How the Risk Assessment Supplements Support the Risk Assessment Process

Neil Jackson

Policy Manager, Transmission

National Grid

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When might a Pipeline Operator carry out a Pipeline Risk Assessment

- To assess hazards and risks in support of the Operator's MAPD
- To assess a code infringement
- To support operational changes e.g. uprating of the pipeline
- To assess a particular operational problem
- In support of a Land Use Planning Application

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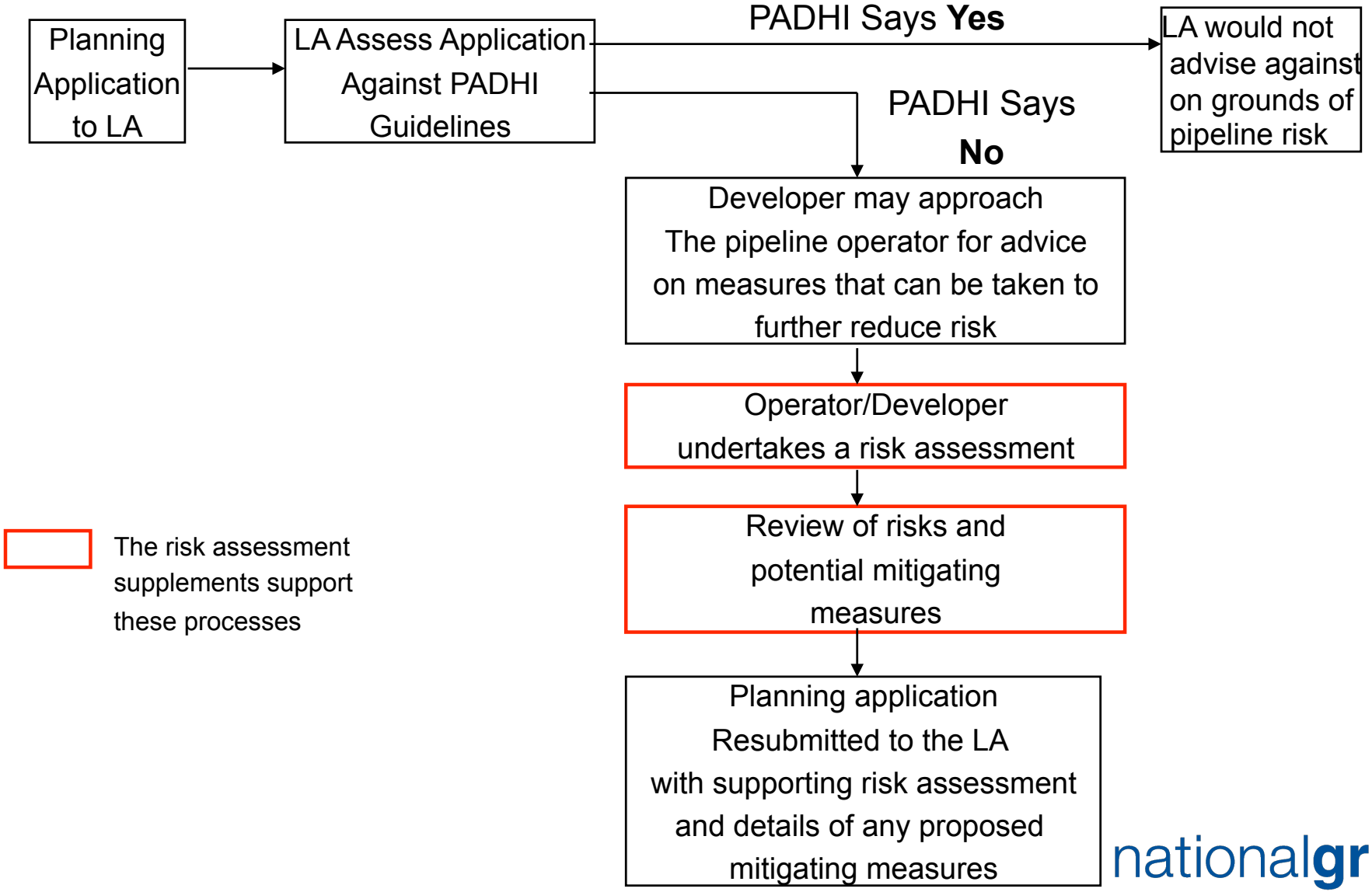
How Risk Assessment Supplements Fit Into the LUP Process



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Key information that is provided within the supplements

- Overview of risk assessment process
- Failure modes to consider
- How to determine failure frequencies
- How to predict consequences of pipeline failure
- Ignition probabilities
- Thermal radiation effects on people and buildings
- Suggested mitigating measures and how to assess their impact

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Key information that is provided within the supplements cont'd

- How to calculate individual risk
- How to calculate societal risk
- Criteria against which acceptability can be assessed
- Worked examples
- Benchmark solutions
- Useful supporting references

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What can a quantified risk assessment take account of that PADHI can't?

