

Environmental Protection UK

Construction Coordination in the Environment



Controlling Emissions from Non-Road Mobile Machinery: Lessons from Precis

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Presentation Overview

- Background to Precis
- Why Non-road mobile machinery?
- The Precis Process
- Outcomes
- Lessons Learned
- Possible next steps



Background to Precis

- Progress in Controlling Air Pollution
but
- Some difficult pollutants: PM, NO₂
- Seemed that some urban areas would not reach air quality goals
- Main source of difficulty assessed as transport emissions

Partnership for Reducing Emissions from Construction Industry Sites



Chris Orr, Jam Utopia, from The
Multitude Diaries

Why Non-Road Mobile Machinery?

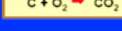
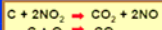
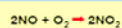
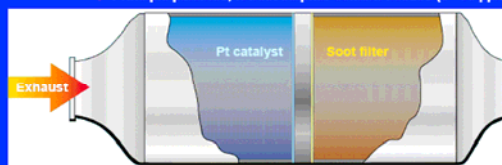
- Emissions from individual Road Vehicles much reduced
- NRMM currently under less stringent control
- Construction site machinery important source, with growth potential
- EU Standards not due to kick in until 2011 (and then rather weak)
- Solutions (including retrofit) readily available and tested

Non Road Mobile Machinery



Solutions: Particle Trap

- Trapping of soot carbon
- Oxidation of soot carbon
- Low temperature regeneration
- Oxidation of hydrocarbons from unburned fuel and lube oil
- Principle patented, lowest sulphur content needed (5 - 50 ppm)



Source: Johnson Matthey

Solution in Place



Policy Drivers

- Main driver was health impacts
- Assessment has moved on since start of Precis
- Current assessment, UK via COMEAP in AQ Strategy
- Current assessment, US many CARB papers
- Both agree that fine PM and diesel PM a highly important agent of lung and heart disease and are implicated in some cancers
- Average loss of life expectancy 8 months (2005 levels) 5.5 months (2025 expected levels)
- Societal impacts (UK) estimated >£6 billion

International Experience

- US (Links to NESCAUM)
 - Boston arterial throughway (big dig) pm abatement fitter to NMMR by agreement with City
 - World Trade Centre reconstruction pm abatement on NMMR by agreement with NY Port Authority
- Switzerland
 - All NMMR on construction sites >37KW to be fitted with NMMR
 - VERT Certification system widely respected and implemented

The Precis Process

- BRE Workshop on Construction Emissions October 2003
- NRMM Workshop December 2003
- Agreement between NSCA (EPUK) and EIC
- First Meeting of Forum 6 July 2004
- Publication of GLA Best Practice Guidance 2006
- Final (10th) Meeting of Precis 13 December 2006

Outcomes

- Community of interest formed and developed
 - Government Local and National (GLA, Defra, DfT)
 - Environment Industry
 - Vehicle and Plant industries
 - Fuel industries
 - Scientific and analytic bodies
- Draft BPG examined in detail by all parties
- Focus on PM

Outcomes

- Certification process agreed
- Lists of individual NRMM and options developed
- Responsible body and funding for registry and certification identified

Precis Findings

- Strong Community of Interest with viable solutions ready and the will to implement them
- Feasible certification processes
- Low S fuels widely available for large constructions sites
- Plant hire industry resistant to proposals on cost/benefit and operational grounds

Lessons learned

- Strong leadership at City level required to agree measures (GLA) but implementation in planning decisions the key
- National scheme of certification needed to address plant industry concerns
- International experience valuable (UK well behind)
- Inventory of sources and emission weak
- Cost/benefit analysis has to be based on City wide assessment of emissions (consistent with case for UK AQ Strategy)

Policy Potential

- In cases of residual AQ exceedence, implementation of NRMM controls an element of strategy of “all possible measures”
- Also speaks to climate agenda with BC control
- An important part of exposure reduction approach
- Occupational health on site, issues still unexplored in UK

Possible Next Steps

- Update cost/benefit assessment following process of UK AQ Strategy
- Include benefits for reduction of black carbon
- Create national agreement on certification (on basis of Precis work?)
- Investigate occupation health issues
- Investigate need for NOx controls
- National forum to co-ordinate?

Conclusions

- Construction equipment issues a continuing problem
- Solutions (equipment and fuel) are available
- Certification issues largely resolved
- National approach would help
- Need to think in terms of “policy package” combining AQ, CC and OC benefits
- Working within Community of interest not easy but very worthwhile.

Welcome

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