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ADOPTING SAP AT SIEMENS POWER CORPORATION

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1. LEARNING OBJECTIVES

Students will

1. be introduced to a particular ERP (enterprise resource package) software, SAP R/3, to learn about the pros and cons of ERP packages in general, and R/3[1] in particular.

2. learn how an organization's reengineering efforts may drive the adoption of an ERP system and later influence the implementation of the system: Students will identify what problems (outdated legacy systems, Y2K, lack of customer responsiveness) lead to the implementation of a package. Furthermore, they will be sensitized to the type of implications reengineering-related decisions may have (e.g., downsizing) on the feasibility of the implementation project.

3. be exposed to different aspects of the decision making process related to an ERP implementation: choice of package, hardware, consultants, implementation approach. They should (1) gain an improved understanding of the issues involved in implementing an enterprise package (as opposed to conventional IS development) and (2) be sensitized to potential implications of their decision-making for later project stages such as implementation and maintenance.

2. CASE OVERVIEW

2.1 Company and Industry Background

Siemens Power Corporation is a globally operating manufacturer of both fossil fuel and nuclear power generation systems. It is wholly owned by its German parent Siemens AG.

Siemens Power Corporation's Richland, WA, based nuclear fuel fabrication plant (hereafter referred to as SPC) engages in the manufacturing of nuclear fuel assemblies for both BWR and PWR reactors[2] and related services. The plant was originally founded as Exxon Nuclear in 1969 and later bought by Siemens AG. While its German sister plant serves the European markets,

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[1]In a nutshell, R/3 provides a set of business applications designed for the client/server environment. It consists of 80 highly integrated modules which support major business functions such as HR, finance, manufacturing, and sales/distribution on a real-time basis. The software modules are designed according to best business/industry practices and can be configured so that they map an organization's activities encompassing everything from corporate structure down to the specifics of pricing discounts.

[2]Boiling water and pressurized water reactors.

SPC primarily competes in the U.S. With a market share of approximately 20%, SPC is the third largest competitor after Westinghouse and GE, which command 35% and 25% of the market, respectively. The remaining 20% of the market is about evenly divided between ABB/CE and Framatome/Cogema. Before restructuring its operations (see below) SPC had about 960 employees and revenues of $200-300m.

After a promising start in the early 1970s, the prospects of the nuclear fuel industry soon dimmed. The public's call for safer and cheaper energy sources in the second half of the 1970s led the industry's main customers—U.S. based utilities—to sharply reduce their involvement in nuclear power. In addition, a nation-wide decrease in energy consumption intensified competition.

The impact for the nuclear fuels industry was disastrous: At the beginning of the 1990s, SPC found itself competing against its four U.S. rivals in a non-growing market operating at half capacity.

2.2 Context

While all of its competitors specialize in the manufacturing of either BWR or PWR fuels, SPC manufactures both. As a result, SPC's costs and prices have always been higher than the competition's. Thanks to its reputation as a supplier of high quality fuel, SPC nevertheless managed to effectively compete. However, over time the distinction in quality between the competitors diminished. It became clear that SPC was not able to survive much longer if it continued business as usual.

In 1994, Siemens AG decided to send in a McKinsey team to help restructure (reengineer) SPC's operations. McKinsey suggested a two-pronged approach that aimed at both improving SPC's productivity and extending its technical lead. In collaboration with SPC, the consultants developed close to 600 restructuring measures for simultaneous improvements in timeliness, quality, and productivity. The measures cut across all functions and departments of SPC. Their implementation was scheduled to start in early 1995 and end in September 1997. As a result of this effort, SPC's headcount was planned to be reduced by about 30%, down to 680.

SPC's information systems department (CIS) was among the first to complete the McKinsey guided measure generation process. The most important outcome was the idea to get rid of SPC's costly IBM 4381 mainframe-centric IS infrastructure. Aside from annual savings of about $800,000 in OS licencing/maintenance fees, the removal of the IBM also promised to address some concerns related to SPC's aging legacy systems currently running on the mainframe; for example, the "Y2K problem" and the high costs associated with maintaining the multiple interfaces linking SPC's systems.