- Able to take account of the precise numbers of people present
- Able to take account of their exact locations
- Able to take account of the time that individuals are located at the location (residency) and whether they would be indoors or out of doors
- Able to account of patterns of behaviour in the event of a pipeline failure, i.e. escape speeds and ability to take shelter within buildings
- Able to take account of any local circumstances that may affect the pipeline failure (e.g. increased depth of cover)
- Better facilitates an assessment of the affect of mitigating measures including assessing the affect of different development layouts
- Provides a quantified assessment of the risk

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Key Stakeholder Groups Involved in the LUP process

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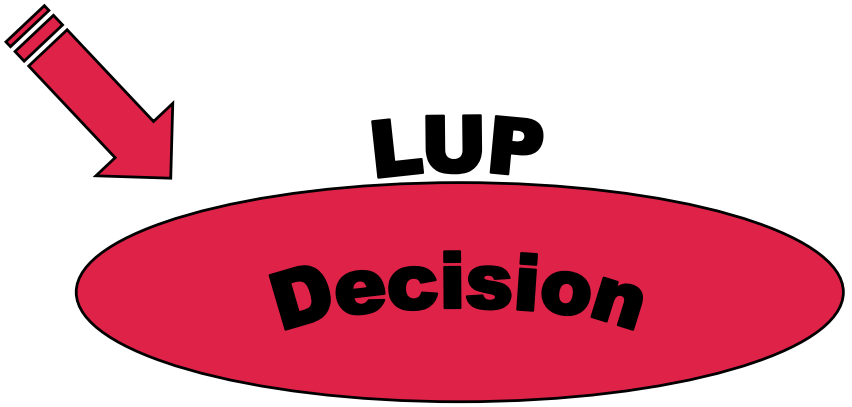
The Developer

-Wants his development built

- Maximise the value of his land



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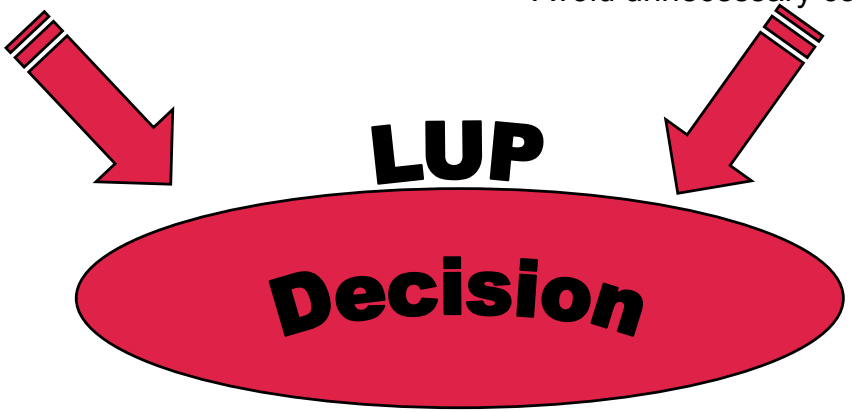
The Pipeline Operator:

- Ensure continued safety of the pipeline (ALARP)
- Ensure pipelines remain an economic form of transport
- Avoid unnecessary compensation claims



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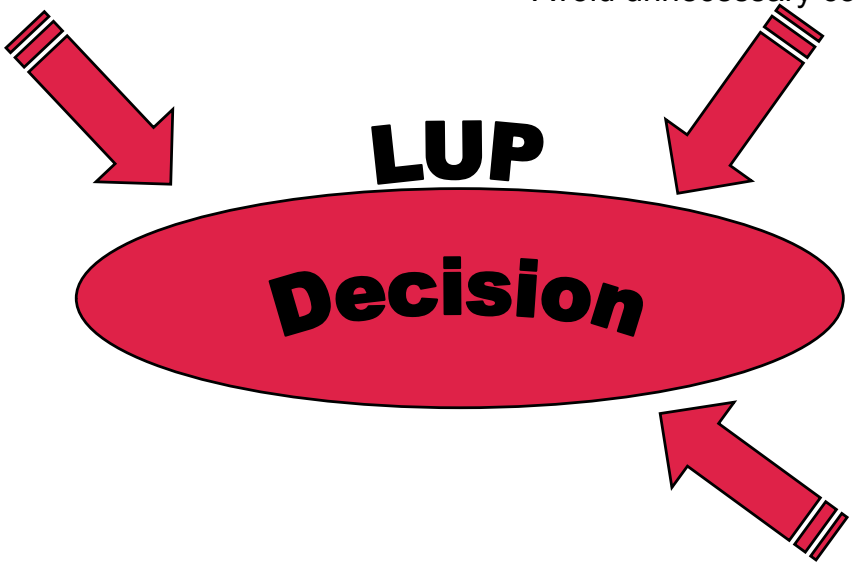

