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Lincoln Electric in China

09/1999-4850

This case was written by Ingmar Björkman, Visiting Professor and Charles Galunic Associate Professor at INSEAD. It is intended to be used as a basis for class discussion rather than to illustrate either effective or ineffective handling of an administrative situation. We are grateful for the help and encouragement of Jeffrey Kundrach, Managing Director, Lincoln Electric Shanghai, and Professor John Weeks at INSEAD.

Jeffrey Kundrach, the general manager of Lincoln Electric (Shanghai) Welding Company Ltd., could hardly believe his eyes. One of the small army of professionals dedicated to transplanting Lincoln Electric's operations overseas, Jeffrey was overwhelmed by the growth in the Pudong area of Shanghai, where he helped Lincoln establish its beachhead into China. A forest of buildings now filled the view from his second story office window, where a few years ago there were only marshy fields and dirt roads. All of them had been constructed during the last few years, and most of them hosted foreign companies that took advantage of the Special Economic Zone status available in Pudong. The amazement didn't last long. Kundrach wondered how many of his fellow expatriate managers in China were bothered by the same question: How quickly should a foreign company introduce its management policies into foreign lands, particularly ones so distant from occidental cultures? Should transplantation of foreign practices be avoided altogether, trying to find some made-to-measure path to motivate indigenous employees of multinational firms? For Lincoln Electric, the issue was enormous, having become renowned in the West for a very successful and visible remuneration scheme. At the center of the "Lincoln Way" was a piecerate payment scheme that only paid employees for what they produced, and a bonus system that provided employees with year-end bonuses based on their performance. Many management pundits as well as firm loyalists believed this to be an important factor in Lincoln's longstanding dominant position in its marketplace. But would this work in China?

The Lincoln Electric (Shanghai) Welding Co., Ltd. was Lincoln's first manufacturing investment in China. The plant was opened on May 13, 1998 by Lincoln Electric Chairman and CEO, Anthony A. Massaro. The company was established as a wholly-owned subsidiary of a Singapore-based joint venture between Lincoln Electric and its distributor partners. Lincoln Electric was the majority shareholder in the joint venture and solely responsible for the management of the company in Shanghai. After a very successful launch, Kundrach now felt that it was time to review the situation and start focusing more on how to develop the firm's management and labor practices. Furthermore, Michael Gillespie, Lincoln's President and pioneer in Asia, was coming to Shanghai next week and wanted to hear Kundrach's plans for the development of the company.

The Lincoln Electric Tradition

History and Philosophy[1]

John Lincoln established Lincoln Electric Co. in 1895. He was joined by his younger brother James in 1907. In these early years the brothers designed and manufactured small electric motors in their Cleveland, Ohio operation. By 1911 their product line expanded to include battery chargers for electric automobiles and arc welding equipment. The latter soon became the young company's core competency and central revenue generator, with the duo the first to produce a variable, single operator, portable welding machine in the world. In 1998, Arc welding and welding products accounted for 94% of the firm's US$1.2 Billion in worldwide sales.

1 Professor Norman Berg's account of The Lincoln Electric Company (HBS 376-028) provides a useful account of the firm's longstanding traditions and management philosophy.

In 1914, James Lincoln, the less technically and more managerially minded of the team, took over leadership of the company. His ideas about management and workplace relations strongly shaped the culture of the company. Based on his fervent belief in self-reliance and on the necessity of competition for human progress, he developed an incentive plan that would become the centerpiece of the Lincoln way, based upon a piecework pay system that bucked the wage system pervading many Western corporations.

> "Expect that incentive management will cut costs by half or more. Expect that it will make your company dominant in its field. Expect that there will be unlimited progress because of the plan. Expect that your company will write a new chapter in industry."
>
> James Lincoln

However, he was also a fervent believer in the equality of management and employees, and also introduced the Employee Advisory Board, a committee focused on major operational issues within the firm which included elected representatives from each department. In 1915, the company gave each employee a paid life insurance policy. The next year, the Lincoln Electric Welding School was established. By 1925 he introduced the first employee stock ownership plan, and one of the first in the United States. In 1929, his Employee Advisory Board introduced an employee suggestion program. During the next three decades the firm developed a job evaluation system to determine base-pay rates and instituted a merit rating to determine employee bonuses. Indeed, Lincoln has shared profits with its employees since 1934, based upon James's belief that employees must partake in the direct fruits of the company in order to feel properly motivated to serve the very best interests of the firm.

In 1965, James Lincoln died, some six years after his brother John. William Irrgang became the first non-family member to be appointed President, becoming CEO and Chairman in 1972. He was followed by George Willis in 1986 and Donald Hastings in 1992, all having been homegrown and handpicked within the Lincoln organization. Anthony Massaro, who became only the sixth leader in the firm's more than 100 years of operations in 1997, was also the first to be appointed without a long history of Lincoln service.

The Products

At the end of World War II there were more than 50 producers of arc welding equipment in the United States. Today, only six major manufacturers remain. Giants such as General Electric and Westinghouse have exited the industry, mainly due to Lincoln's high quality, competitively priced products. For decades now, Lincoln Electric has been one of the leading producers of arc welding products. In May 1999 Lincoln decided to focus on this business and therefore sold off its electric motors business.

There are three different techniques in the welding industry: manual, semi-automatic, and automatic. The development has been away from the use of manual (stick) welding to semi-automatic and automatic welding. However, stick welding is still widely used in developing countries. Lincoln is a clear leader in the US market for stick electrodes and welding wires, the consumables that constitute the main part of the business. In welding machines, Lincoln competes head-to-head with Miller Electric Manufacturing for the number one position.

