Health and Safety Executive

HSE

Land Use- & Emergency Planning

UKOPA
United Kingdom Onshore Pipeline Operators' Association

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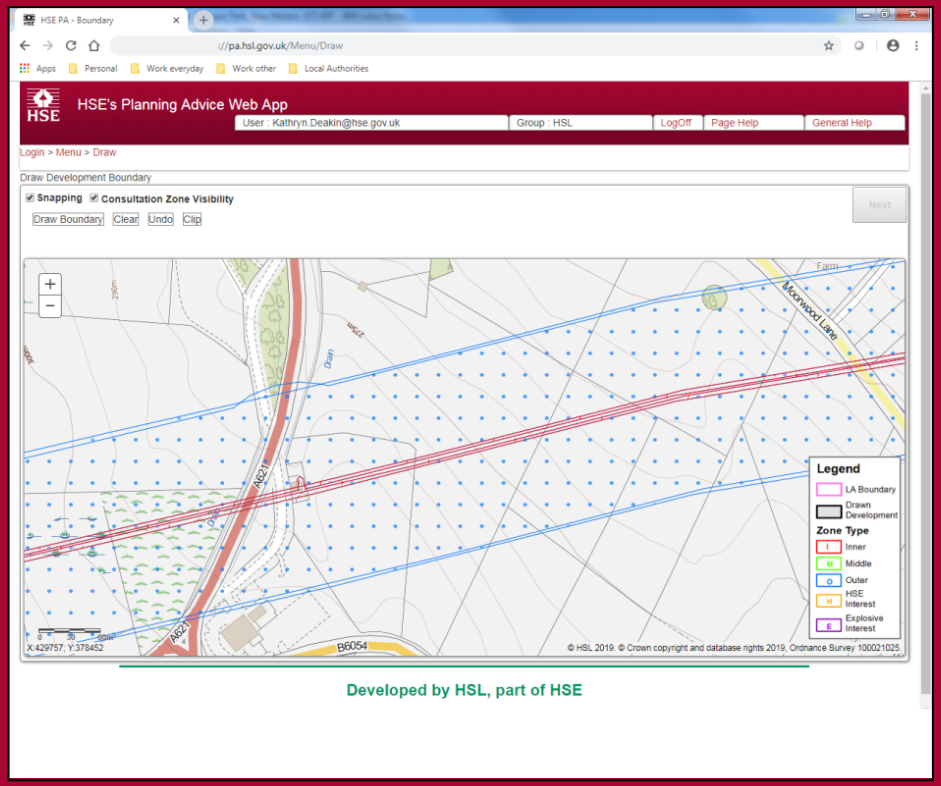
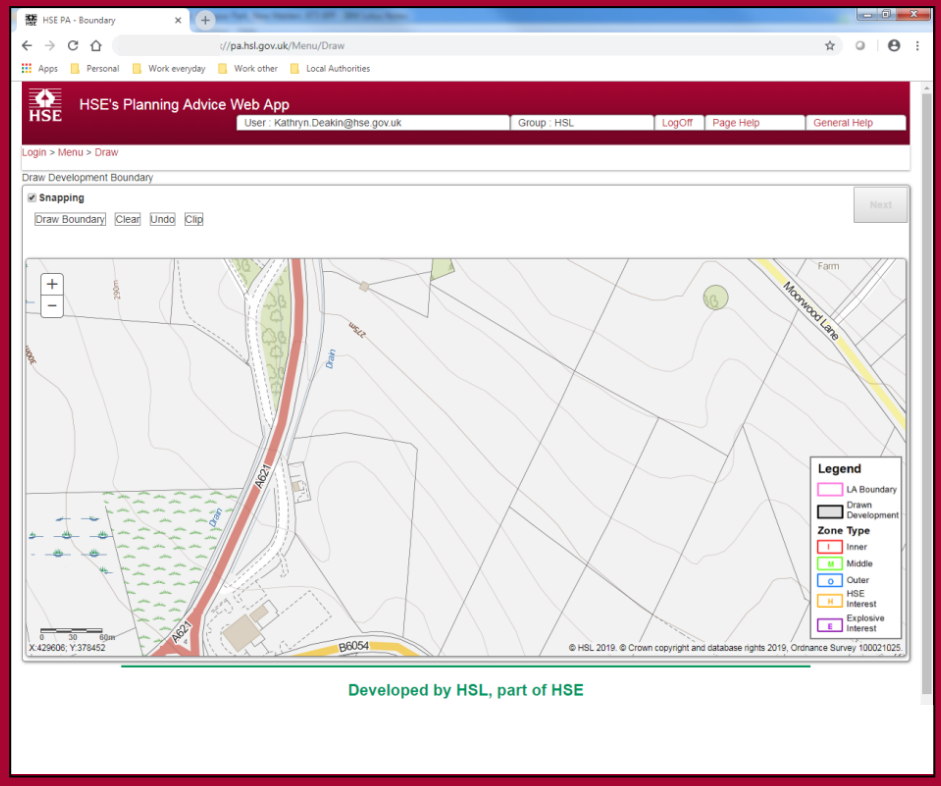
HSE role in land use planning

