



Integrated Environmental Permits

Learning from the UK Experience

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Overview

I. EU and UK Experience

II. EPA's Integrated Permitting Initiative

III. Preliminary Findings

What is an integrated permit?

- More than consolidation of single-media permits
- Entire facility footprint
- Multi-media interactions
- Pollution prevention and sustainability

I. EU/UK Experience

- UK 1990 Integrated Pollution Control (IPC) required “authorizations” to operate specific industrial processes
- IPC influenced adoption of EU 1996 *Integrated Pollution Prevention and Control Directive (IPPC)*

EU's IPPC Directive

Purpose and Scope

.....achieve integrated prevention and control of pollution arising from [designated] activities.

....[establishes] measures designed to prevent or, where that is not practicable, to reduce emissions in the air, water and land

.....in order to achieve a high level of protection of the environment taken as a whole

EU/UK Timeline

UK

IPC
implemented
1990

PPC
implemented
2000

PPC to be fully
implemented
2007

EU

IPPC Directive
issued
1996

IPPC to be
implemented
EU wide
2007

IPPC Requirements

- IPPC permit conditions based on application of Best Available Techniques (BAT)
- Technical info. exchange at the EU level – the *Sevilla* process -- to produce sector-specific BAT Reference Documents (BREFs)

Definition of BAT

Best: achieving a high general level of protection of the environment as a whole

Available: developed on a scale which allows implementation in the relevant industrial sector, under economically and technically viable conditions

Techniques: both the technology used and the way in which the installation is designed, built, maintained, operated, decommissioned

Integrated Permit

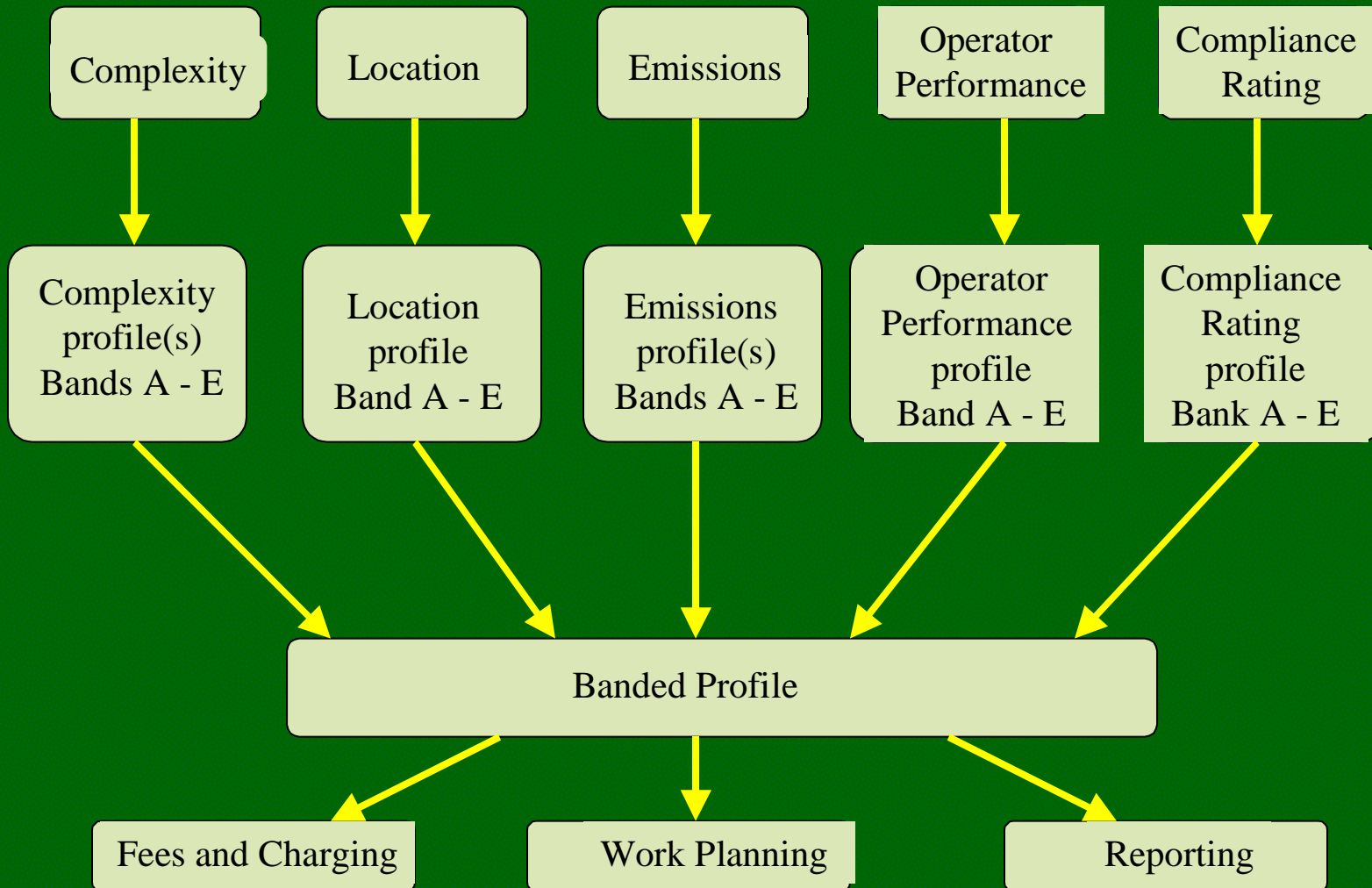
- **Looks different**
 - Entire pulp and paper mill permit - just 40 pages
 - Permit incorporates sections of the Permit Application with only a section and page # citation
- **Contents are different**
 - Operational and management conditions and controls
 - EMS
 - raw material use and flow
 - energy efficiency
 - noise, odor, vibration
 - Continuous improvement requirements

