Good practice in the making of on-train announcements in the event of an incident

¹David PENNIE, ¹Rob SIDES, ¹Vicky KING ¹Jon BERMAN and ²Ann MILLS

¹Greenstreet Berman Ltd, Reading, Berkshire RG1 4QS, UK. ²RSSB, The Helicon, 1 South Pl, London EC2M 2RB, UK

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1. Introduction

This paper reports on a literature review conducted as part of an ongoing project for the Rail Safety and Standards Board (RSSB) and the Association of Train Operating Companies (ATOC). The project aims to develop guidance for train-crew in respect of on-train announcements during incidents and service disruptions and explores how such communications can help to control or influence passenger response.

The requirement arose following incidents (the most recent in 2013) when relatively minor incidents (e.g. a stranded train) have escalated as a result of passenger 'self-evacuation' (i.e. passengers deciding 'unilaterally' to exit the train without instruction to do so). Reasons for self-evacuation can be a product of different factors but a key aspect, identified from incident investigations, appears to be lack of effective communication (e.g. quality, timeliness and consistency of information). An initial phase of the is project was to identify in what ways information and the communication of information might be enhanced in order to encourage desired behaviours and to discourage inappropriate actions.

A literature review, along with interviews and workshops with representative stakeholders within the rail industry was undertaken to support the development of a model of passenger behaviour and to identify and understand the factors influencing behaviour. This paper discusses the findings and the implications not only for the rail industry in terms of train announcements but also for organisations that need to influence public behaviour during an emerging incident.

2. Approach

The literature review was undertaken in a structured and robust manner as a 'Scoping Review' - the approach recommended by the UK Civil Service for a focused review of literature in a short time period. The nature of the research area was not readily amenable to conventional research methods e.g. placing experimental subjects under stress and in situations that they believe to be life-threatening, therefore there was a reliance on looking at a broad range of less traditional literature and seeking consensus from sources such as: rail and other incident and accident investigations; public enquiries; industry led research; governmental technical guidance as well as media (e.g. print and internet news articles).

3. Findings from the literature review

The findings indicate a consensus that behaviour during rail incidents, as well as other types of emergency events in sectors such as aviation, maritime, buildings, and stadia, tends to follow a common pattern that begins with what might be termed 'precursor' behaviour (e.g. seeking information, activating alarms, opening doors) that then

escalates towards an end point or final behaviour, which in the case of rail incidents might include evacuating from a train without instruction to do so. Although people in emergency situations may display maladaptive behaviours, individual and mass panic is rarer than might be expected and in fact behaviour is often meaningful and structured, and based upon an emerging understanding of the unfolding event. Meaningful activity may be exhibited in different ways such as displays of pro-social behaviour and a desire to help others. In times of stress and anxiety it would also appear that people seek comfort in activity rather than doing nothing and simply waiting to be told what to do. The desire to understand the event will also draw people together to seek information, leadership and direction. This will be expected from 'authority sources' such as train-crew but if not forthcoming will be sought from elsewhere such as fellow passengers.

If we take these findings together then self-evacuation, given a certain set of circumstance, becomes a more rational and predictable behaviour even when in hindsight passengers may have in fact put themselves at greater risk by leaving the train. The good news about this conclusion is that it provides greater confidence that because passenger behaviour is to some extent predictable it can be influenced enabling the identification of certain good practice principles, such as:

- Provide regular and timely updates even if there is nothing new to report;
- Information should be relevant to the situation (e.g. fit with other observable cues and information about the event from elsewhere);
- Information should be concise (no more than 27 words) and jargon-free;
- Passengers should not be required to retain knowledge;
- The message should state who the message is from, where the emergency is, what people should do and when, and why people should act;
- The message should be 'live' rather than pre-recorded.

The literature review also helped to clarify a number of factors, other than the provision of information, that influence behaviour. Some of these factors, such as the prevailing weather, on-board train conditions (e.g. crowding) and the duration of the event (e.g. the length of time the train is stranded) are largely outside of the control of the Train Operating Companies (TOCs). There are a number of other factors linked to communication, that should also be considered, to ensure effective announcements, these include:

- Developing an organisational culture that considers communication with passengers as safety critical;
- Enhancing traincrew decision making in stressful situations (there is evidence that decision making ability is hampered by stress and anxiety);
- Improving the management of the operational demands (e.g. that can be placed on traincrew and drivers during incidents);
- Exploring ways to improve the quality and extent of information that is provided to drivers/train-crew about delays and disruptions;
- Improving the sound quality of speakers in train carriages and improve the process for detecting and reporting faulty speakers.