Customers who buy Lincoln's arc-welding equipment are offered a customized cost-reduction program guaranteed to result in a rebate if the company's products and advice fail to help them to save money. It also boasts one of the most comprehensive lines of welding equipment, including stick welders, plasma cutters, engine-driven welders, wire feeder/welders, and robotic/automation systems. (See Exhibit 1)

The Incentive Management System

In 1951, James F. Lincoln published a book entitled Incentive Management in which he outlined his management and labor principles. Incentives at Lincoln have two formal components: (1) wages on a piecework basis, and (2) a year-end bonus.

Piecework

The piecework system was set up in 1914. According to this system, each factory job is rated according to skills, required efforts and responsibilities. A base rate wage comparable to those in similar jobs in the Cleveland area is assigned to the job. The time-study department then sets piecerates so that an average worker can earn the base rate for his or her job. Employees may challenge piecework standards set by the company's time-study department if they think they are unfair. Once they have been determined, the rates are firmly fixed, changing only if there are substantial changes in the production procedures. The firm does not review the base rates periodically to limit earnings. The majority of Lincoln's Cleveland area production workers are on piece-rate. The company also employs some production support workers, who are, however, paid on an hourly basis.

The compensation system encourages employees to focus on quantity but also on quality. Workers must rework faulty pieces in their own time, and most products can be traced back to the individuals who produced them. Additionally, quality is one of the ingredients in the merit rating system that determines individuals' annual bonus.

Year-end bonus

During the Great Depression of the 1930s, when it was impossible for the company to grant pay increases, James Lincoln suggested that they instead share in any increased profits. Hence, since 1934 Lincoln has had a bonus system. A merit-rating procedure, done bi-annually, determines the yearly bonus. Production employees are rated on four criteria:

- Output: reviewed by the production department based on the amount of work that the worker produces.
- Quality: evaluated by the quality assurance department by tracing who has produced defective product parts.
- Dependability: assessed by the department head based on the number of absences, late arrivals, availability for overtime, etc.
- Ideas and Cooperation: determined by the department head taking account of the individual's participation in the company's suggestion program (approximately 50

suggestions are implemented monthly[2]), how individuals share knowledge with others, cooperating in installing new methods, and the individual's attitude towards superiors, co-workers and the firm.

The firm allocates each department 100 points per employee. If an employee performs at a superior level, he or she can obtain more than 25 points for any category, although that means that other employees will receive less than 100 points. Most workers typically get between 80 and 120 points. The actual bonus in dollars depends on the individual's piecerate earnings.

In years past, the board of directors decided, with management recommendation, the size of the annual overall bonus pool, which depended on such factors as company profits and investment plans. The bonus is now a formula based on and directly tied to the company's profitability. The bonus is paid in December, in time for the Christmas holidays. From the time the bonus system was introduced in 1934 through to 1988, bonuses ranged from 40-100% of base pay. In the 1990s, the bonuses have been between 53-75%. Nonetheless, the workers are still among the highest-paid workers in the United States – in 1997, an average piecework employee at Lincoln received approximately US$51,000, while the very top earners received over US$100,000. To many, the incentive structure is one of the most attractive features about Lincoln.

> "The minute that you walk into Lincoln you sense that there's something different about it – a very high work ethic but with very large bonuses, and that was known for many years. I mean typically people would receive a bonus the size of what they made in an annual salary and that went on for many of the early years. So that was quite an incentive for a lot of people to go to Lincoln."
>
> Ray Bender, VP Manufacturing, ASIA

Other features

The company has a stock purchase plan for employees who have been on the job for one year or more. In 1996, more than 60% of the US employees owned shares.[3] Although the Lincoln family and employees still own a large percentage of the Lincoln shares, the first public offering in 1995 pushed outsiders' stake in the company to 40%.[4]

A mainstay of the Lincoln system is their employment guarantee, formally introduced in 1958. Through the company's Guaranteed Employment Policy, at least 30 hours of full-time work is secured for employees with three or more years of tenure (although, in practice, it does not lay-off people even with less seniority). In return, employees must be willing to perform any assignment and work overtime when needed. The average workweek in Lincoln's US plants is between 43 and 58 hours, and the company can ask the employees on short notice to work longer hours. In periods of slowdowns, the work is shared so that everybody gets at least 30 hours per week. Sometimes creativity is required. For example,

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2 Wiley, Carolyn: Incentive plan pushes production. *Personnel Journal*. August 1993, 86-93.

3 Barrons: *Highly motivated*. November 25, 1996, 24.

4 Business Week: *A model incentive plan gets caught in a vise.* January 22, 1996, 91-92. (US edition)

former Chairman Donald Hastings describes how the company responded to a decline in sales during the 1981 to 1983 recession:

> "The early 1980s were a good example of the lengths our company will go to avoid layoffs. For Lincoln, those years were a time of hardship. Skyrocketing inflation, sharply higher energy costs and a national recession all affected demand for our products. Our sales, which had been strong and steady, dropped 40% during an 18-month period. How did we respond? We transferred many of our production people into sales. The very same people who successfully worked to satisfy high levels of demand in earlier years were now working to generate new demand. With their product knowledge, they were good at selling. They brought us new customers, which allowed us to increase production and to weather the recession.[5]"

Incompetence, however, can be grounds for dismissal.

The company has fewer supervisors than most organizations per employee (approx. 1:100; in a typical factory in the United States it is 1 to 25, but it may also be as high as 1 to 10). There are no reserved parking spaces for any employee and no executive dining room.

An open-door policy is practiced by senior management, who will often know employees by their first names. The Employee Advisory Board meets every two weeks to discuss, though not decide on, issues of concern to the employees. Traditionally the President has run the meetings. The employees in the US plants don't belong to a union and there has never been a strike.

