue growth and market share gains. Its revenue split also reflects a sound base in terms of wide geographic access, great customer penetration and diversified product portfolio.

The paper illustrates a rough summary of these projects.



PERSONAL INFORMATION

Name and family name **Alaa Aburayyan**
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Nationality Italian
Date of Birth 06/05/1977
Gender Male

WORK EXPERIENCE

Date	April 2006 up to date
Occupation or position held	Project and Sales Manager
Main activities and responsibilities	The main activity is to receive the client's enquiries and formulate the economical and technical proposal in accordance with the same, and being in charged in project management in post sale phases
Name of employer	CTP Team s.r.l. a BEDESCHI company (Via S. Maria in campo 1, Cavenago Brianza 20040 MB)
Type of business or sector	Metal mechanics sector
Date	From September 2005 till February 2006
Occupation or position held	Internship
Main activities and responsibilities	Develop a feasibility study for an integrated watershed management project in the northern area of West Bank (Qalqiliya and Salfit) – Palestine. The main goal of the stage was to collect data (from different local institute and NGOs) that could be necessary to carry on such project, integrate all the data collected in a data base to be used for the project in the future. Carry out field visits to develop maps for land use and land cover, soil map, and geological map. Prepare a document in order to provide a physiographic idea about the study area Verify the sectors in which the international NGOs can have an effective role, and can intervene positively to develop the area. Make recommendation for intervention toward a better and sustainable use for the resources present in the area. The results of the study should be as a guide lines for the NGOs who area intended to implement water and environment projects in the area, provide support to decision-making at all levels in relation to the water availability and water management for both domestic and agricultural purposes at local level
Name of employer	University of Milan – Bicocca, CRIC, GVC.
Type of business or sector	International cooperation.
Date	May/September 2004
Occupation or position held	Employee
Main activities and responsibilities	Develop digital instruments regards all the information related to the clients and services, create a database with the updated information on customers and services to facilitate the daily administrative activities, specially those related to the contracts with the clients and to determine the right plant, where each waste (solid, gas, or liquid) can be recycled or get red off.
Name of employer	ERICA srl (via piave 23/25 Cavenago di brianza Milan).
Type of business or sector	Privet sector, Environmental and waste managements services

EDUCATION

Date	February 2005 – February 2006
Title of qualification awarded	Master degree from the department of "Geology and geotechnologies"
Principal subjects/Occupational skills covered	It equips participants with the capacities to work in the framework of international cooperation and provides both theoretical understanding and practical skills to: - identify priorities, stakeholders and strategies - define techniques and operational tools - formulate and assess development projects and programmes From February till July 2005 I have attended the academic session and taken part to lectures, seminars and field visits. These activities were mainly related to International Cooperation (Project Cycle Management how to write a project proposal, how to fill the logical framework Decision Trees, Planning, Monitoring, Evaluation) and more technical issues, such as infrastructural projects (water systems, sewage

