

The Dynamic ICT Standardisation Model (DISM): Incidents

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Purpose

The purpose of this report is to recommend the optimal Information and Communication Technology (ICT) resources for MFRS to use at incidents. This report should be read in conjunction with the **Role-based Resources report**¹, the **main report ('The Dynamic ICT Standardisation Model')** and the **spreadsheet ('DISM', AKA Appendix 1)** which contains the DISM model/calculator.

Overview

Building upon the previous report ('Stations'), this report investigates the provision of ICT resources when the crews are actively performing fire and rescue duties at incidents. For the purposes of this report, 'Incident' is defined as:

A situation requiring the emergency response of at least one fire appliance and crew

Incident is divided into three for the purpose of this report:

- **On Way:** The crew is travelling to the incident
- **At:** The crew is at the incident and performing its duties
- **Expanded:** The incident is serious and a major incident/national emergency/disaster has been declared

The method to determine how many resources are available at incidents is very similar to that used when determining resources at stations. Recall from the Stations report that:

"Using an Excel-based model created specifically for this task, called the Dynamic ICT Standardisation Model (DISM), the user is able to select a station of their choice from a drop-down list and the appliance (read 'pump') numbers, shift types, staff numbers, staff types, current ICT provision, projected ICT provision and the gap analysis between current and projected provisions in terms of numbers and GBP (£)² are immediately displayed. The model works by referring to a master data source, which was populated from numerous sources including Station Managers (SMs), Time and Resource Management (TRM), telnet and face-to-face/telephone contact with other MFRS staff. This master source interacts with a data source which dictates not only what type of role is present in various situations, but also which role gets which ICT resource and how much of each. The model is sophisticated enough that operational staff are limited in their impact of how much ICT is subsequently provided, by the number of full-time appliances on-station. This is because appliance numbers typically dictate operational staff numbers actually on-station at any given time. Headline staff numbers are misleading when it comes to operational staff. The model is also sophisticated enough to divide different operational staff types on-station as a proportion of their total numbers (e.g. although unrealistic, 40 firefighters and 10 WMBs on a station with a single appliance would result in the model calculating enough ICT for four firefighters and one WMB on the basis that a single appliance holds five crew). The model cannot choose specific

¹ M. Rice, Role-based Resourcing, MFRS, 02.02.2017.

² (£) Figures are based on telnet pricing.

operational staff on-watch from a pool of staff above the number of appliances multiplied by five. The ratio calculation does not apply to non-operational staff present on stations.

The model (or calculator) also allows the user to enter hypothetical data into the spreadsheet so that they can observe how much ICT would be required. The 'MASTER DATA DISM' source enables the user to find the current mean, median and mode characteristics of all the stations (e.g. the mean number of firefighters at two-pump stations on a WT shift pattern). This is useful if the user wants to enter hypothetical data of a 'typical' station so that if they are planning to set up a new station it would not have grossly superior or inferior numbers of staff, appliances and/or ICT³: it would 'fit' with the rest of the stations on the MFRS estate."

The difference between stations and incidents when calculating ICT is subtle. What needs to first be understood is that there is no difference between a crew **on its way** to an incident and a crew **at** an incident in terms of ICT provision. From feedback from MFRS managers, it can be argued that the crew always has its ICT on the appliance while at an incident, and since it travels to incidents with the appliance there can be no alternative ICT provision. Yet this does not mean that there are no differences between stations and incidents. Firefighters will not take their PCs and monitors with them to an incident! **Tablets are the only ICT relevant to this study⁴. Two tablets go to an incident per FT appliance and one tablet is provided per retained appliance.**

Both DISM calculators allow the user to decide if the staff outlined in the makeup of the station (real or hypothetical) are at an incident or not and, if so, whether the incident is a serious one. By the user selecting 'yes' to incident, the calculator multiplies the number of appliances by two and multiplies the number of retained appliances by one to state how many tablets are required on way to/at the incident. This is a simple but accurate measure of ICT resources at incidents, though a limitation here is that the model assumes maximum appliance turnout per incident, per station, not an appliance staying at the station (where more than one resides). Moreover, if the incident is expanded, the calculator will display 'Within IMU', meaning that the planner must deploy the IMU and acknowledge that the single IMU item will have multiple ICT items within it (beyond the scope of this report; the IMU is also under review).

Results

In summary, the data on the following page represents, predominantly, the **projected** ICT provision at incidents ('on way', 'at' and 'expanded'), though the reader could substitute 'ToughBooks' for ToughPads (tablets) to see the approximate **current** situation. Also, the IMU applies to current incidents in the same quantities; there is no gap to speak of.

