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SCOTTS MIRACLE-GRO: THE SPREADER SOURCING DECISION

Professors John Gray and Michael Leiblein wrote this case with assistance from Shyam Karunakaran solely to provide material for class discussion. The authors do not intend to illustrate either effective or ineffective handling of a managerial situation. The authors may have disguised certain names and other identifying information to protect confidentiality.

As Bob Bawcombe drove to work on a warm California morning in June 2007, his mind was occupied with an upcoming meeting with the folks from the corporate office in Marysville, Ohio. Bawcombe was the director of operations of Scotts' Temecula plant. For over five years, he had been in charge of the Temecula manufacturing plant, which produced all of Scotts Miracle-Gro's domestic lawn seed and fertilizer spreaders (see Exhibit 1). As a result of the plant's location in Southern California, Bawcombe was under constant pressure to justify why Scotts should not offshore/outsource production of its spreaders to a low-wage manufacturing site, such as China.

Company History

The Scotts Miracle-Gro Company (Scotts), based in Marysville, Ohio, was formed by a 1995 merger of Miracle-Gro and The Scotts Company. The merger made Scotts the largest company in the North American lawn and garden industry. It was the world's leading supplier and marketer of consumer products for do-it-yourself lawn and garden care, with products for professional horticulture as well.[1] In the 2007 fiscal year, Scotts had net sales of $2.7 billion (see Exhibits 2 and 3).

The Scotts Company was founded in 1868 by Orlando McLean Scott as a purveyor of weed-free seeds. By 1879, Scotts had diversified into distribution of horse-drawn farm equipment and also started a mail-order farm seed distribution channel. Scotts began offering grass seeds for lawns in 1907, distributing through retail channels beginning in 1924. In 1928, Scotts introduced Turf Builder®, the first fertilizer specifically designed for grass. Scotts started its spreader business with the introduction of drop spreaders in 1930; broadcast spreaders were rolled out in 1983. Scotts acquired Republic Tool & Manufacturing Company in 1992 and gained competencies in total quality control over spreader manufacturing. Ownership of the firm changed hands several times, beginning in 1971 when ITT bought Scotts from the Scotts family. In 1986, a

[1] *Scotts Miracle-Gro Corporate Overview — Corporate Profile, www.scotts.com/smg/, accessed May 31, 2007.*

leveraged buy-out (LBO) made Scotts a private company again for a time, until 1992, when its stock started trading on the NASDAQ.

Miracle-Gro was founded in 1951 by Horace Hagedon. Unlike Scotts, Miracle-Gro had no internal production; all production was outsourced to contract manufacturers. Before the 1995 merger with Scotts, Miracle Gro was already a leading brand in the lawn care chemical industry. By early 2000, Scotts Miracle-Gro products were No. 1 in every major category and in virtually every major market in which they competed.[2]

Temecula Operations

The 1992 acquisition of Republic Tool & Manufacturing Company from the McRoskey family provided Scotts with a spreader manufacturing plant which occupied three buildings in Carlsbad, California. By 2000, the cost and inefficiencies associated with managing production across three independent buildings had spurred Scotts' management to explore alternative methods of producing or procuring spreaders. At that time, Scotts' senior management decided that a move to the current facilities in Temecula was the most efficient solution.

In 2001, Scotts leased its current 412,000-square foot facility for 15 years at an annual cost of $3 million.[3] The move allowed Scotts to consolidate production in one building to rationalize its production processes. While there were eight years left on the current lease, Scotts was fairly certain that it could terminate this lease quickly (in less than a year).

Although the decision had been made to keep the plant in California in 2000, the comparatively high plant and labor costs of the Temecula plant continued to create intense cost pressure. Over the 2002-2007 time period, Bawcombe and his leadership team had been largely successful in their efforts to improve productivity through continuous investment in product and process innovations (see Exhibit 5 for the current layout of the Temecula plant). Productivity improvements had averaged six per cent per year for the last few years and this trend was expected to continue for at least five more years before leveling off. The plant also had trained its 190 production line workers in lean management techniques and this effort had led to the identification of a number of workforce-driven improvement projects. Indeed, Bawcombe felt that these productivity improvements had allowed the Temecula plant to be cost competitive on a global basis and would continue to do so in the future:

> Our vision for the future involves making the plant as automated as possible and we are well on the way to achieving the goal. This would allow us to drastically cut labor costs and make our landed costs comparable to the landed costs of plants in China. My higher energy costs will be offset by their higher freight, inventory and quality costs. In the plant of the future we would need fewer assemblers and a greater number of machine technicians to maintain the plant. We are actively training and developing our human resources to meet this need.