Name and type of organisation providing education and training	<p>systems, garbage accumulation sites, underground water extraction soil surveys).</p> <p>The theses was realized in West Bank, Palestine, in collaboration with the university of Milan – Bicocca, and two Italian NGOs (CRIC and GVC). Based on a study regarding integrated watershed management mentioned above in the period from September 2005 till February 2006 with a final grade of 28/30.</p> <p>University of Milan – Bicocca</p>												
PERSONAL SKILLS	<p>Good knowledge of the Project Cycle Management and of the Logical Framework analysis applied with a participatory approach.</p> <p>Good analytical skill and attitude for project evaluation</p> <p>Easiness in oral and written communication.</p> <p>Good capacity for relationship and synthesis</p> <p>Aptitude for team-work in multicultural settings.</p> <p>Very good computer literacy.</p>												
Mother tongue	Arabic												
Language skills (5 = fluent, 1 = basic):													
Other languages	<table border="0"> <tr> <td></td> <td>Italian</td> <td>English</td> </tr> <tr> <td>Speaking</td> <td>5</td> <td>5</td> </tr> <tr> <td>Reading</td> <td>5</td> <td>5</td> </tr> <tr> <td>Writing</td> <td>5</td> <td>5</td> </tr> </table>		Italian	English	Speaking	5	5	Reading	5	5	Writing	5	5
	Italian	English											
Speaking	5	5											
Reading	5	5											
Writing	5	5											
COMUNICATION SKILLS	<p>In my travels and international voluntary work camps and seminars to which I have participated, I knew different realities that confirm my capacity of integrating and working in groups from different nationalities. In addition to my good communication skills that permit me to develop relationships worldwide.</p> <p>In these years of working and volunteering in centres and organizations both Palestinians and Europeans I beard a very good level of negotiating and dialoguing with the different parts and institutes.</p>												
MANAGEMENT SKILLS	<p>I succeed in improving my management skills, since I have been the coordinators of international activities, and leading international work camps, in Palestine and Europe</p> <p>And as a coordinator for micro projects in some important survey centres in Palestine</p>												
TECHNICAL SKILLS	<ul style="list-style-type: none"> • Very good knowledge of Microsoft office (Word, Excel, Power Point) • Very good knowledge of Internet. • Basic knowledge of Microsoft Access, Project e Publisher. • Good knowledge of AutoCad • Good knowledge of Arc View 												
DRIVING LICENSE	<ul style="list-style-type: none"> • European driving license (A+B category) 												
REFERENCES	<ul style="list-style-type: none"> • Prof. Franco Previtali University of Milan – Bicocca. Department of environmental and territorial sciences. Piazza della scienza 1 1 – 20126 Milano, Italy. E-mail franco.previtali@unimib.it Phone +39 02 6448 2856 Fax. +39 02 6448 2895. • Ing Roberto Pedrani consultant of air cleaning plants at Italcementi group Tel: +39 035 396235; Cell. +39 347 4717 640 Email: Roberto.pedrani@gmail.com • Giorgio Cancelliere, coordinator of the master in Land use and water management, university of Milan-Bicocca. E-mail: Giorgio.cancelliere@libero.it Mobile phone: (+39) 338 5083 494. • Ing Roberto Binao, Sales and Projects director CTP Team Sr Phone +39 02 959198 42, Mobile: +39 335 718 3535 Email: roberto.binao@ctp.mi.it 												



BEDESCHI

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BEDESCHI AND CTP_{TEAM}

PROJECTS AND ACTIVITIES IN THE MIDDLE EAST

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1 SAUDI ARABIA

1.1 ARABIAN CEMENT COMPANY – RABIGH PLANT

Bedeschi completed during 2010 the commissioning of the installation of the equipment for new clay and sandstone longitudinal storages.

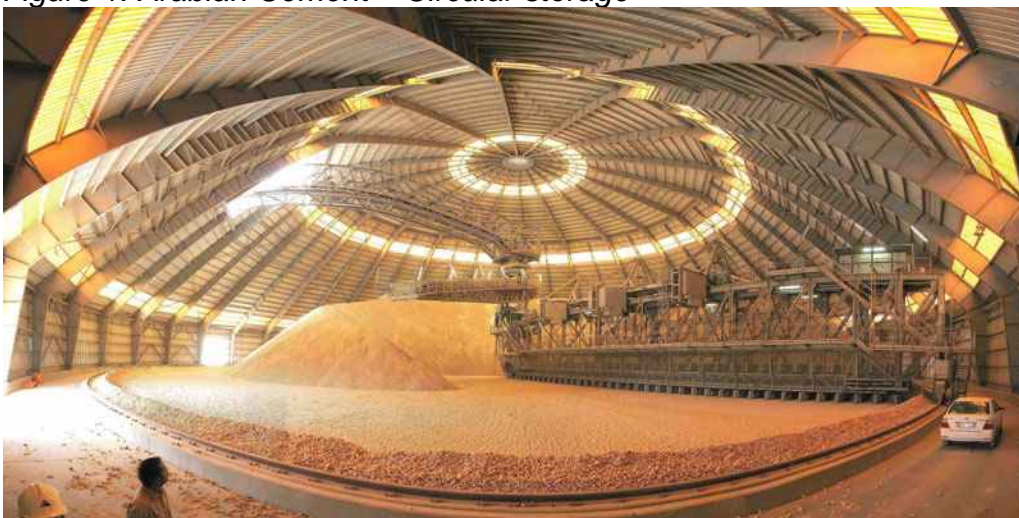
The equipment supply was included in the revamping project of the old existing longitudinal storages for lines 1-4 in order to let them be integrated in the expansion project started with installation of new line 6 some years ago. Bedeschi The n.2 existing longitudinal storages currently operating with limestone and clay will operate respectively with clay and sandstone. Revamping was conceived with the replacement of old equipment with the new one and with the integration of the existing transport system with the new conveyors' layout of the new line.