- HSE is a statutory consultee for Land use Planning
- Preparing and maintaining spatial risk information around:
  - Major accident hazard pipelines (over 28,000 km)
  - Major accident hazard sites (3,500 sites in GB)
  - Explosives sites (310 sites in GB)
- Maintaining the Web App for Land Use Planning consultancy for Local Authorities and commercial developers

HSE LUP Web App





- Local Authority
- Developer

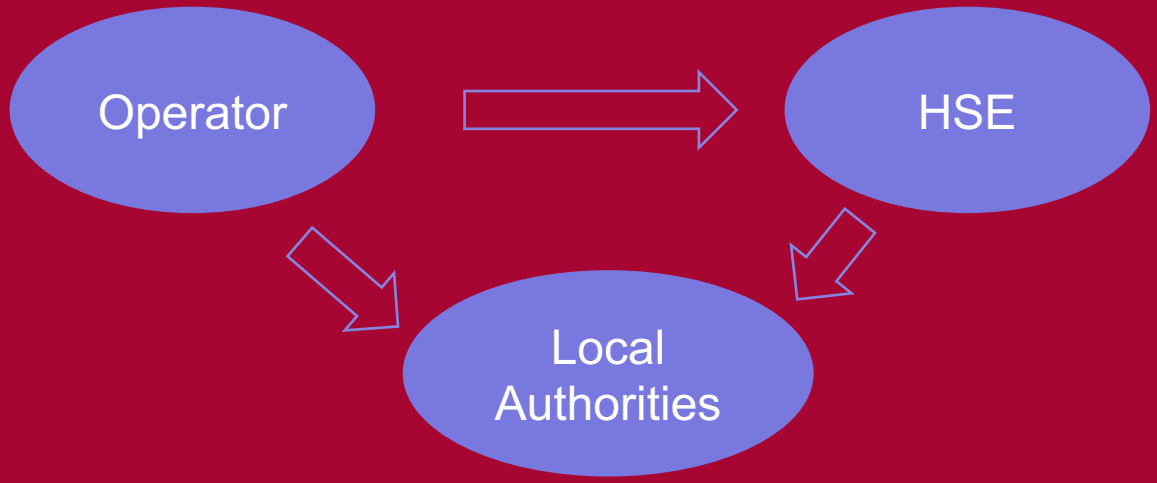
Consultation

- Developer uses LUP planning app
- Highlights whether need to refer to HSE LUP
- LA get zoning information
- ‘Need to contact LA for pipeline operators’
- HSE consultee based on risk
  - Do not advise against
  - Advise against