Local Authority

-Ensure appropriate economic development within the LA consistent with the LA development plans

-Observe the rules regarding development and HSE advice

- Take account of the views of all stakeholder groups (decision in the round)

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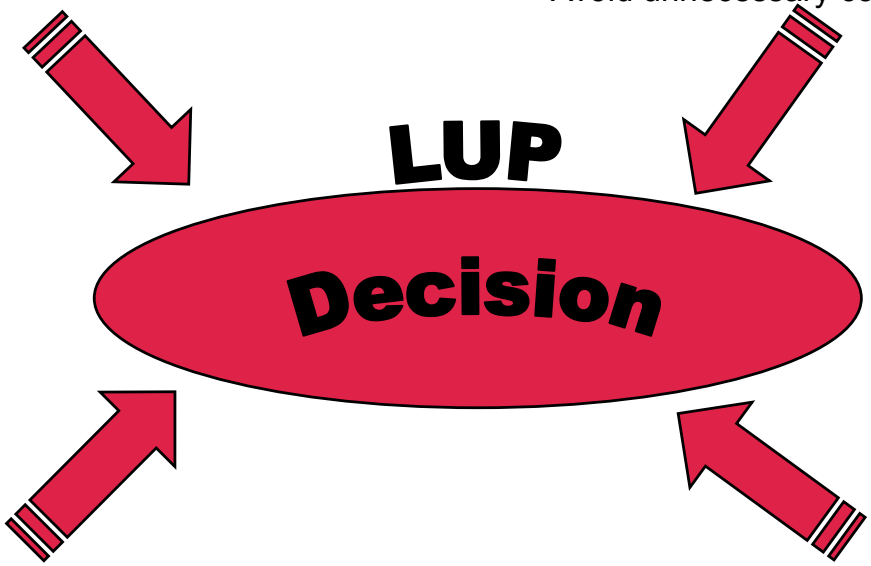

HSE

- Duty of care to the general public
- Ensure that appropriate safety levels are maintained
- Best form of safety protection is to remove the people from Hazard

-Balance the principal of stabilising and not increasing risk with a pragmatic awareness of of the limited land available for development in the UK

Local Authority

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-Observe the rules regarding development and HSE advice

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How the Supplements Support the Pipeline Operator

- They provide him with guidance and advice on how to carry out a pipeline risk assessment
- If consultants are going to be used they provide the basis of a work specification
- They provide an authoritative document against which he can justify the assumptions that he has made in his assessment
- They ensure consistency with risk assessments carried out by other operators
- They provide guidance that allows him to assess the effectiveness of mitigating measures
- They provide criteria against which he can judge acceptability

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How the supplements support Local Authorities

- They help the LA understand the risk assessment process and associated issues
- They provides the LA with confidence that the assessments have been done to a recognised standard

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How the supplements support Developers

- They help developers understand the risk assessment process
- They give developers confidence that risk assessments are carried out in line with an accepted standard

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How the supplements support the HSE

- They provide the HSE with confidence that the assessments have been done to an acceptable standard
- They ensure operators/developers carry out pipeline risk assessments using a consistent approach
- They provide transparency on the risk assessment methodology and underlying assumptions

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Other Uses of the Pipeline Supplements

- Remember the supplements are not just about Land Use Planning the provide the pipeline operator with guidance on how to carry out pipeline risk assessments for other requirements, i.e.:
  - To assess hazards and risks in support of the Operator's MAPD
  - To assess code infringements
  - To support operational changes e.g. uprating of the pipeline
  - To assess a particular operational problem

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Summary

- The supplements have developed to support all key stakeholder groups in carrying out, and assessing the output from, pipeline risk assessments
- They provide a consistent basis for carrying out risk assessments and document key assumptions
- They identify and quantify the effectiveness of mitigating measures that can be taken to further reduce risk
- They can support discussions with Developers, LAs and the HSE about risk for LUP but they can also be used by pipeline operators in carrying out risk assessments for other purposes

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