Buncefield Task Group

Task : To consider the Buncefield Major Incident Investigation Board (MIIB) findings & recommendations and to make proposals to improve safety through enhanced standards and improved management of major accident risks.

Purpose : (in order to)

- Prevent a "Buncefield type" incident occurring again
- Demonstrate industry & regulator determination to proactively grasp the learning from the Buncefield incident & translate into effective & practicable proposals.
- Deliver agreed & jointly owned proposals making best use of regulator & industry expertise and to facilitate consistent approach to management of this risk by providing an accepted & authoritative benchmark for standards & practices in UK.

End Result :

- An interim report by end September 2006 containing initial conclusions for where changes in industry practices & standards are required plus recommendations for early action.
- A final report by end June 2007 containing complete set of proposals detailing update to recommended good industry practice & standards.
- A plan to consolidate the final report's proposals within either existing or new industry guidance and/or codes of practice.
- A confirmed set of criteria for identifying facilities / activities to which proposals are applicable.
- Arrangements prepared for planning and tracking the implementation of the recommendations at appropriate facilities and for the assessment of their effectiveness.
- A communication plan.

Success Criteria :

- The interim & final reports are agreed & accepted by stakeholders
- There are no minority reports
- The proposals are accepted as comprehensive & sufficient to reduce the risk of a Buncefield type incident,
- The proposals are considered to be soundly based and cost effective in addressing the risk
- Interim & final reports are issued on time
- Stakeholders feel sufficiently informed throughout the process by the communication plan.

Organisation

The Task Group will be chaired by UKPIA and comprise of representatives from, UKPIA, TSA, HSE, EA, SEPA, and UKOPA.

The Task Group will establish Working Groups to consider and make recommendations on specific issues. The Working Groups will draw representatives from all interested trade associations, trades unions, and industry technical or advisory groups as necessary.

The Task Group will organise Forum meetings at key stages to seek contributions to the working groups and to communicate progress.

Working Groups

Annex 1 outlines of the range issues which should inform the working groups.
Five working groups are proposed:

W/G 1. Project Co-ordination
Team Leader - Ian Travers, HSE, members: Ian McPherson, UKPIA +
Aims:

- To co-ordinate the issues linking all the other working groups to ensure a systematic approach to safety is achieved.
- To monitor and report progress to the Task Group
- To link with the Focus Group and identify resources/ expertise required for the effective functioning of the working groups.

W/G2: Application
Team Leader – David Painter, HSE
Aim: To develop criteria to be used to identify the types of installations/operations at which the improved guidance / codes will be applied. To link with work on the application of any revised policy on land use planning.

W/G3: Management of Operations
Team Leader – Stuart Robinson, HSE
Aim: Make recommendations on the overarching management system arrangements, human factors and communication systems needed to secure safety during product transfer and product storage.

W/G 4: Design
Team Leader – Jeff Pearson, HSE
Aim: Make recommendations on the plant design to secure safety during product transfer and product storage.

W/G 5: Operational Control
Team Leader: *Nomination from industry?*
Aim: Make recommendations on operational systems covering routine and emergency arrangements to secure safety during product transfer and storage.

Annex 1: Suggested Outline of Issues to Inform the Working Groups

W/G2: Application

To develop criteria for the application of enhanced standards. For instance: an installation that meets **all** of the primary criteria **plus any one** of the secondary criteria set out below:

Primary Criteria:

- Bulk tank installations with the potential to store large quantities of highly flammable liquids, and
- Installations with the potential for rapid product transfer rates, and
- Installations which engage in large single product transfer packages, and
- Installations that have vulnerable populations or environmental sensitive sites located nearby.

Secondary criteria:

- More than one organisation involved in the management / control of product transfer, or
- Products transferred into or from the installation via a major accident hazard pipeline or any pipeline used to convey petroleum products (as defined in Part 2 to Schedule 1 of COMAH), or
- The transfer management arrangements could prevent a rapid shutdown of product transfer, or
- The transfer management arrangements could result in rapid product surges.

