

Area Source Facility for Industrial Emissions Monitoring

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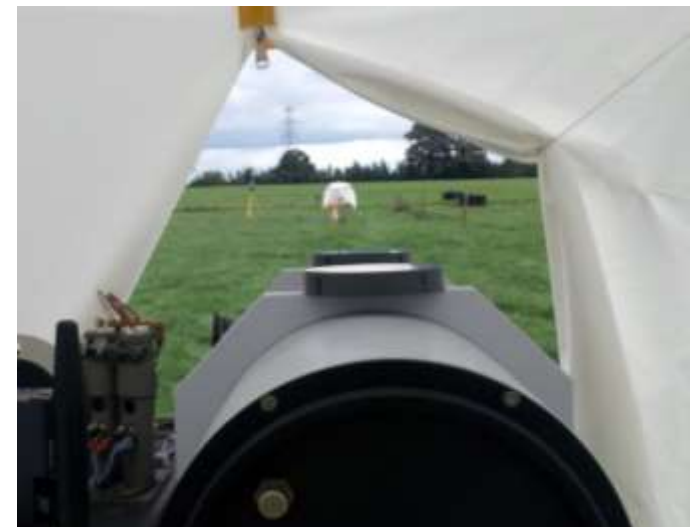
What are area source emissions?

- Area sources of pollution are emissions which can be characterised as being non-uniform
- Large and complex spatial release distributions generally encompassing multiple emission points e.g. Landfill sites, gas pipelines, etc.



Why are we interested?

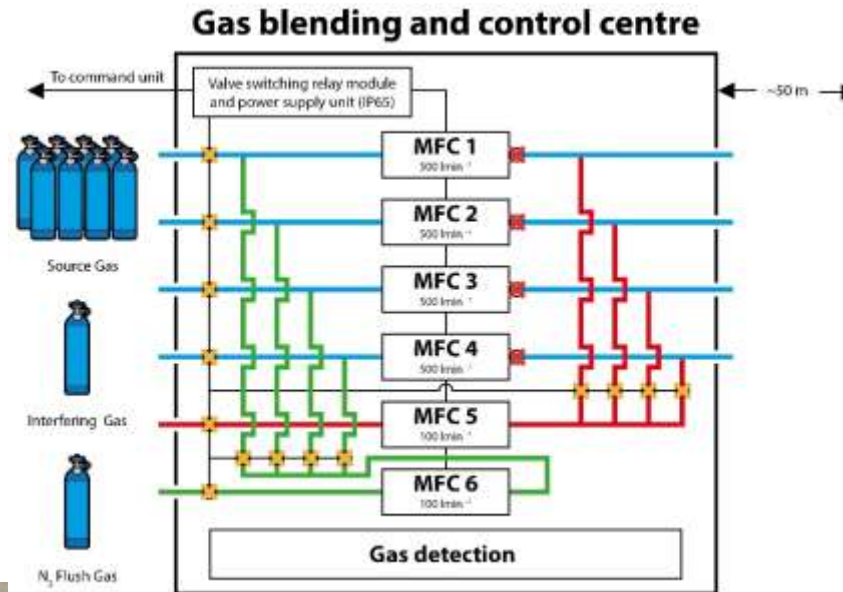
- There is a need to move towards evidence-based determination of emission factors to reduce uncertainties and therefore increase confidence in reported emission values from complex sources.
- It will be necessary to develop improved remote sensing techniques and monitoring protocols to answer questions about the reliability of determined emission magnitudes from both uniform and non-uniform sources.



