AIA ENGINEERING LTD.

17TH ANNUAL REPORT
2006-2007

BOARD OF DIRECTORS

Mr. Vinod Narain	Chairman	–	Non-Executive - Independent
Mr. Bhadresh K. Shah	Managing Director	–	Executive - Promoter
Mr. Rajendra S. Shah	Director	–	Non-Executive - Independent
Dr. S. R. Ganesh	Director	–	Non-Executive
Mr. Bhupendra A. Shah	Director	–	Non-Executive - Independent
Mr. Sanjay S. Majmudar (w.e.f. 07.05.2007)	Additional Director	–	Non-Executive

COMPANY SECRETARY

Mr. S. N. Jetheliya

STATUTORY AUDITORS

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Chartered Accountants,
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Website : www.aiaengineering.com

REGISTRAR & TRANSFER AGENT

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C/13, Pannalal Silk Mills Compound,
Kantilal Maganlal Ind. Estate,
L.B.S. Marg, Bhandup (West)
MUMBAI – 400 078
Phone No. 022-25960320-28
Fax No. 022-25960329

BANKERS

State Bank of India
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SEGMENT I

THE WORLD OF AIA ENGINEERING

AIA Engineering – Riding the Infrastructure Boom

The macro-economic backdrop...

Over the last few years, India has emerged as one of the fastest growing economies of the world. India's GDP grew by a record 9.4 per cent in 2006-07, following two years of over 8 per cent growth.

The once tepid manufacturing sector propelled growth in the country's Gross Domestic Product (GDP). It grew by a robust 12.3 per cent in 2006-07. The services sector continued its good run as evidenced by yet another double-digit growth performance.

In its bid to sustain this phase of high growth, the Government of India is leaving no stone unturned. Massive investments, directly or via public-private partnerships, are being put-up to improve India's patchy infrastructure. Building of the Golden Quadrilateral, the NSEW corridor, construction and development of ports & airports (of both the existing and the new ones) and adding capacities in the power sector are some of the major initiatives that are already underway.

With infrastructure development getting its due focus, demand for key raw material inputs – steel and cement – is rising at a brisk pace. Since the current investment cycle is expected to last longer, companies in the steel and the cement sectors are investing heavily to create new capacities not only to meet future domestic demand but to also tap demand from export markets.

Another infrastructure sector that is showing signs of acceleration in growth is power generation. After growing at a rather modest rate of 3.5-5 per cent during the last six years ended March 2006, the electricity sector recorded a robust 7.3 per cent growth in 2006-07. Growth in the current fiscal is expected to be equally robust.

India being a power-deficit nation, investments in the power sector are on the rise too. The private sector, which currently has less than 15 per cent share in India's power generation capacity, is looking to improve upon its share. To that effect, companies like Reliance Energy and Tata Power have announced large investments.

Close to 50,000 MW of coal-based thermal power generating capacity is proposed to be added during the 11th plan (2007-12), thereby making way for a sustained growth in the power generation sector.

The mining sector is another big beneficiary of higher investment and output from infrastructure industries such as steel, cement and power. Minerals such as coal, iron ore and limestone are some of the key raw material components for the aforesaid industries. Higher demand from the user industries (in India) and a sustained global commodity cycle have resulted in high mining activity, not just in India but across most of the mineral rich nations.

The rise in mining activity in India is also reflected in the quarterly growth (Jan-Mar'07) in the mining and quarrying index, which, at over 7 per cent was the highest in recent years.

Where does AIA fit in...

The boom in the infrastructure sector and the resultant capital expenditure augurs well for companies like AIA Engineering. It is one of the unique companies in the value added high chrome metallurgy segment catering primarily to the needs of the cement, utilities (power) and mining sectors.

The company specializes in manufacturing mill internals, which are widely used to carry out grinding operations in the industries mentioned above. The grinding operations use two types of mills - tube mills (which are horizontal) and vertical mills.

The primary purpose of the mill is to grind the raw materials / inputs, which is a very crucial part of the production process given that it has a direct bearing on cost and quality of the final output.

The company also offers services such as installation, supervision and mill process optimization for greater efficiency as a part of its overall offering.

A brief description of What We Do...

