

ENVIRONMENTAL RISK MANAGEMENT (ERM)

PROCEDURE MANUAL

A joint initiative of:

Credit Risk Management Legal Services

April 6, 2006

TABLE OF CONTENTS

1.0	PURPOSE	Pag1	
2.0	GENERAL INTERNAL ASSESSMENT	1	
3.0	ENVIRONMENTAL DUE DILIGENCE	1	
0.0	3.1 Review of Available Reports/Information		
	3.2 Declarations on the Application for Financing (F4025)		
	3.3 Applicant's Declarations on the Environment (F4089)		
	3.3.1 When is a F4089 required?		
	3.4 Site Inspection		
	3.4.1 Identifying Environmental Risks		
	3.5 Potential Risk Occupants	4	
	3.6 Neighbouring Operations	4	
	3.7 Known Contamination		
	3.8 Regulatory / Legal Compliance Issues	5	
	3.9 Realty Securing Loans3.10 Internal Assessment of the Project's Environmental Effects	6	
4.0	EXTERNAL ASSESSMENT TOOLS USED BY BDC		
	4.1 Phase I – Environmental Site Assessment	6	
	4.2 Phase II – Environmental Site Assessment	7	
	4.3 Compliance Audit		
	4.4 Assessment of the Buildings, Installations, Equipment and Ha.	zardous Materials8	
5.0			
	5.1 Loan Application		
	5.2 Loan Disbursement		
	5.3 Loan Administration	10	
6.0	RECORDING THE ENVIRONMENTAL RISK ASSESSMENT	11	
7.0	LETTER OF OFFER OF CREDIT	14	
8.0	FINANCING BUSINESSES WITH ENVIRONMENTAL PROBLEMS	15	
9.0	EXCEPTIONS	17	
	pendices		
		Calle and Crayedyyatar	
	Part II: List of Industrial and Commercial Activities Likely to Contaminate		
	Part II: List of Assets/Installations Likely to Contaminate Soils and Grou Part III: List of Projects Likely to Cause Significant Adverse Environment		
	Fait III. List of Frojects Likely to Cause Significant Auverse Environmen	ilai Liicus	

1.0 PURPOSE

This manual provides the procedures to implement BDC's Policy on the Environment applicable to the Credit Risk Management (CRM) function and Financial Services.

2.0 GENERAL INTERNAL ASSESSMENT

The General Internal Assessment (GIA) is undertaken internally by BDC personnel based on available information obtained at various stages of the Loan Application Process and thereafter during account administration.

Following is a list of documents or actions that will assist BDC in determining if more in-depth probing of environmental concerns is warranted:

- Interviews with the owners and senior employees of the business, as appropriate.
- Performance of the environmental due diligence described in paragraph 3.0 and its subsections.
- Review the list of industrial and commercial activities, assets, installations and projects likely to cause environmental
 contamination in Appendix B if management practices are deficient
- Review the scope of BDC's Policy on the Environment.
- Complementary Procedure Manual Assessment of the Environmental Effects of the Project.
- Available media coverage through the internet or other means of communication.
- Contacts with Departments/Ministries of Environment, environmental specialists and relevant regulatory authorities, when possible.

BDC's General Internal Assessment covers the existing environmental status of a business' assets and activities and the project's environmental effects. The present manual focuses primarily on the existing environmental status while the Complementary Procedure Manual deals with assessing the future environmental effects of a project.

3.0 ENVIRONMENTAL DUE DILIGENCE

Environmental due diligence is a key component of BDC's overall Credit Risk Management (CRM) procedures, which are described in the following paragraphs.

3.1 Review of Available Reports/Information

It is important to analyze information on hand (e.g. business plans, project plans and impact studies, property appraisals, existing Phase I or II reports, compliance audits, survey plans, etc.) submitted by the applicant or obtained from other sources to detect possible concerns. A review of existing correspondence dealing with environmental issues between the borrower and any government agency overseeing environmental matters, if available, must be completed. A review of readily available information must be performed prior to requesting new environmental reports from external consultants.

3.2 Declarations on the Application for Financing (F4025)

BDC's environment policy requirements are highlighted on the Application for Financing (F4025). The applicant and other required signatories must declare on this form whether or not: the business and/or related entities are operating in conformity with all environmental regulations and laws, and the project and proposed activities conform to all environmental legislation; the assets of the business have been used in violation of existing environmental laws; proceedings have been commenced or notice(s) received concerning any alleged violation of environmental laws; or a waiver has been given to prior owners of the applicant's assets concerning compliance and/or violation of environmental laws.

