

Environment Agency Regulation of Onshore Oil and Gas

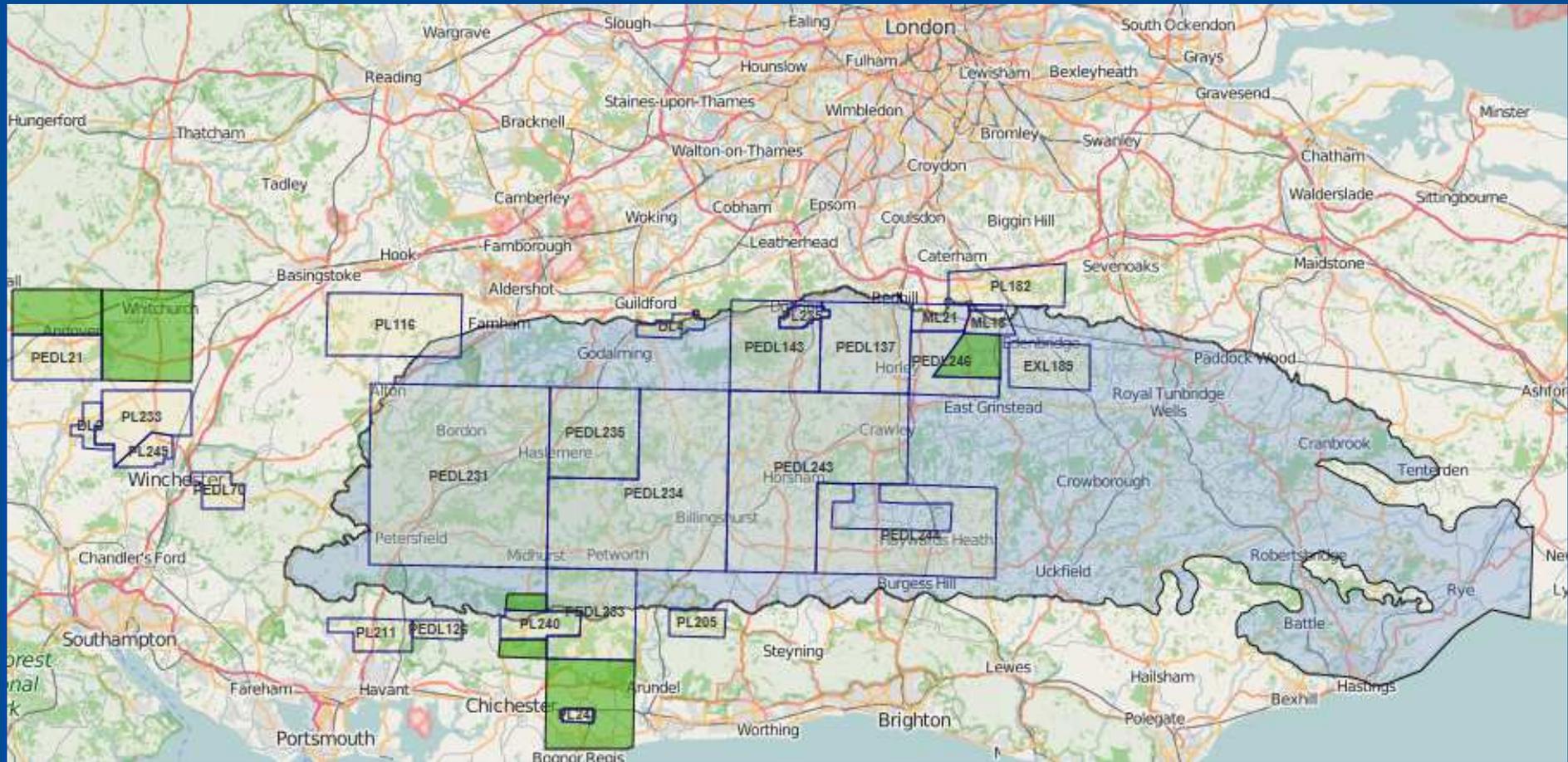
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Technical Issues & Guidance
Onshore Oil & Gas Programme