The new longitudinal storages will have the following design data and installed equipment.

1.1.1 LONGITUDINAL STORAGE N.1 – CLAY

Material	:	Dry clay
Bulk density	: t/m ³	1,3-1,4
Grain size	: mm	0-60 Max 80
Moisture	: %	3-5
Resting angle	: °	38
Total stored volume	: t.	25.000 + 25.000
Number of piles	:	2
Section of piles	: m ²	175
Total length of piles	: m.	136 + 136
Width of piles	: m.	30
Height of piles	: m.	11,7
Stacking capacity	: t/h	1.000
Reclaiming capacity	: t/h	450

Figure 1: Arabian Cement – Circular storage



1.1.2 LONGITUDINAL STORAGE N.2 – SANDSTONE

Material	:	Dry sandstone
Bulk density	: t/m3	1,3-1,4
Grain size	: mm	0-60 Max 80
Moisture	: %	3-5
Resting angle	: °	38
Total stored volume	: t.	7.500 + 7.500
Number of piles	:	2
Section of piles	: m2	90
Total length of piles	: m.	100 + 100
Width of piles	: m.	20
Height of piles	: m.	8
Stacking capacity	: t/h	300
Reclaiming capacity	: t/h	200

Bedeschi in prev. years operated for new line 6 as well as one of the main partners for ACC with the installation of the equipment for the new raw material handling department: mainly the limestone circular storage (rail diam.105m with capacities 200tph (IN) and 900tph (OUT)) and all the belt conveyor transportation system.

Figure 2: Arabian Cement landscape



The complete raw material handling section was also completed by 85 CTP_{Team} bag filters as well as by 4 main bag filters for mills.

2 TURCHIA

2.1 AS CIMENTO A.S. – KIZILKAYA PLANT

During 2010 Bedeschi will commission for this unit a new additive scraper side reclaimer (400tph capacity). The equipment is going to be installed in the existing limestone longitudinal storage already equipped with Bedeschi stacker and bridge type reclaimer (both commissioned 2005). This operation was planned as an integration project of the raw material department for old line n.1 with the new line n.2 which was commissioned during 2008. Bedeschi anyway was engaged with the new expansion project with the supply of the new circular storage equipment (80.000ton capacity rail diam.105m).

Figure 3: AS Cimento – circular storage



Figure 4: AS Cimento – plant view



2.2 EKON – CIMPOR YIBITAS PLANT

Bedeschi SpA during yr 2009, with EKON company, completed supply and commissioning of the complete raw material handling equipment for the new Cimpor Yibitas Cimento Sanayi Ve Ticaret A S greenfield clinker burning and cement grinding line, Hasanoglan Ankara.

Bedeschi supplied in particular n.1 clay crushing unit with a double roller primary crusher 250tph capacity, n.1 clay pit storage equipment with a bridge bucket reclaimer with 100tph reclaiming capacity, n.4 side portal reclaimers for the whole plant raw material longitudinal storages for additives and coal/petcoke (250tph reclaiming capacity) and n.4 apron feeders for raw material reception (additives, limestone, clay, coal/petcoke) with capacities up to 250tph.

The core activity in this project was the first realization for Bedeschi, in Turkey, of a vertical wall storage for the prehomogenization of the clay. This technology, for which Bedeschi is carrying more than 100yrs experience as market leader in the brick industry, is widely used today in cement industry too (large groups as Lafarge, Holcim, Colacem already use it) in the prehomo phase when special care need to be charged for the management of clay and sticky materials instead of the classical longitudinal or circular storages served by a frontal bridge rake/paddle reclaimer.

EQUIPMENT DESCRIPTION	MATERIAL	CAPACITY
CLAY CRUSHING DEPARTMENT		
Apron Feeder CNA 6,5/1500	Clay	250tph
Double roller primary Crusher RI 6,5x15	Clay	250tph
CLAY VERTICAL WALL STORAGE WITH BUCKET RECLAIMER		
Reversible shuttle belt conveyor NGMR 26/1000	Clay	300tph
Stacking bridge STKP 18/1000	Clay	300tph
Reclaimer BEL C 100/14	Clay	100tph
LIMSTONE RECEIVING DEPARTMENT		
Apron Feeder CNSD 6/1500	Limestone	100tph
ADDITIVES RECEIVING AND HANDLING DEPARTMENT WITH SCRAPER RECLAIMER		
Apron Feeder CNA 6,5/1500 B	Additives	250tph
Portal Reclaimer PAL SP 130/18	Additives	250tph
Portal Reclaimer PAL SP 130/18	Additives	250tph
COAL/PETCOKE RECEIVING AND HANDLING DEPARTMENT WITH SCRAPER RECLAIMER		
Apron Feeder CNSD 6/1500	Coal/petcoke	100tph
Portal Reclaimer PAL SP 100/19	Coal/petcoke	30tph
Portal Reclaimer PAL SP 100/19	Coal/petcoke	30tph

