

THE LEAD/ACID BATTERY INDUSTRY IN THAILAND

T. RIENSUBDEE

Siam Battery Industry Co. Ltd., 85/2 Sukhapibal 2 Rd., Banchan, Minburi, Bangkok 10510 (Thailand)

Introduction

Battery manufacture in Thailand dates back to 1940 when the Royal Thai Navy started to produce lead/acid batteries. At the beginning of the Second World War, the scarcity of many basic industrial products was obvious. Batteries were considered to be important strategic products and were in great demand for military applications. Therefore, the Thai Government encouraged the manufacture of lead/acid batteries. In 1955, the Battery Organization of Thailand was established under the control of the Department of Military Industry in the Ministry of Defence. Thus, the battery industry in Thailand has enjoyed a history of 32 years. Nevertheless, private enterprises started to manufacture lead/acid batteries only two decades ago. Since then, the industry has developed into a fiercely competitive market.

Economic outlook

Prospects for the Thai economy in 1987 appear quite favourable, with most forecasts agreed on a GDP growth of around 6%, compared with 3.5 - 4% in 1986. Agriculture (20% of GDP in 1985) is likely to make only a modest, or marginal, recovery from the decline of 1986. Therefore, the manufacturing industry (in particular for export markets) will again be the major growth area. Export of batteries from Thailand experienced an unusually high growth in 1986 - 87. This was a direct result of the appreciation of the currencies of the world's leading export countries. The high growth rate in the manufacturing sector was also fuelled by Government measures aimed at stimulating investment (20% of GDP in 1985). Further expansion in tourism and increased activity in the financial sector are also anticipated. The data given in Table 1 provide an economic perspective of Thailand.

Development of the battery industry

Following the establishment of the Government-owned battery manufacturing facilities, private sector investment in the industry occurred in the following order:

TABLE 1

Economic data for Thailand

Item	Year				
	1983	1984	1985	1986	1987
GDP (Million baht)	924.0	992.0	1029.0	1068.0	1212.0
Growth rate (%)	5.8	6.2	3.7	3.8	5.8
Inflation rate (%)	3.8	0.9	2.4	1.9	2.5
GDP breakdown					
— agriculture	22.1	19.5	17.4	16.4	15.4
— manufacturing	19.1	19.8	19.8	20.3	20.8
— construction	5.1	5.3	5.1	5.0	4.9
— transportation & communication	8.0	8.4	8.2	9.4	9.5
— wholesale & retail trade	17.9	18.4	18.2	18.7	18.9
— services	10.7	10.8	11.0	11.8	12.1
— others	17.1	17.8	20.3	18.4	18.4
Exchange rate (Baht to 1 US\$)	23.00	23.64	27.21	26.45	25.79
Interest rate					
— Saving fixed 1 year (%)	—	—	11.00	7.25	7.25
— MLR (%)	—	—	14.00	12.75	11.50
				/12.00	
Fuel price (baht/litre)					
— Benzene (extra)	—	—	11.70	8.90	8.90
— Diesel	—	—	6.70	6.50	6.30
— Bunker oil 1500	—	—	4.10	3.30	2.80

Further notes on Thailand: land area: 0.512 million square units.
 population: 52.7 million.
 birth rate: 1.7%.
 unemployment rate: 6.8%.

1963: Yuasa Battery Thailand Co., Ltd.

1966: Siam GS Battery Co., Ltd.

1970: S. B. Siam Battery Co., Ltd. (Former name: Associated Battery Manufacturers (Thailand) Ltd.)

1971: Anan Chai Battery (Kobe) Co., Ltd.

1976: Rung Saeng Battery Co., Ltd.

It can be seen that the private battery industry in Thailand has been developing its manufacturing experience for more than two decades. The industry has now evolved into a highly competitive environment similar to that existing in other developed and emerging countries. The industry has always been in an over-capacity situation where every company uses the extra volume to supplement its productivity and profitability. Capacity utilization has been in the 70 - 80% range, and therefore the excess capacity has created a price-cutting situation and an availability of products for export. During

1987, however, the export demand has been rising so steeply that the excess capacity has been fully utilized. On the other hand, the local supply of secondary lead has not been geared for such rapid growth and this has resulted in a shortage that has, in turn, triggered an increase in the local price of the metal.

The other factor that has had a significant effect on the battery industry is the surcharge of 25% on imported lead (both soft and blended varieties). The landed cost of lead in Thailand is about 35% higher than that of the corresponding LME price plus transportation charges. As a result, the industry is suffering from a lead cost that is higher than that experienced in other countries in the Asian region.

Market size

For developing countries such as Thailand, accurate statistics are difficult to compile. The figures shown below have been derived from the author's limited experience and his company's in-house statistics. For comparative purposes, the lead/acid battery industry is divided on the basis of unit application, *i.e.*, automotive batteries (engine starting, lighting and ignition), motorcycle and torch batteries, and industrial batteries.

Automotive batteries. These include units employed in both the original equipment and replacement markets. In Thailand, other applications for such batteries include emergency lighting systems and remote-area power supplies for television and radio sets and lighting systems. Further users are fishing fleets and long-tailed boats that serve as an alternative mode of transportation for people living along rivers and their tributaries. At present, the application of automotive batteries to special projects such as solar cells, or power supplies for small personal computers, is limited, but rapid expansion is anticipated in this area.

Motorcycle batteries. There is a large population of motorcycles in Thailand (especially in the rural areas) and thus the number of batteries sold is high and the growth is very rapid. Moreover, the batteries are also used as power sources for hand-held torches. The latter are employed in hunting and fishing at night. During the high sales period following each rainy season, the demand for this type of battery may rise to over one million units.