3.3 Applicant's Declarations on the Environment (F4089)

The applicant records his declarations in Part I of this questionnaire as regards the location and history of the site, his environmental risk management practices, current activities, events or situations that may justify additional assessment by an environmental consultant; Part II of the said form, records his declarations on the effects of the project and the proposed activities in the environment.

BDC personnel must review the applicant's declarations on the F4089, when the form is required, to determine if additional studies (satisfactory third party environmental report such as a Phase I with or without a Compliance Audit and/or a Phase II) prepared by a consultant mandated by BDC are required.

3.3.1 When is a F4089 Required?

The applicant is required to complete, as a minimal requirement, a F4089 for each site or project that falls under the scope of BDC's Policy on the Environment unless one of the following exceptions applies.

A F4089 is not required in the following instances:

- a) The applicant is [or will be] conducting business in leased premises (e.g. office building, mall) where there is clearly no process or activity or project or assets that could pose any threat to the environment;
- b) Situations where BDC has requested and obtained a recent (2 years or less) and satisfactory Phase I report with or without a Compliance Audit and/or a Phase II report, prepared by an environmental consultant mandated by BDC or where BDC has accepted reports prepared by consultants not mandated by BDC or the project financed by BDC is listed under paragraph 2.1 of the Complementary Procedure Manual Assessment of the Environmental Effects of the Project. (N.B. If the project is listed under paragraph 3.1 of the said manual, the applicant must complete Part III of form F4089.)
- c) Situations where BDC has on hand a recent (2 years or less) External Screening Report which is still pertinent to the project under consideration and the environmental site assessments mentioned under b) above. Refer to the Complementary Procedure Manual – Assessment of the Environmental Effects of a Project.

3.4 Site Inspection

The site inspection performed in the Loan Application Process and Loan Administration Process is a fundamental part of the risk assessment and an integral part of BDC's environmental due diligence. The site inspection by BDC is mandatory even if a Phase I or any other environmental assessment report is readily available.

The site inspection enables BDC personnel to gather information at the source on the company's activities, the risk of any adverse environmental effects of the project and any mitigation measure, if required, including any related to project accidents or malfunctions, the relationship of the executives to the employees and to the principal activity, the use of a Management Information System, and in general, the internal administration and the measures taken to facilitate the smooth operation of the business.

The BDC person who conducted the site inspection will complete and sign a form entitled <u>Site Inspection Report – Due Diligence Confirmation</u>. Environmental concerns must be recorded in the Site Inspection Report and in the Credit Analysis Report. CRM may accept a site inspection performed by an external consultant or other professional in exceptional cases where the business or its assets are located outside the country or in Far North locations such as the Northwest Territories.

3.4.1 Identifying Environmental Risks

If the person who meets the BDC representative is different from the one who completed the F4089, the first step is to review with that person the business' existing and proposed activities and projects. Once the BDC representative has a clear understanding of them, he determines the important sectors to be visited. Depending on the size of the premises and the nature of the activities and the project, it may be necessary to take a representative sample of various activities. In general, the inspection encompasses loading, unloading and storage areas, production facilities, utility areas (heating and electrical systems, plumbing), waste treatment and disposal facilities, and the grounds (with a walk around the perimeter of the site). A site plan and aerial photographs (recent and old) would be useful. Finally, an inspection of the adjacent lots may prove relevant if their activities represent a high risk or a source of environmental concern or to help consider the cumulative effects of the project.