All remaining Bedeschi supply for this project was focused mainly on the receiving apron feeders and reclaiming equipment of the longitudinal storages as well as for the crushing unit for clay.

Figure 5: Ekon – plant view



3 MAROCCO

3.1 LAFARGE MAROC – TETOUAN PLANT LINE N.2

Bedeschi commissioned in 2009 the new installation of the equipment for the expansion project of Tetouan plant with the second line.

Bedeschi awarded this new contract after the successful outcome of the installed equipment for line n.1 in 2002.

For this unit the new project was a replication of the configuration of the equipment used for line n.1. The raw material handling department was completed with all the dedusting filter set supply from the Bedeschi subsidiary CTPTeam.

EQUIPMENT DESCRIPTION	MATERIAL	CAPACITY
CLAY HANDLING DEPARTMENT		
Apron Feeder CNA 9/1200	Clay	200tph
LIMSTONE HANDLING DEPARTMENT WITH CIRCULAR STORAGE		
Stacker STKR 15/1000	Limestone	600tph
Paddle bridge Reclaimer PALT 100/23	Limestone	200tph
ADDITIVES HANDLING DEPARTMENT WITH BUCKET RECLAIMER		
Tripper 7,5/800	Additives	600tph
Bucket side Reclaimer BEL F 160/18	Additives	150tph
TRANSPORT SYSTEM		
Belt conveyors (total 1.300m)	various	200-600tph
Dedusting Filters (CTPTeam)	various	5.000-10.000 m3/h

Figure 6: Tetouan plan view



3.2 CEMENTS DU MAROC (ITALCEMENTI GROUP) – AIT BAHA (AGADIR) PLANT



Figure 7: Ait Baha plant view

Bedeschi commissioned in 2010 the equipment for the complete raw material handling for the new Italcementi greenfield plant of Ait Baha (close to Agadir).

The plant includes n.4 longitudinal storages for the raw material plant feeding (included coal) and the complete set of equipment and transport system from limestone quarry up to the plant (1,5km) as well as all the material receiving departments with apron feeders, screens, bucket elevators, chain conveyors, belt conveyors (total more than 5.000m length).

All the dedusting filter set (17 units) have been supplied by Bedeschi with its subsidiary CTP_{Team}.



Figure 8: Ait Baha – the four longitudinal storages

EQUIPMENT DESCRIPTION	MATERIAL	CAPACITY
QUARRY LIMESTONE HANDLING DEPARTMENT		
Belt conveyor NG 1450/1400	Limestone	2000tph
LIMSTONE HANDLING DEPARTMENT WITH LONGITUDINAL STORAGE		
Stacker STK 25/1600	Limestone	2000tph
Paddle bridge Reclaimer PALT 220/34	Limestone	800tph
CLAY-SILT HANDLING DEPARTMENT WITH LONGITUDINAL STORAGE		
Stacker STK 21/1000	Clay-Silt	500tph
Paddle bridge Reclaimer PALT 130/25	Clay	300tph
Paddle bridge Reclaimer PALT 130/25	Silt	300tph
Reversible Apron Feeder RNSR 8/2000	Clay-Silt	500tph
ADDITIVES HANDLING DEPARTMENT WITH LONGITUDINAL STORAGE		
Stacker STK 20/1000	Additives	500tph
Paddleside Reclaimer PALF 130/25	Additives	200tph
Feeder CNT 14/2500	Cement Additives	150tph
Feeder CNT 14/2500	Raw Meal Additives	150tph
COAL HANDLING DEPARTMENT WITH LONGITUDINAL STORAGE (ATEX)		
Stacker STK 28/1200	Coal	500tph
Paddle bridge Reclaimer PALT 130/34	Coal	150tph
Reversible Apron Feeder RNSR 8/2000	Coal	500tph
PLANT TRANSPORT SYSTEM		
Belt conveyors (total 3.800m)	various	200-2000tph
Dedusting Filters (CTPTeam)	various	5.000-40.000 m3/h

Figure 9: Ait Baha – the quarry belt conveyor to the plant



4 JORDAN

4.1 LAFARGE JCF FUHAIS PLANT

CTP_{Team} Bedeschi Group) commissioned on February 2009 a new bag filter for kiln/raw mill exhaust gas dedusting at Fuhais plant (Jordan) belonging to Jordan Cement Factories - Lafarge Group.