Overall, a replacement of the IBM with a client-server environment and an overhaul of SPC's IS portfolio promised annual savings of about $1.4 million. SPC assigned a budget of $4 million to the project which made it the largest single effort within the entire restructuring effort.

2.3 Issues Faced and Time Line

CIS knew that developing a new system from scratch was not an option. While the department had been involved in the past in implementing and maintaining large business packages such as its MRP software, it had never developed any of these programs from scratch. This left CIS with the question of what software package to pick. More than a decade ago, Siemens AG had bought a significant number of SAP licenses. Siemens' subsidiaries could purchase these licenses through Siemens Nixdorf (SNI)—a consulting company—at a significant discount. This and the fact that it was/is corporate policy "to go with SAP" made SAP's R/3 SPC's system of choice. However, despite this obvious predisposition toward the package, CIS conducted an analysis to assess the fit and features of the SAP R/3 software before recommending the package to SPC's top management.

Looking for consulting help to both evaluate and eventually implement the package, CIS requested bids (March 1995) from SNI, IBM, and HP. CIS chose SNI because of its track record, methodology, and association with Siemens. In summer 1995, CIS and SNI started a three months long project in which they determined the overall fit of R/3 with SPC's operations. They concluded

that R/3 was a powerful package, if not exactly the silver bullet for which they had hoped. SNI also sketched out a detailed plan for how to go about the implementation project, recommending the "Big Bang" approach to save as much money as possible. In September 1995, SPC's top management made the final decision to go with SAP R/3.

Finally, only one major decision remained to be made before the implementation could start: The hardware—What to buy? And from which vendor? Again, SPC chose to buy from a Siemens company. This decision was, however, controversial since the vendor was a relatively new player in the market without well-established customer support in place.

While SPC rejected the Big Bang approach as too risky, they nevertheless hired SNI for the project. The project was going to be implemented in three phases. Phase I started with the implementation of the finance and part of the purchasing module in September 1995 and was successfully completed (on time, under budget) in September 1996. Some anticipated as well as unanticipated benefits associated with the implementation of the system had already materialized. The other two phases implementing the remaining modules (materials management, quality management, production planning, and plant maintenance) were due in April 1997 and September 1997.

The project's end was to coincide with the end of the overall restructuring project.

3. TEACHING GUIDE

The class session might be divided into the following steps:

1. To open the class, a student group may be asked to make a presentation to "top management" (the rest of the class), to give a balanced argument on why or why not a package, and in particular R/3, should be implemented at SPC. The group's arguments should build on information provided in the case and other literature on ERP.

2. The group's presentation is followed by a class discussion focusing on the question SAP R/3 "yes" or "no"? One part of the class may take the side of the project manager who could not see any reason for why SPC should fail, while the other half may take the side of SPC's top management, which was **very** nervous about the project.

3. To zero in more deeply on the risks associated with a package implementation, the instructor may want to ask following questions:
    – What kind of problems can arise from the fact that McKinsey left long before SNI came on board?
    – What are the potential pitfalls of SPC's hardware decision?
    – What are the pros and cons of going with SNI?
    – What are the likely implications of reducing a company's headcount while implementing a package?
    – Why did SPC regard the Big Bang as too risky and chose the lengthier and more expensive "phased" approach instead?

4. Finally, the instructor may take the class beyond problem/risk identification and lead them to developing solutions to the problems discussed. Special issues of interest are here: what is the role of top management? Who will monitor the project progress and how? How to design the contract with SNI? What will be the likely role of CIS during the implementation? What kind of people should be assigned to the project? What is the role of the end-users? How to pick the right project manager?

5. Wrap up: The instructor briefs the class about what actually happened. (The authors are currently preparing an extension to the case.)