

STATE-OF-THE-ART ON WORK ON CONTAMINATED LAND IN IRELAND



**Ad-Hoc International Working Group on
Contaminated Land**

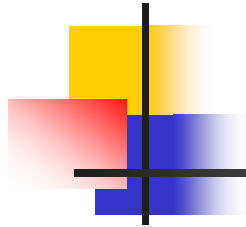
Paris

September 29th 2005

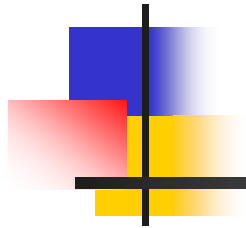
Brendan O'Neill,
Senior Adviser,

Department of Environment, Heritage and Local Government

STRUCTURE OF PRESENTATION



- **Background Context on Waste Management,**
- **Work Undertaken on Contaminated Land,**
- **Allocation of Resources: Contaminated Sites, Budgets and Staff, and**
- **Publications Relevant to Ireland.**



Background Context on Waste Management



TRADITIONAL WASTE MANAGEMENT IN IRELAND

1995

- Few Regulatory Controls
- Little Strategic Planning
- Poor Design and Operational Standards for Facilities
- 92.2% MSW to Landfill
- Low Technology to Conserve Costs
- Minimal Expenditure



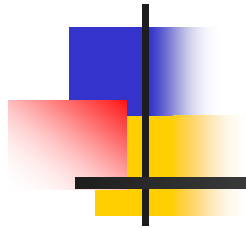
CURRENT WASTE MANAGEMENT IN IRELAND

- **Stringent Waste Management Enforcement Regimes by Environmental Authorities**
- **Comprehensive Strategic Waste Management Planning Process**
- **High Quality Waste Treatment, Recovery and Disposal Facilities Available**
- **71.3% MSW to Landfill (2003)**
- **Hugely Increased Waste Management Costs**



TRADITIONAL APPROACH TO CONTAMINATED LAND

- **Late Arrival to Industrial Age**
- **Contaminated Land Sites due to Improper Handling/ Spillages/ Leaks**
 - **Old Gaswork Sites**
 - **Old Waste Disposal Sites**
 - **Old Mining Sites**
 - **Leaking Underground Storage Tanks**
- **Contaminated Land Remediation not a Major Waste Management Priority**



Work Undertaken on Contaminated Land



CONTAMINATED LAND IN IRELAND (1)

Traditionally

- **Plenty of Greenfield Sites Available**
- **Low Cost of Land**
- **Contaminated Land Remediation for Infrastructural Developments**
 - *Removal of Contamination,*
 - *Isolation of Contamination,*
 - *Interruption of Migratory Pathways, and*
 - *In-Situ Treatment of Contamination (under Waste Licence).*



CONTAMINATED LAND IN IRELAND (2)

Currently

- **Huge Rise in Property Prices over Past 10 Years (c. X 5)**
- **Higher Plot Ratios being Approved in Planning Developments**
- **Becoming Economically Viable to Remediate Some Sites**
- **Remediation Carried Out under Waste Licence**



CURRENT TRENDS IN CONTAMINATED LAND

- **Focus of Waste Management Shifting towards Contaminated Land**
- **Section 60 Ministerial Direction for Municipal Waste Management Plans**
 - **Prepare Inventory of Sites where Waste-Related Activities Carried on**
 - **Undertake a Risk Assessment**
 - **Implement Necessary Measures to Prevent or Limit Environmental Pollution**
- **Essential Requirement - Identify Sites with Genuine Environmental Pollution Potential**



NHWMP Proposed Risk Assessment Procedures (1)

STEP 1

- **Conduct Desk-Top Studies into Potential Disposal Sites based on Contaminative Uses**
 - **Current/ Old Trade Directories**
 - **EWC as a Check on Scope of Activities**
 - **Former Waste Disposal Sites**
- **Draw Up Schedule of Sites Identified as Possible Hazardous Waste Producers and Possible Disposal Locations**



NHWMP Proposed Risk Assessment Procedures (2)

STEP 2

- **Evaluate Historical Land-Use Data on Identified Sites**
 - **Particulars of Identified Industrial Activity**
 - **Research into Municipal Plans and Reports**
 - **Interviews with Officials in Municipality**
 - **Interviews with Outdoor Staff in Municipality**
 - **Review of “Incident” Files**



NHWMP Proposed Risk Assessment Procedures (3)

STEP 3

- **Identify Sites from Steps 1/2 which were Most Likely Used for Hazardous Waste Disposal**
 - **Examination of Ordnance Survey and Geological Maps**
 - **Examination of Consignment Notes**
 - **Records of Disposal off-Site**
 - **Redeveloped Sites – Examine Planning Records on Site Development**
 - **IPC Sites – Records of Historic Waste Disposal?**



NHWMP Proposed Risk Assessment Procedures (4)