The Temecula plant had built considerable general manufacturing skill. Bawcombe believed that this skill was responsible for a number of important process innovations. A good example of this sort of process innovation involved the development of a new hand spreader assembly process. The old process involved six people manually putting the product together in an assembly line. The hand spreader was recently redesigned to remove screw connectors and make all components pressure-fit. This allowed the plant to

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[2] *Scotts Miracle-Gro — Time Line and Company History, www.scotts.com, accessed May 31, 2007.*
[3] *All non-public financial, productivity and employment information has been disguised for this case.*

develop and build in-house an automated assembly line that required only four people. The plant had documented the assembly line design using computer-aided design (CAD). And, working in collaboration with corporate durables research and development (R&D), together they had greatly improved the design for manufacture of the spreaders. Bawcombe felt strongly that the development of this general manufacturing competence was intimately tied to the ability to continue the reduction of product costs going forward: ". . . this kind of innovation requires production capability to be in-house, so that Scotts retains the capability to innovate in production process and engage in design for manufacture. Our Quality Manager is a design engineer by trade, this is by choice not by accident."

The Temecula plant had also pioneered the use of "in-mold labeling," becoming one of the few facilities in the world to have "in-mold labeling" capability for injection molding of such a large product (the spreader hoppers). There was significant tacit knowledge in the ability to get in-mold labeling to work, although the plant was working to codify this process innovation. In-mold labeling allowed the label to be molded into the plastic product; this allowed for higher quality, as the labels would not fade, scratch or peel. The older method was called "hot stamping of labels." Hot stamping could result in lower quality, as the label was stuck on top of the plastic and could fade, peel or get scratched. This older process was still used for low-value products at Temecula and was the process that vendors would have readily available. While there were some within Scotts who felt that in-mold labeling was of little value to the end customer, there was discussion that the quality of "in-mold" labels could be a key part of a planned Scotts marketing campaign where messages on the spreader labels would be used to drive higher fertilizer/seed usage and sales. While neither the hand spreader assembly nor the in-mold labeling process innovations had been directly transferred to other Scotts manufacturing operations, the process improvement routines and skills developed in Temecula had been effectively utilized in Scotts' fertilizer packaging operations through benchmarking and the transfer of managers.

Bawcombe believed strongly that the product and process innovations in his plant were largely a function of manufacturing skills that his team had developed through prior experience. In an effort to maintain morale and avoid the loss of these skills and the associated problem-solving routines, the Temecula leadership team was especially careful to ensure that productivity improvements did not lead to firings. Instead, they used temporary workers and attrition to manage the declining demand for labor.

The main cost drivers of the Temecula plant (see Exhibit 4) were raw materials, labor, electricity and overhead (including building lease). Scotts used a discount rate of 15 per cent. Scotts spent capital to make the improvements in Temecula that it would not need to spend (directly) if it used a contract manufacturer. This had historically run about $500,000 per year. Given that contract manufacturers had lower labor costs and less incentive to invest in capital improvements, it was estimated that they would only spend about $300,000 per year in capital.

Outsourcing to China

Scotts had considerable experience sourcing components for its spreaders and had frequently considered the possibility of outsourcing the complete spreader manufacture and assembly to China. In fact, Scotts currently sourced the most complex components of the spreaders — related to the rotor assembly — from China. The molding of spreader buckets, the only non-assembly process occurring at Temecula, was a fairly simple process for companies with experience in injection molding, with the exception of the in-mold labeling processes. Since the only product-specific component of the plastic injection molding process was the mold, the common practice when outsourcing was for the customer to own the molds and the supplier to own the injection molding machines and plant. Thus, customers might move the mold from one supplier to another, but only if the suppliers used a compatible injection molding machine. As the injection molding technology necessary for the hoppers was fairly mature, all major suppliers tended to use similar technology.

