



HISUESA
(Hidroeléctrica del Sur de España, S.A.) (*)

Mr. Alfredo Málaga, Director of Distribution and Sales for the utility Hidroeléctrica del Sur de España, was very annoyed with the company's Data Processing Service (DPS). He let this be known to Samuel Balmes, head of Planning and Control, who had ultimate responsibility over the DPS. Málaga declared:

«In order to solve the problems I have with your Service and write the various customer database access programs I need on a regular basis, I've had to create my own data processing center. Now, the company urgently needs a support system for its marketing activities, and the answer I get from the Data Processing Service is that they'll start analyzing the problem in two years' time! This is ridiculous! Data Processing has become a giant that feeds on itself to survive. Maybe we should just leave it at "Data Processing" and omit the "Service" bit.»

Background

The utility Hidroeléctrica del Sur de España is one of Andalusia's foremost generators and suppliers of electrical power. The company, based in Algarinejo (Granada), has a production capacity of 1,060 megawatts (Mw) from hydroelectrical sources, 1,564 thermal Mw from coal and gas, and 820 Mw from its joint operations in three nuclear power plants. Its supply network reaches 1,450,000 customers throughout Andalusia and has a total length of approximately

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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.

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15,000 miles. In 1988, it billed over 120 billion pesetas. The utility has 40 branches, distributed over its area of influence; branch personnel are responsible for sales and collection activities, systems maintenance and expansion work, and consumption read-out monitoring.

HISUESA's organization structure is shown in Exhibit 1. The Board of Directors is made up of shareholders' representatives; a large bank is the majority owner and therefore designates HISUESA's president. At present, like all the country's utilities, the company is planning a restructuring, which will strengthen the commercial side of the business as opposed to the classical focus on production and engineering.

During the 60s and –to a lesser extent– the 70s, Spanish utilities underwent tremendous expansion in response to the need to provide the country with the necessary production infrastructure to maintain the rapid economic growth that was taking place at that time. In recent years, however, in line with the Government's Energy Plans, no productive capacity expansion has been necessary. As a result, the industry –and HISUESA along with it– has moved to dismantle its engineering and construction departments, which have been packed with engineers specialized in the design and construction of power facilities, and instead focus on commercial aspects and quality of service. But now there are signs that indicate a need for additional production capacity as of 1994, which may require new construction activity, beginning in 1991. At any rate, given its location in Andalusia and its fuel mix, it is highly unlikely that the government will single out HISUESA to build the new power plant.

Operating a utility the size of HISUESA is no easy task. For example, each year there are some 230,000 jobs to be carried out, maintaining, upgrading and extending the medium –and low– voltage supply networks (new customer service connections, repair work, power line replacement, etc.), which involve some 2,000 utility and subcontracted workers.

A recent study by a prestigious American consulting firm established two basic strategic objectives for HISUESA:

1. Reduce costs, especially through (i) improving efficiency in existing power plants, (ii) reducing loss of power in medium –and low– voltage lines, and (iii) reducing the level of customer fraud.
2. Increase sales per customer, promoting the replacement of other energy forms, such as natural gas or diesel fuel, by electric power. Good sales pitches would be convenience, safety, and savings in the case of installing double-rate meters and storing heat overnight in special accumulators. These sales pitches are valid for both domestic and industrial users.

However, in order to fulfill these objectives it is obviously necessary to upgrade the quality of service, reducing power outages and instabilities to a minimum.

The Electrical Industry in Spain

The Spanish electrical industry is very highly regulated, both in terms of price (set by the Government) and production. In Spain, power is transported from the power plants to the transformers (high-voltage transport) using the national network owned by REDESA (1),

(1) Red Eléctrica S.A., partly owned by all of the utility companies jointly, although majority ownership is in the hands of the public sector.

which, in cooperation with the utilities themselves, sets production figures which must be adhered to by each of them. It is assumed that REDESA, which knows the cost variables of each power plant in Spain, as well as each water and coal supply point, makes the optimum decisions, taking into account the national scene, so that a company can have several of its power plants shut down and distribute energy produced by other utility's plants. This is, in fact, the normal thing, because one of the state-owned companies, ENDESA, has no supply system and sells all of its production to the utilities, including HISUESA. There is a complicated system of economic compensation to offset the different cost structures and consumption levels of the various utilities.

Data Processing at HISUESA

Exhibit 2 shows the organization structure established by HISUESA for Data Processing. It is classified as a "Service" and reports to the Senior Vice-President of Planning and Control. The head of the DP Service is Mr. Pablo Mateu, an industrial engineer specialized in computer science since graduating in 1973. He joined HISUESA as a programmer right after graduating and moved up the ladder within the Service until reaching the top post in 1981. Nobody in HISUESA would ever question Mateu's knowledge and expertise in computer science.

The organization is divided into functional areas in such a way that Maintenance is separate from New Systems Development. There is a group in charge of user-oriented PC-based computer applications, maintaining the company's 126 compatible personal computers, and training the users in the operating system and in the basic tools adopted by the company, specifically DOS, WordStar, Lotus 123 and D-Base III. In 1988, 311 HISUESA employees successfully completed the training program set up by the Data Processing Service's user support group.

At present, the Service has 104 employees, of whom 56 are technical personnel, most of them college graduates. The other 48 make up the support group: operators, administrative staff and support personnel. The Service operates 24 hours a day, 365 days a year.

The basic technology used by HISUESA's systems is IBM or compatible. The Service has three mainframes: two IBM and 1 IBM-compatible, each with 16 Mb of memory and a processing capacity of 4 MIPS. Throughout the utility there are 468 terminals, in addition to the 126 PCs mentioned above.

The utility has a proprietary communications network, totally independent from the national telephone company. Utilities are allowed to set up their own communications system, as they must provide a public service that depends heavily on communications and cannot be subject to the ups and downs of the state-owned telephone system.

The Data Processing Service's expenses for 1988 were approximately 1,234 million pesetas, which included hardware maintenance costs. Communications costs, however, were not included in this figure, as they are considered an expense attributable to Production and Operations.

Industry experts in Spain considered HISUESA's computer department as fairly high-quality, although internally the service provided to the company is considered deficient.