Improving safety culture in the rail industry

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In 2012, the French National Railway Company, SNCF, designed, with the help of Ergomanagement, a human factors training workshop for managers aimed at strengthening the safety culture. This workshop complemented a dedicated non-technical skills training course for front-line safety-critical workers.

The main objectives of the human factors training workshops were: to encourage managers to adopt the necessary new attitudes, beliefs and perceptions to build or reinforce trust relationships; to promote incident reporting and a deep analysis of errors and violations; and to adopt relevant and timely measures to improve safety including, when necessary, just decisions on sanctions. To date, approximately 360 general and safety managers and 420 local managers from 18 regions of France have attended the training workshops. Six topics are covered in the workshops.

Topic 1: What is a safe work performance?

Many managers share the belief that a safe act is solely a result of acquiring technical skills and good application of procedures. But non-technical skills such as the ability to analyse the situation, anticipating, managing doubt, or the ability to keep calm under pressure are also essential for achieving safe work performance. It is also important to recognise that their implementation may be influenced by the physical and mental state of the operators, the local working conditions as well as various organisational factors. These influencing factors may explain a certain number of operator errors beyond the reasons classically cited, such as a deficit in skills, a lack of professional discipline or a lack of motivation at work.

Topic 2. How are errors and violations handled?

Another managerial belief is that it is possible to eliminate any deviation from safety standards and procedures, whether involuntary through error, or voluntary through violation. In reality, human performance is, by its very nature, variable and fallible. Furthermore, violations are often necessary to deal with the inevitable

vagaries of work such as the unavailability of a tool, or a conflict of aims such as delivering a train on time when completing all the remaining maintenance operations would lead to it being late. Moreover, we are just as likely to see errors and violations at the level of operational teams as in support services such as engineering, training, maintenance, etc., and management. While it is important for managers to act to prevent errors and violations, they must also accept the idea that these actions will not eliminate all of them. As a consequence, they must aim to be aware of them before any accident occurs and to foresee solutions that will avoid their consequences if they do occur.

Topic 3. Management surpassing control limits

In order to become aware of safety lapses before they cause an accident, SNCF has put certain controls in place and has aimed to reinforce them when it finds out, thanks to analysis of an incident, that some of them had not been detected by existing processes. The participants are encouraged to think, based on their experience, about the limits of the implemented controls and how to reinforce them. From this starting point, they are then requested to reflect on a complementary strategy that human factors training promotes, based on reporting by those responsible for safety errors and violations that they may have made, without any consequences. The conditions for ensuring that this reporting is possible and continuous are discussed. In particular, the emphasis is put on the existence of a trust climate.

Topic 4. Developing a trust climate

Trust cannot be ordered; it develops organically if each party acts in accordance with the expectations of the other parties on whom they depend. Furthermore, even if the conditions for its development are met, trust should never be total in a risky activity because it could result in compromising the vigilance of everyone and in developing complacency towards others. Knowing how to trust others in a risky situation therefore seems to be an essential non-technical skill for safety. The conditions for developing a

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trust climate are discussed with the participants and each one of them is invited to reflect on actions that they could put in place to reinforce it.

Topic 5. Collecting and handling the operators' reports

Apart from trust, other conditions are necessary for receiving a continuous flow of reports. A collecting method maintaining the confidentiality of the operators must be proposed and an effective handling process put in place, with the assurance that every report will receive a response from the organisation. Various options for implementing such a collecting and handling system for reports are considered with the participants, who can then choose the one that is best suited to their own work.

Topic 6. Handling an incident and deciding on a sanction

Even though the reports enable management to have a better knowledge of possible errors and violations and, normally, to improve safety standards, they will not prevent the occurrence of all incidents. Even so, the trust climate also depends on the way in which each incident is analysed and on the measures that result from the analysis, in particular, decisions on sanctions. To assist the managers in making a judgement, a method for an in-depth analysis of incidents is presented to them and is illustrated with real incidents. Then the conditions for sanctions are discussed. The human factors training promotes the principles of a just culture which allows unsafe acts to be placed in a hierarchy and to set a clear boundary between acceptable and unacceptable behaviour.

Workshop arrangements

Every training session brings together ten managers of the same level responsible for overseeing different activities such as driving, maintenance, traffic management and shunting.

Since one of the objectives of this workshop is to promote the collection of ideas and to actively involve every manager in the human factors approach, the trainers' stance is different from that classically adopted in a workshop. Their role is not to pass on knowledge or a predefined skill, but to give participants elements of reflection so that they make up their own mind about the subjects dealt with and can decide which actions to put in place. To achieve this, the trainers take on the role of facilitators and aim to encourage all the participants to interact and share their experiences. For this reason, fairly long periods of time are regularly dedicated to exchanges during which the trainers do not intervene, except to guide the debates or to feed in new ideas.

At the end of each session, the participants are invited to formalise a plan of action to put in place the safety management principles discussed during the workshop. There is no prescription as to the type and number of actions to be defined by each manager. These plans are shared among the participants and, at the same time, set down in writing by the trainers to enable a follow-up with each participant for a period of six months after the session.

Evaluation of the workshops

Following implementation of the workshops with SNCF managers, it was found that there was a high level of satisfaction with the training and an extremely high rate of adherence to the key messages.

Assessments 12 to 18 months after the workshops revealed several positive changes with respect to the aims of the training, including: better assessment of the organisational factors causing incidents; better support for front-line operators; more timely responses to safety reports; stronger involvement in incident analysis; and willingness to fully understand the circumstances of an incident before adopting a sanction.

However, it was also found that these benefits were not evident with every manager. This may have been due to difficulty in changing attitudes and beliefs that had been ingrained for many years, or due to opposition to change within management committees. Staff turnover also meant that some teams had no manager that had gone through the training.

The results indicate that it is necessary to change the mechanism put in place to deploy the training and further studies are being carried out to address the problems created by staff turnover and to improve the skills that the managers gain from the training. ❖