Lincoln has for many decades followed a policy of promoting from within, and all jobs are internally announced. New hires are typically hired to the factory or as a trainee in sales or engineering. Even trainees with college degrees must start by attending welding school for seven weeks, then working on a production line and in several different functional areas. Roughly ¼ of new hires leave during the first three months, although those that remain tend to stay for a long period (turnover rates are 2-4%). A particularly striking feature of the plants in Cleveland is that they have a large number of members of the same family.

Finally, there are no paid holidays or sick days. Employees pay their health care themselves, although the firm does help them with access to collective health insurance plans. It also does not count sick days against workers in their bonus reviews. It also maintains a compassionate stance towards employees in dealing with ad hoc situations. For example, several years ago, after formally submitting his resignation (and therefore terminating his insurance privileges), one employee was diagnosed with Leukemia. Nonetheless, the company kept his employment contract active during his treatment, thus providing him with access to the group insurance benefits. He was also given back his job at the end of his treatment.

A study carried out by the American Productivity Center in 1985 showed that worker productivity in the US plants was 2.5-3 times higher than that in similar manufacturing

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5 Hastings, Donald E.: Guaranteed Employment: A Practical Solution for Today's Corporations. *Vital Speeches of the Day*. September 1, 1996.

operations.[6] Today, although the company's direct labor costs are relatively high, its manufacturing operations are still highly competitive because of Lincoln's skilled and productive workforce, process and product innovations, and continued investments in advanced technologies.[7]

International Expansion[8]

By 1986, Lincoln Electric operated five factories in four countries: two in the United States, and one in Canada (established in 1925), Australia (1938), and France (1955). The Canadian operation is nearly identical to its Cleveland parent, incorporating the same incentive structures, advisory board, and open-door policy. Holiday pay is, however, required by Canadian law, and health insurance is provided through the provincial government (Ontario). The Australian operation is also similar to Cleveland. The French operation also maintains policies similar to Cleveland, using piecework pay, merit ratings, and the annual bonus scheme (although bonuses tend to be less as a percentage of total compensation). Also, vacation, holiday, and sick pay are in place, following national or industry requirements. On the whole, all operations are competitive in their respective markets and there is a consistent belief that the Lincoln incentive system is an important contributor to their success.

Despite this presence overseas, Lincoln was still primarily an American company, with overseas subsidiaries focusing largely on local markets. Following the appointment of George Willis as Chairman in 1986, however, the company embarked on an aggressive expansion campaign, costing approximately US$325 million, mostly directed towards 19 acquisitions from 1986 to 1991. By 1992, Lincoln Electric maintained manufacturing plants in 15 nations, including Germany, Ireland, Italy, the Netherlands, Norway, Spain, and the United Kingdom in Europe; and Brazil, Mexico, and Venezuela in Latin America. Willis's successor, Donald Hastings, noted that Lincoln was convinced that "because we were so successful in the United States, we could be successful anywhere."[9]

Managing these operations brought unusual and thorny issues. First, because expansion came largely through acquisitions, Lincoln managers faced organizational cultures and practices that were not necessarily amenable to Lincoln's management philosophy and systems. Expatriate managers and mentoring from Cleveland counterparts were put in place to try and overcome these barriers. Second, national and regional differences were also evident and presented obstacles: the presence of very strong unions and the illegality of piecework pay (such as in Germany), supply chain problems (Brazil), regional differences in customers and welding practices along with local managers wishing to remain in firm control of local

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6 Chilton, Kenneth: Lincoln Electric's Incentive System: Can it be Transferred Overseas? *Compensation and Benefits Review*. November-December 1993, 21-30.

7 The Plain Dealer Cleveland: *Facing changing times even as it is growing in Asia, Lincoln Electric finds find challenges from unions at home.* November 26th, 1997.

8 This section draws on Professor Christopher Bartlett's "Lincoln Electric: Venturing Abroad" (HBS No. 9-398-095).

9 Hastings, Donald F. *Harvard Business Review.* May-June 1999, 163-178

operations (preventing greater integration of European operations), and a general suspicion of highly incentivized remuneration schemes. Finally, a global recession in the early 90s left most of these operations starved of the buoyant demand needed to grease the wheels of the Lincoln business model and instill employee trust of the Lincoln way: innovative and extremely dedicated employees are more difficult to generate *de novo* during business slumps, when incentive-based compensation is less likely to reach the customarily mercurial levels Lincoln employees enjoy in the United States.

Not surprisingly, even though the parent operation in the United States was doing very well, the company lost money for the first time in 1992[10] (see Exhibit 2). The European operations in particular were badly hit, where the recession was compounded with considerable overcapacity in the industry – at one point, the German operation was losing US$1 million every two weeks. The leadership of the company was clearly disturbed by these results and recognized that major steps would need to be taken to stop the hemorrhaging of the firm.

To help manage the situation, two outside executives were hired: Anthony Massaro (a former executive with Westinghouse who had extensive international experience) was appointed Director of International Operations and Jay Elliot (a former international controller for Goodyear Tire and Rubber Corp.) was appointed Chief Financial Officer. Following Massaro and Elliott's recommendations, the firm set upon some swift restructuring of the international operations: plants in Brazil, Venezuela, Japan, and Germany were all closed, European operations were restructured with the help of a pan-European general management team plus Cleveland executives, new hires were made in key marketing and sales positions for Europe, local supply chains were improved and local production increased (thus reducing tariff charges), and more products were tailored to European customers.

