Wastewater quality breakout

Welcome

06 November 2017
Three sessions

• Learning from incidents
  • Martin Perrin, Head of Strategy Planning and Assurance

• Manufacturing thinking
  • Nigel Watts, Head of Wastewater Treatment

• Smarter Water Catchments
  • Yvette de Garis, Head of Environmental Regulation
Learning from incidents
Learning from incidents

• We analyse multiple data sources to help identify the root cause of failures.

• We then bring together experts and managers to review the evidence to identify where we need to change and how we can apply the learning across all of wastewater.
Our challenge

Our ‘Go to Green’ process is helping us to understand the level of risk and what we need to do to restore our headroom.
Go to Green - *Working better together*

- Modellers’ view and operators’ experience of running the sites
- Coming together to make sites more sustainable and resilient for the future
Learning from incidents

Case study approach
Sewage treatment process

- **Wastewater including trade effluent**
- **Storm tanks**
- **Screening**
- **Grit removal**
- **Primary settlement tanks**
- **Aeration tanks**
- **Final settlement tanks**
- **Biological filter**
- **HUMUS tanks**
- **Final filter treatment**
- **Sludge thickening**
- **Renewable energy generation**
- **Loss of return activated sludge**

**Legend:**
- **Wastewater**
- **Biogas**
- **Treated wastewater**
- **Sludge**
Manufacturing thinking
Closed loop manufacturing

Sludge Flow
- Transport (sewer)
- Small works
- Inventory (sludge holding tank)
- Transport
- Intermediate inventory (lagoon)
- Inventory (reception tank)
- Aeration
- Digestion
- De-watering
- Inventory (cake pad)
- Inventory (cake barn)
- Transport
- Inventory (field stockpile)
- Spreading operation

Treatment
- Primary settlement tank

Cake to Field

Work Stream 1

Work Stream 2

Work Stream 3

Optimise each stage of the process to reduce the time sludge spends at each stage

What benefits do you see from lean thinking?

186 days

54 days
What are the benefits?

Lean manufacturing benefits
Simplified logistics arrangements
Smarter Water Catchments

Yvette de Garis, Head of Environmental Regulation
Smarter Water Catchments - Evenlode

- Improving the environment
- Managing flood risk
- Reducing pollution at STW
- Pilot trial in Evenlode sub-catchment

Working with landowners in a catchment to help reduce agricultural phosphorus
Our proposed pilots

Urban catchment management - Crane

Water resources and flood management

Education, engagement and behaviour change

Rural catchment management - Evenlode

Improving environmental resilience

Rural catchment management - Chess
Thank you