Tube Mill Operations

A horizontal cylindrical shell with its inner surface fitted with wear resistant liners is what constitutes a tube mill, in case of grinding operations for cement. Spherical balls of different sizes, collectively known as the grinding media along with the material to be ground are fed to the mill from one end. The mill is then made to rotate around its axis. The first chamber liners are designed such that as a result of this rotation, the grinding media is lifted to a specified height and dropped on the material. The feed is then crushed and ground due to the impact and abrasive action of the balls. Apart from the grinding operations, the liners and the grinding balls protect the main body of the mills from wear and tear. The mill is separated into two chambers by an assembly of diaphragms, grates and black plates which screen the feed such that only a certain size of feed can pass into the second chamber. The end product of fine material is discharged from the other end through a discharge diaphragm.

For mineral grinding, tube mills normally have a single chamber without partition.

Tube Mill Internals – Product portfolio

Product	Description	AIA's Cutting Edge
Grinding Media	o Cast steel high chrome balls o Hard and abrasion & wear resistant to deformation o Crack-proof on the surface o Well heat-treated so that the core of the sphere balls have uniform distribution metallurgy	o Customized solutions o Uninterrupted mill operations o Optimum mill efficiency o Increase in mill availability solution to the customer

Liners	o These impart suitable trajectory to the high chrome balls o Designed to avoid loss of energy and breakage o Uniquely designed for specific operations	o Optimum lifting action and expansion of the ball charge o Minimizes dead zone of the ball charge o Significant reduction of the wear rate o Minimum operating cost due to longer lifetime o Minimum downtime & inventory
Diaphragm	o They screen the material from granulometry point of view o Aid optimum grinding efficiency by controlling the size, timing and the feed screening process	

Vertical Mill Operation

Grinding in these mills takes place when the feed material passes between the rotating table liners and rollers.

Vertical Mill Internals - Product portfolio

Product	*Description*	*AIA's Cutting Edge*
Roller and Table liners	***Manufactured as necessitated by application. Some types include:*** o Mono-block rolls o Segmented rolls o Segmented tables o Grinding rings & hollow balls o Rolls and table segments	o Reliable performance o Different alloy-based mills to optimize life span without sacrificing safety

Services:

Besides offering mill internals, AIA also advises on the composition of grinding media (with respect to the total tonnage, the size distribution, and its metallurgy). Further, it also designs other mill internals depending on the feed and the desired fineness of the finished product and also offers other services such as installation supervision and mill process optimization for maximum efficiency. The process improvement that AIA offers to its clients includes the following:

Services rendered	*Description*
Mill Audit	○ Complete understanding of the mill by AIA engineers ○ Thorough study of application parts for mill internals ○ To verify mill condition from maintenance & process viewpoint ○ Identify bottlenecks, study wear-out & determination of proposed guarantees
Designing	○ Ensure right design for right application
Alloy Selection	○ Most crucial stage prior to manufacturing ○ Determined after taking into consideration the three wear mechanisms – impact, corrosion and abrasion
Supervision during installation	○ Installation of wear parts under expert supervision of AIA's engineers
Optimizing of grinding system	○ Regular visits to the plants to conduct mill studies ○ Fine tuning

Retrofitting - Replacement of the complete set of mill internals.

Over the years, AIA has retrofitted (replaced / overhauled) more than 750 mills. The company believes in providing value added offerings to its customers at the time of retrofitting by recommending new designs and metallurgy (best suited to the client) and not merely replacing the existing design. With its experience and expertise, AIA has developed and has lived upto its reputation of not just a supplier of mill internals but that of a complete end-to-end value-added solutions provider for its customers. Some of the benefits derived by AIA's customers include:

- Optimal chamber lengths based on existing feed and product requirements
- Appropriate liner profiles for maximizing productivity
- Appropriate metallurgy for maximizing life of internals without sacrificing safety
- Opportunity for optimizing ball charge

Replacement Demand, the main business driver...

A significant portion of AIA's business is derived from replacement demand as over a period of time, mill internals witness substantial wear out.

While mill internals like diaphragms and liners take something like 2-3 years to wear out, parts like grinding media wear out continuously thereby necessitating regular replacements.

With increasing wear out, the grinding operations become less efficient thereby adversely affecting the final output. A replacement of mill internals is thus required.

While tube mill is the most versatile for all grinding processes and has a wide range of applications, vertical mills are becoming more popular in case of dry grinding due to lower power consumption.

Revenue break-up...