The one exception to this rule involved the use of the "in-mold labeling" technology. If Scotts were to outsource spreader manufacture and assembly, it might need to either provide the contract manufacturer with the equipment and know-how to perform "in-mold labeling" or remove this feature from its spreaders. Moreover, if Scotts were to provide the necessary "in-mold" training and equipment, it was unlikely that a chosen contract manufacturer would be able to use the molds currently in use at Temecula. New molds used for injection molding averaged about $40,000 and lasted approximately five years. There were currently 10 distinct molds used in Temecula in the injection molding for the "in-mold" technology; it would be safely assumed that the average remaining life was half of the total model life.

The relevant labor cost in China was currently at $0.91 per hour and was expected to increase by 40 per cent over the next 10 years, according to the Chinese Labor Ministry.[4] This estimate might be low, as wages increased almost 10 per cent in 2005 alone, up as high as 40 per cent in some companies.[5] The Chinese workers had somewhat lower productivity than U.S. workers, in general. Electricity in China was subsidized and was currently at 0.5 yuan per kilo-watt hour (approximately $0.065 per kilo-watt hour). Increases in the cost of coal, the main fuel used by China for power generation, suggested that electricity prices in China would rise by 20 per cent over the next decade. This estimate, too, might be low given the increasing pressure on the Chinese to improve their environmental record and recent trends in fuel costs. The lease for space to do this work in China was assumed to be about $200,000. These costs could be compared to the Temecula cost drivers given in Exhibit 4. If Scotts' entire annual production volume of approximately three million spreaders was transferred to China, the annual freight costs were expected to be $8 million in 2005 and expected to rise by three per cent annually. These costs might be partially offset by some savings off the approximately $1 million in shipping of components currently sourced from China.

Sourcing from China also meant that the lead time of Scotts supply chain would increase. Scotts estimated that it would have to hold an additional eight weeks of safety stock at a current annual cost of $460,000 to offset this lead time differential.[6] Any contract manufacturer would have management and oversight costs and earn a margin. The overhead costs (which included all salaried labor, maintenance, facility, etc.) were about 50 per cent of direct labor costs. The contract manufacturer would take a profit margin above costs; eight per cent was a reasonable estimate for this. And, of course, there would be transition costs — search, contracting, Temecula shutdown, etc. On-going, Scotts would have some costs (management time, travel) for managing the suppliers. Because spreaders were considered an agricultural product, Scotts would not have to pay duties and taxes when importing them. There was some (low) risk that this might change in the future.

Finally, Scotts' management anticipated that outsourcing would involve some additional general and administrative costs within its own organization. Scotts usually set up structured regular communication plans with its suppliers. Scotts had regular scheduled meetings and sent production plans (mostly in the form of purchase orders, POs) at regular intervals and avoided making changes to the POs, except in some

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[4] Chinese Labor Ministry website, www.molss.gov.cn/gb/ywzn/gzfp.htm, accessed May 31, 2007.
[5] www.businessweek.com/magazine/content/06_13/b3977049.htm, accessed May 31, 2007; see also P. Beamish, "The High Cost of Cheap Chinese Labor," Harvard Business Review, June 2006. Reprint F0606D.
[6] This assumed that the contract manufacturer (CM) also engaged in level production, as Temecula did at the time of the case. While it was possible that a contract manufacturer could more closely match production with demand (perhaps by also producing, for example, toys, whose retail demand would peak late in the year versus. spring), Scotts' current discussions with CMs indicated that the CMs would most likely also engage in level production.

extreme cases (sudden input/process/demand variation). Scotts also regularly qualified its suppliers and conducted weekly conference calls. These steps were taken to ensure that the supplier met Scotts' quality standards and used approved inputs and production processes. Despite these checks, Scotts occasionally faced issues with suppliers. The time required for transportation of spreaders from China to the United States and the batch nature of most supplier operations meant that any problems might not be detected until after a batch reached the United States and entire batches might have to be rejected or reworked.

Bawcombe feared that in today's meeting the corporate folks would push to outsource from China. Bawcombe was concerned about handing production over to another company and was prepared if needed to argue for another option. The alternative to outsourcing that Bawcombe was considering was the setting up of a Scotts production plant in China, i.e., to *offshore* spreader production. Setting up a plant in China would cost about $8 million and would take up to a year. Despite the high initial cost, this option offered the possible cost benefits associated with manufacturing in China, while allowing Scotts to continue to maintain direct control over its products and process.

