ARE YOU THINKING ABOUT JIM?

Changes often bring surprises that were never envisaged during the safety assessment process, but that become a practical reality for front-line staff. And with these changes come adaptations that often remain invisible outside of the operational arena, as **Adrian Bednarek** explains.

KEY POINTS

- **Organisations should focus on the change itself, not just on the process of safety assessment of changes.**
- **Quality of communication, including feedback from people at the sharp end, is crucial for safe implementation of change.**
- **Local level adaptations to change can be valuable lessons for an organisation.**

It was big and red. A big red button in the middle of a console in a small mobile tower, located at one of airports which, at that time, handled just a few flights per day – mainly domestic and military flights. The button was connected to few blinking lights inside the tower room, which didn't make any sense to anybody. Controllers loved the button, though, and used it few times a day, as a sort of entertainment device. Every new shift announced their takeover by pushing the button.

Coming back to work after few weeks of vacation can be hard, even for experienced controllers. The first few words spoken to the microphone sound weird. You just forget what you are supposed to say and your work performance isn't something you would be proud of. Additionally, a lot of things change while you're away.

It was Jim's first day after a long break, but it looked like nothing had changed. The mobile tower was in the same spot, the interior was still messy, there was still no air conditioning and it was still unbearably hot inside. Jim looked around and asked his colleagues if anything had changed. They shook their heads, packed their stuff and went home, leaving Jim alone, waiting for the next controller to arrive. To welcome the first shift after holidays, Jim smiled and punched the red button. To his surprise, nothing happened, even when he tried again and again. "Well, either it's broken or someone finally cut this thing off", he thought. A second later the radio came alive as the commander of fire services asked, *"Tower, what's going on? Is it a drill or a real thing happening?"* Jim looked at the red, big button, scratched his head and sighed...

Yes, coming back to work after a break can be hard. In fact, it is wise to assume that during that time some things have changed, even if nobody mentions any differences. It is not so bad if we're dealing with published modifications, like the aeronautical information publication (AIP), but changes can be subtle and unexpected. Very often, information concerning changes is buried in e-mails or somewhere in a self-briefing system. It could be even worse than that. For minor changes introduced at very low levels of organisation, the only source of information is sometimes your colleagues, who somehow became aware of those modifications. At this level, many things are details of the safety management system (SMS).

Safety assessment of change is a part of the SMS that allows us to properly identify hazards and to set proper safety requirements to handle risk correctly. It seems like a reasonable approach but, as always, the devil is in the detail.

First of all, what do we mean by a change to an ATM functional system? Is connecting a red button in a mobile tower to alert fire and rescue such a change? Perhaps. Is changing the identification number of a controller working position such a change? Perhaps not, but it turns out that it can have a serious, while totally unexpected, impact on the system, causing chaos in ATC sectors in remote parts of the flight information region (FIR). Sometimes, hindsight is the only tool available to successfully assess those

modifications, which means that safety assessment is triggered by occurrence investigation after the fact.

To make things worse, in many industries the safety assessment process has itself become so needlessly overcomplicated that it moves the focus away from the change itself. The most obvious symptom of this is the use of a quantitative approach during the assessment, which in many cases is based more on guesswork than on a scientific method. Nancy Leveson, professor of aeronautics and astronautics, points out the flaws of such an approach, with a conclusion that more focus should be put on figuring out how to make good decisions based only on qualitative analysis.

The most important and the most obvious step would be to include people actually affected by a change in the assessment process (see EUROCONTROL, 2014). They will be the most important element of the change implementation. People like Jim deal with changes at the sharp end and often feel lost or confused. Despite changes being introduced without adequate involvement, they are supposed to do their job, even when everything around goes wrong.

For front line specialists, information and our ability to apply that information to every day job, are crucial. What does it look like at your organisation? Are you familiar with the process of introducing changes at your organisation? Is there a procedure to follow? Is it being followed? Is it effective when followed?

Communicating is always a two-way street. It is not just about feeding employees with information. Finding a way to collect feedback and ideas of people about their work is one of the most important steps when creating a learning culture in a company, which is a huge advantage for effectiveness and quality of service.

Such feedback is a valuable source of information about hazards or performance limitations introduced by a change, which had never been considered by a project team or safety department. A simple example of this is new handsets for Voice Communication Systems (VCS), with a spiral cord so thick that it could trigger a push-to-talk button when the handset was put down over the cord in one specific way. When that happened, controllers ended up with a blocked frequency and an open microphone, picking up everything what was said in the ops room. After some time, it was noticeable that people who experienced such an occurrence were putting the handset away in a different, more secure way. Such information on adaptations in work-as-done is (or should be) valuable for people in safety or procurement departments, and it would be wise to spread such information to everybody using new handsets. Unfortunately, organisations rarely seem to have an effective system of collecting information other than occurrence reports. It often remains word of mouth, within a group of people.

Direct feedback is not the only information you could get from people at the sharp end. Properly prepared and conducted observations are a good way to see how people adapt to a change under different working conditions.

Those adaptations are usually just minor adjustments but they highlight issues that are hard or impossible to predict during formal assessments of change. New touchscreens can be so much less sensitive than ones previously used that people start using pencils or their own fingernails to operate them. New VCS can behave differently during simultaneous radio transmissions made by controllers and incoming phone calls. Let's say that the old system muted the ringer while the new one does not. This change was not identified at any stage of the project, but became a serious issue for controllers when the actual system was acquired. At a local level the solution could be to increase the delay between subsequent ringtones, which would solve the problem for controllers, but not for the organisation. Without collecting information regarding such adaptations, the same problems are created over and over again. This is happening right now in most organisations.

I am still wondering if any person who was connecting Jim's big red button to the fire station was even aware how controllers used it? Was anybody listening to the users? Was there anybody thinking about Jim coming back from his vacation?

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