Targeted Approach

- UK integrated permitting system also based on hazard or risk^{*}
- Each IPPC facility required to complete an Operator and Pollution Risk Appraisal (OPRA)

** UK risk appraisal not equivalent to US health-based risk assessment*

EP OPRA



II. EPA's Integrated Permitting Initiative

- Builds on previous State/EPA innovative permitting -- NJ FWP and EPA flexible air permits
- In 2005 opportunity emerged for international collaboration between EPA, EU, UK EA, and States

Phase I (2005-2007)

Assess Potential for Transferability

- **National network of State/EPA practitioners and senior leadership**
- **EPA-led foundational research and analysis**
 - Detailed comparison of US and UK permit systems and permits
 - Identify possible transferability to US
- **Dialogue with internal and external partners**
- **Develop strategic recommendations**

Phase II (2007-2008)

Explore Opportunities for Pilot Testing

- **Identify potential applications for UK tools and approaches in the US**
- **Identify connections and partners**
 - States (delegated programs)
 - Leadership companies with multinational experience
 - Sectors (UK IPPC sectors and EPA Sector Strategies)
 - EMS, Permitting for Environmental Results, Lean Manufacturing, stewardship programs (State and EPA), grant programs

III. Preliminary Findings

Current Research Focus

- Legal and institutional framework and implementation
- Analysis of UK integrated permits in three sectors
- Comparison with permits for roughly similar facilities in the US

Sectors and UK Facilities

PULP & PAPER:
St. Regis Sudbrook Mill



**LARGE VOLUME
CHEMICAL
PRODUCTION:**
Wilton Nylon Works



**SPECIALITY BATCH
CHEMICAL PRODUCTION:**
Eastman Peboc



Permit Analysis Methodology

- Comprehensive review of a UK permit paper trail
- Line by line comparison of UK and US permits
- Cross-walk between conditions covered in both UK and US, and UK – only, US - only
- Requirements not addressed in permit and voluntary commitments

Questions we're asking

- How do the UK and US approaches to permitting differ?
- How does permit content vary?
- What is the relative stringency of the two systems?
- Does environmental performance differ?
- How flexible is each of the systems?
- What is the role of site-specific factors in each system?
- How does compliance and enforcement differ?

Sneak preview of what we're finding

- Important differences between *Sevilla* process and US standard-setting process
 - BREF's are result of EU-mediated negotiation between industry, Member States and NGOs
 - Industry economics influence BAT selection
- UK benchmarks (standards) apply only through a permit

Findings II

- UK requirements are more “negotiable” and flexible (within bounds)
 - Limits both above and below benchmarks
 - Site-specific considerations, both economic and environmental, figure in BAT determination

Findings III

- **BAT does not always result in a numeric limit**
- **Emphasis on management and operational techniques**
 - EMS implementation
 - Raw materials selection
 - Waste minimization
 - Pollution abatement
- **Management techniques backed by limits on significant emission points and by environmental quality standards**

Findings IV

- Numeric limits established in UK St. Regis permit (for SO₂, NO_x, CO, PM, VOC) seem stringent and comparable to US limits
- St. Regis permit appears to only address dioxin among air toxics
- Portions of Permit Application cited/incorporated into Permit
 - Management techniques and controls, the EMS
 - Use of raw materials (water use, efficiency and benchmarks)
 - Abatement and controls for major activities

Stay tuned, more to come

- **Additional analysis and findings**
- **Two additional sectors**
 - large volume organic chemical production
 - specialty batch chemical production
- **Opportunities for integrated approaches in the US**
- **Dialogue and recommendations**

For more information

EPA

Innovative Environmental Permitting

www.epa.gov/permits/integrated

UK

Environment Agency

www.environment-agency.gov.uk

OPRA

<http://www.environment-agency.gov.uk/maps/info/epopra/>

EU

<http://ec.europa.eu/environment/ippc/index.htm>

<http://eippcb.jrc.es/>

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