ORGANISING FOR EFFECTIVE INCIDENT MANAGEMENT

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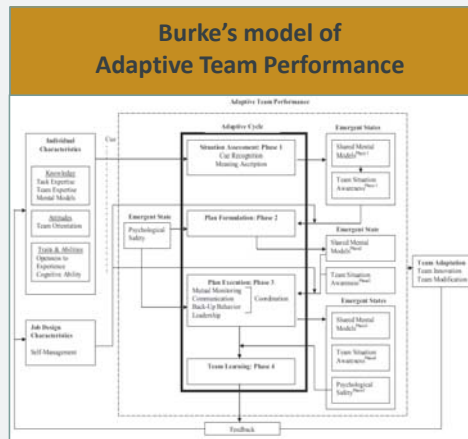[3] National Centre for Ports and Shipping, University of Tasmania

The Challenge:

To better understand how multi-agency emergency management coordination above the Incident Management Team (IMT) level can be improved in order to reduce the consequences to communities of the emergency event.

The Aim:

To understand how regional and state control teams internally develop adaptive performance in accordance with Burke's model, and what enables and constrains the transition of shared understanding between teams; recognising also that these interfaces can be both within and between organisations.

The figure below illustrates the kinds of teams and linkages that the research study is focusing on. Personnel working within these areas of emergency management above the local incident level will be targeted through interviews and an organisational online survey.

	Within organisations	Between organisations
Within teams	Regional Control Team State Control Team	State Emergency Management Team
Between teams	IMT - RCT-SCT	Emergency Liaison

The Research Methods:

- Desktop analysis of large scale incidents from secondary sources
- Social network analysis of network and individual characteristics (e.g., cohesion; connectedness; structure)
- Semi-structured and critical method interviews
- Observations/Cognitive Ethnography
- Post-observation interviews
- Simulation including scenario/role play
- Organisational survey
- Workshops with stakeholders

Burke's model of Adaptive Team Performance

Research Questions

- How has a lack of shared mental models by key personnel operating at state and regional levels of emergency management led *to breakdowns in coordination* in previous incidents?
- What are the existing and best practices for Incident Management coordination above the IMT?
- How does information flow to and from the state and regional levels of command and control such that personnel are able to develop suitable plans and adjust to emerging conditions?
- How might we best train and educate personnel in the most effective emergency management coordination above the IMT?
- What social networks of communication best facilitate effective multi-agency coordination?
- What changes are needed at the regional and state levels of command and control and effective coordination with emergency management partner organisations?

Outcomes and expected benefits

- Consequences and losses minimised due to good decision-making
- Greater responsiveness and improved coordination
- Decisions made withstand scrutiny and investigation due to rigour and robustness of coordination processes
- Enhanced incident management coordination working arrangements above the IMT
- A unified national approach to training for emergency incident management

Preliminary findings from analysis of secondary sources

A key element of the analysis has been to develop a robust method as well as identify emerging patterns of human factors issues.

The Human Factors Accident Classification System (HFACS) was initially identified to provide a framework for the assessment of secondary sources. As the terms 'accident' and 'error' were deemed inappropriate within the current domain, we have referred to the current analysis as Human Factors Issue Classification System (HFICS). We developed a layered approach where we were coding at all three levels (if possible) based on a synopsis of an individual 'issue'.

As a trial of the modified, multi-layered, HFACS, we coded 18 discrete human factors issues associated with the Wangary Fire at the IMT, Regional and SCC level.

Wangary Fire HFICS Diagram, Brooks. B (2011)

The following operational/applied issues are emerging from secondary sources analysis:

- At IMT level, decision problems (e.g. procedural errors, poor choices, problem solving errors) and violations predominate.
- The Regional level is dominated by problems associated with inadequate supervision of the IMT demonstrating problems associated with not being fully aware of the operational control, command and coordination roles and responsibilities of personnel.
- At State Control level, inadequate supervision of other levels of the organisation is also an issue, however the focus indicates that resource management and organisational processes are broader, temporally more stable issues that influence actions at the IMT level.