

# Nexus - Emergency Response on the Tyne and Wear Metro



## Nexus - Emergency Response on the Tyne and Wear Metro

March 2010

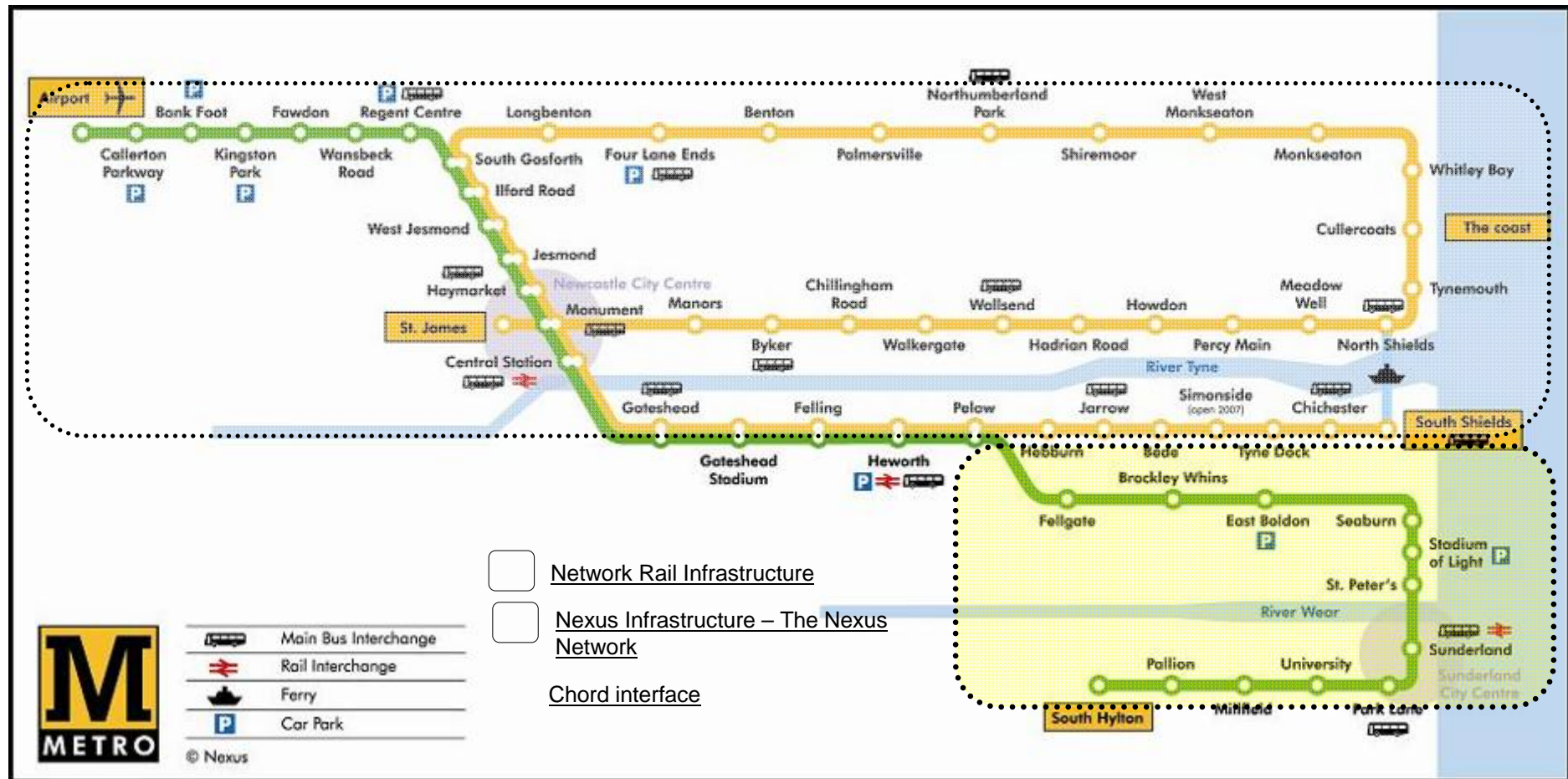
Peter Stout, Nexus Health Safety and Environment Advisor (Rail)



- Background - who we are and what we do
- Our operation and assets
- Impending changes within the business and the impact on responsibilities for emergency response
- Legislative framework
- Framework of command control and co-ordination
- Production of plans
- Response / Incident Command Structure
- Why we participate in Save Me?

