Environment Agency
Regulation of Onshore Oil and Gas

Technical Issues & Guidance
Onshore Oil & Gas Programme

23 March 2016
Overview of the presentation

- Onshore oil and gas potential in South East
- How our regulations apply to the onshore oil and gas industry
- Our permitting process
- Our approach to regulation
- How we interact with the other regulators
- Questions
What we regulate
How we regulate onshore oil and gas

- Environmental Permits
  - Mining Waste Directive
  - Groundwater discharge
  - Surface water discharge
  - Industrial Emissions Directive
- Radioactive Substances Regulations
- Other Consents
  - Water Resources Act
  - Flood risk consent
How do we define fracking?

- Infrastructure Act 2015
- hydraulic fracturing of shale or strata encased in shale which is —
- carried out to search or bore for or get petroleum, and -
- involves, or is expected to involve, the injection of more than 1,000m$^3$ of fluid at each stage or more than 10,000m$^3$ in total.
The permitting process (site of high public interest)

1. Application ‘duly made’
2. Public consultation (20 working days)
3. Technical assessment of application
4. Determination and draft decision consultation (20 working days)
5. Consider final representations
6. Announce final decision
Permitting Considerations 1

 Permit for all extractive wastes, including
 Drill cuttings, spent drilling fluids, returning fracturing fluids, waste gases and any stimulation fluids left behind.

 Require a Waste Management Plan that:
 Characterise wastes, and describe risks
 Set out mitigations, in line with waste hierarchy
 Discloses chemical additives
 Sets out monitoring and closure plans
Permitting Considerations 2

Availability and protection of groundwater
- Environmental Permit for a Groundwater Activity
- No drilling in SPZ1 or where activity would have an unacceptable effect on groundwater
- Detailed evaluation of risks to groundwater and mitigation measures
- Assessment of chemical additives to be used

S199 Notice of Intention to Drill
- This will detail: how the well will be drilled and cased, storage of substances including fuel and chemicals, proposed drilling fluid management plan
Permitting Considerations 3

- Flaring of waste gas during exploration
  - >10 tonnes/day = Industrial Emissions Directive
  - <10 tonnes/day = Mining waste Directive
  - Flaring converts methane to CO$_2$

- Radioactive Substances Regulations
  - Naturally Occurring Radioactive Material – NORM

- Surrender of permits once all regulated activities have ceased
Our approach to regulation

- All our regulatory activities are risk based
- Inspection – examining the activities or infrastructure at a permitted site
- Auditing – detailed review of specific elements including checking of records & procedures
- Monitoring – checking information provided
- Advice and Guidance
- Enforcement
Health & Safety Executive

- Memorandum of Understanding (MoU) between EA and HSE
- HSE responsible for assessing well integrity – design, construction, operation, decommissioning and abandonment
- Joint inspections carried out before fracking commences
Department of Energy and Climate Change

- The level of methane in groundwater has, or will have, been monitored in the period of 12 months before the associated hydraulic fracturing begins.
- Appropriate arrangements have been made for the monitoring of emissions of methane into the air.
- The associated hydraulic fracturing will not take place within protected groundwater source areas.
- The substances used, or expected to be used, in associated hydraulic fracturing are approved, or are subject to approval by the relevant environmental regulator.
Any questions?

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