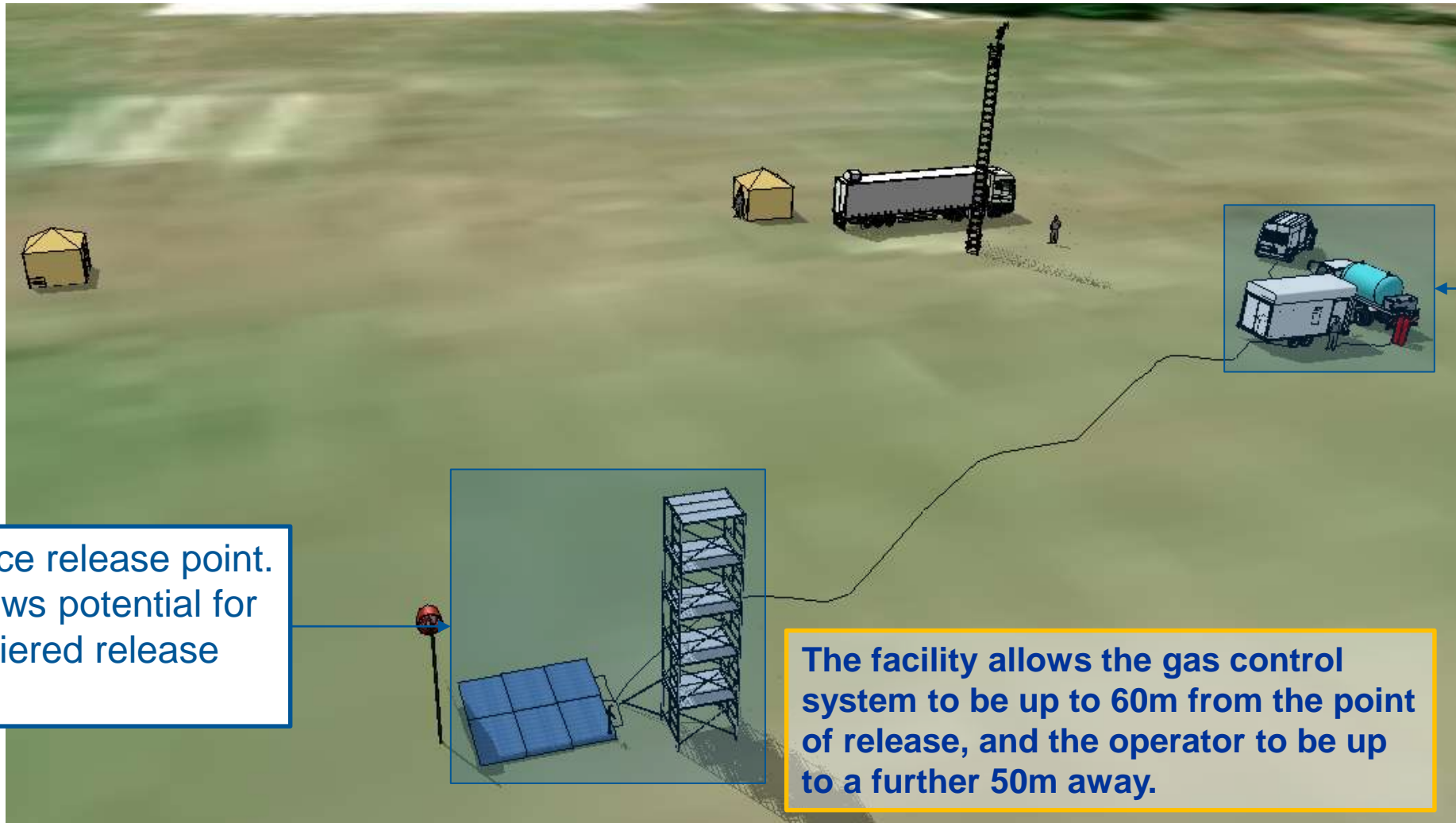
NPL Area Source Emissions Facility

- A novel facility for the performance testing and calibration of current remote monitoring systems, and validation of new technologies, measuring GHG's (e.g. CO₂ and CH₄) and other gases (e.g. C₃H₈).
- The system can produce both uniform and a variety of non-uniform emission type plume characteristics as found at landfill sites, oil and gas facilities, CCS plants, and other industrial or agricultural sources.
- Top emission rate capability on order of 50 kg.hr⁻¹, comparable to the emission rates of small-medium industrial fugitive releases
- Incorporated capability to introduce cross interfering species to the emitted gas matrix
- Facility is transportable and flexible in terms of its capability so it can be applied to a variety of future projects

The Constructed Facility



Comparison of Remote Monitoring Equipment



Area source release point. Tower allows potential for raised or tiered release points

Gas control system

The facility allows the gas control system to be up to 60m from the point of release, and the operator to be up to a further 50m away.