One of Bawcombe's major concerns with either outsourcing or offshoring from China was uncertainty regarding the Chinese government's policy with respect to the yuan. Historically, the Chinese government had pegged the yuan to the U.S. dollar. This policy allowed only limited float in its price. The policy was controversial and a source of considerable inter-government talks. In 2007, the yuan-U.S. dollar exchange rate was 7.65 yuan/$. The market expectation was that the yuan would appreciate by about 20 per cent in the next five years,[7] although there was considerable uncertainty with the estimate. This appreciation would directly affect the cost of any product manufactured in China. If China were to allow the yuan to trade more freely, this appreciation would likely be magnified.

The Meeting

Bawcombe welcomed his visitors from the corporate office, showed them some new innovations that the plant had implemented and took them to the conference room. When they got to the meeting, it was clear that the visitors had come to discuss the possibility of closing the Temecula plant. Bawcombe would do what was in the best interest of Scotts, but also wanted to keep Temecula open.

What should Scotts do?

[7] *Bloomberg Yuan NDF (Non-denominated Futures).*

Exhibit 1

SCOTTS MIRACLE-GRO SPREADERS

Drop Spreaders		Scotts AccuGreen® 1000 Drop Spreader
		Scotts AccuGreen® 2000 Drop Spreader
		Scotts AccuGreen® 3000™ Deluxe Model Drop Spreader
Broadcast Spreaders		Scotts Basic Broadcast Spreader
		Scotts Standard Broadcast Spreader
		Scotts Deluxe ™ EdgeGuard® Broadcast Spreader
Hand-Held Spreaders		Scotts Easy® Hand-Held Spreader
		Scotts HandyGreen® II Hand-Held Spreader

Source: Scotts Miracle-Gro company website, accessed May 31, 2007.

Exhibit 2

SCOTTS MIRACLE-GRO ANNUAL BALANCE SHEET

As of	**09/30/06**	**09/30/05**	**09/30/04**	**09/30/03**	**09/30/02**
(all numbers in millions of US$)					
Assets					
Current Assets					
Cash	48.10	80.20	115.60	155.90	99.70
Marketable Securities	n/a	n/a	57.20	n/a	n/a
Receivables	380.40	323.30	292.40	290.50	249.90
Total Inventories	409.20	324.90	290.10	276.10	269.10
Raw Materials	105.80	77.50	72.80	72.40	72.50
Work In Progress	36.00	31.40	n/a	n/a	n/a
Finished Goods	267.40	216.00	217.30	203.70	196.60
Notes Receivable	n/a	n/a	n/a	n/a	n/a
Other Current Assets	104.30	59.40	75.00	90.10	111.40
Total Current Assets	942.00	787.80	830.30	812.60	730.10
Property, Plant & Equipment, Net	367.60	337.00	328.00	338.20	329.20
Property, Plant & Equipment, Gross	737.60	659.40	629.40	608.70	575.20
Accumulated Depreciation	370.00	322.40	301.40	270.50	246.00
Interest and Advance to Subsidiaries	n/a	n/a	n/a	n/a	n/a
Other Non-Current Assets	n/a	n/a	n/a	n/a	n/a
Deferred Charges	n/a	n/a	n/a	n/a	n/a
Intangibles	882.80	872.40	848.90	835.50	791.70
Deposits & Other Assets	25.20	21.70	40.60	44.00	50.40
Total Assets	**2,217.60**	**2,018.90**	**2,047.80**	**2,030.30**	**1,901.40**

Exhibit 2 (continued)

As of	**09/30/06**	**09/30/05**	**09/30/04**	**09/30/03**	**09/30/02**
Liabilities					
Current Liabilities					
Notes Payable	n/a	n/a	n/a	n/a	n/a
Accounts Payable	200.40	151.70	130.30	149.00	134.00
Current Long-Term Debt	6.00	11.10	22.10	55.40	98.20
Current Port. Cap Lease	n/a	n/a	n/a	n/a	n/a
Accrued Expense	289.80	323.40	281.20	243.80	219.60
Income Taxes	n/a	n/a	n/a	n/a	n/a
Other Current Liabilities	n/a	n/a	n/a	n/a	n/a
Total Current Liabilities	496.20	486.20	433.60	448.20	451.80
Mortgages	n/a	n/a	n/a	n/a	n/a
Deferred Charges/Inc.	49.20	4.50	18.60	n/a	n/a
Convertible Debt	n/a	n/a	n/a	n/a	n/a
Long-Term Debt	475.20	382.40	608.50	692.10	719.50
Non-Current Capital Leases	n/a	n/a	n/a	10.10	11.70
Other Long-Term Liabilities	115.30	119.60	112.50	151.70	124.50
Total Liabilities	**1,135.90**	**992.70**	**1,173.20**	**1,302.10**	**1,307.50**
Shareholder Equity					
Minority Interest	n/a	n/a	n/a	n/a	n/a
Preferred Stock	n/a	n/a	n/a	n/a	n/a
Common Stock	0.30	0.30	0.30	0.30	0.30
Capital Surplus	508.80	503.20	443.00	398.40	398.60
Retained Earnings	690.70	591.50	499.50	398.60	294.80
Treasury Stock	66.50	n/a	n/a	n/a	41.80
Other Liabilities	-51.60	-68.80	-68.20	-69.10	-58.00
Total Shareholders Equity	**1,081.70**	**1,026.20**	**874.60**	**728.20**	**593.90**
Total Liabilities & Shareholders Equity	**2,217.60**	**2,018.90**	**2,047.80**	**2,030.30**	**1,901.40**