Issues:

- Volatility of flammable substance stored
  - Volatility is important, the issue is how to define this in the context of COMAH notifications and hazardous substances consent
  - Liquids at normal storage conditions and classified as highly flammable or extremely flammable
  - To include sites with consent for automotive petrol and other petroleum spirits
  - Also the 2005 COMAH amendment for petroleum products
  - How can we limit the scope to sites or parts of sites storing these substances?
- Volume/dimensions of storage tanks
  - Volume may not define the scope on its own
  - Height of the storage tank may be a more significant factor, can we define a minimum height?
  - Both of these factors may need to be combined with high transfer rate
  - Detail of tank top design (vent size & deflector plates) is probably not a determining factor
  - Applies to coned roof tanks with internal floating deck
  - Does it apply to conventional floating roof tanks as well?
- Transfer rate
  - High transfer rate is important
  - Can we define a minimum transfer rate for the scope?
  - If so, is this best described as mass or volume flowrate?
  - Is there some other way of defining such as a combination of pump duty specification and pipe diameter
  - Or alternatively includes pipeline, ship transfer and railcar transfer but excludes road tanker transfer?
- Site surroundings (population/environment)

- This will be of more relevance to site safety standards and less relevance to land use planning
- Could use population data tool with revised consultation distances

W/G3: Management of Operations

Issues:

- Policy - Overall safety philosophy for product transfer and storage:
  - Stock and Packet control
- Organisation –
  - Competence
    - Knowledge, skills and training
    - Competence assurance
  - Communications
    - Written procedures
    - Product movement communications
    - Shift handover
  - Control
    - Designation of responsibilities, actions
    - Resourcing, manning levels
  - Co-operation
    - Intra- organisational communication
    - Reviewing findings from performance monitoring
    - Learning lessons from incidents
    - Resolving conflicts in operational
- Planning & Implementing
  - Planning product storage arrangements
    - Tank selection/
    - Contents / volume reconciliation
  - Planning product transfer arrangements
    - Route selection
    - Transfer monitoring

- Monitoring Performance
  - Routine monitoring
  - Incident reporting and investigation
  - Learning lessons from incidents
  - Key performance indicators.

- Management of Product Transfer & Operating Procedures covering:
  - Tank selection
  - Pipeline route selection
  - Flow rate selection & management
  - Tank contents / volume réconciliation
  - Checks prior to, during and following product transfers
- Communications:
  - prior to, during and following product transfers
  - at shift handover

In the event of an emergency

Introduction

- General including a comment on Buncefield
- What the guidance applies to
- What the guidance does not apply to

Fire and Explosion Hazards

- Overview comments

Legal Requirements

- Background comments

Risk Assessment

- HSE five step approach
- Control measures
- Definition of zones

W/G 4: Design

Issues:

Location and Layout of Tanks

- General guidance on location
- Specific guidance on separation distances between tanks
- Separation from other dangerous substances
- Storage of flammable liquids in buildings

Design and construction

- Tank design
- Tank-top deflector plates and wind bracing
- Corrosion
- Installing tanks
- Pipework to and from the tank
- Tank connections and fittings
- Valves
- Pumps
- Contents measurement
- Emergency shutdown controls and valves, including RSOVs & ESDVs
- Provision of high reliability safety critical equipment
- Vents
- Emergency relief venting
- Fire protection
- Bonding and earthing
- Bund design & Construction:
  - Heat resistance – joints within bund walls and bund flooring
  - Grouping of tanks within single bunds
- Marking tanks and fittings
- Lighting
- Weather protection
- Testing of tanks and pipework
- Heated tanks

W/G 5: Operational Control

Issues:

Loading and Unloading Facilities

- Loading and unloading from:
  - Pipeline
  - Ship
  - Rail
  - Road tankers

Inspection and Maintenance

- Inspection and maintenance of
  - Valves, pumps and other safety critical plant/equipment
  - Flow and level control instrumentation, alarms and trips and system integrity

- Permit-to-work systems
- Modifying the storage installation
- Decommissioning tanks
- Demolishing tanks

Fire Precautions

- Fire-fighting equipment and facilities

Emergency Procedures

- Leak detection
- Raising the alarm
- Emergency shutdown
- Spill containment
- Evacuation, fire fighting
- Off-site arrangements and link to off-site emergency plans