

UK CCS workshop – Atmospheric Pollution

Web meeting hosted by UKCCSRC

Date 22th March 2021, 2 pm - 4 pm

Chaired by CCSA TWG members Simon Garlick, SSE & Chris Haszell-Marshall, ERM

Key UK research needs highlighted at workshop

- A review of ADMS modelling
 - Improve the ADMS amines module to consider a mix of directly-emitted amines and/or nitrosamines
 - Development of an alternative tool
 - Other parameters that ADMS Chem module uses (hydroxyl radicals, multiple degradation reactions and interactions, NO_x etc)
 - Model validation – real world data to compare with the ADMS model
- Cross media effects of acid wash on amine PCC
 - Life cycle analysis of sulphuric acid from production, application to disposal
 - Alternative acid washes to sulphuric
 - Water wash vs acid wash
- What is the ultimate environmental fate of species released from carbon capture processes
 - In ground and water
 - Longevity in the Environment
- Macro-environment effects of multiple CCS plants
 - Within a cluster
- Amines chemistry and N-amines EALs
 - A refined approach for N-amines instead of assuming every species is NDMA
 - Phase partitioning of N-amines
 - Toxicity of nitramines compared to nitrosamines (sources not consistent)
 - Improved chemistry data for amines
- Emissions from non-amine based capture solutions
- Develop sound risk-based approaches/step-by-step methodology/guidance – Monte Carlo
- Establish robust measurement methods
 - Stacks monitoring: establish certified monitoring methods for emissions to air
 - Ambient measurements: establish certified monitoring methods
 - Using the above - model validation exercises and confidence about risk