

The generation game

The Italian Committee on Large Dams has established a forum for young engineers to overcome the challenges of a generational gap in experience.

The decision to establish a Young Engineers Forum (YEF) within the Italian Committee on Large Dams (ITCOLD) was taken in mid-2015 with the purpose to mentor and coach the upcoming generation in the hydropower and dams industry. The industry witnessed a rapid birth of Young Forums worldwide after the first ICOLD YEF meeting in 2011. The need to establish the ITCOLD YEF was prompted by the heritage of large dams which have been built in Italy over the last century, while the opening of the energy market and privatisation of the sector presents other challenges. These changes have given rise to a generational gap due to the retirement of several experts who were not being replaced by young engineers and technicians.

The ITCOLD YEF was created to align ITCOLD's vision to ICOLD's one in terms of knowledge transfer to young generations (remembering that Italy has been participating since 1928 at the first ICOLD meeting).

Precious heritage

Italy's large dam fleet comprises 541 structures in operation today: it is a precious heritage but with a growing demand of monitoring and maintenance activities, as the average age of structures is now more than 60 years.

In this scenario, experience is a key element because every design situation differs from another and it cannot be acquired just by reading papers. It should be directly learned by coaching and participating as an actor in the field, practising dam engineering. Experience is fundamental to the decision process when a new dam is designed and when the safety of an existing dam is assessed as well.

However, there comes a time when the experience must be shared as it cannot stay in the hands of only a few people. A professional circle implies that young professionals should be ready to cover positions of responsibility in a short time. However the turnover phase is very delicate because it represents a phase of crisis and risk, and even a potential opportunity, where the strategy of an organisation, its needs and evolution can be evaluated.

New competencies can be brought into the design or safety process by new members. Similarly, another topic emerges during this changing phase: the relationship between tradition and innovation which should be seen from a positive point of view of the organisation. It is essential for the players involved to negotiate



View of a dam in Valtellina, Italy.

the past and acknowledge the specific elements of success and the design vision which should be creative and innovative, and related to the future organisation.

In order to manage all of these issues it is fundamental to co-ordinate the turnover between senior and junior personnel. In fact, the turnover stage could be a rather traumatic element when it happens. However if it is a timely and properly managed phase, it avoids any stress and allows for solutions for both future and present problems.

Therefore, taking into account the need to protect its assets (dams and power plants) and to prepare for the turnover phase, ITCOLD

has developed policies to encourage young professional involvement in the decision process to ensure a smoother generational transfer without too many difficulties.

So concerns about retirement are now under control in the sense that the mechanism of knowledge transfer has been activated. The number of young engineers interested in learning and practising in this field is certainly increasing: in the past young engineers after graduation often did not consider the possibility of employment within the renewable energy industry.

ITCOLD YEF is open to people under 40 and is coordinated by a Chairman, renewed every two years. It has been created to:

- Stimulate the interest of young professionals to dam engineering.
- Promote their active participation in ITCOLD activities.
- Increase the chances of networking aimed at the exchange of information and best practices.
- Contribute to the generational turnover and to the technology transfer.

ITCOLD encourages YEF members to be active in working groups, promoting articles and editing papers, as well as attending ICOLD and ITCOLD events.

Bibliography

ITCOLD YEF has started its activity focusing on a main task: the Italian dam bibliography. This document is a collection of published papers from national and international magazines and also contains proceedings of conferences, workshops and seminars. A successful YEF workshop was held in Rome and another one has been scheduled at the end of 2016. ■



Dam near the summit of Mount Marmolada - Dolomites, Italy