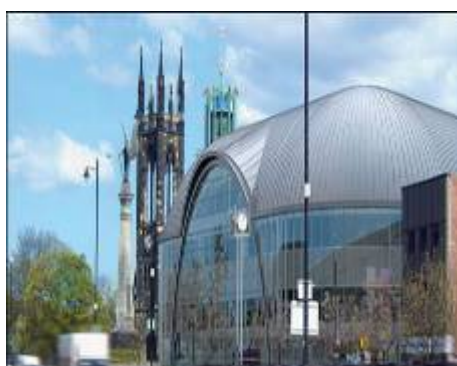
- Nexus is the trading name of the Tyne and Wear Passenger Transport Executive (PTE) and we manage transport issues in the North East region.
- We presently operate the Tyne and Wear Metro : a 1500 V DC electrically powered light rail rapid transit system using driver only operated trains
- Operated as a vertically integrated railway: until April 2010
  - Infrastructure controller
  - Train operator
  - Station operator
  - Rolling Stock owner and maintainer
  - Infrastructure Maintainer
- The system originally opened in 1980
  - Airport extension was opened in 1991
  - Sunderland extension was opened in 2002 - Metro trains share 14km of existing heavy rail line which is controlled and maintained by Network rail
- Total Network operation of nearly 78 kilometres- Nexus own and maintain 59km of track and structures on the Nexus network
- In 2009–2010 provided over 40 million passenger journeys

# Type and extent our operation





# Operation & infrastructure



# Monument Station: Save MeTest Site

Architectural cutaway diagram of Monument Station, showing its internal structure and surrounding streets. The diagram is oriented with North, East, West, and South indicated by blue arrows.

Key features and labels include:

- North** (indicated by a blue arrow)
- East** (indicated by a blue arrow)
- West** (indicated by a blue arrow)
- South** (indicated by a blue arrow)
- BLANKET STREET**
- GOREY STREET**
- CENTRAL AVENUE**
- STAIRS TO EAST / WEST PLATFORMS**
- STAIRS TO SOUTH / NORTH PLATFORMS**
- CONDUIT**
- EXIT TO GOREY**
- STAIRS TO GOREY STREET**
- GOREY STREET TUNNEL**
- EASTERN TUNNEL**
- WESTERN TUNNEL**
- GOREY STREET TUNNEL**
- LOWER CONCOURSE TUNNEL**



# Integrated Control Centre



- Brings together the functions of Operations Control and Infrastructure Fault Control
  - Duty manager
  - System control
  - Power Control
  - Station control
  - Customer information and touch point.
- All real-time operational information is communicated to the Control Room
- Control and monitoring of the entire Nexus Network – real-time liaison with Network Rail regard Metro operation on the Sunderland extension
- Essential functions - 24 hours a day, seven days a week.
- Managing service recovery following disruption,
- Management of incidents - liaising with on-call staff concerning incidents and the provision of additional resources,
- Implementation of contingency arrangements

- Business re-organised to facilitate the Procurement of a Metro Concession: Successful bidder DB Regio (Tyne and Wear Ltd.)
  - Delivery of day-to-day operation and management of Metro train services and stations
  - Train maintenance
  - Refurbishment of our fleet of 90 Metrocars
- Nexus is responsible for infrastructure management, development and maintenance
  - Development of infrastructure through an asset renewal programme
  - Maintaining the Nexus network: track, overhead line, signalling and structures.
  - Maintaining 60 stations: 48 on Nexus infrastructure and 12 on Network Rail Infrastructure