Signs of water pollution (some examples):

- wastewater treatment plant on site
- basins or ponds in which the water has coloured glints
- pipelines, building drains or sewers
- coloured or dubious-looking effluents

Signs of chemical spills (some examples):

- · visible stains or discoloration on the ground
- dead or dying vegetation

Status of materials and supplies (some examples):

- barrels or storage containers
- landfill sites, dumpsites or junkyards
- atypical mounds, piles, pits or gullies
- underground or aboveground storage tanks
- pipelines or capped wells

- wells, ditches or basins
- incinerators
- urea formaldehyde foam insulation
- transformers
- hydraulic equipment

Hazardous materials (some examples):

- acids
- acrylonitrile
- arsenic
- asbestos
- asphalt products
- benzene
- cadmium
- chemicals
- chromium
- dioxins, furan
- detergents
- ethylene oxide

- explosives
- fertilizers
- fungicides
- isocyanates
- lead
- lubricants
- medical waste
- mercury
- nickel
- paint
- pesticides
- petroleum products

- photographic products
- polychlorinated biphenyls (PCBs)
- preservatives
- radioactive materials
- resins
- silica
- styrene
- soaps
- solvents
- vinyl chloride
- waste oils

Signs of air emissions (some examples):

- distinctive chemical odours
- visible smoke or vapour emanations
- odourless or colourless emissions (e.g. carbon monoxide, radon)

Check whether the business is located in or next to a sensitive area, such as:

- federal or provincial parks or conservation areas
- lakes, rivers or streams (within 30 meters)
- mountains or escarpments
- ports
- habitats of species at risk (animal, plant or other organisms) or migratory species
- special groundwater districts
- field wells
- private or municipal water intake
- wetlands (marshes, swamps, bogs)
- land set aside for the use and benefit of aboriginals (e.g. reserves)
- structure or a site or thing of historical, archaeological, paleontological or architectural significance

3.5 Potential Risk Occupants

It is critical to understand the previous and current usage of the site; it is not uncommon for significant environmental liabilities and environmental effects to be associated with past as well as current activities and events. An environmental unknown is created when a chain of title report is not available and the current owner cannot trace the site usage back to raw land status. An obvious risk exists when potential or higher risk operations (particularly if they lasted for many years) are known to have occurred on the site and there is no recent satisfactory engineering report documenting the absence of environmental problems.

3.6 Neighbouring Operations

The nature of neighbouring operations (past and present) may have a direct environmental impact on the site since contaminants/pollutants could migrate onto the borrower's property through the soil and into the groundwater. Without adequate containment, the material could run off with storm water. The risk is heightened if such operations are related to the petrochemical, chemical, wood treatment and preservation, automotive, paint, electrical utility, landfill/waste sites and other high environmental risk industries. At the same time, the potential environmental effects of the project on adjacent properties are to be considered.

3.7 Known Contamination

Sites with known contamination problems must be adequately characterized and addressed on a case-by-case basis. It is important to confirm if any known contamination was remedied (as confirmed by external environmental consultants), if the root cause of the problem was addressed and whether any liability remains.

3.8 Regulatory / Legal Compliance Issues

The existence of control orders, stop orders, non-compliance situations, fines, lawsuits, etc., are clear indicators of specific environmental problems. It is important to understand the nature/extent, source and current status of each problem. If the problem has not been fixed, or if there is a continuing liability, or if the potential for recurrence is high, there could be consequences for the customer and BDC.

3.9 Realty Securing Loans

BDC generally requires satisfactory external environmental reports based on its GIA procedure to confirm the environmental condition of the property when real estate is pledged as security for a loan.

3.10 Internal Assessment of the Project's Environmental Effects

BDC's ERM due diligence extends to the potential effects of the project on the environment. Refer to the Complementary Procedure Manual – Assessment of the Environmental Effects of a Project.

4.0 EXTERNAL ASSESSMENT TOOLS USED BY BDC

To identify environmental risk and monitor it over a period of time, BDC relies on proven industry procedures, offered by external consultants, which are described in the following paragraphs.

4.1 Phase I - Environmental Site Assessment

A Phase I – Environmental Site Assessment (known as a Phase I) means a study on environmental practices which identifies potential environmental problems that require additional analysis and remedial measures. The assessment procedure must comply with CSA (Canadian Standards Association) standard Z768-01, including any modifications or replacements to it currently in effect.

4.2 Phase II – Environmental Site Assessment

A Phase II – Environmental Site Assessment (known as a Phase II) means a study that determines if the soil, water (surface and ground water) or sediments on the site are contaminated, and if there is any solid or hazardous waste/material on the site. BDC uses the site characterization report to further assess the environmental risks and impact. The assessment procedure must comply with CSA standard Z769-00, including any modifications or replacements to it currently in effect.

