INTEGRATED ENVIRONMENTAL PERMITTING GUIDELINES FOR EECCA COUNTRIES

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EAP Task Force -- the Task Force for the Implementation of the Environmental Action Programme for Central and Eastern Europe -- was established in 1993 at the Ministerial Environment for Europe Conference in Lucerne, Switzerland. The Task Force Secretariat was established at the OECD as a structural part of the Centre for Cooperation with Non-Members. Since its creation, the EAP Task Force has proven to be a flexible and practical tool for providing support to political and institutional reforms in the countries of the region. After the Aarhus Ministerial Conference, the Task Force's efforts were re-focused on the countries of Eastern Europe, Caucasus and Central Asia (EECCA). More detailed information about the EAP Task Force activities can be found on the Task Force's website at: www.oecd.org/env/eap

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РУКОВОДСТВО ПО СИСТЕМЕ КОМПЛЕКСНЫХ ПРИРОДООХРАННЫХ РАЗРЕШЕНИЙ ДЛЯ СТРАН ВОСТОЧНОЙ ЕВРОПЫ, КАВКАЗА И ЦЕНТРАЛЬНОЙ АЗИИ (ВЕКЦА)

FOREWORD

Environmental permitting is a key instrument for regulating a wide spectrum of industry's environmental impacts and promoting technological innovation. Since the early 1970s, most OECD countries have introduced integrated permitting systems in order to protect the environment as a whole using best available industrial production methods.

Many countries of Eastern Europe, Caucasus, and Central Asia (EECCA) have expressed their desire to progressively move toward an integrated permitting system that would replace the current cumbersome and ineffective multitude of permits and licenses for air emissions, water abstraction, wastewater discharges, waste generation, storage and disposal, and other environmental impacts. Several EECCA countries plan to use the approach of the European Union's Integrated Pollution Prevention and Control (IPPC) Directive (96/61/EC) as the principal benchmark. However, each EECCA country will need to devise a permitting system that best suits its own legal and institutional arrangements, its own social, economic and environmental priorities.

The Integrated Environmental Permitting Guidelines for EECCA Countries aim to facilitate each country's reform efforts. They include strategic and procedural guidance for EECCA environmental authorities in designing an effective and transparent integrated permitting system for large industry while simplifying the permitting regime for smaller polluters. The Guidelines focus on the best practices in permitting that could become targets for relevant regulatory and institutional reforms in the EECCA region. This document builds on the "Review of Environmental Permitting Systems in Eastern Europe, Caucasus and Central Asia" (EAP Task Force, 2003) which describes in detail the existing permitting systems in the region.

The development and publication of the Guidelines represent a crucial part of the work programme of the EECCA regional Regulatory Environmental Programme Implementation Network (REPIN). The Guidelines were prepared by the network's Secretariat located in the Environment Directorate of the OECD in close collaboration with EECCA country experts. The work was carried out under the umbrella of the Task Force for the Implementation of Environmental Action Programme for Central and Eastern Europe (EAP Task Force) as part of the implementation of the EECCA Environmental Strategy.

The views expressed in this publication are those of the authors and do not necessarily reflect the positions of the OECD or its Member Countries.

TABLE OF CONTENTS

ACRONYMS

BAT	Best available techniques
BREF	BAT reference document
CEA	Competent environmental authority
DA	Designated administrator
GBRs	General Binding Rules
EECCA	Eastern Europe, Caucasus and Central Asia
EIA	Environmental impact assessment
ELV	Emission limit value
EMS	Environmental management system
EQO	Environmental quality objective
EQS	Environmental quality standard
EU	European Union
IEP	Integrated environmental permit
IPD	Integrated Permitting Department
IPPC	Integrated pollution prevention and control
IPWG	Integrated Permitting Working Group
OECD	Organisation for Economic Co-operation and Development
RO	Responsible official
SME	Small and medium-sized enterprise

Chapter I
Introduction and Summary of Main Elements

CHAPTER I

TABLE OF CONTENTS

1.1. PURPOSE AND STRUCTURE OF THE GUIDELINES

The purpose of these Integrated Environmental Permitting Guidelines for EECCA Countries is to provide EECCA environmental agencies and industry with a tool that would facilitate the transition to integrated permitting and help to improve the effectiveness and transparency of environmental regulation in the region.

The Guidelines describe the key elements of an effective environmental permitting system, including:

- An integrated environmental permitting procedure for a competent environmental authority (Chapter II);
- An integrated permit application form with instructions for industrial operators (Chapter III);
- An integrated environmental permit form with instructions for a competent environmental authority (Chapter IV);
- Guidance on the combined use of the environmental quality-based and technique-based approaches in setting emission limit values for large industrial installations (Chapter V);
- Guidance on the strategic approach to the gradual introduction of integrated permitting for large industry in EECCA countries (Chapter VI); and
- Guidance on environmental permitting for small and medium-sized enterprises (Chapter VII).

This chapter reviews the fundamentals of environmental permitting (Section 1.2) and introduces each of the above-listed main elements of the Guidelines.

1.2. FUNDAMENTALS OF ENVIRONMENTAL PERMITTING

1.2.1. Aims of Permitting

The overall goal of environmental permitting is for regulatory authorities to define (in a transparent, accountable manner) legally binding requirements for individual sources of significant environmental impact in order to protect human health and the environment. Typically, permits establish limits for pollutant emissions into air and water and for generation and management of waste, together with any other environmental conditions that are specific to an individual installation. If properly designed, permit conditions also provide incentives for the regulated community to protect the environment in an effective and cost-efficient way, and ensure that private and public interests are equally respected. In addition, they may provide reference levels to calculate environmental charges or taxes to be paid by industries.

The role of the permitting system and the functions required of it must be considered in the context of the overall environmental regulatory system. The overall system is generally seen as a cycle that starts with policy planning and the setting of environmental standards and objectives, together with establishment of legislation and regulations in order to give them legal effect. It is the legal framework that gives force to the interacting activities of permitting, compliance control and promotion, and enforcement. Assessment of the success of the system in achieving its objectives may then be fed back to the appropriate part of the system by way of a commitment to continuous improvement of the overall system. Therefore, permitting is only one, albeit key, element of the environmental regulatory system, and reaching environmental objectives requires attention to all elements and to the way they interact with each other (see Section 1.2.6).

1.2.2. Single-Medium Permitting

Single-medium permitting – the traditional regulatory approach – derives from the way that environmental regulation developed as specific environmental problems needed to be addressed. For example, legislation for protection of water resources was introduced and the necessary authorities created as the importance of clean water supply was recognised. Similarly, separate arrangements were developed for protecting air quality, for managing solid wastes and for dealing with other environmental issues. Over the years, the list of permits for operation of a single major installation may number dozens of documents, issued and controlled by a variety of separate authorities that do not necessarily operate in a coordinated or cooperative way.

In this form of control, the levels of pollutants in discharges from installations are normally set on the basis that the environmental medium (water, air or land) into which they discharge must be protected to a defined level, termed an Environmental Quality Standard (EQS). The EQS is a measure of the state of a specific environmental medium, in regard to a specific pollutant, and it represents an upper limit of acceptability based on the medium's carrying capacity. Its purpose is to protect human health or some element of the ecosystem, and it has been at the heart of single-medium permitting. This is essentially "end-of-pipe" regulation, and it has little to do with issues such as design and operation of the installation in order to minimise creation of waste, for example.

Under a single-medium permitting system, polluting substances may simply be transferred between different environmental media, and a solution to an air pollution problem (e.g., scrubbing of a gaseous emission) may create a water pollution or a soil contamination problem, and vice versa. Also, dilution and dispersion of releases to the environment in order to solve a local environmental quality problem may simply lead to environmental harm at greater distances. The consequent need to view the environment as a whole and to regulate it accordingly is what is now driving the evolution of an integrated approach to prevention and control of environmental pollution.

1.2.3. Integrated Permitting

Integrated permitting means that emissions to air, water (including discharges to sewer) and land, plus a range of other environmental effects must be considered together. It also means that regulators must set permit conditions so as to achieve a high level of protection for the environment as a whole. These conditions are commonly based on use of the concept of "Best Available Techniques" (BAT), which balances the benefits to the environment as a whole against the costs to the operator. By way of this concept, integrated permitting attempts to prevent waste generation and emissions and, where that is not feasible, to reduce them to acceptable levels.

In the European Union, integrated permitting is mandated by Directive 96/61/EC on Integrated Pollution Prevention and Control (IPPC). Its main features are as follows:

- Permitting of industrial installations on a case-by-case basis considering local conditions.
- An integrated approach to issuing permits: the procedure for granting permits should be fully coordinated where more than one competent authority is involved, in order to guarantee integrated consideration by all institutional stakeholders.
- Public participation and access to information: the public should be given an opportunity to comment on permit applications before the competent authority reaches its decision and have access to the permit-related information after the permit has been awarded.
- An integrated approach to protecting the environment as a whole, avoiding the inadvertent or unconsidered transfer of pollutants from one media to another.
- The use of Best Available Techniques (see Box 1.1) which, among other things, take into account the consumption of water and other raw materials and the efficient use of energy.
- The focus on pollution prevention and reduction rather than end-of-pipe control.
- Accident prevention and minimisation of the consequences of accidents.
- The return of the site to a satisfactory condition when the installation is closed.

Box 1.1. BAT Definition in the EU IPPC Directive

- "Technique" means both the technology and the way the installation is designed, built, maintained, operated and decommissioned.
- "Available" means techniques developed on a scale which allows them to be used in the relevant industrial sector, under economically and technically viable conditions, taking into account the costs and advantages, and which are reasonably accessible to the operator.
- "Best" means most effective techniques for achieving a high level of protection of the environment as a whole.

The BAT concept suggests that the environment is a disposal route of last resort, to be used only to the extent that it is not practically and economically feasible to do anything else. There is sufficient flexibility in the BAT definition to recognize the importance of economic and technical viability as well as difference of approach to new versus existing facilities. Relevant national authorities have the freedom to publish their own BAT guidance for regulatory bodies and industry. However, in situations where several installations, even equipped with BAT, may combine to threaten a local environment, compliance with EQSs becomes a primary consideration in setting individual emission limit values (ELVs).

In the EU, integrated permitting in general and the BAT approach in particular targets large and complex installations described in the IPPC Directive as having "significant potential for pollution," including transboundary pollution (see Box 1.2). At the same time, small and medium-sized enterprises are usually regulated through simpler permitting schemes (see Section 1.8).

Box 1.2. Scope of Application of Integrated Permitting in the EU

- Combustion installations with a rated thermal input exceeding 50 MW.
- Hot-rolling mills with a capacity exceeding 20 tonnes of crude steel per hour.
- Installations for production of cement in rotary kilns with capacity exceeding 500 tonnes per day.
- Installations for production of asbestos and asbestos-based products.
- Chemical plants for production of basic organic chemicals such as sulphurous and halogenic hydrocarbons, organometallic compounds, surface-active agents, etc.
- Chemical plants for production of basic inorganic chemicals such as ammonia, chlorine, fluorine, hydrochloric acid, sodium hydroxide, potassium chlorate, etc.
- Plants for production of paper and board with a capacity exceeding 20 tonnes per day.
- Installations for intensive rearing of more than 40,000 poultry or 2,000 pigs.

1.2.4. Institutional Aspects of Permitting

Integrated permitting requires a streamlined application process, improved transparency and coordination between stakeholder agencies, and public participation. It is essential to determine the administrative level appropriate for permitting of certain categories of facilities: national or regional level for large industrial installations subject to integrated permitting, and regional or municipal level for small and medium-sized installations.

Integrated permits may be considered by either one or several competent authorities, depending on the country-specific institutional setup. "One-stop shopping" systems, where the applicant deals with one designated competent authority that ensures coordination with all other stakeholder agencies, increase the consistency and predictability of the permitting process and reduce the administrative burden on both government and industry. The designated permitting authority may need to establish permitting committees to exchange information and coordinate decisions with different internal units regulating air, water, and waste, and with other competent authorities. Permit registers and intra-agency or inter-agency electronic networks should be developed to facilitate such coordination.

The procedures for producing a permit will depend upon the legislation under which it is to be issued and upon the nature of links with other legislation and associated authorities. The procedures will also depend critically upon the manner and extent to which national regulatory cultures accommodate the views of other stakeholders, including the public. The basic stages that have to be addressed in any design of permitting system are introduced in Section 1.3. It is important to set *time limits* for each stage of the procedure. Time limits will lead to reduced costs for applicants and make government agencies more accountable and responsive.

1.2.5. Technical Guidance for Permitting

Consistency of approach to integrated permitting and to the setting of appropriate permit conditions depends on the availability of relevant technical guidance on what constitutes BAT. There is no simple calculus for identifying BAT in any specific case, and ***informed judgement*** by experienced regulators is a crucial element of the permitting process. Without technical guidance, judgements could vary widely between authorities. They could also vary within authorities, even between fully trained and experienced regulators. Furthermore, without such guidance, there would be substantial room for repeated disagreement between operators and regulators with respect to the identification of BAT for an industrial sector, as well as on site-specific issues.

In the European Union, this issue is dealt with by way of BAT Reference Documents (BREFs), which contain sector-based information for the guidance of decision-makers[1]. The information addresses technical and operational features associated with BAT for the sector, together with appropriate ELVs. There are also BREFs that address cross-cutting themes such as monitoring systems (already published) and economic and cross-media issues under IPPC (in preparation). BREFs are aimed at industrial operators, permit writers, policy makers, and members of the public.

BREFs are produced by way of a Europe-wide consultation process involving industry, EU Member State regulatory authorities, and relevant NGOs. BREFs are not prescriptive or exhaustive, nor do they take account of local conditions, so their application does not relieve the countries' permitting authorities from an obligation to make site-specific judgements.

[1] EU BAT Reference Documents, European IPPC Bureau website at http://eippcb.jrc.es. ("Activities")

In general, regulators should not be absolutely bound by technical guidance but the expectation should be that, if they deviate from it substantially in setting permit conditions, they must justify their decisions in a detailed explanation. In this way, inconsistency of requirements is minimised, on a national basis at least, thus creating the "level playing field."