- The Railways and Other Guided Transport Systems (Safety) Regulations 2006
  - Require that duty holders produce plans to deal with accidents, incidents, near misses and other dangerous occurrences
  - compliance with Railway Group Standards through SMS
  - [GORT3118 Iss 1](#) Incident Response Planning & Management
  - [GORT3600 Iss 2](#) Requirements for Operational Security Response Planning
- Fire Precautions (Sub-Surface Railway Stations) Regulations 2009
  - Original regulations were brought into force as a result of the Fennell report into the tragic King's Cross underground fire in 1987
  - Of the 60 stations on the Metro Network 12 stations are classed as sub-surface stations in accordance with the Fire Precautions
  - Fire Safety Risk Assessment - Transport Premises and Facilities (free to download).
- Civil Contingencies Act 2004 and associated regulations
  - Category 2 responder - co-operate and share information with Category 1 responders (e.g. emergency services and local authorities) to inform multi-agency planning frameworks.
- Transport Security and Contingencies Directorate
  - programme of counter-terrorism security measures which the rail industry is required to implement.
  - TRANSEC guidelines are adopted

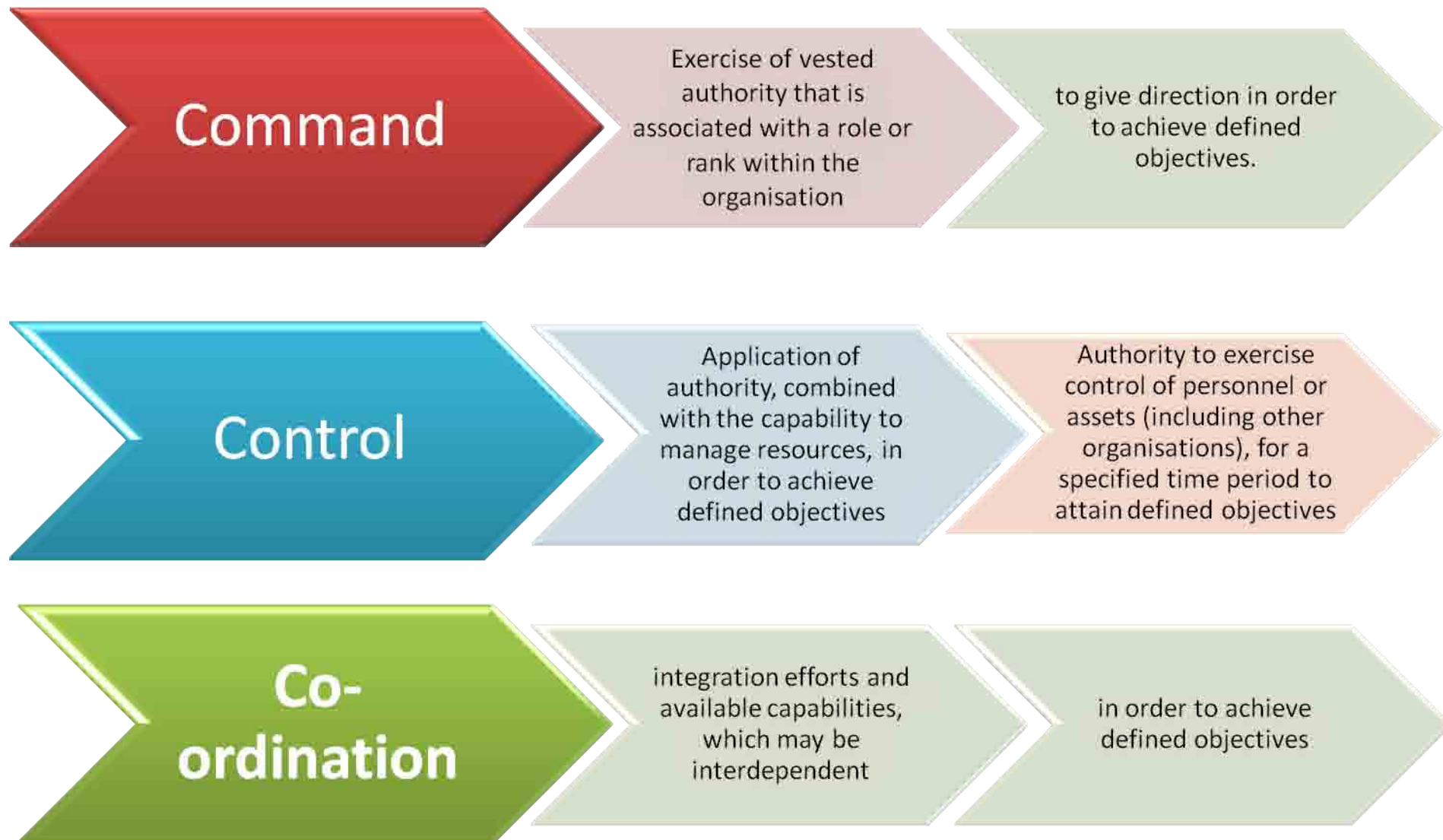
# Our duty of Co-operation



- Emergencies on Metro involve a number of agencies that need to co-operate and support each other; procedures and capabilities need to be well integrated
- We believe that mutual trust and understanding are fundamental building blocks
- Nexus / Concession is duty holder for emergency planning and response arrangements for all incidents that may occur on its infrastructure