Massaro also found that Lincoln's naivete regarding the incentive scheme, believing it could be quickly and cleanly implemented in any foreign context, contributed to problems. On this point, outgoing Chairman Willis seemingly agreed, estimating that "it's going to take three to four years" to implement the Lincoln system in its international operations.[11] Indeed, by 1994 only plants located in the United States, Canada, Mexico, Australia and France used the piecework and bonus systems.[12] Of these, only the Mexican operation had been added during the rapid internationalization. The plant located in Mexico City was bought in 1990. The unionized plant had roughly 175 workers. Some of the workers and union officials were brought to the US facilities to discuss the incentive system with the US employees, and as an outcome of the trip two of the Mexican workers decided to take a chance on piecework. They also received a minimum income. After they had started to make more money than their

10 At the end of 1992, the board of directors decided to borrow money to pay bonuses to the employees in Cleveland. In spite of a consolidated loss of US$45.8 million in 1992, Lincoln paid its US employees a US$44 million bonus.

11 Chilton, Kenneth: Lincoln Electric's Incentive system: Can it be transferred overseas? *Compensation and Benefits Review*. November-December 1993, 21-30.

12 Lienert, Anita: A Dinosaur of a Different Color. *Management Review*. February 1995, 24-25

fellow workers, others started to ask if they could become part of the system, too. After two years, the entire operation adopted piecework.[13]

Ex-Chairman Donald Hastings also agreed with Massaro's diagnosis, recently adding:

> "The root cause of the crisis was that Lincoln's leaders, including myself, had grown overconfident in the company's abilities and systems…We had assumed that the incentive system and culture could be transferred abroad and that the workforce could be quickly replicated.[14]"

Lincoln's trouble was not restricted to overseas operations. While Cleveland was performing exceptionally well given the circumstances, lifted by an inspiring local effort to generate sales and boost productivity (e.g., employees gave up a total of 614 weeks of vacation time to meet elevated production and shipping goals), discontent was brewing amongst the ranks. Despite the firm's best efforts to uphold their incentive commitment to these employees (taking short-term loans to pay bonuses in 1992), the company found it difficult to uphold the same level of remuneration that employees were used to, and thus bonuses as a percentage of total compensation dropped to 40-50%. A minority of employees were discontent and there were even murmurs of unionization.[15] However, unionization ideas fizzled out as the firm's fortunes rebounded – in 1997 Lincoln paid out a record US$75 million in bonuses, up from US$65 million in 1996 (in 1996, more than 25 workers made over US$100,000[16]). More meetings were also held to try to better understand employee sentiment.

By 1995, International operations started to enjoy growing profitability and competitiveness (but without the full Lincoln incentive system).

After successfully managing the turnaround of the International operations, Anthony Massaro was appointed President and CEO of Lincoln in 1996, and in May of 1997 became Chairman of the company. Massaro, better than anyone, understood now the problems Lincoln faced in their internationalization effort. But he also recognized that the future prosperity of the firm relied upon increasing, not decreasing, global presence, and particularly within developing regions, such as Asia, where long term growth was expected to outpace North America and Europe. To be sure, Lincoln as a whole would have to learn from its recent setbacks. But the lessons were complex – the incentive system was working well in a number of fairly diverse cultural and legal settings, although not in all, and the firm remained committed to this tradition. Could it therefore work in most settings but under more benevolent start-up conditions? Was it mostly an issue of implementation, perhaps requiring the firm to attempt more greenfield start-ups, as opposed to (more culturally challenging) acquisitions? Or would

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13 Hodgetts, Richard M.: A Conversation with Donald F. Hastings of The Lincoln Electric Company. *Organizational Dynamics*. Winter 1997, 60-66. Hastings, Donald F.: Lincoln Electric's harsh lessons from international expansion. *Harvard Business Review.* May-June 1999, 163-178.

14 Hastings, Donald F.: Lincoln Electric's harsh lessons from international expansion. *Harvard Business Review.* May-June 1999, 163-178.

15 The Plain Dealer Cleveland: *Lincoln Electric responds to union drive*. October 18th, 1997.

16 Hodgetts, Richard M.: A Conversation with Donald F. Hastings of The Lincoln Electric Company. *Organizational Dynamics*. Winter 1997, 60-66.

Lincoln have to abandon its incentive system when it came to foreign operations, accepting the norms of each host country when it came to compensating and motivating employees? The next playing field would be in Asia.

Lincoln Electric in Asia

In the mid-1990s, Lincoln made a new effort at expanding its operations in Asia, following the closure of the Japanese operation. This followed the introduction in 1995 of a new management structure for the corporation consisting of new executive positions (Presidents) and accompanying staffs to manage each of five key strategic regions: North America, Europe, Russia-Africa-Middle East, Latin America, and Asia (including Australia). Michael Gillespie was appointed President for the Asian region, of British nationality and having joined Lincoln from ESAB, Lincoln's principal competitor in Asia and in Europe. Asia was now a key target of the firm and Gillespie was called upon by Massaro to provide a fresh and aggressive strategy for the region. Gillespie's plan was to create local (regional) competencies and construct an integrated sales and manufacturing business with Asia.

> "The intention was to stop regarding Asia Pacific as a market to which we could export, to which we could sell our surplus production. So what we tried to do was to bring Lincoln to Asia rather than just sending American or Australian products into Asia, and decided that the right thing to do was to produce within the region for the region, products that were appropriate to the region, rather than simply trying to sell products that were right for the US or Europe."
>
> Michael Gillespie

A regional office was established in Singapore. The regional organization was to be responsible for strategic planning, technological support to the manufacturing units, and financial control. The regional organization had a high degree of autonomy from headquarters. The principal control consisted of following up that the region achieved its financial objectives. Gillespie was aided by Ray Bender, now the Vice President for manufacturing in the Asia region. Bender was a veteran in the Lincoln organization and had worked for three years on restructuring the company's operations in Europe when, in 1995, he met Gillespie and opted to move to Singapore.