1.2.6. Interaction of Permitting with Other Policy Instruments

Environmental permitting must take into account other applicable regulatory requirements. Particularly important is the interaction between permitting and environmental impact assessment (EIA)[2]. Linkages with other environmental regulatory instruments (standards, monitoring, and sanctions) must be understood and reinforced. The relationship of permitting with non-regulatory environmental policy instruments (e.g., economic and voluntary) must also be recognised and accommodated. In addition, matters such as occupational health and safety, industrial accident prevention, land use planning, nature conservation, etc. may affect the permit conditions.

Interaction with Environmental Impact Assessment

Both EIA[3] and environmental permitting are environmental regulatory tools that aim at preventing damage to the environment before it has occurred. They both follow structured systematic procedures of identifying and analysing significant environmental impacts and using the results of this analysis in making decisions related to the economic activity in question. At the same time, there are fundamental differences between the two instruments, including:

- Coverage. EIA applies to a wider range of activities, including infrastructure projects.
- Timing of application in relation to project cycle. EIA tends to apply at earlier stages of project planning.
- Environmental focus. EIA tends to be more open-ended and can also consider any environmental issues of concern to the affected parties, including, for example, land use, biodiversity, and historic and cultural heritage.
- Consideration of alternatives and mitigation measures. EIA is normally able to consider a wider range of alternatives and mitigation measures than environmental permitting.

EIA and permitting should be applied in such a manner so as to maximise their distinct strengths and avoid duplication of their efforts:

a) *Applied to appropriate categories of activities*. In particular, full-scale EIA should be applied to major infrastructure or industrial projects. The need for EIA application may be determined based on a "screening list" and on a case-by-case basis. Permitting should apply to point sources of significant pollution explicitly listed in regulations. Thus, EIA and permitting should have distinct, though overlapping coverage (e.g., large industry should always be subject to both EIA and integrated permitting).

[2] See also "Linkages between Environmental Assessment and Environmental Permitting in the Context of the Regulatory Reform in EECCA Countries," CCNM/ENV/EAP(2003)26, OECD, Paris, 2003.

[3] EIA in EECCA countries also includes a component called "state environmental expertise (review)".

b) *Applied at appropriate stages of project development.* EIA should be accomplished before major project decisions (on siting, principal alternatives, etc.) are made. Permit applications should be prepared and evaluated after the nature of pollution sources and their likely impacts are precisely known, i.e., after the project design has been completed, or for already operating facilities.

EIA and environmental permitting should be linked both at the systemic level and at the level of individual procedures. This is commonly achieved through using information from one system or procedure in the other, for example:

- Using EIA findings (e.g., rates of waste generation, emissions, etc.) in preparing and evaluating permit applications;
- Using EIA results as a general indication of acceptability of the proposed activity in awarding an environmental permit;
- Including EIA recommendations on mitigation measures, where appropriate, in permit conditions;
- Using permitting requirements to determine the scope of EIA (e.g., in relation to specific pollutants to be studied or in relation to a BAT test to be conducted).

Linkages with Other Regulatory Instruments

The conditions of an environmental permit must conform with the ***standards*** (reflecting respective policy objectives) set for environmental protection, including environmental quality standards and technique-based environmental performance standards. The ways of translating those requirements into the permitting system are discussed in Section 1.2.3 above. It is important that environmental standards be realistic to make permits effective and enforceable.

Without regular, methodical, and accurate ***compliance monitoring*** and timely and truthful reporting of its results, neither the government nor the polluters will be able to make informed decisions about achieving compliance with the established permit requirements and broader environmental objectives. This means that the conditions set out in the permit must be clear in defining clearly how monitoring of emissions and any other operational features is to be carried out by the operator (so-called *self-monitoring)* in terms of method and frequency, and be legally enforceable. It is equally important to ensure that conditions concerning the requirements for *recording and reporting* of specific information are well defined, including details of how records are made, kept and any changes noted.

Permits contain environmental requirements that are subject to direct ***enforcement*** in case of their violation (unlike environmental quality standards, for example). Although liabilities and penalties for non-compliance with permit conditions are not usually repeated in permits, it is essential to ensure that the permit is written in such a way as to be enforceable. The wording of the permit must define clearly the nature (administrative, civil, or criminal) of any possible offences and refer to respective legal provisions governing sanctions. There is a range of legal sanctions for environmental non-compliance, including enforcement notices, permit revocation or suspension, administrative fines and prosecution in a court of law, with a wide variety of penalties, including fines and imprisonment. The precise arrangements vary widely from country to country, particularly in regard to the institutional responsibilities for enforcement.

Ambient monitoring is a way of assessment of the effectiveness of the permitting system in meeting the set environmental standards and objectives. Its purpose is to see, among other things, if the permit conditions are delivering the necessary environmental quality (taking into account the cumulative impact on the environment of multiple pollution sources) and, if not, to secure the appropriate modifications in controlling the pollution sources.

Linkages with Non-regulatory Instruments

The permit may also interact with other environmental policy tools, such as ***economic instruments*** for influencing environmental behaviour of operators. In the case of pollution charges, the permit must set realistic and measurable ELVs for the charge to have an incentive impact. Obviously, the permit must require information sufficient to allow for the administrative calculation of any such charge.

In more sophisticated regulatory systems (which may or may not be developed in EECCA countries in the future), regular permits may co-exist with ***tradable permits*** for release of certain pollutants. This is a market-based instrument that introduces an economic incentive for reduction of emissions that usually have a widespread effect such as global warming or acid deposition, e.g., those of greenhouse gases or SO_2 and NO_x. Within such a scheme, companies have to ensure that they hold sufficient emissions allowances, or permits, to cover their actual emissions of specified substances over a given period. Because it does not matter where such reductions are made, such companies can trade part of their allowance (under established rules) without any loss of environmental benefits for the scheme as a whole. Thus, tradable permits usually serve as a replacement for one or more ELVs for specific substances in the integrated permit. The remaining conditions of the regular environmental permit may have to be adjusted to accommodate the tradable permit.

There may be cases where the environmental permit has to accommodate even more fundamental alternatives to the conventional regulatory approach. One such example is the so-called ***voluntary system***, which may target a group of installations (sector or locality-specific) cooperating to achieve a particular objective, or a single installation (this approach has so far been used only in some OECD countries). At the simplest level, environmental objectives or targets are agreed with an operator who is then responsible for developing management arrangements for achieving the agreed objectives or targets. Compliance checking in this case is a matter of ensuring that the management arrangements are in place and working satisfactorily, and that the appropriate objectives/targets are being met at the appropriate time. This is a goal-based system that requires a somewhat different form of permit, although the essential requirements associated with enforceability, clarity, recording and reporting must still be met.

1.3. PERMITTING PROCEDURE

Permits are generally granted to the "operator" of an "installation." "Installation" means a stationary technical unit where one or more activities are carried out at the same site and that could have a negative environmental impact. Several "technical units" on the same site should be considered as one installation if they carry out successive steps in one integrated industrial activity, one of the activities is directly associated with the other, or both units are served by the same directly associated activity (located on the same site).

It is the operator who is held liable in law in the event of any non-compliance with the terms and conditions of a permit granted to him. In this context, "operator" may be defined as *the natural or legal person who is the owner or the manager of the installation and has the authority and ability to ensure compliance with the permit*. This definition is extended in the sense that, prior to an installation being put into operation, the person who will have control over its operation is treated as the operator, and that after an installation has ceased to operate, the person who holds the applicable permit is treated as the operator. This is necessary to cover the situation where legal obligations may need to be imposed on an operator during the pre- and post-operational phases of an installation. It is important, therefore, that the operator of an installation is correctly identified, so that appropriate enforcement action can be taken against the correct physical or legal person, if necessary. If there are two or more operators managing different parts of the installation, e.g., when some operations have been leased out to another natural or legal person, each operator must have a separate permit, even if the operations in question are technically related.

In general, environmental authorities are expected to make substantial effort through trade associations, environmental and industry newspapers or journals, industry seminars, etc. to ensure that industry is aware of its legal obligations under the environmental law. Nevertheless, it is the responsibility of operators to know the law that applies to their business activities and to understand whether they require a permit for operation of any installation. Ignorance of the law is no defence against legal enforcement action for operation without a relevant permit.

For new installations and significant changes in existing installations, operators should apply for a new permit when they have drawn up full designs, but before starting construction work. It is undesirable for operators to start major construction before an environmental permit has been issued as the regulators may not necessarily agree with the operational techniques put in place. Given the existing regulatory culture in EECCA countries, it may even be appropriate to prohibit it. In any case, the costs of replacing incorrect techniques should not be included in the analysis of costs and benefits for assessment of BAT, and should not be allowed to prejudice the subsequent regulatory judgement. Therefore, to avoid any expensive delays and reconstruction work, *it is in the operator's interest to submit an application at the initial design stage* as any investment or construction work that an operator carries out before he has a permit will be entirely at his own risk.

Developing and issuing an integrated environmental permit involves the following general steps, described in more detail in Chapter II of these Guidelines.

Phase 1: Pre-application Activities

The environmental permitting authority and the operator may hold pre-application discussions before the operator makes a formal application. Other parties may join these discussions. Operators and regulators may use the discussions to clarify whether a permit is likely to be needed at all, and if so, what type of permit is required. This step may also require a decision as to which is the appropriate regulatory authority or whether any special provision applies by reason of the low environmental impact from the installation. Pre-application discussions should be focused primarily on helping the applicant understand the nature of his obligations and what needs to be included in an application.

The permitting authority may also give operators general advice on how to prepare their applications, and tell them what guidance is available. The regulator must not imply any advance agreement as to the outcome of any application at this stage, nor appear to be giving the operator guidance that might be construed as technical instructions for plant selection or construction. This might prejudice the eventual determination of the permit or any appeal against its conditions. In view of this possibility, it may be desirable for the regulatory authority to have clear working instructions for staff setting out the boundaries of exchanges with operators at this stage and emphasizing the need for proper recording of any such exchanges.

Phase 2: Preparation and Submission of Application by Operator

Following any pre-application discussions, the operator is responsible for making a permit application that covers the full range of activities that are required to be permitted. The application needs to assess the possible effects of the operations, to explore ways of improving them and to make proposals for the regulator's consideration. It also needs to demonstrate how he would manage his installation in a way that will meet all the requirements of the legislation and associated regulations. This step is addressed in detail in Chapter III of these Guidelines.

There may be an administrative fee required for the consideration of the application, which may depend on the size of the installation (a smaller fee would be payable for a revision of an existing permit).

Phase 3: Receipt and Initial Check of Application by Regulatory Authority

The regulatory authority should check permit applications as soon as they are received, or at least within a few days from receipt, in order to ensure that the application is valid. An application is valid if it is complete in a legal sense. This means that all of the necessary questions must be answered, and it must be submitted on a standard application form. Until an application is deemed valid, it is not legally an "application," just a submission from an operator.

It is also appropriate to conduct an initial technical check of the application to consider whether the information submitted meets the test of basic adequacy to be accepted as an "application." A basic principle is that the information submitted should provide at least a reasonable starting point for a determination in order to be considered valid. Regard should also be had to any relevant technical guidance and the extent to which the operator has taken account of it in preparing the application.

If the application is deficient in some respect, the regulator may have to request additional information, thus delaying the determination of the permit. If the regulatory authority judges that an application is not valid for some reason, it should return it within a certain number of days.

Phase 4: Consideration of Commercial Confidentiality or National Security

In dealing with some permit applications it may be necessary, before doing anything else, to ensure that the regulatory authority does not reveal any information to third parties, or include it in the publicly accessible permit register, if that would prejudice the commercial interests of the applicant. In such cases, the operator needs to demonstrate in a commercial confidentiality request that the revealing of specified information, or its inclusion in a public register, would prejudice his commercial interests to an unreasonable degree. It is necessary to set a time limit for regulatory consideration of any such claim.

In some cases, similar issues may arise in connection with matters of national security, where similar arrangements need to be made.

Phase 5: Consultation on the Application with Other Authorities and the Public

Following receipt of a valid application, the regulatory authority should consult other stakeholders in order to gather facts and opinions that would contribute to the determination of the application. For example, depending upon the requirements of national legislation and institutional arrangements, the regulatory authority may need to consult other authorities with related responsibilities or interests (e.g., other relevant departments of the environmental agency, the environmental inspectorate in particular, health authorities, sectoral ministries, local authorities, etc.).

Also, apart from being good practice in general, countries that have ratified international conventions, such as the Aarhus and Espoo Conventions, are obliged to make statutory provision for public access to environmental information and for hearing and taking account of public views, both domestically and internationally. For the purpose of consulting the general public, it is appropriate to maintain a ***permit register*** accessible to the public, where applications, permits and associated information may be placed, subject to consideration of commercial confidentiality or national security. It remains then only to advertise the fact that a new application has been received and that the regulator will welcome public views.

Phase 6: Assessment of Application and Determination of Permit Conditions

When the regulatory authority is satisfied that all relevant information concerned with an application has been assembled, including the consultation responses from the general public and from other authorities, the application should be assessed and a determination of the permit conditions made. The regulatory effort invested and the nature of the permit conditions must be proportionate to the complexity of the installation and its environmental effects.

The procedures for making this judgement, and for setting related permit conditions (see Section 1.5) are likely to vary from country to country, as are the eventual technical judgements and associated permit conditions. It is common practice, however, to refer both applicants and regulators to publicly available technical guidance (see Section 1.2.5).

After assessing the application, the regulatory authority must either determine permit conditions, having regard to all the requirements of the relevant legislation and regulations, or decide to refuse the permit. This step of the overall permitting procedure is likely to require careful coordination and oversight, and their efficient delivery would benefit from the availability of clear work instructions for regulatory authority staff.

Phase 7: Issue of Permit or Notification of Refusal

Upon receipt of final consultation responses and if satisfied, the regulatory authority should finalise the conditions of the permit and send it formally to the operator. The permit should state its effective date and validity period. Environmental permits in OECD countries are most often valid for five to seven years (as compared to very short validity periods of one to three years in EECCA countries). In some countries (e.g., in Sweden), permit conditions remain in force until other factors (see the following section) trigger a revision. Longer validity periods simplify the permitting system and reduce the administrative burden on both the government and industry.