- Cooperation achieved through an Emergency Services Liaison Group
  - Network Rail, Police Service (Metro unit and British Transport Police), Fire & Rescue Service, Newcastle International Airport, other train operators
  - Local authority Emergency Planning Unit.
- Network Rail is duty holder for emergency planning and response arrangements for all incidents that may occur on its infrastructure
  - Nexus cooperation through Network Rail Route Emergency Planning and Coordination Committee.
  - Plans feed into Network Rail National Emergency Planning and Coordination Committee

- Originally bureaucratic with unnecessary level of detail
  - languished on shelves once drawn with no real sense of ‘living’ documents and no real tool used for lessons learned
- Now **Risk-based** capability for dealing with emergencies is determined by process of risk assessment local knowledge, and experience and is delivered through our emergency plans consisting of the following elements:
  - **Generic** – the core plan for mobilising staff and resources in response to an emergency; identified through process of risk assessment
  - **Specific hazard or contingency** – plans for particular types of event or situation e.g. fire, bomb threat.
  - **Specific site or location** – plans for particular sites or locations.
- Proportionate; Succinct; home-grown ; simple and easy to understand; and document-lite.
- Aide memoir leaflets are issued to staff to provide a quick-reference reminder of the arrangements, and a handbook gives managers more comprehensive guidance