Gillespie and Bender recognized that at least two issues would weigh heavily in their strategy for Asia – welding practices in the region and the management of local employees. With the exception of Japan, manual (stick) welding was still the predominant technique in Asia and the shift to semiautomatic and automatic welding was only occurring slowly and in concentrated areas. While Lincoln was competing, through export channels, in the more automated welding technologies, it was unable to compete in the stick welding market. High tariffs and considerable transportation costs, among other things, made exports of low-end consumables close to impossible. There were also a large number of national and regional competitors who were well established in Asia, although, Lincoln believed, without the dedication to quality and service that Lincoln wanted to bring to the region. While this market on its own did not look attractive, pumping out mainly low margin products, Gillespie and

Bender knew that this was an important vehicle for building brand recognition, boosting the firm's prospects in the automated machinery as new technology was absorbed.

Gillespie and Bender also recognized that motivating and managing employees would be complex. Regional governments could prove to be unstable, legislation regarding the treatment of employees more complex or possibly ambiguous, and local attitudes towards Western firms and practices uncertain – while some might welcome foreign operations, and the technologies and skills they bring with them, others might resent the presence of foreign firms and foreign practices. Moreover, each nation brought with it very specific cultural traits that could inhibit (or, of course, promote) traditional Lincoln management practices.

A Strategy for Asia

Gillespie decided to build operations in three locations: Indonesia, The Philippines, and China. The Indonesian operation was the first to be launched (1996/97), established as a joint venture with Lincoln's local distributor (Lincoln would maintain a 60% stake). The scope of operations, however, would be modest, focusing strictly on stick electrodes. Similarly, the Philippine operation, launched in early 1999, also focused exclusively on stick electrodes. These would be the entry vehicles, along with the Australian operation, for providing the most commonly used products to the region. However, Gillespie recognized that Lincoln would also have to build capacity in the higher-end market, building the groundwork for the region's inevitable technological progress into automated machinery – Lincoln would even contribute to this progress by educating customers on the advantages of the new technology, as Gillespie added:

> "Basically the welding industry started with the stick electrode over a hundred years ago. It has moved through the solid wire form of automation to the cored wire. What we have seen in most of Asia is that the majority of the welding has been done with sticks and very little has been done with semi-automatic processes. However, more is being done with automatic and we believe that it will be no different here from anywhere else – first of all, automatic is more productive, secondly it requires somewhat less skill. The downside is the initial investment cost, but this is amply repaid by the productivity once people understand it. We're focusing on it here."

The natural hub for this operation was China. As the current General Manager, Jeff Kundrach, explains:

> "A large percentage of the welding you'll see in China is stick electrodes. But there's a move towards the higher technology type of processes, especially, to capitalize on the higher efficiency and productivity of these systems. There is a tremendous number of stick electrode manufacturers and the government is very interested in moving away from that lower end technology into the higher end."

Gillespie added that there are "lots of locally owned stick electrode companies that are fighting each other to death and we saw the opportunity to come in with a good quality [automatic technology], both for the China market and for export."

Lincoln Electric, Shanghai

Entering China

Lincoln had established a representative office in Tianjin (northeast China) in the late 1980s, employing mostly local welding engineers who were sent to Cleveland for an eight month technical training program and returned to China to help push Lincoln products. There were no direct sales efforts, however, as sales were solely through Lincoln's local distributors. Although sales (both stick and automatic technologies) were modest, Lincoln was becoming better known in China and buyers associated Lincoln Electric with good quality. In 1996 a second representative office was added in Shanghai.

Initially, Gillespie believed the best mode of entry for a new operation would be with a local partner, probably a state-owned manufacturing firm. Several meetings took place to discuss a possible joint venture with representatives of the largest Chinese producers of electrodes and welding machines**.** The belief was that a local company could deliver the important distribution vehicle into the region, where customer contact seemingly required a local touch. In the end, Lincoln decided against a joint venture with a manufacturer, concerned with their outdated manufacturing processes and that Lincoln might not be able to adequately protect its intellectual property. There were also concerns about the Chinese firms' ability to support the company in aggressively selling products in different parts of China. Gillespie and Bender had also done their homework to find that "there were a lot of horror stories of local joint venture partners, so we stepped back and took a breather for a while," as Bender noted.

Instead of a manufacturing partner, Lincoln decided to only seek the collaboration of its distributors. Thus, the investment in the "Lincoln Electric (Shanghai) Welding Co., Ltd." was made with a 68% stake by Lincoln and 8% by each of four of Lincoln's distributors in Asia. Two of the distributors were already active in China and a third soon entered the market. To obtain permission to establish the wholly foreign-owned firm, Lincoln had to agree to a 30% export quota.

The decision to build an advanced manufacturing facility in Shanghai had good reasons. For one thing, Shanghai was home to the Pudong New Area, a massive new development area located south-east of the Huangpu river and home to a large number of free trade zones.[17] One of the free trade zones is called the Waigaoqiao Free Trade Zone, lying in the north-east of Pudong. It is adjacent to the mouth of the Yangtze River, 20 km away from the downtown core and 15 km away from the planned Pudong New Airport. It is the first comprehensive and multi-functional free trade zone in China, enjoying easy shipping access and a generous tariff system. For example, supplies could be imported tax free; only if the final products were sold on the Chinese market do customs and VAT have to be paid, and then only on the non-Chinese content. If the products are exported, neither customs nor VAT are paid on the imported supplies. This was a crucial advantage as the plant could be used to serve other Asian markets with advanced consumables products. Lincoln also believed that by locating in Pudong they could avoid possible pressure from local governments wanting to protect their own manufacturing companies. Lincoln decided to lease a building site, providing it with flexibility concerning how to further develop Lincoln's China operations.