Industrial batteries. The major demand is in the area of high technology industry, such as: un-interruptible power supplies for computer systems, power supplies for telecommunications, traction batteries, and railroad batteries used by the State Railway Department. The latter is obliged to purchase units exclusively from the Battery Organization of Thailand.

The market size of automotive and motorcycle batteries in 1987 was 1.1 and 2.2 million units, respectively. On average, automotive batteries contained 70 plates. The estimated market share of the industry in

1976 (excluding the Battery Organization of Thailand which sells most of its products to Government instrumentalities) was as follows:

Siam GS: 37%	Chloride: 9%
National: 14%	Kobe: 8%
Yuasa: 13%	Others: 10%
Boliden: 9%	

Manufacturers and production capacities

The data for 1986 given in Table 2 are again the author's own estimation.

Automotive statistics

During the past ten years, the number of vehicles in Thailand has increased dramatically. Only during 1985 - 86 did the automotive industry experience, for the first time in its history, a negative growth. However, the trend has now improved and it is expected that in 1987 the growth rate will be about 20% greater than the 1986 figure, which was the lowest on record.

According to the automotive industry statistics, Table 3 gives the numbers of new vehicles leaving the assembly lines, while Table 4 shows the respective growth rates. The total number of vehicles registered in Thailand in 1986 is given by category in Table 5.

Motorcycle statistics

Table 6 presents the number of motorcycles produced in Thailand between 1983 and 1987, and Table 7 shows the corresponding growth rates.

TABLE 3

Automotive industry in Thailand (numbers of vehicles)

Vehicle class	1984	1985	1986	1987*
Heavy trucks	14 368	8 561	6 831	8 800
Pick-up trucks	67 490	55 385	49 700	57 500
Passenger cars	31 610	22 153	21 950	27 600
Total	113 468	86 099	78 481	93 900

*Estimate.

TABLE 2
Thai lead/acid battery manufacturers

Company	Product name	Year of establishment	Total registered capital ($\times 10^6$ Baht)	Major shareholders	Total capacity ($\times 10^6$ units/year)	
					Automotive	Motorcycle
Siam GS Battery Co., Ltd.	GS	1966	14.0	The Siam Motor Co., Ltd. (51%) Japan Storage Battery Co., Ltd. (39%) Mitsubishi Thailand Co., Ltd. (10%)	0.55 (1976)	1.2 (1975)
Yuasa Battery Thailand Co., Ltd.	Yuasa	1963	12.0	Yuasa Battery Japan (40%) Central Agency Co., Ltd. (21%) LT. Charn Manutham (18%) Fuji Mercantile Co., Ltd. (10%) Other (11%)	0.2 (1976)	0.5
National (Thailand) Co., Ltd.	National	—	—	—	0.18 (1976)	—
Anan Chai Battery (Kobe) Co., Ltd.	Kobe Osaka Royal	1971	10.0	The Namsapanand Family (100%)	0.15	0.2
Siam Battery Industry Co., Ltd.	Boliden	1970	15.0	The Rojtrakarn Family (67%) The Jittivanich Family (20%) Others (13%)	0.15	Nil
S.B. Siam Battery Co., Ltd.	Chloride Bosch Lucas	1970	25.0	Siam Cement Group (80%) Chloride Group PLC (16%) Others (4%)	0.15	Nil
Battery Organization Thailand	Power-D	1955	—	—	—	$\leftarrow 0.15 \rightarrow$

TABLE 4
Automotive growth rate (%) in Thailand

Vehicle class	1984	1985	1986	1987*
Heavy trucks	—	(40)	(20)	30
Pick-up trucks	—	(18)	(10)	15
Passenger cars	—	(30)	(1)	25
Total	—	(24)	(9)	20

Note: Figures in parentheses correspond to a negative growth.

*Estimate.

TABLE 5
Total vehicles registered in Thailand in 1986

Vehicle class	Number of vehicles
Heavy trucks & buses	302 824
Pick-up trucks & vans	576 824
Passenger cars	486 526
Other vehicles <i>e.g.</i> , tractors	46 720
Motorcycles	2 214 131
Boats	20 000

TABLE 6
Motorcycle industry in Thailand (numbers of vehicles)

Manufacturer	1983	1984	1985	1986	1987*
Yamaha	135 550	107 214	104 944	86 380	90 800
Suzuki	68 680	82 902	70 837	66 865	85 000
Honda	116 910	69 908	55 096	43 785	54 800
Kawazaki	28 420	28 917	28 860	24 797	20 400
Total	349 560	288 941	259 737	221 827	251 000

*Estimate.

TABLE 7

Motorcycle growth rate (%) in Thailand

Manufacturer	1984	1985	1986	1987*
Yamaha	(21)	(2)	(18)	5
Suzuki	21	(15)	(6)	27
Honda	(40)	(21)	(21)	25
Kawazaki	2	—	(14)	(18)
Total	(17)	(10)	(15)	13

Note: Figures in parentheses correspond to a negative growth.

*Estimate.

Conclusions

The Thai automotive industry has experienced an adverse period during the last two years and this has resulted in a chain effect on the battery industry. The latter has therefore suffered from the poor economic conditions in 1985 - 86 when there was no growth in total demand. Such a situation has created a highly competitive atmosphere in the battery industry. As a result, the market price has been suppressed during the last three years. Moreover, the raw materials' prices have been increasing steadily. It is therefore envisaged that the industry will be geared to areas of higher technology and greater productivity. Obsolete machinery will eventually be replaced. Production capacity will be increased to achieve economy of scale to serve both local and export demand. Low-maintenance, and eventually maintenance-free, products will be introduced into the market.