If the regulatory authority is not satisfied after assessment of the application, it must refuse the permit and notify the operator to that effect, giving reasons for the refusal.

The provisions for appeal against decisions of the regulatory authority will also depend on the national legal framework, particularly on the degree of discretion afforded by the law to the regulatory authority. Appeal authorities and practical arrangements for appeal are a matter of choice for individual countries. An appeal may be considered through written representations or through a hearing, at the discretion of the appeal authority. Obviously, the procedures for consideration of appeals should be designed for the higher, appeal authority and not for the permitting authority.

Phase 8: Permit Variation, Surrender or Revocation

The procedures for variation (revision) of a permit are broadly similar to those for its initial issue. Permits must be revised at the operator's initiative if changes are envisioned to the regulated process or if there are changes to the operator's ownership or contact information. A permit revision may be initiated by the competent authority if the applicable environmental quality objectives and/or standards have been modified.

The operator may surrender the permit voluntarily if he ceases the activity for commercial or other personal reasons, but has to do so through a formal application to the regulatory authority.

Revocation or temporary suspension of a permit are likely to be used only where exhaustive use of other enforcement tools has failed to protect the environment. The permitting authority or some other legal authority may have powers to suspend or revoke a permit, in whole or in part, by serving a formal notice on the operator. The permit would then cease to authorise operation of the installation, or an activity within it, depending upon what is specified in the notice. Any post-operation requirements, such as site restoration, however, may remain in force.

1.4. APPLICATION FOR A PERMIT

It is the responsibility of the operator of an industrial installation to know the law that applies to his installation and to apply for a permit (if one is required) in time (taking into account the time necessary to process the application – about 6 months). Nevertheless, as mentioned in Section 1.3, regulatory authorities would normally be expected to support industry by providing information and guidance where appropriate. This might even include pre-application discussion in order to clarify what type of permit is required and what information needs to be presented in the application for it. In any case, however, the operator should understand the requirements of the relevant legislation and have studied any permit application forms and associated instructions, as well as any relevant technical guidance, before preparing an application.

An application for an integrated permit will have to provide sufficient information for the regulatory authority to write the permit according to the requirements of relevant national legislation. The information likely to be required generally includes the following[4].

1. **Identity of the Installation.** Information is required for clear identification of the installation to be permitted, together with information about any other permits that exist for that installation. The latter information is necessary for administrative purposes and also for ensuring that any interactions with other permits and respective regulatory authorities are handled effectively during the permitting procedure.

2. **Identity of the Operator.** Information is required on the identity, contact details and legal status of the operator in order to establish clearly who is responsible for securing compliance with the permit and who is liable in case of enforcement action for any non-compliance.

3. **Scope of Installation and Initial Condition of Site.** A clear description is required of all the relevant activities and facilities comprising the installation to be permitted. Also, for the purpose of ensuring that decommissioning and site remediation are properly carried out when the installation is shut down, it is necessary to have a report on the initial condition of the site for comparison purposes.

4. **Proposed Operational and Management Techniques.** The application must demonstrate that the techniques to be employed at the installation are BAT. The techniques to be addressed might typically include the following:

    - Use of raw materials and water
    - Prevention and control of emissions and waste
    - Waste management

[4] For further details, please refer to the *Instructions for the Application Form for an Integrated Environmental Permit* that constitute Chapter III of these Guidelines.

- Energy use and efficiency
- Emergency preparedness
- Monitoring systems
- Decommissioning and remediation
- Environmental management system

Guidance on what is BAT for these techniques should be available to applicants in either sector-based or cross-sectoral technical guidance. Applications that propose techniques that deviate from those generally accepted as representing BAT for the sector will need to justify the proposals in terms of the circumstances of the specific installation and present a detailed programme of improvements and upgrading. At the same time, operators should be free to propose innovative techniques that would achieve better environmental performance than those included in the technical guidance.

5. **Proposed Emissions.** Information must be provided on all the emissions resulting from operation of the installation using the techniques proposed above, and it must be demonstrated that they comply with the relevant sector-based BAT benchmarks, on which permit ELVs will be based. These benchmarks should be available in technical guidance for the relevant industrial sector or, failing that, indicative values should be available in general sector guidance.

6. **Impact of Emissions on the Environment.** Information should be given on the results of assessment of any potentially significant environmental impacts of the above emissions. The purpose of this assessment is to demonstrate that the impacts will be acceptable, by way of compliance with relevant EQSs. Inability to demonstrate such acceptability may lead to a rejection of the application.

7. **Other Relevant Information.** Regardless of the structure of any application form or specified requirements, any applicant should feel free to submit any other information in support of his application, provided the information is relevant and to the point. The need for such information would, typically, be appropriate for discussion at the pre-application stage.

8. **Non-technical Summary**. Where there is a requirement for applications to be placed on a public register, it may be appropriate to require applicants to submit a non-technical summary of the application. This should follow the structure of the application and be in sufficient detail and in such language as to allow members of the public to understand the proposal and to make a sensible response. Typically, such a summary for a complex application might be about 10 pages and about 2 pages for a simple one.

9. **Declaration.** Any application should be signed and dated by the operator, with a declaration that the information supplied is correct. The application should specify the date by which a permit is requested. In case of renewal, this date should obviously be the expiration date of the old permit.

The application requirements described above are typical of those for integrated permitting. Simplified requirements may be applied to small and medium-sized installations, but the

application would have to include information to show that the installation complied with the defined threshold for such simplified procedure.

Generally, an applicant has a right to claim protection of information judged to be commercially confidential or subject to considerations of national security, as indicated in Section 1.3. The claim for *commercial confidentiality* should be made with the application but the information proposed for protection should be submitted on separate pages and appropriately marked in order to facilitate its exclusion from any public register. A claim for protection of information on the grounds of *national security* should be made separately and no reference to it should be made in the main application.

1.5. CORE INTEGRATED PERMIT REQUIREMENTS

The first basic requirement for effective environmental regulation is that no person should operate an installation except as authorised in a permit granted by the relevant authority. This permit must contain conditions that are clear and unambiguous and, most importantly, that are enforceable under the relevant law.

The key to simple, effective and consistent permitting is to base permit conditions on standards and technical guidance that have been agreed by all relevant parties and that are available to all stakeholders, including the public.

It is helpful to have a permit form that ensures easy read-across from the conditions of the permit to the application. This approach consists of setting permit conditions that refer to details contained in the operator's permit application, after these have been assessed as complying with the legal and technical (BAT) requirements. This approach has the advantage that the permit may be a relatively short document without a great deal of technical detail. However, it does have the disadvantage that the permit is not a "stand-alone" document and, for the technical detail, needs to be read in conjunction with the operator's application. The alternative that may be preferred by EECCA countries is to reproduce material from the application in the permit. Practice on this point varies from country to country. Also, the approach depends heavily on the availability to applicants and to regulatory authorities of relevant sector-based and cross-sectoral technical guidance on what constitutes BAT, as described in Section 1.2.5.

At the beginning of the permit, it is generally helpful to include an introductory note that provides a certain amount of basic information for both the operator and the public. For example, a basic description of the installation will be of use to the public. Information on how to contact and communicate with the regulatory authority should be included, together with information on handling of confidential material as well as the process for appeal, variation or surrender of the permit, in order to help the operator to deal with various situations that might occur during the life of the permit.

Also helpful are details of any permits, licences, or authorisations complemented or superseded by the given permit. In this context, a status log is also useful in providing a record of the relevant applications, information notices, variations, etc. that have applied throughout the life of the permit. In addition, it is helpful to include a section with *definitions* of terms used in the permit.

It is broadly accepted that an integrated permit should contain conditions covering the following issues[5]:

[5] For further details, please refer to the *Instructions for the Integrated Environmental Permit Form* that constitute Chapter IV of these Guidelines.

1. **The Permitted Installation.** This section of the permit should identify and describe all the activities at the installation that are covered by the permit. The land area on which the permitted activities may take place should also be defined. This section may also be used for prescribing measures that must be undertaken before the installation comes into operation.

2. **Operational Matters.** Conditions related to operational matters must be based on BAT, as described in relevant technical guidance, taking account of the technical characteristics, geographical location and local environmental conditions of the installation. These conditions allow confirmation of the operator's proposals or the specification of any further requirements. Conditions for the operational matters are likely to cover some or all of the following:

   - Use of raw materials and water
   - Prevention and control of emissions and waste
   - Waste management
   - Energy use and efficiency
   - Emergency preparedness
   - Monitoring systems
   - Decommissioning and remediation

3. **Emission Limit Values.** ELVs are usually proposed by the operator and then amended, if necessary, and validated by the permitting authority. For large industry subject to integrated permitting, the establishment of ELVs should be based on BAT, using the benchmark ELVs given in the relevant sector-based guidance, but taking into account the technical characteristics, geographical location and local environmental conditions of the installation. The operator in formulating his application and the regulatory authority in assessing it should both be informed and guided by the same sector-based, and horizontal, technical guidance on BAT, together with further guidance on how to address the site-specific issues of technical characteristics, geographical location and local environmental conditions. It is important to note, however, that where compliance with an EQS requires stricter ELVs than would be derived from consideration of BAT, the EQS should take precedence and the stricter ELVs must be included in the permit.

   Conditions concerning ELVs for the prescribed pollutants likely to be emitted in significant quantities need to address the following:

   - Emissions to the atmosphere
   - Discharges to surface waters
   - Discharges to the sewer or wastewater treatment plant
   - Discharges to the ground (unless they are banned by the law, as is the case in several EECCA countries)
   - Noise

4. **Off-site Conditions.** Subject to the provisions of national legislation and regulations, the permit may include a condition requiring an operator to carry out work or do other things on land not forming part of the site of the installation. However, the owner of that land, or any person whose consent would be required, would first need to give the necessary permission for such access to the land as was necessary to enable the operator to comply with any requirements imposed on him by the permit. Off-site conditions should be directly relevant to operation of the permitted installation.

5. **Improvement Programme.** It is desirable to have a specific provision for the imposition of appropriate conditions in cases where the regulatory authority accepts an argument from the operator of an existing installation that the techniques currently in use are not BAT because of the expense of an immediate move to a BAT. In such cases it is generally appropriate to secure progress toward introduction of a newer technology through an improvement programme. This is allowable within the definition of BAT. The relevant technical guidance may give an indicative timeframe in this respect.

6. **Records.** This condition should address arrangements for making, keeping, and providing access to appropriate records. Typically, such arrangements require the maintenance of monitoring results and of a log record of any failures that had, or could have had, an effect on the environment. The latter is necessary for accident investigation, for identifying environmentally critical equipment and for assessing the operator's maintenance performance.

7. **Reporting and Notifications.** This condition should specify the reporting requirements for the installation. Which parameters to report and the frequency of reports are matters of judgement to be made having regard to the information provided in relevant technical guidance. Reporting should be frequent enough to allow timely response to a violation. In addition to matters concerned with the reporting of routine information, there should also be arrangements for notifying the regulatory authority about such events as exceedance of ELVs, accidents, temporary or permanent cessation of operations.

   It is important that the regulatory authority have up-to-date information on the operator and owner of an installation for enforcement purposes. Hence, it is appropriate to require early notification from the operator of any administrative changes in his normal corporate details.

8. **Payment of Environmental Taxes and Charges (if applicable)**. If the operator of the installation must pay taxes or charges for its polluting activities (air emissions, wastewater discharges, or waste disposal) or the use/extraction of natural resources (including water abstraction), the requirements for making such payments should be specified as permit conditions. This is particularly important in EECCA countries, where economic instruments of environmental policy are widely used, but due payments are often difficult to enforce.

9. **Validity and Provisions for Renewal and Variation.** The permit should specify the date of its entry into force and the validity period. The permit should instruct the operator as to when he should apply for a renewal of the permit, when he is required to apply for a revised permit, and when the competent authority reserves the right to initiate the revision process.

   It is sometimes convenient to allow changes to operating techniques on an installation without the need to apply for a formal revision (variation) of the permit. These might be accommodated by way of a relatively simple, but formal, agreement in writing. However, there should be a condition in the permit that sets out the requirements for implementation of such a provision and makes it clear that if the regulatory authority considers that a formal application for a variation would be appropriate, then agreement in writing can be refused.

1.6. COMBINED APPROACH TO SETTING EMISSION LIMIT VALUES IN INTEGRATED PERMITS

There are essentially two complementary approaches to setting ELVs for individual installations in environmental permits: the environmental quality-based approach and the technique-based approach.

The environmental quality approach uses modelling to calculate the ELVs that would ensure compliance with the applicable environmental quality objectives (and respective standards), based on the assimilative capacity of the receiving environmental medium (water or air). This approach is currently used in all EECCA countries, albeit on the basis of overly stringent EQSs.

The technique-based approach aims at setting ELVs that correspond to the technical solutions that are capable of delivering a high level of environmental performance. Technique-based ELVs may be derived from a consideration of BAT for an installation, in accordance with the relevant technical guidance (see Section 1.2.5), or fixed in a regulation (so-called 'statutory' ELVs). BAT-based ELVs aim to ensure the adoption of the best technical means for reducing the environmental impacts of the installation, taking into account the economic availability of those means. Statutory ELVs are based on the state-of-the-art techniques at the time of their promulgation. Statutory ELVs may be generic or industrial sector-specific and represent minimum requirements (the least stringent ELVs) that may be set in installation-specific permits.

It is increasingly recognized that the environmental quality approach and the technique-based approach are complementary and not mutually exclusive. The EU uses a ***combined approach*** to setting ELVs as part of its integrated permitting system. The IPPC Directive requires that ELVs for large industrial installations be based on a combined assessment of environmental quality objectives and the current state of technology for reducing harmful releases. In using the combined approach, the permitting authority has to go through the following steps:

a) Assess the BAT-based ELVs proposed by the operator in the permit application.

b) Consider whether applicable statutory ELVs are defined in the legislation, and if so, ELVs in the permit must at least comply with such fixed ELVs.

c) Calculate the ELVs that would be required to ensure compliance with the respective EQSs.

d) Set ELVs in the permit. If an EQS cannot be achieved even by the use of BAT at a particular installation, the regulator must either take measures to reduce discharges from other installations in the area (thereby ensuring compliance with the EQS) or refuse the permit in question.