17 For more information on Shanghai and development areas see www.sh.com.

The management team and method

In early 1997, Julius Wu was appointed Country Manager for China and General Manager of the Shanghai operation. Wu was originally from Taiwan and experienced in the electric motor industry in Taiwan and Mainland China. Wu was first sent to Cleveland for an eight-week training program, and then returned to Shanghai to start the company's operations out of the representative office in Shanghai.

Shortly after he arrived in Shanghai, Wu met Dr. Li Yan. Dr Li was a professor at the Institute of Metal Research at Harbin University and a well known expert in the Chinese welding industry, as one Lincoln manager recounted an encounter with a client representative:

> "The young welding engineer at our client's test shop, when he found out who Li was, almost kneeled. Harbin is number one for metal research and his qualifications and the way they're written on his business card mean a lot."

Li had also spent three years as a post-doc in the United Kingdom, was fluent in English, and a connoisseur of new welding technologies. An advocate for greater cross-cultural understanding, Dr. Li was seen as a perfect bridge between Lincoln's foreign technologies and management practices and Chinese business customs and attitudes. Not surprisingly, Wu offered Li the job as Plant Manager, which Dr. Li accepted, having been actively searching for a position with a foreign firm.

In the fall of 1997, Dr. Li spent six weeks in Cleveland before starting to work on the start-up of the Shanghai plant. Li decided on all hires for the new company. The first three hires – managers and technicians – were all made through Li's contacts in the welding industry. Because managers and technical people tended to already know the Lincoln brand name they were relatively easy to hire. More difficult would be the skilled operators, who didn't recognize the Lincoln brand name and were relatively scarce. To get skilled people to apply for operator positions Li had to make several visits to people's home to inform them about the company. Soon, word of mouth helped spread the news of Lincoln's job openings and positions were gradually filled. Virtually all of the employees had worked in the welding industry and would therefore be aware of industry practices in operations and employee management. Finally, most of the employees lived on the other side of the river, in old Shanghai, and were brought to the factory every morning by company bus or van.

All employees had to go through a three-month probation period, some of whom subsequently left the company while others were asked to leave. In several of these cases it appeared the new hires lacked a clear understanding of what Lincoln expected. Dr. Li therefore began spending more time assessing and working with candidates.

> "I spend one or two days interviewing and working with each of them. I assign some work on the floor to let him have a real feeling for how this operation is functioning. And I try to get a real understanding of how the person is working. I don't want to hire persons and then see them leave."

At this point there was no system of guaranteed employment. Salary levels in the company were on a par with other foreign companies in Pudong, possibly slightly above. All

employees, except the managers, were paid normal salaries. Dr. Li was the only local person with a bonus clause in his contract.

While Lincoln had transferred its used machinery to the new plant in Indonesia, in China it acquired brand new technology, rolled out simultaneously to both the Cleveland and Shanghai plants – the idea was that each operation's experience could benefit the other.[18] In fact, it turned out that there were fewer problems with the new production lines in China than were experienced in the Cleveland plant, Dr. Li having worked extensively with suppliers and operators on the set-up of the machinery. There were also extensive communications between Cleveland and Shanghai. While Julius Wu handled strategic issues, Dr. Li was handling most of the technical interactions, spending late evenings communicating with Cleveland (12 hour time-zone difference). Being responsible for the plant and also being the only technical person fully fluent in English, Li translated all instructions into Chinese. Every operator had a small book with written instructions for their job. Thus, when Anthony Massaro officially opened the plant in May 1998, the operation was on course for a successful beginning.

The final members of the management team were put in place in late 1998. In November 1998, Peter Grant was hired as sales and marketing manager. Grant, an Australian with a flare for expat life, had four years of experience in China and had worked for one of Lincoln's competitors. All of his sales people were university qualified welding engineers. The regional Finance Manager, Jason Foo, initially handled the finance and accounting function from his base in Singapore. In February 1999, Shan Bing, a Chinese accounting expert in his early 30s who had more than five years of experience from foreign-investment companies in Shanghai, was hired as finance and control manager. (see Exhibit 3)

Early results and future concerns

By March 1999, Lincoln Electric Shanghai employed 40 employees in production, ten engineers and lab technicians, another ten service people, and ten administrative staff. The sales people were affiliated with the representative office in Shanghai and with the other offices in Tianjin, Xian and Shenyang. By all accounts, the first year of Lincoln Electric Shanghai was a marked success and the company was experiencing "very large growth," despite the slump in other parts of Asia and the downturn in the Asian economy in general. Lincoln executives were already looking into the possibility of expanding their operations into an increasing range of Lincoln products.

Although the future looked bright, many critical issues were looming.

First, there were concerns that product quality would be maintained as the operation grew and emphasized as a key advantage of the Lincoln brand. As explained by Ray Bender:

> "We took all kinds of steps to hammer in quality, to discuss quality, make sure that what we make is what the market wants… We go overboard as far as our quality assurance department is concerned. We invested a lot of money in the

---

18 An earlier experience in Venezuela necessitated dual entry of new technology, as Kundrach explained "When we put equipment in Venezuela we couldn't really support it because it was different and we didn't have the knowledge base. We insisted that whatever we put in China, we're going to have it duplicated in Cleveland to be able to support it."

> (quality assurance) equipment, and we bring auditors in from the United States on a regular basis so that we don't get lulled into thinking that everything is good. So they come in and audit the system."