STEP 4

- **Preparation of Section 26 Register**
 - **Sites Known or Suspected of Having being Used for Disposal of Hazardous Waste**
 - **Many Sites Included on the Basis of Activity which was Carried Out i.e. SUSPICION**
 - **Preferable that Steps 5 and 6 Completed before Register Formalised**
 - **Should be Procedure for Removal of Site from Register following Completion of Investigations**



NHWMP Proposed Risk Assessment Procedures (5)

STEP 5

- **Preliminary Risk Assessment**
- **Desk Study on Information Assembled**
- **Prioritise Site Categories**
- **Category A Sites: High Priority**
 - **A1: Known Hazardous Waste Disposal**
 - **A2: Suspected Hazardous Waste Disposal & Strong Evidence of Env'mental Pollution**



NHWMP Proposed Risk Assessment Procedures (6)

STEP 5

- **Category B Sites: Medium Priority**
 - **B1: Suspected Hazardous Waste Disposal & Some Evidence of Env'mental Pollution**
 - **B2: Limited Information of Hazardous Waste Disposal & Considered Suspect**
- **Category C Sites: Low Priority**
 - **C1: Known Hazardous Waste Disposal but Unlikely to Contain Significant Deposits**
 - **C2: Known Hazardous Waste Disposal but No Significant Evidence of Env'mental Pollution**



NHWMP Proposed Risk Assessment Procedures (7)

STEP 6

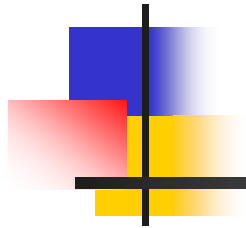
- **Intermediate Risk Assessment**
 - **Literature Review of Site-Specific Information**
 - **Visual Site Inspection**
 - **Review of Monitoring Results on Surface Water and Groundwater from Adjacent Sites**
 - **Review of Water Pollution Control Records from Adjacent Locations**
 - **Overview of Geological/ Hydrogeological Characteristics of Site**
- **Prioritises Sites for Detailed Risk Assessment**



NHWMP Proposed Risk Assessment Procedures (8)

STEP 7

- **Detailed Risk Assessment of Category A Sites**
 - **Intrusive Site Investigations**
 - **Environmental Monitoring**
 - **Verify Presence or Absence of Contaminants**
 - **Generate Information to Identify an Appropriate Remediation Strategy**



**ALLOCATION OF
RESOURCES:
CONTAMINATED SITES,
BUDGETS AND STAFF**



TOTAL NUMBER OF CONTAMINATED SITES

- **No Specific National Survey**
- **Estimated c. 2,000 Contaminated Sites (p. 78, NHWMP)**
- **c. 487 Sites Estimated to be Contaminated due to Hazardous and non-Hazardous Waste Disposal Activities (p. 78, NHWMP)**



BUDGET

- **No Dedicated Budget**
- **€10.6 Million Allocated by Government for Rehabilitation of Former Mine Site at Silvermines**
- **Further Serious Decisions Need to be Made in Near Future!**



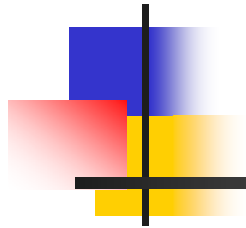
Staff Resources (1)

- **No Established “Contaminated Land” Officials**
- **Officials Involved as Need Arises**
 - **Redevelopment Applications**
 - **“Pollution Incidents”**
 - **Illegal/ Enforcement Activities**
 - **Development of Risk Assessment Methodology**
 - **EPA: c. 4-5 Person Years/annum**
 - **Local Authorities: c. 10 Person Years/annum**
 - **Ministry: c. 1 Person Year/ annum**



Staff Resources (2)

- **New Momentum Gathering on Contaminated Land**
 - **Inventory of Sites,**
 - **Risk Assessment,**
 - **Remediation Programme.**
- **Involvement of Officials to Increase**
 - **EPA: c. 10 Person Years/annum?**
 - **Local Authorities: c. 35 Person Years/annum?**
 - **Ministry: c. 3-5 Person Years/ annum?**



PUBLICATIONS RELEVANT TO IRELAND



PUBLICATIONS RELEVANT TO IRELAND (1)

- *National Hazardous Waste Management Plan*, Wexford: EPA, 2001
- *Risk Assessment for Contaminated Sites in Europe, Volume 2: Chapter 9 – Ireland* from Caracus Programme, ed. Colin Ferguson and Harald Kasamas, Nottingham: LQM Press, 1999.



PUBLICATIONS RELEVANT TO IRELAND (2)

- *Methodology for Assessment of Hazardous Waste Disposal Sites* from ERTDI Programme, Wexford: EPA, 2003
- *Section 60 Ministerial Direction*, Dublin: DoEHLG, 3rd May 2005.
- EPA Best Practice Manuals for Landfill
 - Landfill Site Design Manual,
 - Landfill Restoration and Aftercare Manual,
 - Investigations for Landfill Manual,
 - Landfill Monitoring Manual.

brendan_o'neill@environ.ie



www.environ.ie

THANK
YOU