The combined approach requires sound *management decisions* on the part of an environmental permitting authority, based upon careful case-by-case evaluation, to ensure that the ELVs that are ultimately included in an integrated permit satisfy both the BAT and EQS criteria, and comply with any applicable statutory ELVs. The principal directions for implementing the combined approach in EECCA countries are discussed in Chapter V of these Permitting Guidelines.

1.7. STRATEGY FOR GRADUAL TRANSITION TO INTEGRATED PERMITTING

EECCA countries that are planning to introduce BAT-based integrated permitting should take initial steps already in the short term. The first step would be to determine the ***scope of the integrated permitting system***, i.e., establish a list of industrial sectors and the minimum size (production capacity or output) of installations to be controlled under the integrated permitting regime. This determination may be guided by the list of sectors and size thresholds stipulated in the IPPC Directive, with a possible addition of other priority polluting sectors in the country. An inventory should be prepared of all the country's installations that fall under the designated categories. The final list of industry categories and capacity threshold values should be agreed in interagency consultations and discussions with industry.

Institutional and legal aspects of a transition to integrated permitting are also very important and include:

- making amendments in the primary environmental legislation to introduce the fundamentals of the new system, development of a law on integrated permitting and implementing regulations for it;
- management of the transition through effective stakeholder cooperation under the leadership of the environment ministry;
- designation of competent permitting authorities at appropriate administrative levels (national and/or territorial), their linkage with environmental enforcement agencies, and coordination between the permitting and environmental assessment processes;
- institutional capacity building in terms of addressing the enhanced needs for human and financial resources under the new system, development of permitting procedures and BAT guidance, and extensive training.

Even for new industrial installations, integrated permitting cannot be made operational immediately because of the need to create appropriate legal and institutional arrangements and prepare technical guidance. Existing installations in particular will require time to make the necessary investment and management strategies for compliance with integrated permitting requirements. Therefore, it is important to carefully plan the ***timing of introducing the integrated permitting system*** for industry by setting priorities among industrial sectors in order to bring them under the new regime in several stages. The criteria for such prioritisation include the environmental impact, anticipated compliance costs, economic and financial conditions of the industrial sectors concerned, as well as administrative capacity constraints of the permitting authorities. The staged transition would help gain significant regulatory experience with the higher priority sectors before moving on to others. Different compliance deadlines for new and existing installations should also be established. While the preparatory phase of the introduction of the integrated permitting system (until first integrated permits are issued in the higher priority sectors) may last for 5-6 years, the full transition to the new permitting regime may well take up to 15 years.

Chapter VI of these Guidelines elaborates recommendations for EECCA countries on how best to plan a transition to the integrated permitting system.

1.8. REGULATING INSTALLATIONS NOT COVERED BY THE INTEGRATED PERMITTING SYSTEM

It is quite reasonable to expect large enterprises to be able to cope with the more complex requirements of an integrated pollution prevention and control system. They should be able to design and operate a plant in order to minimise the creation of waste and prevent emissions, as well as follow the development of BAT relevant to their operations.

In many countries, however, a large proportion of industrial installations will not fall under the scope of application of integrated permitting. These are mostly small and medium-sized enterprises (SMEs). These businesses are unlikely to have sufficient resources and technical expertise to address the relatively complex requirements associated with integrated environmental permitting. Nevertheless, their cumulative impact on the environment is not inconsiderable and they must be subject to some form of environmental regulation. Chapter VII of these Guidelines describes and evaluates various alternatives for permitting of such installations.

Among installations that do not fall under the integrated permitting system there are many that intrinsically have no potential to cause significant pollution. This means that such installations by their very nature have only negligible impact on environment and do not have to rely on pollution control measures to minimise that impact. For such installations, extensive environmental regulation is not likely to achieve much benefit for the environment, and the preferred regulatory option for them would be simple ***registration*** with local authorities, proving their low environmental impact.

For other installations outside the integrated permitting system, it is possible to grant simplified permits that reduce the time and cost burden both on businesses (in preparing applications) and the regulator (in preparing and issuing permits) while ensuring a high level of environmental protection.

The principal permitting option for distinct categories of installations with similar production processes is to prescribe standard permit conditions in so-called ***general binding rules*** (GBRs). This system is used in several OECD countries (e.g., the UK, the Netherlands). GBRs should include both statutory emission limit values based on state-of-the-art techniques for that category of installations and requirements for certain operational matters, as well as monitoring, record keeping and reporting conditions. GBRs should also stipulate simplified application forms requiring operators to demonstrate compliance with the standard requirements. In order to avoid the creation of parallel permitting authorities, issuance of permits under GBRs should be in the competence of the same environmental bodies that are responsible for integrated permitting.

At the same time, certain criteria should apply before consideration is given to the use of GBRs. These include:

- GBRs must cover a sufficient number of installations in a particular category to make their development of GBRs cost-effective.
- The current status of technology and techniques in that category of installations must not be fast moving, as GBRs cannot be updated frequently.
- Installations must have a similar impact on the environment.

- The category of installations subject to GBRs should be covered by a well-organised trade association to ensure that details of the GBRs are practicable and acceptable.

In using GBRs, there is a need to ensure that exceptions requiring full integrated permitting are possible to take account of special environmental quality concerns or changes in technological development. Such exceptions could be initiated by either the regulator or the operator.

During the transition period in EECCA countries, when most institutional resources will be directed at building capacity for integrated permitting of large industrial installations, most SMEs will continue to receive single-medium permits until new regulations for installations outside the integrated permitting regime (GBRs and registration procedures) are put in place. However, while single-medium permitting is a reasonable default option for the short term, it is an inefficient approach to regulating SMEs (as demonstrated by the current permitting systems in the EECCA region) and should be phased out over time.

Chapter II
Integrated Environmental Permitting Procedure for a Competent Environmental Authority

CHAPTER II

TABLE OF CONTENTS

This procedure has been adapted from key elements of the integrated permitting procedures used by the UK Environment Agency, the Environmental Protection Agency of the Republic of Ireland, as well as selected permitting procedures of U.S. state environmental agencies.

DEFINITIONS

"Commercial confidentiality" means a legal clause under [*reference to relevant national legislation*] that may be evoked by the applicant (subject to determination by the CEA) seeking to restrict public access to certain technology, production, administration, or financial information in the application, revealing which may prejudice his commercial interests to an unreasonable degree.

"Competent Environmental Authority" (CEA) means an Office (Branch) of the [Ministry of Environment] which has authority under [*reference to legislation*] to issue environmental permits in the given administrative area.

"Days" means calendar days. The number of days suggested for time limits of different actions in this procedure reflects best international regulatory practices. The time limits should be adapted to suit institutional and regulatory practices in a particular country.

"Decision document" means an internal CEA document drafted over the course of determination of an application which contains justification of the permit conditions and explains the basis of the granting or refusal of the permit.

"Designated Administrator" (DA) means a CEA support staff member appointed by the head of the environmental permitting department of the CEA to be responsible for administrative coordination of the permit application assessment process, including communication with the applicant and all interested parties.

"Integrated Environmental Permit" (IEP) means a written decision granting an authorization to operate an installation, according to [*reference to legislation*], subject to conditions covering all known environmental impacts of the installation that are considered significant by the CEA.

"Installation" means a stationary technical unit where one or more activities are carried out on the same site and that could have a negative environmental impact. "Existing installation" is an installation that has been legally operating at any time before the submission of the current permit application. Other installations are considered to be "new installations."

"Operator" means a natural or legal person who is the owner or the manager of and has the authority and ability to ensure compliance with the permit. If two or more operators run different parts of an installation, they should obtain separate permits.

"Permit register" means a [computerized] application and permit tracking and logging system which contains texts of the application and the permit, with relevant amendments, and information about the permit's variation, transfer, and/or revocation. Permit register reference numbers are unique identifiers

for each application and respective IEP. The permit register must be accessible to the public, preferably via a website. (The establishment of a permit register by the CEA is a prerequisite of this procedure.)

"Public notice" means a public announcement published by the applicant in appropriate printed media, which identifies the operator and proposed activity, gives details of the permit register, and specifies the procedure for public consultation.

"Responsible Official" (RO) means a CEA official with a technical background appointed by the head of the environmental permitting department of the CEA to be in charge of the entire process of assessment of a given IEP application, from the pre-application activities to the final determination of the application. The RO has the right of signature for all documents within CEA authority pertaining to that application.

"Statutory stakeholder agency" means a government authority that has a responsibility or relevant interest in the environmental impacts of the installation to be permitted, as provided for in applicable legislation. (The list of statutory stakeholder agencies for each permit application should be identified in the application itself and verified and validated by the CEA.)

"Substantial change in operation" means a change in the nature of functioning, or an extension, of the installation, which, in the opinion of the CEA, may have an additional negative impact on the environment or on human health.

"Working File" means an internal, CEA-maintained application file opened during pre-application activities or upon submission of the application and containing all the documents pertaining to the permit application, issuance, variation, transfer and/or revocation.

2.1. PRE-APPLICATION ACTIVITIES

The production of an integrated permit application by an operator may take considerable effort. The Competent Environmental Authority (CEA) should recognise that applicants may, therefore, wish to seek advice from the CEA on the preparation of applications and on the permitting process generally. While this is clearly helpful to the applicant and can result in a better quality of application, the extent and content of such pre-application discussions need to be reasonably limited and not pre-judge the outcome of the permitting process.

The purpose of this part of the procedure is to instruct and guide the CEA staff in how to conduct pre-application discussions. Such discussions should assist the operator in making an appropriate and complete application for an integrated permit.

Step 1-1 Inquiry or identification. The pre-permit application discussion is likely to start via one of two routes. Either an operator will contact the CEA inquiring about the need to apply for an integrated environmental permit (IEP), or the CEA will have identified an installation within its jurisdiction which may be subject to the IEP regulation.

Step 1-2 Responsible Official and Designated Administrator appointed. A Responsible Official (RO) and a Designated Administrator (DA) for that installation shall be appointed by the head of the permitting department of the CEA. The DA shall arrange for a *Working File* to be established.

Step 1-3 Initial communication. The DA shall either respond to the inquiry from an operator or initiate communication with the operator of the possible IEP installation identified in step 1-1. Prior to any such communication, the DA should check whether the installation has already been identified as an IEP installation in the CEA's *Permit Register*.

Step 1-4 Establish coverage by IEP regulations. The RO shall establish whether or not the installation/activity in question is covered by the IEP regulations. The RO may need further information from the operator or other sources to determine this. If the RO is uncertain as to whether the activity is covered by the IEP regulations, he/she should seek advice from the head of the permitting department of the CEA.

If the RO concludes that the installation/activity is *not* covered by the IEP regulations, he/she should ensure that any pre-existing record in the Permit Register is amended to reflect this. *Depending on the conclusion about the appropriate jurisdiction (step 1-5), a different, simplified permitting procedure should be followed, as stipulated by the national legislation.* In addition, if the CEA is responding to an inquiry from an operator, and the RO concludes that the activity is not covered by the IEP regulations, the DA should advise the operator accordingly in writing. The DA shall record the advice given in the Working File.

Step 1-5 Establish appropriate jurisdiction. If the RO concludes that the installation/activity *is* covered by the IEP regulations, he/she shall consider whether or not the installation falls under the CEA's jurisdiction. If the RO is uncertain as to whether the installation falls under the CEA's jurisdiction, he/she should seek advice from the head of the permitting department of the CEA.

If the installation does not appear to fall under the CEA's jurisdiction, the RO should notify the appropriate permitting authority and the operator in writing. The DA shall record the advice given in the Working File.

Once the RO has concluded his/her consideration of jurisdictional coverage, he/she shall ensure that the data in the Permit Register are amended (if a record already exists) or entered (if a new record is required) as appropriate. The RO's assessment of when the application is required (if there is a specific date) shall be recorded in the Working File, and will influence when steps 1-6 and 1-7 should proceed.

Step 1-6 Provide necessary relevant documentation. If the installation is covered by the IEP regulations and falls under the CEA's jurisdiction, the RO should consider when a permit application may be required and have the DA advise the operator accordingly in writing. If appropriate, the DA should ensure that the operator has copies of all relevant CEA documentation, such as the IEP Application Form (with instructions) and any relevant technical guidance. Note, however, that in some cases the operator may already have been sent a package of documents following a simple request for application materials (i.e., without revealing any details of the application) or may have downloaded them from the CEA website.

Step 1-7 Pre-permit application discussion. The RO shall be responsible for conducting all pre-permit application discussions. It is for the RO to decide what means of interaction are most appropriate, for example, telephone discussions, written correspondence, site visits, or meetings in CEA offices. If the applicant requests a meeting, the RO shall grant an appointment and agree an agenda beforehand. A number of issues may be clarified during this step, including:

- when the application is required;
- the boundaries of the installation and activities to be covered by the permit;
- the types of information that should be contained in the application (this will depend on whether this is a new or existing installation, or a substantial change);
- source and applicability of the technical guidance; and
- linkages to other licenses and permits (e.g., construction or land use permits).

If necessary, arrangements may be discussed (with participation of an authorized CEA official) for handling an application with potential national security implications.
The RO shall make clear that any comments made by the CEA before an application is submitted are offered without prejudice to the requirements of the IEP regulations and the determination of any application. *Under no circumstances shall the RO agree on any permit conditions before a valid application is submitted.* Any such implication indicated by the applicant must be rebuffed in writing at the first opportunity.

The RO shall record in the Working File any discussions and advice given, along with any correspondence with the applicant.

Normally, no more than two person-days of CEA staff time (RO and DA) should be spent in pre-application discussions for each application. If more time is required, the head of the permitting department needs to determine whether further advice can reasonably be provided without starting to predetermine the outcome.

2.2. RECEIPT AND INITIAL CHECK OF APPLICATION

This procedure sets out the determination of whether an application is valid as a two-step process. Firstly, the initial administrative check by the Designated Administrator (DA) will look at whether the required questions in the application have been answered. This is principally a "yes/no" assessment. Secondly, the initial technical check by the Responsible Official (RO) will look at the basic adequacy of the answers presented. Both should be fairly quick processes. They are intended to ensure that an application meets at least minimum requirements before the processes of consultation and determination begin.