Source: The Scotts Miracle-Gro Company annual reports.

Exhibit 3

SCOTTS MIRACLE-GRO ANNUAL INCOME STATEMENT

Period Ended	**09/30/06**	**09/30/05**	**09/30/04**	**09/30/03**	**09/30/02**
(all numbers in millions of US$)					
Net Sales	**2,697.10**	**2,369.30**	**2,106.50**	**1,887.70**	**1,748.70**
Cost of Goods Sold	1,741.20	1,508.90	1,314.10	1,198.80	1,112.10
Gross Profit	**955.90**	**860.40**	**792.40**	**688.90**	**636.60**
R & D Expenditure	n/a	n/a	n/a	n/a	n/a
Selling, General & Admin Expenses	711.30	667.00	516.90	493.60	432.20
Depreciation & Amortization	n/a	n/a	n/a	8.60	5.70
Non-Operating Income	7.90	7.50	-22.70	44.90	40.50
Interest Expense	39.60	42.80	94.30	69.20	76.30
Income Before Taxes	**212.90**	**158.10**	**158.50**	**162.40**	**162.90**
Provision For Income Taxes	80.20	57.70	58.00	59.20	61.90
Minority Interest	n/a	n/a	n/a	n/a	n/a
Realized Investment (Gain/Loss)	n/a	n/a	n/a	n/a	n/a
Other Income	n/a	n/a	n/a	n/a	n/a
Net Income Before Extra Items	132.70	100.40	100.50	103.20	101.00
Extra Items & Disc. Ops.	n/a	0.20	0.40	0.60	-18.50
Net Income	**132.70**	**100.60**	**100.90**	**103.80**	**82.50**

Source: The Scotts Miracle-Gro Company 2006 annual report.

Exhibit 4

TEMECULA PLANT COST DRIVERS

Raw Materials:

The main raw material for Scotts was plastic resin. Plastic resin was a commodity and prices the world over were comparable. Although Scotts was able to obtain some volume discounts, similar discounts were obtained by any large plastic injection molding vendor. The Temecula plant had developed an extensive "regrind" process that allowed the Temecula plant to save annually an average of approximately $100,000[8] in raw materials costs, relative to a typical contract manufacturer.

Labor Costs:

Temecula employed 195 workers in its production process, at an average hourly rate of $16.25 (all inclusive). The labor rate at Scotts was increasing at three per cent per year. Scotts expected ongoing process and product innovations to increase productivity at an annual rate of six per cent for the next five years and then to settle to an annual increase of three per cent for another five years. Temecula also had 16 salaried employees, with fully loaded average salaries of $125,000.

Electricity Costs:

The Temecula plant currently used annually 8,000,000 kilo-watt hours. California electricity unit rates were currently at 16 cents/kilo-watt hour (plus a surcharge of 2.5 cents/kilo-watt hour until 2009). The electricity rate in California closely followed the trends of natural gas prices and was expected to increase by 50 per cent by 2017.[9] Scotts expected, through efficiency improvements, to be able to reduce the plant's electricity requirement to "cut in half" the expected electricity unit price increase — that is, the net electricity cost increase over the next 10 years was expected to be about 25 per cent.

Overhead Costs:

In addition to the building leasing costs, the Temecula plant absorbed $1 million of corporate overhead. Other assigned overhead costs amounted to 30 per cent of direct manufacturing costs (direct labor and electricity). Outsourcing Temecula would not be expected to reduce headcount in Marysville; therefore, the $1 million of corporate overhead would not be saved. But, the 30 per cent overhead would be saved if the plant were closed.