This is a turnkey project for a 3700 tpd kiln and involved both the upgrade of the existing twin conditioning towers and the conversion of the old electrostatic precipitator into bag filter including full engineering study, process management and new control loops, fabrication and erection activities, plant commissioning. Particularly, the filter is equipped with independent chambers and on-line maintenance is possible without stopping the production.

No ducts modification was required and the existing ESP fan and motor are fully re-used without any adjustment.



Picture 10 – General View of Twin Conditioning Towers and old ESP

4.1.1 PROJECT DESCRIPTION

After many years of operation, the obsolete electrostatic precipitator on the kiln/raw mill line #2 at Fuhais plant was no more capable to comply with the local regulation in terms of dust emission.

The scope of this job was to convert the ESP into an efficient bag filter in order to limit the investment cost but as the same time to design a reliable equipment with all the features typical of a completely new baghouse.

The two conditioning towers at ESP inlet needed to be upgraded as well and were fully involved in the transformation project.

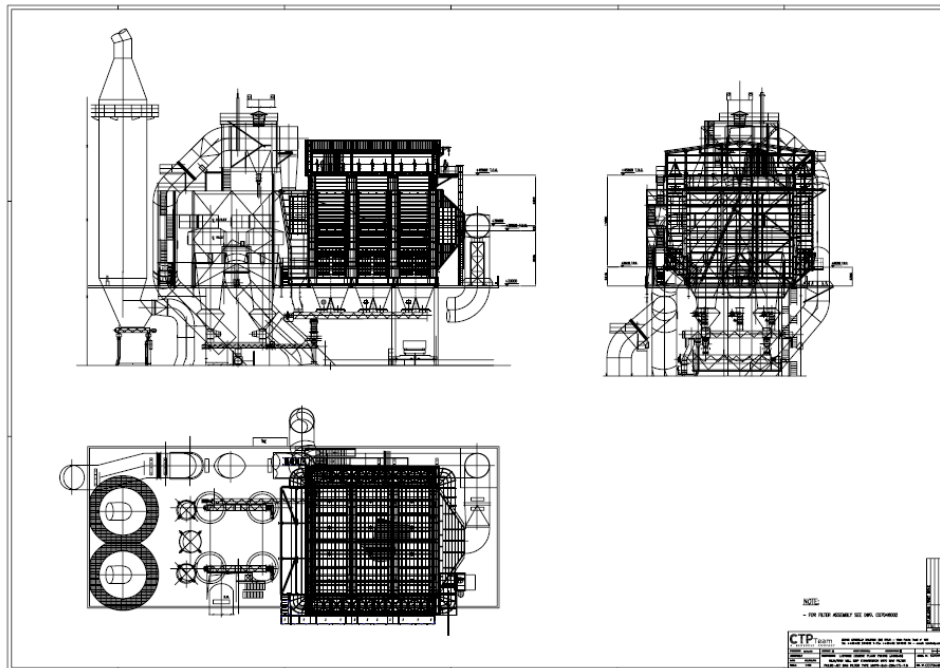


Fig. 11 – new plant layout

The new dedusting line was designed by CTP with the following features:

- New cooling system for the two towers keeping the existing body with a completely new pump room, instrumentation skid for process regulation and new water injection control system with advanced control algorithms and predictive response.
- Reuse of some of the existing ESP components such as hoppers, casing, inlet/outlet hoods and dust discharge system.
- Addition of new filter components i.e. bag cleaning and filtering sets, clean gas plenum and top penthouse for weather protection complete with maintenance hoists.
- Fresh air dilution damper for bags protection against temperature peaks.
- New compressed air station.
- No need of ducts modification.
- Existing ESP I.D. fan and motor fully reused without any modification required.