Consultation

- If consent given despite HSE advising against
  - HSE will generally contact the LA to discuss and lay out concerns
  - Likely request written confirmation from LA as to their understanding/accepting risk
  - Potential for judicial review in extremes
- Pipeline operator can/should raise relevant objections with LA as well

Current data sharing model



- Local Authorities may receive different versions of data
- Local Authorities may handle operator data differently to the HSE.
- Risk of differences in zones

Summary

- Continued co-operation between UKOPA and HSE can improve data-sharing relationships.
- Operator and LA communications
- Not yet at 100% sharing with LA, need sign off by some UKOPA members
- Improvements to data-sharing should lead to no future surprises with contents of annual data refreshes.

lupenquiries@hse.gov.uk

Pipeline major accidents

- High consequence/low frequency events:
  - don't happen often, but when they do…
  - low general awareness of pipeline hazards/risks
  - rare incidents = no experience (corporate memory important)
  - 'it can't happen here' mentality (global learning)
- Experience from abroad shows how catastrophic pipeline MAs can be e.g. Ghislenghien, Belgium, 2004 – 24 dead & 132 injured (incl. first responders)
- Potentially large scale of event means many parties may need to mobilise, co-ordinate & work together effectively
- Requires proper planning and practice

Example of a pipeline major accident

- California, 2010:
  - failure of 30” 26 bar gas pipeline
    - no immediate ignition
    - 8 people killed, 56 injured, 38 homes
- Lack of communication (pre- & post-)
- Confusion among the various responders
- No emergency plans / exercises
- Eventually isolated by off-duty staff on their own initiative
- There was opportunity to mitigate…


Ruptured section of pipe
Earl Avenue
Crater with exposed gas pipe
Glenview Drive looking south

Pipelines & the law

In summary:

- Pipelines should be properly designed, built, operated, maintained and eventually decommissioned
- Plan for emergencies
- Specialist area with unique challenges
- Specific set of legal duties reflect this
- Pipeline Safety Regulations 1996 - **PSR**

UK legislation: scope of PSR emergency planning requirements

- Legal position very different to US
- Majority of emergency planning duties only apply to major accident hazard pipelines (MAHPs) as defined by PSR Reg 18
- Includes entire ‘pipeline’ as defined by PSR Reg 3 e.g. for a gas pipeline includes apparatus such as:
  - block valve sites
  - pig trap sites
  - offtakes
  - pressure reduction stations
  - compressor stations

MAHP operator duties: PSR Regs 24 & 25(4)

- PSR requirements:
  - organisation, arrangements & procedures for emergencies in place & documented before MAHP commissioned
  - revision/replacement of emergency arrangements & procedures
  - testing of emergency arrangements & procedures
- provide necessary info to LAs to enable them to prepare emergency plans

Pipeline operator duties: HSE 'success criteria'
Or
"inspection" what we expect dutyholders to demonstrate.

- Adequate pipeline emergency arrangements in place (required for all pipelines, not just MAHPs – PSR Reg 12 duty)
- MAHP emergency procedures tested, reviewed and revised periodically and in the light of lessons learned from tests
- Competence of key personnel in emergency procedures is assured e.g. PERO training
- Adequate consideration of emergency response in control room design e.g. alarm handling

Pipeline operator duties: HSE 'success criteria' (2)

- Operator carries out checks on the effectiveness of emergency shutdown procedures, including operation and testing of shut off valves
- Effective control room interface and communications between field staff and control room staff
- Leakage detection systems utilised as appropriate

(From Onshore Pipeline Integrity Management - Operational Guidance for Inspectors)

Local Authority duties: PSR Regulation 25

- PSR requirements (MAHPs only):
  - defines timescales for LA to prepare EP following receipt of MAHP notification from HSE*
  - consultation with HSE, pipeline operator etc
  - 3 yearly review/revision of EPs
  - multiple LAs along route can prepare single plan for MAHP
- (Reg 26: allows LA to charge pipeline operator for preparation of EP)

* 9 months from being notified.