If an application is identified as not valid during the initial administrative check, it need not be subject to the initial technical check before being returned (see step 2-3). If it is evidently wholly inadequate, it shall be returned immediately on completing the administrative check.

The purpose of this stage of the integrated procedure is to instruct CEA staff in how to receive an IEP application from an operator, establish if it is valid, and take the necessary actions. Normally, this should be done within [15] days of receipt.

Step 2-1 Designation of RO and DA and file opening. A Responsible Official (RO) and a Designated Administrator (DA) for that installation shall be appointed by the head of the permitting department of the CEA, unless this has been done at an earlier stage. The DA shall update or create a permit register record for the application, establishing a *reference number*, and open a Working File. This reference number shall be quoted in any CEA documents pertaining to this application. The DA shall request the operator to use the same reference number in any subsequent communication on the application.

Step 2-2 Initial national security and commercial confidentiality check. The DA shall carry out the following preliminary checks of the application within [2] days of receipt:

a) Has the applicant given notice that information contained in the application contains anything with potential national security implications?

b) Has the applicant claimed commercial confidentiality?

National Security: Under applicable national security regulations, the operator will have enclosed the full permit application in a sealed envelope, with the name of the CEA person authorised to receive such information written on the front. The DA shall then seek immediate advice on how to proceed from the person whose name is marked on the sealed envelope.

Commercial Confidentiality: The applicant should identify potential commercial confidentiality issues in the appropriate place on the application form. If the confidentiality claim is established in the application, the DA shall mark the Working File appropriately. The confidentiality claim should be handled in accordance with the Commercial Confidentiality procedure (see Section 2.3).

Step 2-3 Initial administrative check of application. The DA shall check the administrative aspects of the application within [5] days of receipt. In undertaking this check, the DA shall complete the *checklist* (see attached).

Some circumstances should automatically lead to an application being considered invalid, including:

- the installation is not subject to regulation by the CEA;
- where there is a standard application form and it has not been used;
- insufficient number of copies of the application have been submitted;
- the fee (if applicable) has not been attached or is insufficient; or
- the application has not been signed.

If the administrative check indicates that the application is satisfactory from an administrative perspective, the DA shall forward the application and a copy of the Checklist to the RO.

If the administrative check indicates that the application is not entirely satisfactory, the DA shall consider if the flaw means that the application should be declared invalid. This depends on whether or not the flaw can be considered a minor detail and can be overlooked, as a matter of judgement.

If the DA considers that the flaw is not just a minor detail, such that the application cannot be considered valid, she or he shall notify the RO of this conclusion. Subject to confirmation by the RO, the DA shall complete and send a standard letter of explanation advising the applicant that the application is not valid. The letter shall specify the reasons why the application is not valid. The RO shall advise the DA whether or not to return the application with the letter.

If the DA considers that the flaw is just a minor detail, she or he shall provide a brief explanation of the flaw on the Checklist cover sheet when forwarding the application to the RO. The RO can then accept this or decide otherwise when completing the check on whether the application is valid.

Step 2-4 Initial technical check of application. On receipt of the application and Checklist, the RO shall review the application (in conjunction with other people, if appropriate), complete the remaining parts of the Checklist and record the decision on whether or not the application is valid.

In undertaking this check, the RO shall also look for any claims for commercial confidentiality or national security implications that may not have been identified by the DA. Insufficient justification of a claim for commercial confidentiality, or an outstanding decision in respect of commercial confidentiality or national security, would not prevent an application from being valid.

In the following circumstances, an application should normally be considered invalid, although minor administrative errors should be disregarded:

- the basic installation details (address, etc.) have not been provided or are obviously wrong;
- the basic operator details (name, address, etc.) are not provided or are obviously wrong;
- the installation has not been properly described (e.g., a site report is inadequate);
- the operator has not provided an important part of the submission;
- a non-technical summary has not been provided.

In other circumstances, the question as to whether or not an application is valid may be a finer one and the *decision will be a matter of judgement*. If there is doubt over the basic adequacy of an important part of the application, consideration should be given to whether the information submitted provides at least a reasonable starting point for consultation and determination. Regard should also be had to any relevant technical guidance and the extent to which the operator has taken account of it in preparing the application.

Checking that an application is valid should not involve any judgement about the merits of the operator's proposals (i.e., are they desirable or undesirable) in areas such as the selection of BAT, proposed levels of emissions and environmental impacts. It may be evident from an application that a permit is unlikely to be granted because, for example, the environmental effects would be unacceptable. However, this would not stop the application from being valid. As long as the appropriate questions are answered in a reasonable manner, the application may be accepted as valid and then determined following consultation. The fact that the environmental impacts would be unacceptable (if this is indeed the finding) should result in refusal of a permit rather than non-consideration of the application in the first place.

If the application is considered invalid, the RO shall annotate a standard letter and attach this to the Checklist for return to the DA. The RO shall return the Checklist (and annotated standard letter, if appropriate) to the DA within [15] days from the date the application was received.

Step 2-5 Administrative action on receipt of completed Checklist. On receipt of the completed Checklist, the DA shall examine the Checklist for the decision on whether the application is valid and shall act accordingly, as described below.

Application valid: The DA shall put the application (with the exception of confidential information considered under the Commercial Confidentiality procedure) into the permit register and send the applicant a standard letter acknowledging the validity of the application, setting a determination date (150 days from the date of submission), and instructing the applicant to issue a public notice (see the Consultation procedure). The use of this procedure then ends and the processing of the application will proceed in accordance with the Consultation procedure, and the Assessment of Application procedure.

Application not valid: When an application is invalid, three main courses of action are possible (the appropriate action in any particular case is a matter of judgement to be made by the RO):

1. *Return the entire application.* This is appropriate where:
   - the standard application form has not been used as required;
   - the entire application is inadequate;
   - an application to the CEA is not required at all, or will not be accepted until later; or
   - the operator has not responded to earlier letters indicating that further information is required to make the application valid.

The application fee should be retained by the CEA. However, the fee payment receipt should be valid for 6 months for a possible re-submission of the application by the operator.

2. *Return part of the application while holding the balance of the application and any fee submitted.* This may be appropriate where:
   - the application is generally satisfactory but part of the application form has not been filled in; or
   - some of the attachments (e.g., the site report, BAT proposals, etc.) are inadequate.

3. *Advise the operator of the additional requirements for the application to be valid while holding what has already been submitted.* This may be appropriate where:
   - the fee has not been attached or is insufficient; or
   - part of the application is missing but the rest is generally satisfactory.

Based on the decision by the RO on how to proceed, the DA shall send a letter to the applicant with an appropriate explanation within [15] days, placing a copy of the letter on the Working File.

If a reply to the request for further information is not received within the [15-day] period, the DA shall contact the RO and confirm the return of any parts of the application not already sent back to the applicant, together with a standard letter stating that the application cannot be considered further.

Upon receipt of a reply to a request for further information, the DA shall update the Checklist and add the reply to the Working File. The DA shall then forward the Working File to the RO. The RO shall, within [5] days, confirm a decision on whether or not the application is now valid. If the applicant has claimed commercial confidentiality for any of the information supplied additionally, this should be highlighted on the Checklist.

If a reply to a request for further information means that the application is now valid, the DA shall enter into the permit register the date on which the application was deemed valid, as recorded and signed on the Checklist by the RO, and send an acknowledgement letter to the applicant. The use of this procedure then ends and the processing of the application will

proceed in accordance with the Commercial Confidentiality procedure (where appropriate), the Consultation procedure, and the Assessment of Application procedure.

If a reply to a request for further information is not sufficient for the application to be considered valid, the RO shall advise the DA how to proceed. This may involve, for example, sending a further letter stating that the application still is invalid, and/or requesting any additional fee, as appropriate. Alternatively, the RO may advise the DA to return all outstanding application materials held by the CEA to the applicant. The procedure ends either when the application is considered valid and an acknowledgement letter is sent to the applicant, or all aspects of an application (including reimbursable part of the fee) that was invalid have been returned.

CHECKLIST FOR INTEGRATED ENVIRONMENTAL PERMIT APPLICATIONS

Name of Responsible Official (RO):_____
Name of Designated Administrator (DA):_____

Summary Sheet (main administrative data and key points in duly made check)

Item (and who checks)	**Answer**	**Notes**
Application reference (DA)		
Name of installation (DA)		
Name of operator (DA)		
Date received by CEA (DA)		
Confidentiality issues? (DA/RO)	YES/NO	
National security issues? (DA/RO)	YES/NO	
Initial <u>administrative</u> check: are administrative aspects satisfactory for application to be valid? (DA)	YES/NO	(DA to note why, if not satisfactory, and proposed action, or explain any minor details, if satisfactory)
Date passed to RO (DA)		
Deadline for application, if applicable (RO)		(only applies to existing installations)
Note of any other applications linked to this one as part of same installation (RO)		
Initial <u>technical</u> check: is application satisfactory to be valid? (RO)	YES/NO	(RO to record main reasons if unsatisfactory and action to be taken)
Date returned to DA (RO)		
If not valid in first instance, record subsequent developments and dates (DA/RO)		Letter Y/N Date Other info req'd Date Other info rec'd Date
Date application is satisfactory to be valid (RO)		**RO to sign and date**

Detailed Checklist Sheet (NB: only questions in italics are relevant to determining if application is valid)

CHECK	WHO CHECKS	ANSWER	NOTES
1. Full address provided?	DA	YES/NO	
2. Previous authorisations			
a) Previous authorisations identified correctly by applicant?	DA	YES/NO	
b) Any other previous authorisations identified by CEA (i.e., has operator missed any)?	RO	YES/NO	
3. Contact details provided for			
a) application?	DA	YES/NO	
b) ongoing operation?	DA	YES/NO	
4. Details of operator satisfactory for validity purposes?	DA	YES/NO	
5. Installation			
a) Installation table completed?	DA	YES/NO	
b) Installation table satisfactory for validity purposes?	RO	YES/NO	
c) Is installation subject to CEA regulation?	RO	YES/NO	
d) If no, might it be subject to Local Authority regulation?	RO	YES/NO/NA	(if yes, inform Local Authority)
6. Reason for application	DA	❑ NEW INSTALLATION ❑ EXISTING ❑ SUBST CHANGE	
7. Site maps and reports			
a) Has applicant attached site report?	DA	YES/NO	
b) Is it satisfactory for validity purposes?	RO	YES/NO	
c) Has applicant attached maps/plans?	DA	YES/NO	
d) Are they satisfactory for validity purposes?	RO	YES/NO	

8. Proposed techniques, emissions, and impact on the environment *Has applicant provided responses to each of the following (DA) and, if so, are they satisfactory for validity purposes (RO)?*	DA/RO	Provided (DA)	Satisfactory (RO)	
a) Raw materials and water		YES/NO	YES/NO	
b) Preventive techniques		YES/NO	YES/NO	
c) Waste management		YES/NO	YES/NO	
d) Energy efficiency		YES/NO	YES/NO	
e) Accident prevention		YES/NO	YES/NO	
f) Monitoring systems		YES/NO	YES/NO	
g) Decommissioning		YES/NO	YES/NO	
h) Proposed emissions		YES/NO	YES/NO	
i) Assessment of impacts		YES/NO	YES/NO	
9. Fee				DA/RO to note if any additional fee/refund is required
a) Is a fee payment receipt attached?	DA	YES/NO		
b) If yes to (a), is the paid amount correct?	RO	YES/NO/NA		
10. Commercial confidentiality				
a) Has applicant claimed commercial confidentiality?	DA	YES/NO		
b) If yes, has any justification been submitted?	DA	YES/NO		
c) Are there other potential confidentiality issues for which the applicant has not sought protection?	RO	YES/NO		
11. National security				
a) Has application been submitted according to national security arrangements?	RO	YES/NO		
b) Does application give rise to any other NS concern?	DA/RO	YES/NO		
12. Non-technical summary				
a) Has a non-technical summary been provided?	DA	YES/NO		
b) Is it satisfactory for validity purposes?	RO	YES/NO/NA		

13. Has the necessary additional information been attached?	DA	YES/NO/NA	Specify the types of additional information provided
14. Signatures and declaration *a) Have appropriate signatures been provided?* *b) Are the signatories satisfactory for validity purposes (i.e., do they appear to have authority to sign)?*	 DA RO	 YES/NO YES/NO	
15. Other observations	DA/RO		

2.3. COMMERCIAL CONFIDENTIALITY

The objectives of this phase of the procedure are:

a) To ensure that no commercially confidential information be included in the permit register.

b) To ensure that all requests for commercial confidentiality are determined in a timely manner in order to avoid appeals.

Step 3-1 Receipt and recording of confidentiality request. Upon receipt of an application with a request for commercial confidentiality (and declared confidential information submitted separately from the rest of the application), the DA shall send the request to the RO.

The usual permitting procedure is delayed with regard to consultation and putting the application into the permit register until commercial confidentiality has been resolved.

Step 3-2 Assessment of supporting evidence. Within [15] days of the date the application (with a request for commercial confidentiality) was deemed valid, the RO shall:

a) In the event that no additional information is required, make a decision on the request, based on the applicable regulations and guidance; or

b) In the event that insufficient information has been provided, instruct the DA to immediately notify the applicant in writing that additional information is required.

Step 3-3 Determination of request. If the RO approves the request for confidentiality, he/she shall instruct the DA to put the application, excluding the confidential information, into the publicly available permit register. The confidential information will be available only to the CEA and relevant statutory stakeholder agencies.

If the request for confidentiality, or any part of the request, is refused, the DA shall send a notification letter to the applicant with an appropriate explanation within [15] days and place a copy of the letter in the Working File. The applicant shall have [15] days in which to appeal the decision.

Step 3-4 Delay in determination. If the CEA does not determine the claim within [30] days, the decision becomes automatically that the request has been approved.

Step 3-5 Action in the absence of appeal. If any part of the information has been determined not to be commercially confidential and notification of an appeal has not been received by the DA within a period of [15] days from the date of the determination, the DA shall check with the [national environmental authority] whether it has received an appeal against the determination. If it has been confirmed that an appeal has not been received, the DA shall include the information determined not to be commercially confidential into the permit register [15] days after the appeal "window" closed. The application determination procedure then restarts.