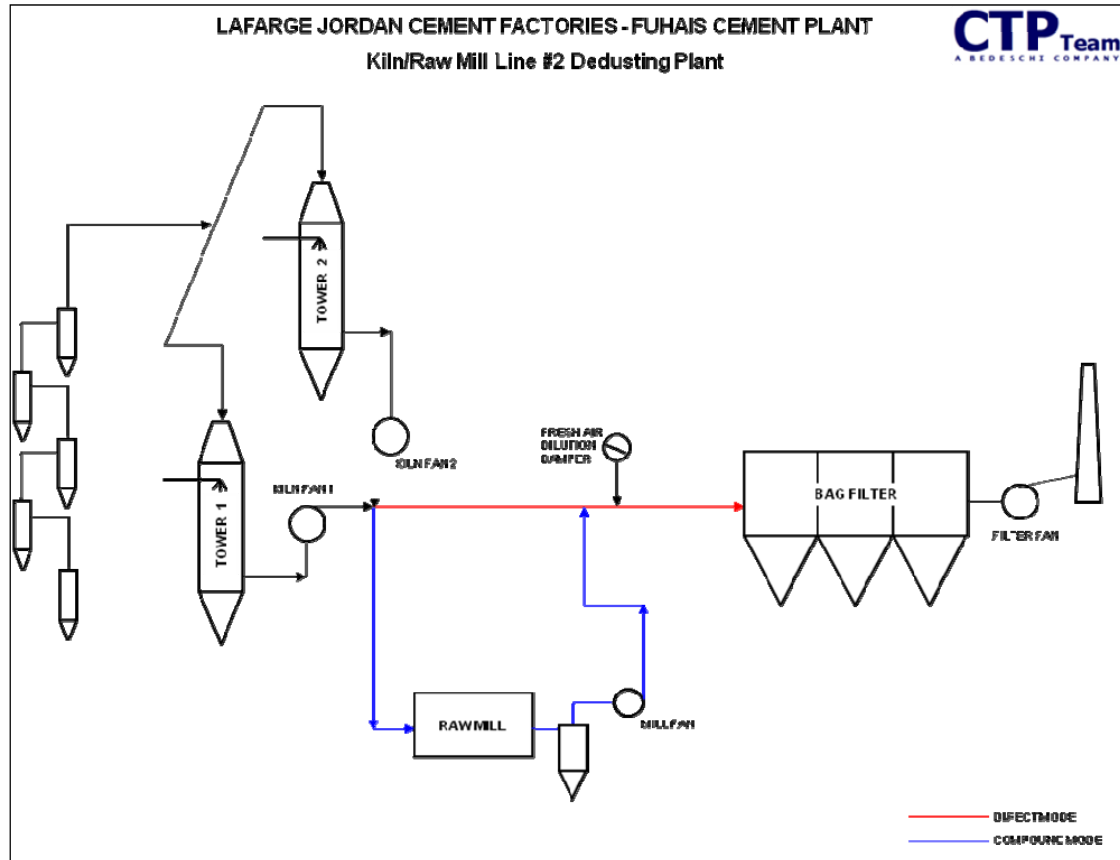


Fig.12 – process flow sheet

4.1.2 KEY FEATURES

Differences from most of the usual conversion into filters of old precipitators:

- the possibility to shut off the filter compartments for on-line maintenance since this is a typical feature of bag filters with completely new design
- the six-compartments design has been possible thanks to the addition of separating panels inside the ESP body and two gas distribution channels on the lateral sides of the filter which convey the dirty gas towards the bags and, at the same time, collect the clean one from the plenum into the outlet duct.
- flap dampers at each gas inlet flange as well as outlet dampers on the clean gas side, allow the possibility to exclude one filter section without stopping the kiln production.

4.1.3 CONCLUSION

The study of an existing precipitator related to the installation of filtering bags to be used for its conversion into filter, is always different and often some compromises in the engineering study are necessary in order to avoid huge modifications of very old structures.

The challenge in this project was the goal to get a final result as a completely new equipment would have, without any compromise coming from the use of old components.

As a matter of fact, CTP reused the existing facilities as much as possible: ESP body, ducts, dust conveyors, I.D. fan and its motor are exactly the same equipments which had been working for years with the original ESP.

The Fuhais project is the result of a deep engineering study which avoided the solution of a new bag filter supply with all the consequences in terms of layout arrangement, integration with existing facilities and a much increased investment cost.



Picture 3 – Twin Conditioning Towers

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