Source: Company records.

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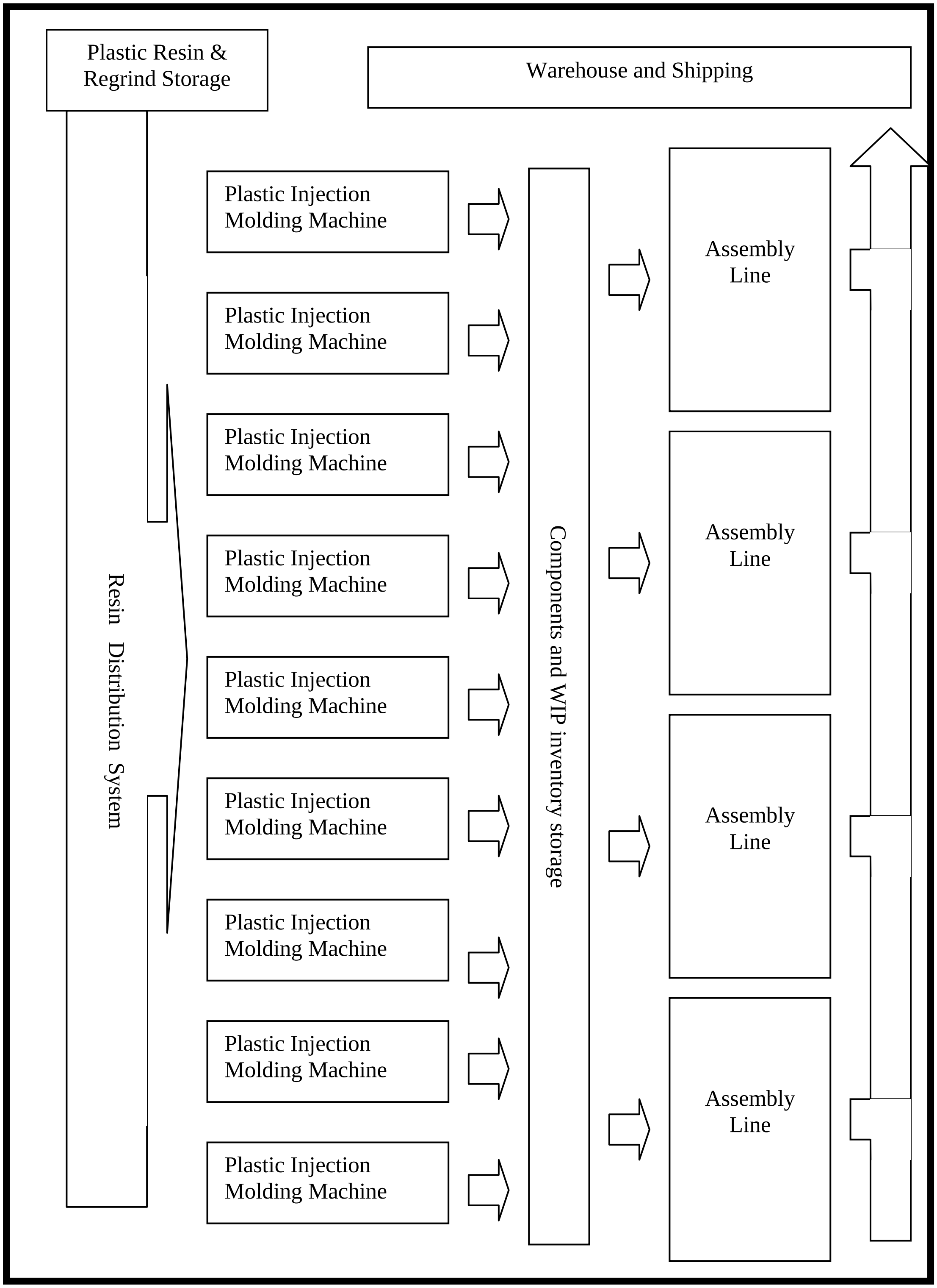
[8] *As previously indicated, all non-public financial, productivity and employment information has been disguised for this case.*
[9] *U.S. Energy Information Administration.*

Exhibit 5

TEMECULA PLANT LAYOUT



Source: Company records.