4.3 Compliance Audit

A Compliance Audit means an audit undertaken by an external environmental consultant to document, obtain and evaluate verifiable information, records or statements of fact and determine whether specified environmental activities events, conditions or information about these matters conform with all environmental laws and regulations. It is different from a Phase I and can be performed concurrently with the Phase I or as a stand-alone assessment.

4.4 Assessment of the Buildings, Installations, Equipment and Hazardous Materials

A quantitative assessment of the status of hazardous materials (solids or liquids) found on the property (e.g., acids, asbestos for buildings built before 1970, urea formaldehyde foam insulation, PCBs, lead and other regulated substances) determines if their presence and handling comply with applicable environmental standards. The hazardous materials may be found on the site, in the building and/or in the machinery and equipment, including ancillary piping and holding tanks. The consultant must analyze, classify and inventory the hazardous materials and estimate the clean-up, decontamination and disposal costs related to the presence of chemicals on the site (land, building and equipment) if required by legislation and regulations.

5.0 PROCESSES

5.1 Loan Application

The assessment of environmental risk and the potential effects of the project on the environment must begin in the early stages of BDC's interaction with prospective applicants. The presence of environmental irregularities will influence the loan terms and conditions and even the possibility of obtaining assistance.

The authorizing level provides the final validation of adherence to environmental compliance procedures in the Loan Application Process. Concerns over potential environmental issues that were not apparent in the early stages of our relationship with the applicant can also be addressed at the final stage of the process.

5.2 Loan Disbursement

The final due diligence step occurs during the Loan Disbursement Process. BDC could withhold disbursement or cancel the loan due to an increase in the level of environmental risk. Denial of funding can occur when the applicant cannot satisfy specific conditions prior to the loan disbursement, which consist of:

- The submission of external reports covering existing activities and sites, which must be entirely satisfactory to BDC; and /or
- The submission of external reports covering the proposed project's environmental effects and plans to mitigate those effects, including any resulting form malfunctions and accidents, which must be entirely satisfactory to BDC.

5.3 Loan Administration

During the life of the loan, BDC must ensure that the borrower respects all the loan conditions outlined in the Letter of Offer of Credit, including those specifically related to the environment. BDC's legal documents executed by the borrower provide BDC with the empowerment to obtain information from the appropriate external sources to monitor compliance with these specific environmental conditions. Breaches of loan conditions can be considered an act of default that could lead to reduction in the level of financial support and in some cases to the maturing of the loan.

It is BDC's policy to monitor accounts for environmental risk. Following disbursement, the borrower may change the nature of his operations or the condition of adjoining properties may deteriorate, thus increasing environmental risk for the borrower and BDC. BDC may obtain a Compliance Audit, as required, to verify compliance.

6.0 RECORDING THE ENVIRONMENTAL RISK

BDC captures in its central databases an applicant's existing environmental risk status on operations, processes and realty when a new loan is authorized and, updates it thereafter, until all advances have been repaid in full. BDC tracks three broad groups of environmental risk, namely no risk, potential and confirmed risk. BDC's decision on the potential effects of a project on the environment is also recorded in its central database. Refer to the ERM Complementary Manual – Assessment of the Environmental Effects of a Project for details.

April 6, 2006

7.0 LETTER OF OFFER OF CREDIT

BDC's standard Letter of Offer of Credit contains representations and warranties by the borrower regarding current and future operations and projects of the business and the environment. It also contains an agreement whereby the borrower agrees to pay the costs of an environmental consultant engaged by BDC for any inspection, investigation or environmental audit of the secured assets during the life of the loan or in the event of liquidation, and the cost of any environmental rehabilitation, removal, or repair necessary to protect, preserve or remedy the secured assets, including any fine or penalty BDC is obliged to incur by reason of any statute, order or direction by a competent authority.

8.0 FINANCING BUSINESSES WITH ENVIRONMENTAL PROBLEMS

As a matter of principle, BDC does not extend financial assistance to prospective borrowers or additional assistance to existing borrowers with confirmed existing environmental problems or to those who promote projects that are likely to cause significant adverse environmental effects or raise public concerns that cannot be resolved or mitigated to BDC's entire satisfaction.

9.0 EXCEPTIONS

Exceptional circumstances related to the application of this manual must be referred to Credit Risk Management, Head Office.

Appendix A – Definitions

The following definitions provide general information to the reader who consults BDC's policy and procedures on environmental risk management and external reports prepared by environmental consultants. Refer to the Complementary Procedure Manual – Assessment of the Environmental Effects of a Project for more definitions.