Step 3-6 Appeal. If notice of an appeal is received by the CEA or the [national environmental authority], the RO shall contact the [national environmental authority] and act in accordance with the ensuing instructions. In a case of eventual refusal of the appeal, the applicant has an option to file a legal suit in an arbitration court (subject to a pertinent legal procedure).

2.4. CONSULTATION

The CEA should consult other statutory stakeholder agencies in order to ensure that any permit granted in response to the application includes conditions relating to other authorities' responsibilities or interests and that it does not include conditions that would compromise or conflict with the requirements of other authorities. It also has to solicit and take into account views of the public.

The purpose of this stage of the procedure is to ensure that the CEA correctly carries out the process of consultation with statutory stakeholder agencies and members of the public on a permit application.

Step 4-1 Identify statutory stakeholder agencies. During the initial technical check of the application (see Section 2.2), the RO shall identify the list of stakeholder agencies (including specific departments within the CEA) that must be consulted under the applicable laws and regulations and include that list in the Checklist. He/she shall instruct the DA to forward the application to the statutory stakeholder agencies. The DA shall check whether the applicant has provided enough copies to be sent to every relevant stakeholder agency, and if not, request additional copies from the applicant.

> *Statutory stakeholder agencies might typically advise on:*
>
> - *The sensitivity of a particular part of the environment, including wildlife habitats;*
> - *Local issues, including previous experience with the applicant and his compliance record;*
> - *Requirements imposed by other regulatory regimes that may affect the permit determination, such as those associated with land use planning; and*
> - *Specific effects of the proposal, such as the possible effects of releases on public health.*
>
> *Where a country has an obligation to inform neighbouring countries of developments that may affect them, as under the Espoo Convention, for example, appropriate procedures will also need to be developed for transboundary consultation at this stage. Arrangements vary from country to country but, in many cases, the regulatory authority is obliged to conduct such consultation by way of a Ministry for Foreign Affairs or its equivalent.*

Step 4-2 Forward application to statutory stakeholder agencies. Within [15] days of the date the application was deemed valid or commercial confidentiality has been resolved (whichever comes later), the DA should send copies of the application to the statutory stakeholder agencies with a cover letter specifying the inputs requested of them (comments, approval, or elaborated permit conditions) and instructing them that they have [45] days to provide them. For existing installations, the past compliance record shall be explicitly requested from the [relevant enforcement authority]. The letter shall also state the name and address of the DA, to whom the responses shall be sent. The DA shall update the permit register with details of who has been consulted and when.

Step 4-3 Instruct the applicant to issue a public notice. The DA shall send to the applicant a standard acknowledgement letter for a valid application (see Section 2.2). This letter shall remind the applicant that he is required by [name of law or regulation] to advertise his application in one or more newspapers circulating in the locality in which the installation will be operated. The public notice must be placed within [15] days of the receipt of the acknowledgement of a valid application, or within [15] days of the decision on the claim for

confidentiality, whichever comes later. In addition, the letter shall require him to advise the CEA in writing when the public notice has been made. The public notice shall include (see example attached):

- Applicant's details;
- Address of the installation;
- Activities to be carried out;
- Location where the public can examine the application; and
- The address and deadline for sending written comments to the CEA.

The DA shall place a copy of the acknowledgement and stakeholder agency letters in the Working File.

Step 4-4 Issuance of public notice. Where a copy of the public notice has been received within the appropriate period, the DA shall place a copy of it in the permit register. Where it appears, following enquiry, that the applicant has issued a public notice but has failed to supply a copy of it to the CEA, the DA shall send a reminder letter.

Where it appears, following enquiry, that the applicant has failed to issue a public notice within the required period, or the notice is not consistent with the requirements, the RO shall assess whether there are grounds to refuse the application. Where the RO concludes that it is appropriate to offer the applicant a further opportunity to issue an appropriate public notice, the RO shall advise the DA to write the applicant a reminder letter or notice of the need to re-issue a public notice within [10] days.

Step 4-5 Receipt of consultation responses. The DA shall note all the consultation responses, from statutory stakeholder agencies and the public, in the Working File, and inform the RO.

The DA shall confirm whether the stakeholder agencies have responded by the due date, and where there has been no response, inform the RO. The RO shall then decide whether the determination should proceed without a direct response from that agency, and

a) where the receipt of a response is considered by the RO to be sufficiently important, the DA shall send a reminder and note the due date for reply (10 days from the issue date of the reminder). Where this prompts no response, the RO has the discretion to proceed without it.

b) where the determination may proceed without a response, the RO shall note his/her view in the Working File and continue the procedure.

Public Notice

PUBLIC NOTIFICATION OF AN APPLICATION MADE UNDER [name and number of regulation]

For an INTEGRATED ENVIRONMENTAL PERMIT

Notice is hereby given that [name of applicant] has applied to the [title of CEA] for an integrated environmental permit (IEP) to operate an installation involving the [brief characterisation of activities to be carried out].

The installation is located at [site address].

The application contains a description of any foreseeable significant effects of the installation on the environment.

Information relating to the above IEP application for a permit to operate the [name of installation] is held in the permit register at the following location:

[CEA name and visiting address]
[Office hours]
Contact person: [name and contact information]

Members of the public can consult the permit registers free of charge at the above stated address during office hours. In addition, members of the public who wish to obtain a copy of the relevant information contained in the register can do so upon the payment of a nominal charge to cover the costs of copying.

Any objections to or comments on the above IEP application should be made in writing to the [CEA name] at the address below, within 30 days from the date of this public notice.

[CEA name and postal address]

2.5. ASSESSMENT OF APPLICATION AND DETERMINATION OF PERMIT CONDITIONS

The purpose of this part of the procedure is to identify the actions necessary to determine a valid application for an IEP in accordance with statutory obligations and the CEA policy.

Step 5-1 Appoint Permit Determination Team. The RO shall form a "Permit Team" comprising staff of different departments within the CEA (air, water, waste management, environmental assessment, etc.) that will be charged with assessing different aspects of the permit application.

Step 5-2 Assessment of Need for Further Information. Within [15] days of the application being deemed valid, or within [15] days of the decision on commercial confidentiality, whichever comes later, the Permit Team shall carry out an initial assessment to identify any major pieces of additional information that the applicant should be asked to provide. The DA shall send a notice to the applicant requesting the respective information within [30] days. It may be that the applicant will decide to supply additional information without the requirement for a notice. While awaiting additional information, the Permit Team may be able to proceed with other aspects of the determination and should do so where possible.

Step 5-3 Assessment of stakeholder agency consultation responses. The Permit Team shall assess any comment or response and conclude whether its dictates:

a) a refusal or the need for further information to inform the assessment (refer to Step 5-5);

b) any significant changes to the assessment, including the need for any specific permit conditions (refer to Step 5-7) and;

c) where the Permit Team judges that a written reply is required or the stakeholder agency specifically requests one, the Permit Team should draft a reply outlining the action taken in response to that agency's contribution.

Step 5-4 Assessment of public responses. The Permit Team shall assess any response and conclude whether its dictates:

a) a refusal or the need for further information to inform the assessment (refer to Step 5-5);

b) any significant changes to the assessment, including the need for any specific permit conditions (refer to Step 5-7) and;

c) where the Permit Team judges that a written reply to a public representative is warranted, the Permit Team should draft a reply outlining the action taken in response to that objection or comment, and have the DA send a respective letter.

Step 5-5 Assessing additional information. On receipt of additional information from the applicant, the DA shall note claims for confidentiality and the RO shall check whether the response contains information which has previously been accepted as commercially confidential. The RO shall refer to the Commercial Confidentiality procedure in resolving any issues. Once confidentiality issues are resolved, the DA shall copy the additional information into the permit register and, if necessary, to stakeholder agencies. The letter to stakeholder agencies shall indicate which information is considered to be commercially confidential.

Having assessed the information in the application, the Permit Team shall:

a) where the information is sufficient, prepare a draft permit (see step 5-7).

b) where the information is insufficient, refer to step 5-6.

Step 5-6 Insufficient information. Where the information remains insufficient to allow completion of the determination, the Permit Team should discuss the action it proposes with the RO in order to conclude whether to:

a) issue a further notice to supply additional information (N.B.: from issue of any such notice until the information is supplied, the "clock is stopped" in terms of the determination period); or

b) refuse the application.

The RO shall make this decision and record in the Working File the rationale used.

Step 5-7 Draft permit preparation. Having concluded that sufficient information is available, the Permit Team shall, using the members' professional judgement and taking into account all comments received from the consultation and the past compliance record, if applicable:

a) insert clear, precise, and unambiguous limits and conditions into the standard permit (see Chapters IV and V of these Guidelines); and

b) draft a decision document, highlighting key issues as appropriate, referring to the application, its assessment, and consultation replies to justify permit conditions and any deviations from the standard permit format, and;

c) assess if the operator can comply with the draft permit conditions; and

d) no later than [60] days after the application was deemed valid, or after the decision on commercial confidentiality, whichever comes later, pass the Working File with the completed draft permit and decision document to the RO for review.

Step 5-8 Review by Responsible Official. The RO shall review the detail of the draft permit by reference to the decision document and supporting documentation, recording any comments and recommendations within [15] days, and

a) if further action is deemed necessary, the Permit Team shall review the RO's assessment: refer back to Step 5-7, or

b) if acceptable, proceed to Step 5-9.

Step 5-9 Consultation on the draft permit. The RO may decide to have a consultation on the draft permit to avoid factual errors and ensure that there are no surprises or misunderstanding when the operator receives the final permit (which may lead to an unnecessary appeal). Consultation on the draft is a good regulatory practice, but it should not be required in all instances. Consultation on a draft permit variation notice (see Section 2.6) is not required.

If the RO has decided to have a consultation on the draft permit, the DA shall send a copy of the draft permit to the installation contact named in the application, as well as to statutory stakeholder agencies, noting the expected reply period of [15] days, and when the applicant or a stakeholder agency replies, or at the end of the reply period, the DA shall pass the file to the Permit Team for consideration.

Step 5-10 Permit issuance or refusal.

Issuance. The Permit Team shall make final amendments to the permit and finalise the decision document. The RO shall complete a final review of the permit and the decision document. When content, the RO shall sign the permit and the decision document. The permit comes into effect on the date requested in the application, unless otherwise noted.

The DA shall:

a) issue the permit with a cover letter (noting the date of the appropriate appeal period, with details of the appeal procedure) to the operator,

b) put a copy into the permit register, and

c) send a copy to the [relevant enforcement authority] and, if requested, to other statutory stakeholder agencies.

Refusal. The Permit Team, in consultation with the RO, shall finalise the decision document to set out the reasons for the recommended refusal and shall submit it for consideration to the head of the permitting department of the CEA.

The criteria for refusal may include the following:

- The environmental impact would be unacceptable.
- The information provided by the operator does not provide a reasonable basis to determine the permit conditions.
- The operator's proposals cannot comply with specific regulations or standards.
- It is apparent that the operator cannot comply with the permit conditions due to his lack of the management systems or competence.

Where the proposal to refuse is not agreed by the head of the permitting department of the CEA, the Permit Team shall take necessary action to address the cause of the proposed refusal, e.g., by requesting further information (thereby delaying the determination process). If the proposal to refuse is agreed, the RO shall prepare (on the basis of the decision document) and sign a refusal notice.

When the refusal notice has been signed, the DA shall send it to the applicant, noting the details and deadline for appeal, and shall copy the notice to the permit register and the stakeholder agencies. The refusal notice shall specify the reasons for which the application was refused.

Step 5-11 Extending the Determination Period.

The CEA should normally determine a valid application within [150] days of its submission. This does not include any time the applicant may have taken to supply further information requested by the CEA or the time taken by a possible appeal against a CEA decision on commercial confidentiality. However, the CEA and the applicant may agree on a longer determination period at the initiative of either party.

CEA initiative. Where the Permit Team believes that the permit is unlikely to be issued by the due date, it shall note the reason for delay in the Working File and inform the RO. The RO shall decide if it is appropriate to request an extension and, if so, arrange for the DA to write requesting an extension. If the applicant:

a) agrees to the request, the DA shall inform the RO, revise the determination date and include a copy of the correspondence in the Working File.

b) refuses the request, the DA shall inform the RO, who shall review the Permit Team's opinion that the existing determination date is unlikely to be met and make a management decision, considering that the applicant has a right to appeal a deemed refusal if the CEA fails to make a decision by the determination date indicated in the acknowledgement letter (Step 2-4).

c) does not reply, the absence of reply should be treated as an acceptance, so the DA shall send a confirmation to the applicant of the new determination date and copy the correspondence to the permit register.

Operator's initiative. The DA shall record the receipt of any request and the RO shall assess the request, noting the decision in the Working File. The DA shall issue a reply to the operator.

Withdrawal. Upon receipt of a letter from the applicant requesting withdrawal, the DA shall inform the Permit Team and send an acknowledgement to the applicant, with a copy to the stakeholder agencies.

Step 5-12 Appeal. Any person or body, including the applicant for a permit, can make an appeal to the [national environmental authority] against a refusal to grant a permit or against a certain condition(s) in the permit that has been granted. To be valid, an appeal must be received by the [national environmental authority] within [30] days beginning on the day the CEA notified the applicant of its decision. It is the responsibility of the party submitting the appeal to ensure that it is received by the [national environmental authority] on time. The appeal must also meet the following requirements:

a) be in writing;

b) state the name and address of the objector;

c) state the reference number of the application;

d) state the subject matter of the objection;

e) state the grounds for the objection and the reasons, considerations, and arguments on which they are based; and

f) be accompanied by whatever documents the objector considers necessary and appropriate.

When the DA of the CEA receives a notice of appeal from the [national environmental authority], he/she should inform the RO. If the appeal is against conditions of a permit that has been granted, the permit shall not enter into force until the appeal is settled.

The [national environmental authority] may request any party to an appeal to submit (within a specified period) any information it deems necessary to allow for the consideration of the appeal.

