

Odour Control Theory and Practice: Wastewater Treatment Plants

- Karen Gallagher
 - Area Engineer

 - Engineers Ireland
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Fingal County Council
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- Odour Control Policy for Wastewater Treatment Plants



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Fingal County Council

- Water Services Department

- Drainage network

- Waste Water Treatment Plants (WWTP)

Odour Control Policy

- Why was it prepared?
- What does it cover?
 - Existing WWTP
 - Expansion of Existing WWTP
 - New WWTP

Existing WWTPs

- WWTPs in existence before the odour control policy must comply with the odour specification standard laid down during the WWTP construction process in conjunction with the planning requirements

Expansion of Existing WWTPs

- Procedure

- Existing WWTP Assessment
- Proposed expanded WWTP Assessment
- Detailed design of expanded WWTP

New WWTPs

- Procedure

- New WWTP odour limits
- Preliminary Design
- Odour impact assessment
- Proceed to detailed design

FCC New Odour Limits

- At site boundary
 - 1.5 Ou_E/m^3 on a 98th percentile basis and
 - 3.0 Ou_E/m^3 on a 99.5 percentile basis
- At each stack
 - The odour emission rate limit value (Ou_E/s) placed on each stack must be achieved

$$\begin{array}{ccccc} \text{odour emission} & = & \text{odour} & \times & \text{flow} \\ \text{rate} & & \text{concentration} & & \text{rate} \end{array}$$

Recommendations

- Basic odour control techniques
- Quality Assurance
- Odour Management Plan
- Enhanced odour control measures

Basic Odour Control Techniques

- WWTP operation
- Housekeeping
- Complaints
- Training
- Emergency procedures

Quality Assurance

- Procedures and management systems
- Technical Measures

Odour Management Plan

- Operational and control measures
- Unique to each WWTP
- Normal and abnormal conditions
- Records
- Complaints procedure
- Breakdown Emergency Response

Enhanced Odour Control Techniques

- Odour control measures at WWTP design stage
- WWTP layout & location of odourous sources
- Odour management plan
- Odour abatement equipment maintenance programme

Enhanced Odour Control Techniques Contd.

- Prevent septicity
- Enclosed storage units,
- Piping to odour control units
- Tank covers
- Back up odour control facilities
- 2 stage scrubbing minimum
- Stack Height design
- Monitoring

Prevent, Contain and Control!