"Applicant" means all the entities in an economic unit that are covered by the scope of BDC's Policy on the Environment.

"Closely related businesses" means all the businesses in an economic group that are intricately related to one another on the basis of their ownership, and/or operations, and/or legal obligations, and/or assets pledged as security.

"Contamination" means soil, groundwater, surface water, air, waste or sediments that contain polluting substances in amounts, concentrations, or levels which exceed "Canadian Environmental Quality Criteria for Contaminated Sites" as published by the Canadian Council of Ministers of the Environment ("CCME" Report EPC-CS34, September 1991, or future revisions thereof) or in accordance with provincial, territorial and municipal environmental standards and/or criteria, whichever are more restrictive.

A contaminant is any chemical substance whose concentration exceeds a level naturally occurring in the environment, and which:

- impairs the quality of the natural environment;
- injures or damages property, plant life or animal life;
- harms or causes material discomfort to humans;
- renders any property or plant or animal life unfit for use by humans;
- results in loss of enjoyment or normal use of property; and
- interferes with normal business operations and/or results in other adverse effects.

"Environmental legislation and regulations" means any federal, provincial or local statute, code, ordinance, rule, regulation, permit, consent, approval, license, judgment, order, writ, decree, injunction or other authorization, and any requirement to register underground storage tanks, relating to emissions, discharges, releases or threatened releases of pollutants, contaminants, or hazardous or toxic materials or wastes into ambient air, surface water, groundwater, publicly owned treatment works, septic systems or land, or otherwise relating to the pollution or protection of health or the environment.

"Environment" means land, water, air, all layers of the atmosphere, organic and inorganic matter, living organisms and interacting natural systems.

"Environmental problem" means an act of non-compliance to a law, regulation, etc. or soil and/or underground water that contains one or many pollutants (contaminants) in levels of concentration that exceed parameters or norms applicable for the present use and intended use of the land.

"Hazardous materials" means any substance, material or waste which is regulated by any federal, provincial, territorial or local government or quasi-government authority, and includes, without limitation, a) any substance, material or waste defined, used or listed as a "hazardous waste", "extremely hazardous waste", "restricted hazardous waste", "hazardous substance", "hazardous material", "toxic substance" or other similar terms as defined or used in any environmental law, b) any petroleum products, asbestos, polychlorinated biphenyls (PCBs), flammable explosives or radioactive materials, or c) any additional substances or material which are now or hereafter deemed hazardous or toxic substances under any environmental law.

Appendix B

Part I – List of Industrial and Commercial Activities Likely to Contaminate Soils and Groundwater

Activities and projects undertaken by the following industries have the potential to cause significant adverse environmental effects. Some activities likely to contaminate soils and groundwater extend beyond the production of residual by-products to include the use, storage and handling of raw materials.

Chemical industries

Inorganic chemicals for industrial use Organic chemicals for industrial use Other chemicals for agricultural use Synthetic plastics and resins

Paints and varnishes

Printing inks

Adhesives

Explosives and munitions

Other chemical products industries

Electrical and electronic products (manufacturing) industries

Electrical transformers industries

Electrical switching and protection material industries

Other industrial use electrical material industries

Electrical wires and cables industries

Storage batteries

Leather and related products industries

Tanneries

Metal products (except transport machinery and material) (manufacturing) industries

Sheet metal products industries

Metal doors and windows industries

Other ornamental and architectural metal products industries

Coating-to-order metal products

Metal containers and fasteners industries

Metal wires and cables industries

Other metal wire products industries (welding electrodes)

Machine shops

Metal valves industries

Other metal products industries

Mines

Gold mines Asbestos mines Zink mines
Copper mines Iron mines Other metals

Miscellaneous wholesale products businesses

Automobile recovery and disassembly

Wholesale scrap metal business

Other wholesale waste and recovery materials businesses

Wholesale (agricultural) chemicals and other agricultural supplies businesses

Wholesale household and industrial chemicals businesses

Appendix B (continued)

Part I (continued)

Other public services

Electricity production and distribution (transformer stations only)

Other public services (operation of dumps, incinerators, used snow dumps)