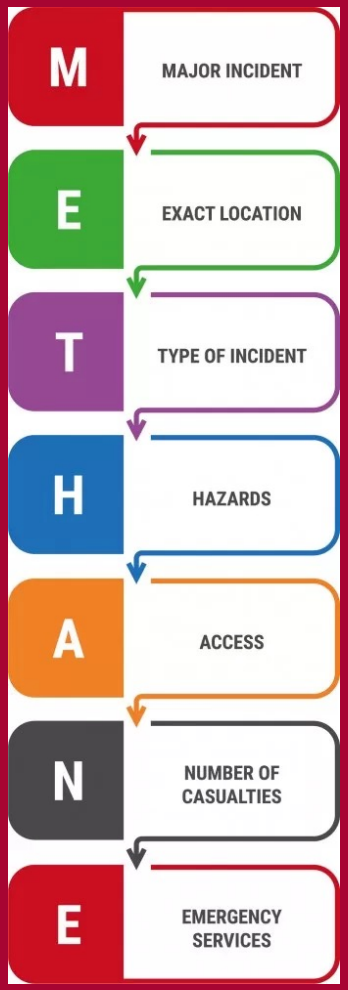
LA emergency plans (EPs)

- Approaches to MAHP emergency planning can vary e.g.
  - include MAHPs in general EPs & show how arrangements for MAHPs are integrated into them
  - generic plan for specifically identified pipelines operated by same operator & carrying same fluid
  - single EP for MAHPs in same location or LA area
  - single plan for whole pipeline (may cover >1 LA area)
  - if MAHP connects COMAH sites, integrate into their offsite EPs
- Need to specifically reference each MAHP & operator in EP, irrespective of which approach is followed

In any event, emergency plans should….

- Be clear, simple & easy to understand
- Identify credible scenarios
- Be flexible – potential for incident 24/7 anywhere along pipeline route should be addressed
- Consider risks to public, responders & environment
- Allocate clear roles, responsibilities & resource
- Contain robust communication arrangements
- Recognise LA boundaries
- Dovetail with other relevant emergency plans
- Consider restoration phase of response

JESIP - METHANE



- Reporting framework for emergency responders
- Assists in communication between responders
- Include risk to responders
- Home - JESIP Website

Observations

- Achievable roles/duties and resource
  - Single control room operator expected to make 12 phonecalls whilst responding to leak and operating other assets
  - No operator attendance at silver/gold
  - Expectations on single PERO
  - Competence/communication
- Be very careful about making assumptions
  - Technical knowledge/acronyms
  - Local knowledge
  - ‘Live’ incident water applied to powder spill

Observations

- ‘Live’ exercises trump desktop
  - Weather, time, darkness, confusion, access
  - Help identify assumptions in the response
  - Test ‘real life’ expectations (mannequins)
  - Test specific parts of plans
- Length of incident – fatigue impact on decisions
- ‘Safe’ exercise at live location
  - Responders removed all PPE at ‘end-ex’ on live gas well site
- Procedures will not be followed to the letter – develop job aids

Observations

- Resource/competence
  - ‘Live’ incident, HSE arrive day two & find continuing high-risk hazard to public
  - Due to insufficient resource and competence on day one
- Pre-emptive communication and invitations
- Do not underestimate the impact of the media and miscommunication
  - Agree lead media cell
- Don’t forget restoration could take months!

ANY QUESTIONS?

Guidance

- Emergency palnning for major accidents Control of Major Accident Hazards Regulations 1999 (hse.gov.uk)
- A guide to the Pipeline Safety Regulations 1996
- Emergency response / spill control (hse.gov.uk)
- Role of HSE in Civil Contingencies and Cross-Government Emergency Planning Work
- Land use planning (LUP) – public safety advice – HSE
- Further guidance on emergency plans for major accident hazard pipelines (hse.gov.uk) (quite old so might be out of date)