The [national environmental authority] may decide at its discretion to consider the appeal(s) internally or hold a hearing within [30] days of the deadline for submission of the appeal(s). If the [national environmental authority] schedules an oral hearing of the appeal(s), it shall notify the CEA, the applicant, and any other parties to the appeal(s) of the time and place of the hearing no less than [7] days in advance. Each party to each appeal can appear in person or be represented.

The appeal may be withdrawn by the objector at any time by way of a written notice to the [national environmental authority].

Within [15] days of the hearing of the appeal(s) or within [45] days of the deadline for submission of appeals, whichever comes later, the [national environmental authority] shall send its determination to the CEA. The determination may be to refuse a permit or to grant a permit with appropriate conditions (to be specified in the determination).

Upon receipt of the appeal determination from the [national environmental authority], the CEA shall follow Step 5-10, and issue a final decision (a modified permit or a confirmation of refusal) to the applicant within [15] days. If the applicant or any other party is unsatisfied with the CEA's decision on the appeal, it may file a suit against the CEA in an arbitration court (subject to a pertinent legal procedure).

2.6. PROVISIONS FOR PERMIT VARIATION, SURRENDER, AND REVOCATION

1. Permit variation at the operator's initiative. Different procedures apply, depending on the significance of operational changes at the installation.

1a. Substantial changes in operation. According to [*reference to applicable legislation*], the operator shall apply for a variation of a permit if a change to the permitted operation is substantial, i.e., likely to require a variation of the permit conditions. The operator must use the standard permit application form and complete it with respect to any changes compared to the original permit application, including proposed variations of the permit conditions, as well as pay an administrative fee (if applicable). The CEA shall then follow the procedure in Sections 2.2, 2.3, 2.4, and 2.5. However, instead of a permit, the CEA's Permit Team shall prepare (Step 5-7), and the RO review (Step 5-8) and issue a Notice of Permit Variation or refuse the application (Step 5-10). The variation notice shall specify the modified permit conditions and the dates they take effect. The appeal procedure of Step 5-12 fully applies to variation notices.

1b. Non-substantial changes in operation. If the change in operation is not likely to require a variation of the permit conditions, the operator is required to send the CEA a formal notification letter at least [30] days before the change is scheduled to take effect, justifying his belief that the change does not require an application for variation.

If the RO agrees with the justification, he/she shall sign a letter to the operator agreeing with the change as notified, and have the DA send it no later that [15] days after the receipt of the notification, and update the permit register.

If the RO believes that the change may breach the existing permit conditions, or that the nature of the change requires more detailed reconsideration of the permit conditions, he/she shall sign a letter to the operator informing him of the need to submit a formal application for a variation notice, and have the DA send it no later that [15] days after the receipt of the notification.

1c. Other variations. Variations that do not affect permit conditions (e.g., contact information changes) can be made through a letter by the operator to the CEA within [5] days of the change. A formal acknowledgement of such changes is not required, but the DA shall update the permit register.

2. Permit variation at the CEA initiative. The CEA may vary permit conditions at any time, even if the operator has not requested it. The CEA shall then follow Steps 5-7 through 5-10 of the permitting procedure to issue a Notice of Permit Variation. The operator has a right to appeal in accordance with Step 5-12 of the procedure.

3. Permit surrender. At any time, the operator may submit an Application for Permit Surrender to the CEA. The RO shall consider the application within [30] days and sign a letter of acknowledgement of surrender that would specify which parts of the permit (e.g., decommissioning conditions) will continue to be valid and until which date. The DA shall send the letter to the operator, update the permit register, and notify the [relevant enforcement authority].

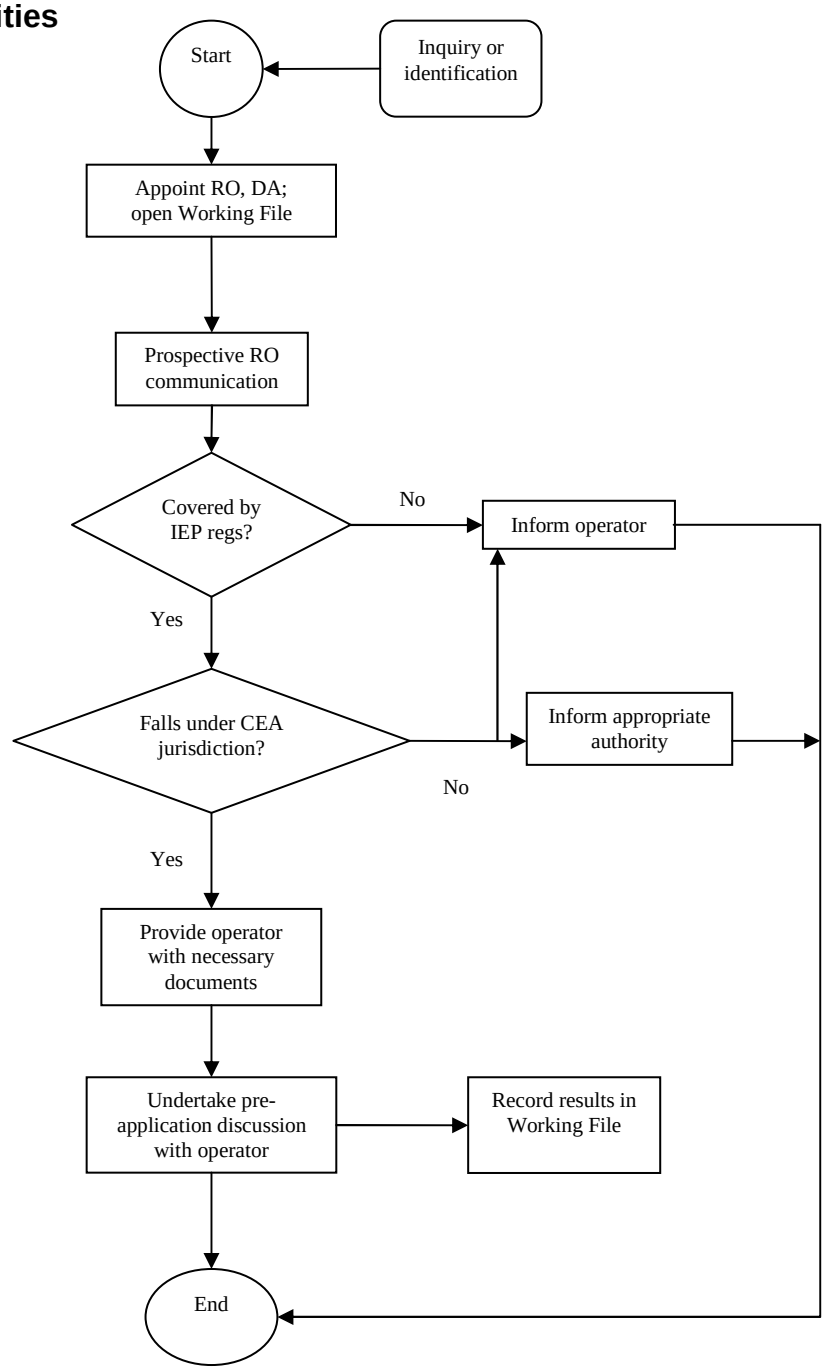
4. Permit suspension and revocation. If the operation of a permitted installation involves an imminent risk of serious pollution, even if the operator is not in violation of the permit conditions, the [relevant enforcement authority] may, under [reference to applicable legislation] and according to its own procedures, issue a *suspension notice* to the operator, with the copy to the DA of the permitting department of the CEA. The permit then ceases to authorise the operation of the entire installation or individual activities, for a definite or indefinite period of time, depending upon what is specified in the notice. The DA shall inform the RO and update the permit register.

In the event of recurrent violations of the permit conditions, the [relevant enforcement authority] may, under [reference to applicable legislation] and according to its own procedures, issue a *revocation notice* to the operator, with the copy to the DA of the permitting department of the CEA. The permit then permanently ceases to authorise the operation of the entire installation or individual activities, depending upon what is specified in the notice. The DA shall inform the RO and update the permit register.

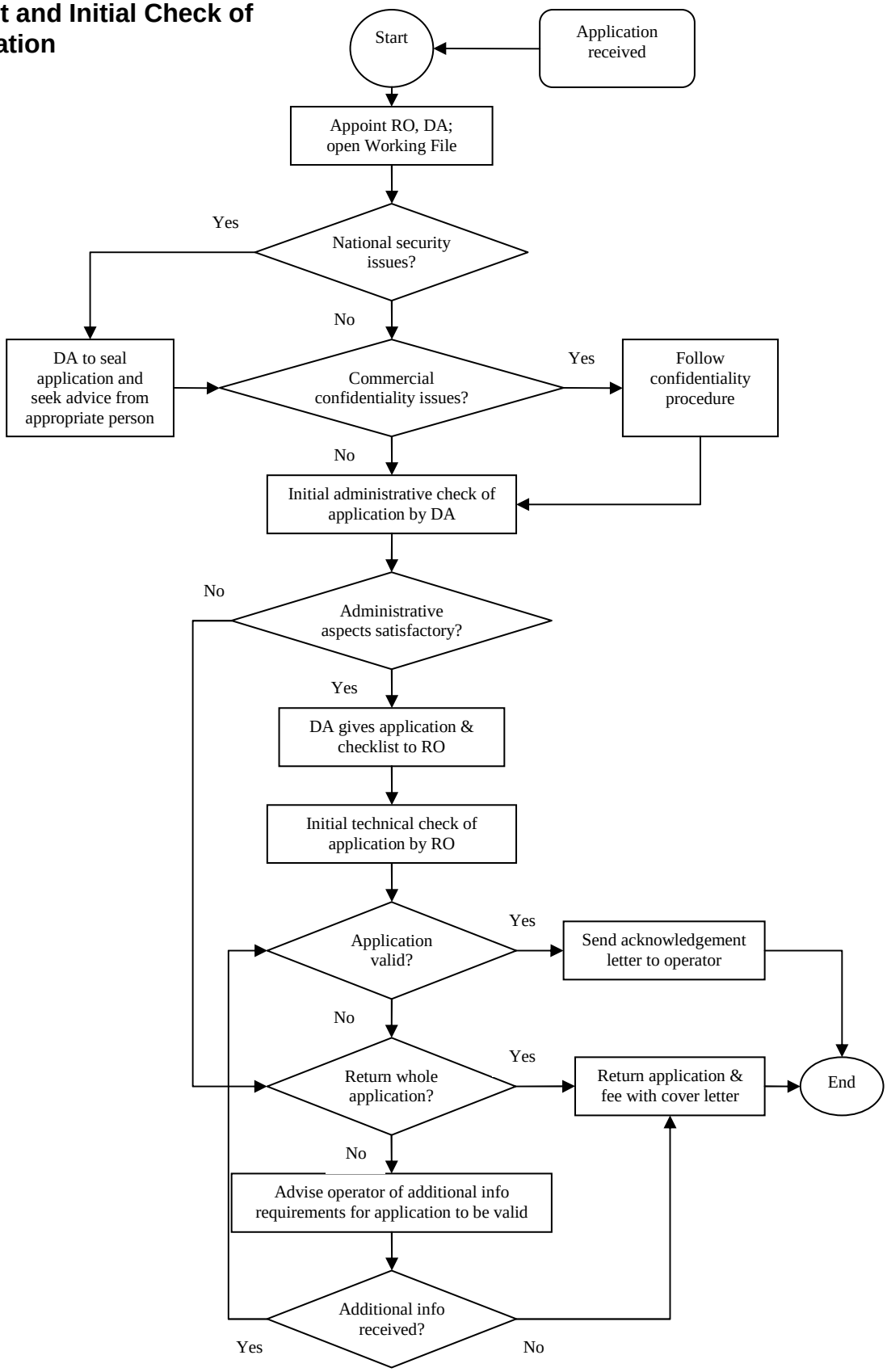
The operator can appeal against a suspension or a revocation notice according to a procedure of the [relevant enforcement authority] that must be reflected in the notices. If the appeal is against a suspension notice, it must be complied with until the appeal is determined. If the appeal is against a revocation notice, the permit will remain in force until the appeal has been determined or withdrawn.