Paper and paper products industries

Pulp and paper industries

Newsprint industries

Cardboard industries

Panels and construction papers industries

Other paper industries

Asphalt covered paper industries

Petroleum and coal products industries

Refined petroleum products (except oils and greases)

Lubricating oils and greases

Other petroleum and coal products industries (except manufacturers of bituminous concrete)

Petroleum and natural gas extraction

Pipeline transport of petroleum and other products (except natural gas)

Plastic products industries

Foam and blown plastic products industries

Plastic hose and piping connections industries

Plastic film and sheet industries

Pressure-stratified or reinforced plastic products industries

Plastic architectural products industries

Plastic (except foam) containers industries

Plastic bags industries

Other plastic products industries

Primary metals transformation industries

Iron alloys industries

Steel foundries

Other iron and steel industries

Steel tubes and pipes industries

Iron foundries

Primary fusion aluminium production

Other non-ferrous metals casting and refining industries

Aluminum laminating

Aluminum moulding and extrusion

Lamination, moulding and extrusion of copper and its alloys

Other non-ferrous metals lamination, moulding and extrusion industries

Appendix B (continued)

Part I (continued)

Retail motor vehicles, parts and accessories businesses, petroleum products

Service stations and garages Retail petroleum products Vehicle and heavy equipment repair shops

Rubber products industries

Tires and tubes industries Rubber hoses and belts industries Other rubber products industries

Textile products industries

Felt and natural fibres treatment industries Rugs, mats and carpets industries Dyeing and finishing industries

Transport (air, water, rail) (of passengers and merchandise), excluding trucking, public transport and taxis

Airport operation and maintenance
Aircraft maintenance
Services relating to rail transport (stations, terminus, car cleaning)
Cargo handling in ports
Other services relating to water transport (locks, lights, docks, marinas)

Transport material (manufacturing) industries

Aircraft and aircraft parts industries Motor vehicles industries Railway rolling-stock industries Ship construction and repair industries

Wholesale and distribution of petroleum products businesses

Wood industries

Sawmill and planing plant products industries Sheet and resin plywood Wood treatment Chipboard panelling industries

Appendix B (continued)

Part II – <u>List of Assets/Installations</u> Likely to Contaminate Soils and Groundwater

Businesses with activities that are not listed in Part I of this Appendix may nonetheless own assets that are likely to contaminate soils and groundwater. Projects involving the following installations have the potential to cause significant adverse environmental effects.

A list of the assets, without being limited to the following, includes:

- Underground storage tanks (UST) for petroleum products (e.g., gasoline, heating oil and used oil) and chemical products including piping and pumping systems.
- Aboveground storage tanks (AST) for petroleum products and chemical products including piping and pumping systems. Excludes small tanks for heating oil, waste oil, and fuel for emergency equipment (e.g., generator).
- Owners of commercial/industrial condominium units when the land on which the condominium building is erected was occupied by a previous tenant engaged in potential/high risk activities.
- Electrical installations with PCBs.
- Waste water disposal systems (e.g., septic fields and septic tanks).

Part III - List of Projects Likely to Cause Significant Adverse Environmental Effects

The following projects are very likely to cause significant adverse environmental effects and create concerns with the general public unless mitigation measures are set up during the construction stage of the project and thereafter for the operation of the facility.

- Projects to be undertaken in or on national parks and protected areas (park reserve, historic canal or site, wildlife area, bird sanctuary)
- Projects involving electrical generating stations (fossil fuels and hydroelectric) and transmission lines
- Water projects (dams, dykes, reservoir, water diversion, extraction of groundwater)
- Oil and gas projects (refining, pipeline, storage, offshore drilling)
- Projects involving the processing of minerals (includes metal mills, quarries, gravel pits)
- Projects involving large industrial facilities (pulp and paper mills, primary steel, production of non-ferrous metals by pyrometallurgy or electrometallurgy smelter, manufacturing of chemicals and pharmaceutical products, pressure-treated wood products, plywood or particle board plants, tanneries, primary textiles, natural mineral fibres, chemical explosives, lead-acid batteries)
- Transportation projects (canals, locks, railway line, airport and runways)
- Projects involving the treatment, incineration, disposal or recycling of hazardous waste
- Projects releasing polluting substances as confirmed by external reports
- Projects that involve trans-boundary activities (inter-provincial, international) such as transportation or shipping of hazardous materials or the emission of industrial pollutants