³ Meaning ICT on the new projected matrix, not the current situation, which is deemed to be incorrect.

⁴ Despite 0.5 of a projector being assigned to an appliance (cell R5 in the 'STAFF TYPE, ICT NEEDS, DISM' tab of the appendix), this has no relevance for incidents; it was added merely to assist in the appropriate provision of projectors at stations. CCTV and radios (in the cab and, indeed, at stations) are also not included explicitly here.

Projected Resources at Incidents Depending on Station

STATION	APPLIANCES	RETAINED APPLIANCES	WT/DC/24/LLAR	APPLIANCE TABLETS
10 - Kirkdale	2	0	WT	4
11 - City Centre	1	0	WT	2
12 - Kensington	2	0	DC	4
14 - Speke Garston	1	0	WT	2
15 - Toxteth	1	0	WT	2
16 - Old Swan	1	0	WT	2
17 - Belle Vale	1	0	LLAR	2
18 - Aintree	2	0	DC	4
19 - Croxteth	2	0	24	4
20 - Birkenhead	1	0	24	2
21 - Bromborough	1	0	24	2
22 - Heswall	1	0	LLAR	2
23 - Upton	1	1	24	3
24 - West Kirby	0	0	0	0
25 - Wallasey	1	0	24	2
30 - Bootle & Netherton	1	0	WT	2
31 - Crosby	1	0	WT	2
32 - Formby	1	0	LLAR	2
33 - Southport	2	0	WT	4
40 - Huyton	1	0	24	2
41 - Whiston	0	0	0	0
42 - Kirkby	1	0	24	2
50 - St Helens	1	1	24	3
51 - Newton Le Willows	1	0	LLAR	2
52 - Eccleston	1	0	24	2
Marine Fire Unit	0	0	0	0

PROJECTED ICT	EXPANDED
PCs	WITHIN IMU
TABLETS	WITHIN IMU
LAPTOPS	WITHIN IMU
DOCKING STATIONS	WITHIN IMU
MONITORS	WITHIN IMU
PROJECTORS%	WITHIN IMU
OTHER	WITHIN IMU

INCIDENT?	EXPANDED INCIDENT?
Yes	Yes

* Replace 'ToughBooks' for 'Appliance Tablets' for an approximation of the current ICT situation

Figure 1: Projected Resources at Incidents According to Station

Discussion and Additional Information

It is **strongly recommended** that this report be read in conjunction with the **Role-based Resources report**⁵, the **main report ('The Dynamic ICT Standardisation Model')** and the **spreadsheet ('DISM', AKA Appendix 1)** which contains the DISM model/calculator, because numerous observations, exceptions, caveats and parameters are discussed which help qualify the results displayed above. In *summary*:

- The provision of new tablets per appliance is as follows: two per full-time appliance and one per retained appliance. Budget permitting, these will be Panasonic ToughPads
- The forthcoming provision of tablets for Prevention and Protection is likely to consist of the Surface Pro. For both tablet types we need to learn more of what managers would like on the tablets (apps, features, etc.); an Area Manager (AM) has already been consulted
- Future innovations need to be considered when thinking about ICT provision at incidents (such as methods of clocking-in and Skype). Given the focus on collaboration, there is likely to be some usage of MFRS ICT resources by the police (MP), and perhaps even North West Ambulance Service (NWS), at incidents, such as the Wi-Fi, switches and internet cables. This may equally allow MFRS access to extra ICT resources
- West Kirby, Whiston and Marine were not included in the statistical part of the study
- Some ICT is not included in this study or included in discussion but not in the statistical analysis, such as mobile telephones, MDTs and internet routers
- Projectors could be considered as unique because they are predominantly a shared resource. Allocation formulae is particularly complex for this ICT resource. Although assigned to appliances, they have **no** bearing on the ICT at incidents
- There are reliability concerns pertaining to some of the data used (e.g. double counting, classifications and assumed staff locations)
- **Staff distribution depends on the situation under discussion. Predictably, operational staff (or those who have operational capability) are typically present in the Incident situation, while high level managers are rarely present unless the situation is serious. On these occasions senior managers may occupy the IMU and engage with the media. In terms of numbers, staff at incidents, per station, are typically a reflection of 'the number of appliances per station * 5', though, as discussed above, the severity of the incident may add non-operational staff**
- The medium of Excel limits the performance of the DISM model
- The main document also gives further information on how to use the DISM model/calculator

⁵ Loc. Cit., Rice, Role-based Resourcing.

References

Rice, M., Role-based Resourcing, MFRS, 02.02.2017.