The company also started to post production outcome and quality data on the board located in the workshop so that all employees could follow how the manufacturing process was running.

Second, Julius Wu fell ill during the fall of 1998 and needed significant time for convalescence. While Jeffrey Kundrach, experienced in several of Lincoln's foreign adventures, would fulfill immediate leadership needs as the General Manager, it was uncertain how the leadership would play out in the future.

But perhaps the trickiest issue for the company was if and when to introduce the distinctive Lincoln incentive system. Lincoln devotees remained dedicated to the Lincoln way and believed strongly in the logic of bonuses and piecework. Although Lincoln had not attempted to introduce the incentive system in Shanghai, the issue was being seriously discussed. Regarding bonuses, Bender believed this was an important way of providing both meaningful feedback to employees while also having this feedback linked to something tangible. This was being considered throughout the plant, including the salesforce.

Yet, bonuses were not considered sufficient motivators by themselves, certainly not as powerful as the piecework logic, as Bender explained.

> "There is a definite advantage in sitting down twice a year with all your employees and telling them what their strengths are, where they could do better, what we have to do in order to get our overall goal. If nothing else you need to do that, it's a way of forcing you to sit down and talk to your people to really be frank with them on how they're doing. You can measure piecerate work efficiency so you can discuss their output. A quality system with the number of rejects is also very quantitative so you can sit down and discuss his quality very easily. His attendance can also be discussed.
>
> But, I think if you're looking to get another 20% out of your equipment, the best way to do that is on piecework. Piecework is the day to day driver. Twice a year there is a sudden realization that the bonus will come up, so maybe there is a lot of activity for two weeks or a month before they are merit rated. But during the other months things are normal. So for me if you're looking at what's going to stimulate a factory it's going to be piecework more than just a bonus system."

The production workers were proving to be an open and amiable group so far. Grant suggested the dividing lines between management and workforce were not necessarily thick in China as in his native Australia:

> "I don't see any of that here, I really don't. It depends on your approach and so on, but you can walk down that line and there's nothing wrong with putting a hand on someone's back and saying, How are you doing? or whatever and try and carry on a conversation or even if you can't speak the language, acknowledge them."

Any piecework system would seemingly require such mutual trust.

Nevertheless, there were cultural impediments to consider. For one, the lack of a common language between workers and most managers might hinder effective communication. Also, having the workers bear more of the downside risk for poor company performance might not be acceptable in a country where people were generally not exposed to such remuneration systems. Prolonged depression of people's earnings might even raise accusations of exploitative practices and possibly introduce government intervention. The traditional Lincoln system would also require the ability of the workforce to speak out and make suggestions for improvements in processes, something that would not come easily in the hierarchical Chinese society where superiors were expected to make initiatives and decide on most organizational matters. However, Grant, along with others, was trying to encourage the local employees to become more active:

> "I push my people to debate with me, to argue with me at the right time and I welcome them to come in and tell me where they think I am wrong with either a decision or something I've said or what I am planning to do. I push them to do that."

Some, however, did not find the cultural impediments compelling – indeed, they believed many workers would be more than willing to have their pay scheme clear, transparent and rewarding of hard work, the competitiveness involved something Chinese workers were not expected to shy away from. Furthermore, although traditionally there have been very small salary differences in Chinese organizations, a growing number of both foreign and local Chinese companies had recently introduced performance-based compensation system. Some of the Lincoln managers argued that the main concern was implementation and timing, as Bender noted:

> "It's my impression that piecework is a concept that probably could be accepted here, but one of the things that we have to be concerned about is that if it's not done fairly it could end up being a problem. So we have to do a lot of homework to make sure that we're going to keep the person busy in piecework, that the price structure that we set is fair, and that it's going to sustain itself. One of the worst things you could do is set a piecework price and then realize that you made a mistake and then go back and change it. People don't understand why you cut their price when they were making a lot of money."

His views were shared by Kundrach:

> "You can't introduce a piecerate system until you have a steady, stable process. And this is for new equipment. It's new for the corporation, people have to go up a learning curve, and you cannot introduce a piecework system on that learning curve – you would have to adjust the piecework system all the time… if you just arbitrarily change the piecerate because somebody is making 20% above the basis, then the trust factor is gone."

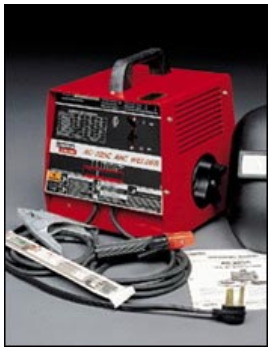
As Lincoln Electric Shanghai entered its second year, it was at least clear that how to sustain growth and boost productivity while maintaining a motivated and committed workforce would have to be closely considered.

Exhibit 1

Examples of Lincoln Products

Lincoln Electric manufactures a wide range of arc welding products. Arc welding is in essence an electrical process – electrical current passes between some electrode/instrument and its target metal and produces an extremely high temperature (10,000 Fahrenheit). This temperature is adequate to fuse various base metals. Sometimes the electrode itself is fused with the target metal, as in the case of stick welding, such that the metal stick (consumable) is gradually left on the target. In other instances, the base metal is applied to the target and the electrode provides simply the "arc." Lincoln manufactures both the equipment and the consumable materials involved in arc welding.

From manual, stick welding equipment…



…to semi-automated equipment…

…to robotic, automated equipment.

