Highlights of our Buncefield Discussion

Buncefield Accimap and Tripod teams

7 May 2018

Underlying cause topic	Who?	Evidence (examples)	Why??
Insufficient accountability for key actors - Safety conditions were not a priority for any of the main actors	HSE Total HOSL	-HOSL had not reviewed safety report (SR) -HSE had not completed assessment of SR despite 2+ (?) years since its submission -TOTAL did not review SR	-HOSL was the legal operator under Seveso/COMAH but actually had no staff. It contracted out the site to companies. -HSE processes created high approval standards? Too few staff? Not a priority? -TOTAL was not the legal operator under Seveso/COMAH law. Total was content to let the site run itself? There seemed to be a general complacency regarding safety of the site. Typical failure of industrial oark to assign responsibility
Tolerance and normalisation of deviation	Control room staff	Control room staff tied to manage despite circumstances, e.g., alarm clock	Safety culture, complacency,
Inadequate risk assessment, worst case scenario not analysed	HOSL TOTAL	Did not include scenario of more than one tank on fire	Common practice among industry to consider that multiple tank scenarios are unrealistic
Design flaws	Total, HOSL? Unclear	Poor design for safety management evident in control room, lack of information about how IHLS worked, design of bunds, etc.	Safety culture, lack of awareness of risk, failure to recognise safety critical equipment
Failure to respect SMS principles	TOTAL, staff	Did not make a list of safety critical equipment as required, Many aspects of SMS were not covered or ignored. No regular maintenance scheduling. Failed equipment not logged (e.g., AGT) or fixed. No standardize approaches. Many standard elements of SMS either nonexistent, or when existing are ignored	Safety culture reflected lack of awareness of risk, tolerance of unsafe circumstances, no accountability in the organization for risk management /governance
Management of change - Changes tolerated without assessing additional risk	TOTAL, staff	Control room equipment failures not viewed as changes, compensatory actions for control room failures not viewed as changes, new equipment not addressed a as important source of potential failure, “Drift into failure”	Lack of awareness, complacency, no one in charge of safety
Insufficient competence available to address safety	TOTAL, staff, HSE	No engineer on site, no ready access to engineering at TOTAL	Competency of staff not considered important, cost

issues		HQ, seeming hands-off approach of TOTAL towards site. . HSE inspectors do not register at design flaws, control room safety violations, etc.	cutting measures for both TOTAL and HSE, Erroneous belief that the worst case scenario was limited risk, consisted of only one tank involved in a fire or release
Overestimation of human ability to control risk	TOTAL, staff, HSE	Staff under a lot of pressure because of increase in loading/unloading activity, ay but seems possibly to be considered manageable and even a good thing because of extra pay for staff. Willingness to compensate for deficiencies in control room functionality, lack of time or ability to adequately control loading and unloading activities. Inconsistent approaches to control room operations, e.g., flow and alarm management, are tolerated.	Safety culture, failure to believe that site had high risks, complacency, no risk assessment of vulnerability of control room functions
Insufficient emergency preparedness	TOTAL, HOSL, HSE, local responders	Design of bunds was not sufficient, failure to have fire resistant pumps, no prior ER exercise on the site, no updated site maps showing drainage and unprotected areas, inadequate attention to water supply sources and their location	Failure to consider worst case scenario involving more than one tank, overconfidence and complacency of all parties, failure of all parties to take responsibility
Common sources of risk overlooked, including failure to assign responsibility for safety management , poor design and use of IT elements	TOTAL, HOSL, HSE	Failure to notice that no one had responsibility for safety management. Apparent IT system dependence on control room operations and safety instrumentation but not noticed that none of these functioned effectively.	Focus on business aspects rather than safety, complacency, lack of awareness of importance of management role, failure to recognise signs of elevated risk
Poor communication between key actors on safety issues	TOTAL, HOSL, staff	Safety issues not to be a priority issue for discussion with HQ. HQ apparently not monitoring or interested in safety. No standardized communication during shift changes	Safety culture, no one accountable for safety on the site