## Framework based around the 3 Cs



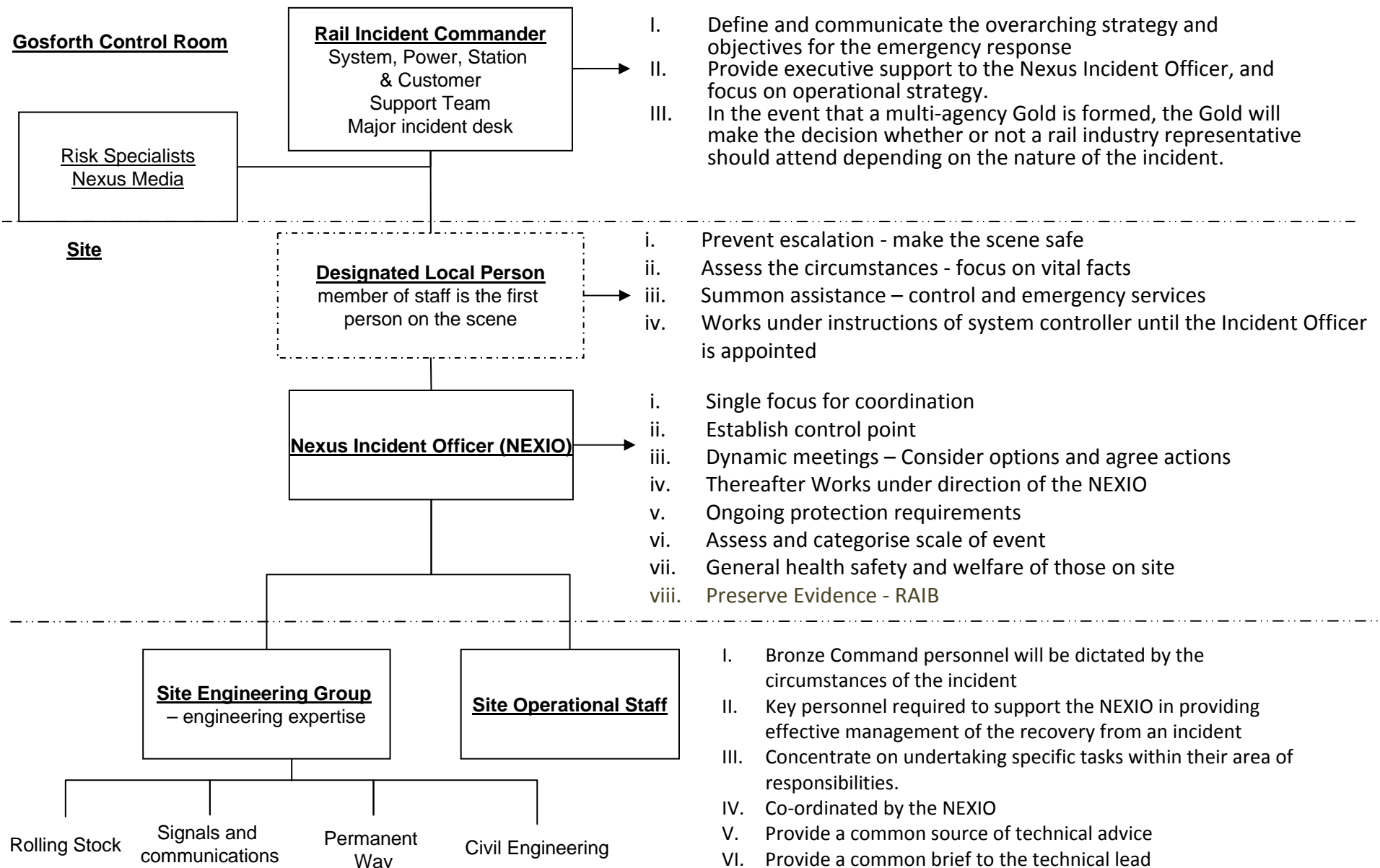


# Overview of the emergency response structure



- A three-tier structure is applied to the management of Nexus response to an incident.
- This basic structure will apply whatever the severity of the incident.
- Not all of the structure will be implemented for each incident.
- Detailed response depends on the circumstances, in liaison if appropriate, with the emergency services.

# Incident Command Structure



## Why we participate in Save Me?



### Why we participate in Save Me?

- Learn from experience of European partners
- Testing of sensor and communication packages
- Explore if the nature of an incident can be identified more rapidly
- Test new approaches to “data driven” decision making for evacuations
- Ability to test options safely using the virtual environment
- Ongoing partnership with Newcastle University

# Thank You - any Questions?



Nexus - Emergency Response on the Tyne and Wear Metro

March 2010

Peter Stout, Nexus Health Safety and Environment Advisor (Rail)