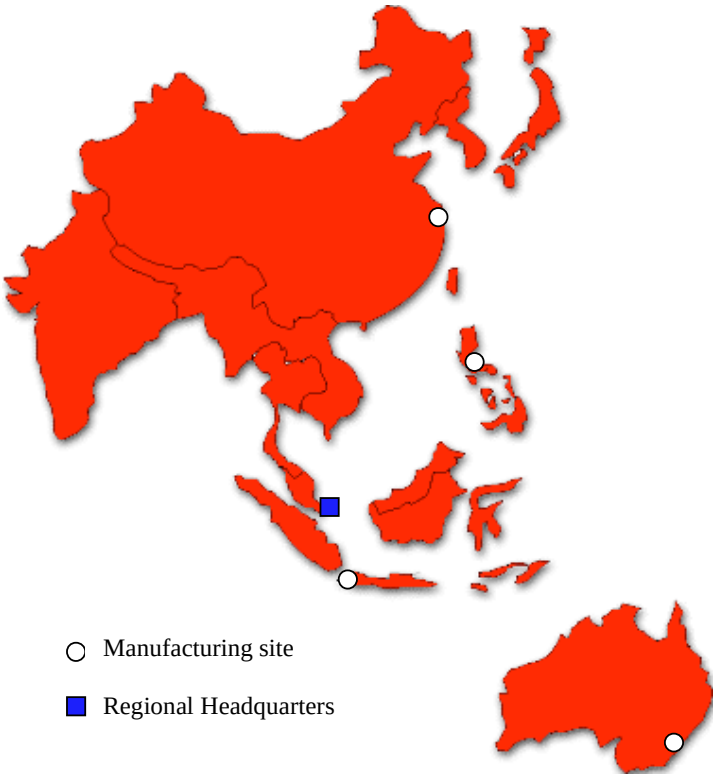
Exhibit 2

Lincoln Electric Consolidated Income Statement, 1989-98 (US$ millions)

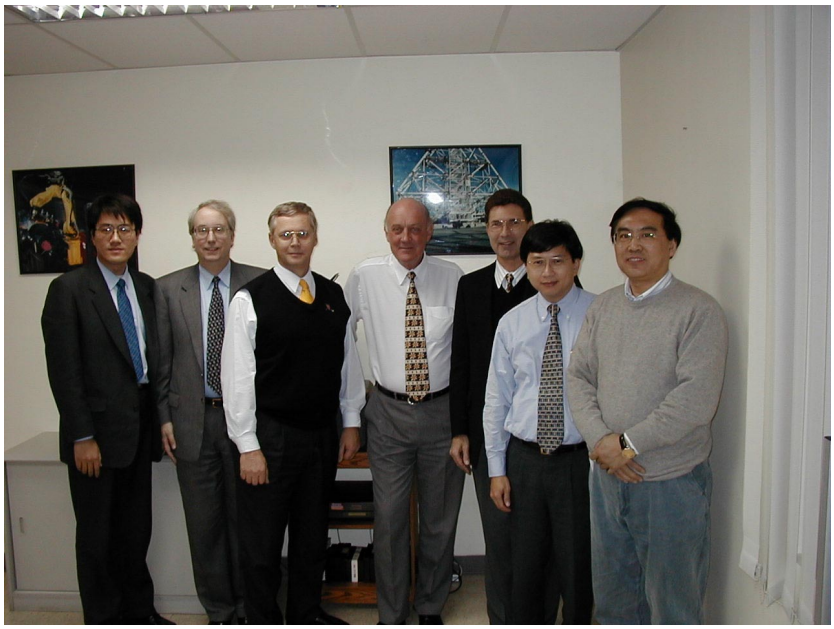
	1989	*1990*	*1991*	*1992*	*1993*	*1994*	*1995*	*1996*	*1997*	*1998*
Net sales	692.8	796.7	833.9	853.0	846.0	906.6	1,032.4	1,109.1	1,159.1	1,186.7
Costs of goods sold	441.3	510.5	521.8	553.1	532.8	556.3	634.6	686.5	718.4	729.6
Gross profit	251.5	286.2	312.1	299.9	313.2	350.3	397.8	422.6	440.7	457.1
Distribution cost/selling, general & administrative expenses	211.0	255.4	270.5	298.3	276.8	258.0	287.9	310.3	305.8	309.7
Operating income	40.5	29.8	41.6	1.5	36.4	92.3	109.9	112.3	134.9	147.4
Restructuring charges (income)				23.9	70.1	(2.7)				
Other income (expense)										
Interest income	12.7	11.4	6.0	3.1	1.6	1.4	1.7	2.8	5.9	4.1
Other income	3.1	3.1	3.8	4.4	2.9	3.1	2.2	10.4	0.8	1.2
Foreign exchange loss	(7.6)	(3.8)	(1.2)	(0.9)	(0.2)	(3.7)	(1.9)	a	a	a
Interest expense		(11.1)	(15.7)	(18.7)	(17.6)	(15.7)	(12.3)	(7.7)	(6.3)	(5.6)
	8.2	(0.4)	(7.1)	(12.1)	(13.3)	(14.9)	(10.3)	5.5	0.3	(0.3)
Income before income taxes and extraordinary items	48.5	30.4	34.4	(34.4)	(47.0)	80.2	99.6	117.9	135.2	147.1
Extraordinary items					2.5					
Income taxes and extraordinary items	21.0	19.3	20.0	11.4	(6.4)	32.2	38.1	43.6	49.7	53.3
Net income	27.6	11.1	14.4	(45.8)	(38.1)	48.0	61.5	74.3	85.4	93.7

a Foreign exchange losses not reported separately. All figures based on annual reports and 10K filings.

Exhibit 3
Lincoln Asia Pacific



Lincoln Electric Shanghai management team:
(From Left: Shan Bing, Jeffrey Kundrach, Peter Grant, Michael Gillespie, Ray Bender, Jason Foo, Dr. Li, missing: Julius Wu)



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