

NAME : MARCOS F. MENDES
COUNTRY : BRAZIL
REGISTRATION NUMBER : DLG5201

GROUP REF. : B3
PREF. SUBJECT : 2
QUESTION N° : 3

Technical Knowledge Management in Utilities

Losing the in-house expertise in the utilities, mainly due to the retirements, is in fact a significant problem. The utilities should have programs to retain the organizational knowledge in a systematic way. The knowledge of the existing staff is a strategic asset, and that issue must be viewed with the due importance. Some utilities already have recognized the importance, for example, one of the organizational strategies of the Itaipu Binacional is “to develop in people the essential knowledge and skills for the execution of the corporate strategy”.

The utilities may have programs for knowledge transference from the experienced engineers to the new ones. Besides the knowledge associated to the equipment, systems and best practices, those programs also are important to understand the company internal technical occurrences and solutions. A Knowledge Management (KM) process may be a useful tool in that regard.

The KM can be seen as “the process of capturing, storing, sharing and effectively managing the knowledge and experience of employees”. The essential knowledge for execution of the technical works must be captured and documented to be shared within the company. The knowledge may be stored using texts, technical drawings, spreadsheets, photos, videos, and so on. The biggest challenge is the transformation of the tacit knowledge into explicit knowledge. Another challenge is to define the adequate amount and what information to be considered. Nevertheless, as important as sharing knowledge is creating opportunities to use it.

One opportunity to implement the KM is during the installation and commissioning of new equipment or systems. Note that, it is also opportunity for on-the-job trainings. For example, the Itaipu Power Plant had a great experience of KM during the construction of the last two generating units. A lot of information was captured, classified, and organized for easy access of the technical staff. In addition, always that necessary the equipment and systems components and the processes were recorded in photos and videos. The KM was coordinated by specialists, including Information Technology people, and executed by engineers and technicians.

Another example of knowledge transference is at the moment being realized in the Itaipu Power Plant. The recently hired new engineers of the Engineering Superintendence are experiencing an integration program tutored by senior engineers, with focus on specific scopes. The new engineers are studying and analyzing existing systems with support of experienced engineers and technicians, from different areas of the technical board, and as results reports are being generated and technical presentations for the coworkers are being performed and recorded.

A key point for the KM is that the utilities must promote and encourage self-development and collaborative learning, motivating the employee’s participation with diverse roles as: content writers, instructors, tutors. The utilities can facilitate by providing specific training for those employees, developing their educational skills. It is occurring in the Itaipu Binacional.

In conclusion, each utility should use the approach to sizing and implement the KM it considers the most suitable, there is not a unique solution. However, it is fundamental to understand that the costs for the KM implementation and for the continued education should be seen as investments and not as expenses. In addition, the utilities should have a proactive behavior for education, in contrast to the reactive behavior traditionally found in some companies.