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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

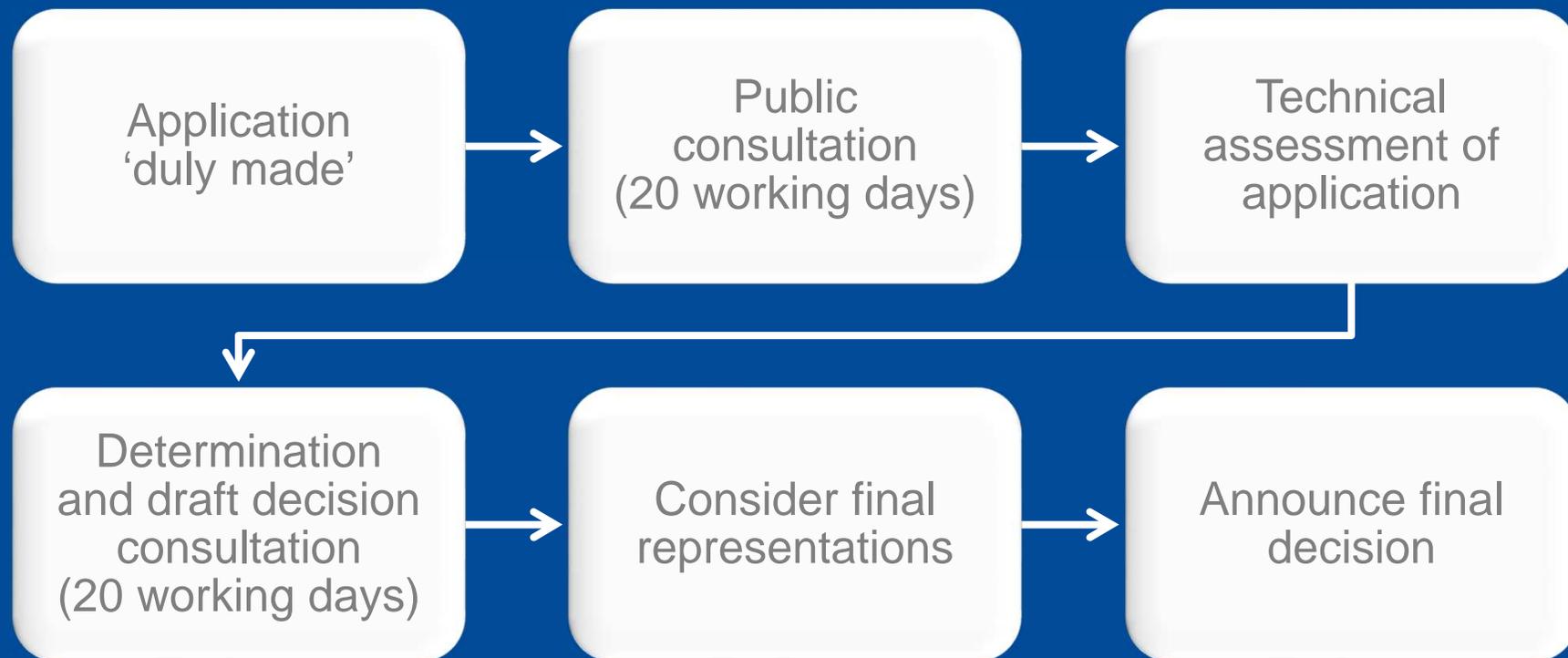
➔ Other Consents

- ➔ 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 1,000m³ of fluid at each stage or more than 10,000m³ in total.

The permitting process (site of high public interest)



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
 - ➔ <10tonnes/day = Mining waste Directive
 - ➔ Flaring converts methane to CO₂
- ➔ 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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