APPENDIX 2.1: FLOWCHARTS OF THE PERMITTING PROCEDURE

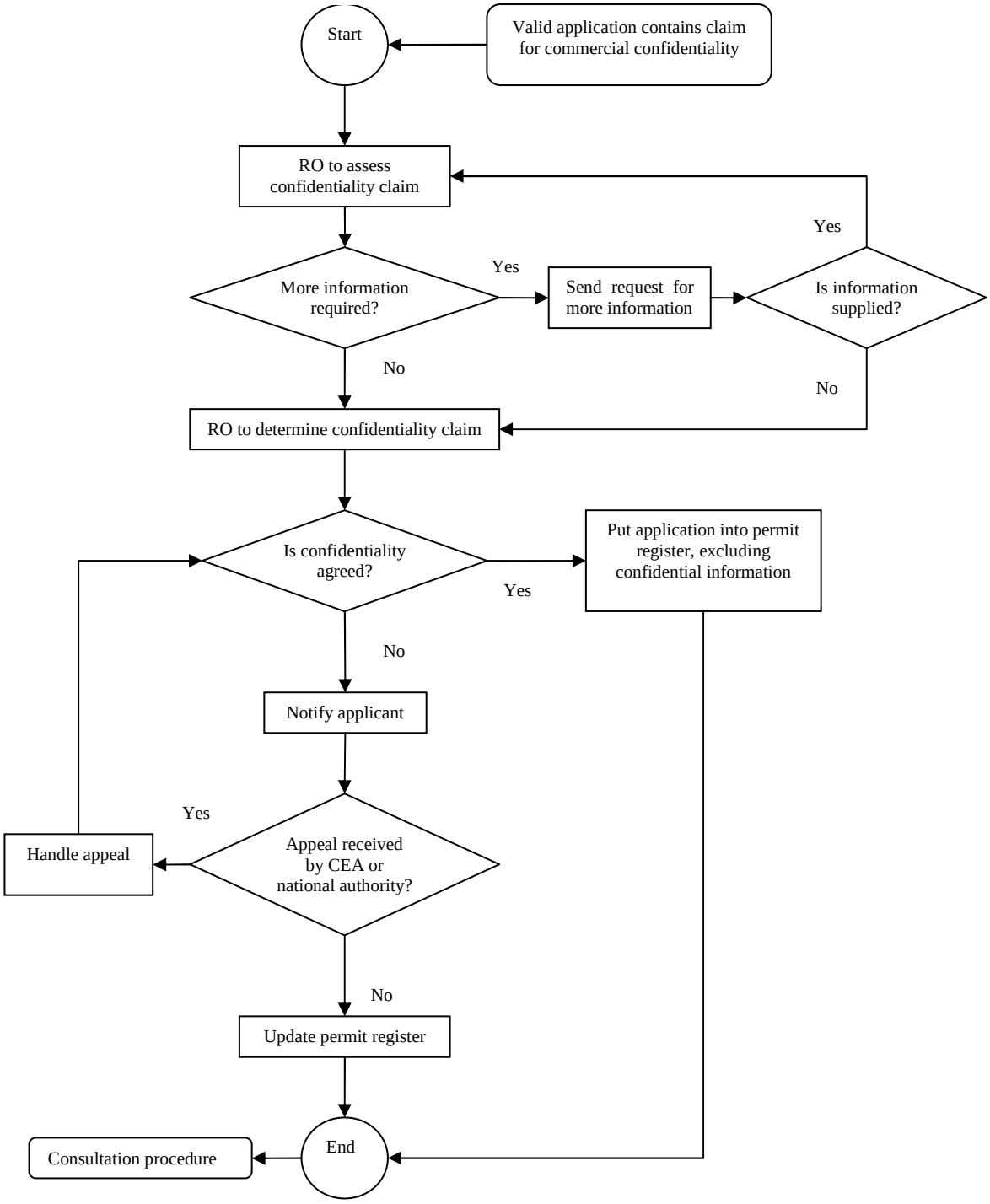
Pre-application Activities



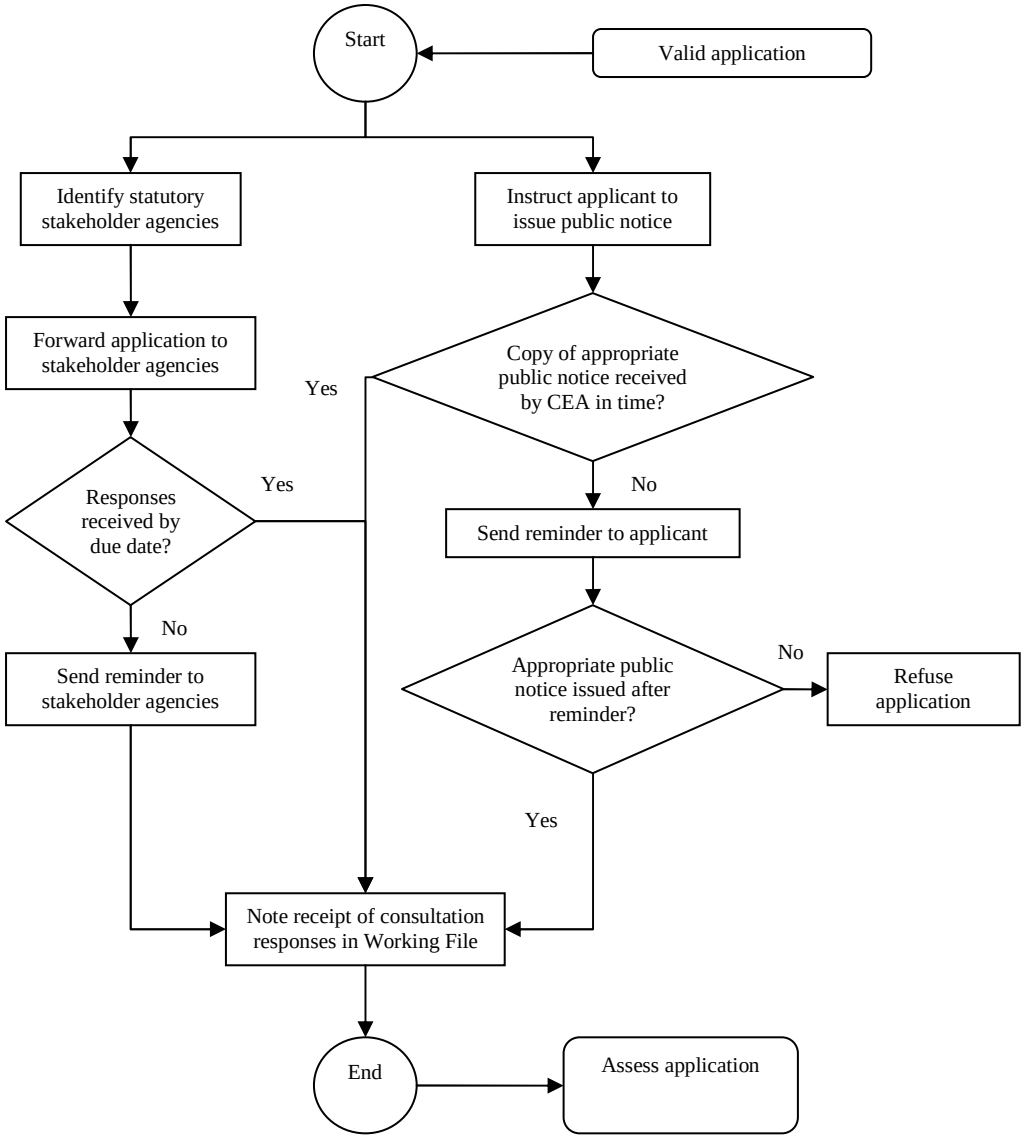
Receipt and Initial Check of Application

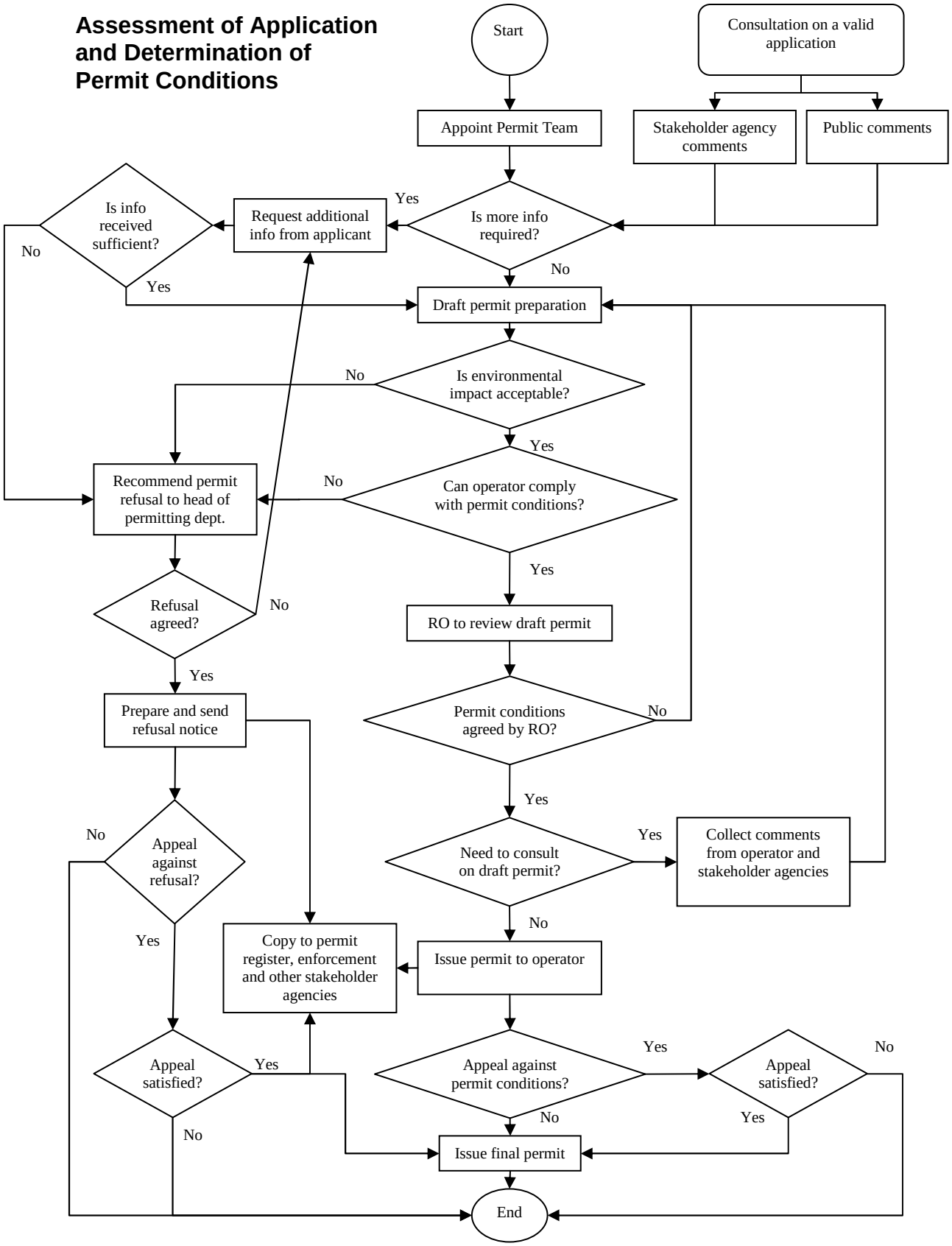


Commercial Confidentiality



Consultation




Assessment of Application and Determination of Permit Conditions
Start
Consultation on a valid application
Appoint Permit Team
Stakeholder agency comments
Public comments
Is more info required?
Yes
Request additional info from applicant
Is info received sufficient?
No
Yes
No
Draft permit preparation
Is environmental impact acceptable?
No
Yes
Can operator comply with permit conditions?
No
Recommend permit refusal to head of permitting dept.
Yes
RO to review draft permit
Refusal agreed?
No
Yes
Permit conditions agreed by RO?
No
Yes
Prepare and send refusal notice
Need to consult on draft permit?
Yes
Collect comments from operator and stakeholder agencies
No
Appeal against refusal?
No
Yes
Issue permit to operator
Copy to permit register, enforcement and other stakeholder agencies
Appeal against permit conditions?
Yes
Appeal satisfied?
No
Appeal satisfied?
Yes
No
Yes
No
Issue final permit
End

APPENDIX 2.2: TIMELINE OF THE PERMITTING PROCEDURE

This timeline summarises the time limits of the main steps of the procedure. The number of days suggested in this timeline reflect best international regulatory practices. The timeline assumes that the permit application is accompanied by a request for commercial confidentiality. The timeline does not include the time taken by the applicant/operator to furnish additional information requested by the CEA or the time necessary to consider a possible appeal against a CEA decision on commercial confidentiality (the timeframes for these actions are noted in the text of the procedure). These additions may prolong the procedure significantly.

Start	**Application received, Working File opened by the Designated Administrator (DA).**
2 days	Initial national security and commercial confidentiality check completed by the DA.
5 days	Initial administrative check of application completed by the DA.
15 days	Initial technical check of application and checklist completed by the Responsible Official (RO). If the application is valid, an acknowledgement letter sent to the applicant by the DA.
30 days	Request for commercial confidentiality determined by the RO.
45 days	Application forwarded to statutory stakeholder agencies. Permit team appointed.
60 days	Public notice issued by the applicant.
90 days	Consultation responses received from stakeholder agencies and the public.
105 days	Draft permit completed.
120 days	Draft permit reviewed by the RO.
135 days	Consultation on the draft permit completed.*
150 days	**Permit or refusal notice issued.**
180 days	Possible appeal(s) received against a refusal of a permit or particular permit conditions.
225 days	Appeal(s) determined.
240 days	**Final decision (modified permit or confirmation of refusal) issued by the CEA to the applicant. End.**

* This step may not be necessary and is conducted at the discretion of the RO.

Chapter III
Integrated Environmental Permit Application Form (with instructions)

INTEGRATED ENVIRONMENTAL PERMIT APPLICATION FORM

INTRODUCTION

This Form shall be used for an application to the Competent Environmental Authority (CEA) for an Integrated Environmental Permit (IEP) under Regulation No. […] The applicant is strongly advised to read the *Instructions* to this Form.

The basic information should for the most part be supplied in the spaces given in the Application Form. In the case of questions required to be answered on the Application Form itself, continuation sheets should be used if extra space is needed and be clearly referenced to the respective sections of the Application Form. Any supporting documentation should be supplied as supplementary attachments, as specified. The attachments should be clearly cross-referenced (by using the application reference number or the name of the installation) with the relevant sections in the Application Form.

While some sections in the Application Form may not be relevant to the installation or activity concerned, the applicant should look carefully through all aspects of the form and provide the required information, in the greatest possible detail.

COMMERCIAL CONFIDENTIALITY AND NATIONAL SECURITY ISSUES

Information supplied in this application, including supporting information, will be put in the permit register open to the public. The applicant has a right to claim protection of information judged to be commercially confidential or subject to consideration against public disclosure. A claim for *commercial confidentiality* must show that the revealing of specified information or its inclusion in a public register would prejudice the operator's commercial interests to an unreasonable degree. The claim should be made in an attachment to the application, and the information proposed for protection should be submitted separately and appropriately marked "claimed confidential" in order to facilitate its exclusion from the public register.

A claim for protection of information on the grounds of *national security* should be made separately and **no reference to it should be made in the main application**. Contact the CEA before submitting the application to determine who is authorised to receive such information. Submit the application in a sealed package to that person only.

Section A. General

A1 Installation

Name of the installation:

Location of the site of the installation (address, telephone number, fax number):

Mailing address (if different from above):

NB: A location map (with grid coordinates) should be enclosed in Attachment 1.

Give details of any existing permit(s) for the installation (permit numbers, types and dates of issue):

A2 Operator

A2.1 Legal Status of Operator. Is the operator an individual or a company/corporate body?

__ Individual: *go to question A2.2*

__ Company or corporate body: *go to question A2.3*

A2.2 Individual Applicants. Please give the following details:

Full name:

Date of birth:

Business mailing address:

Contact numbers (phone, fax, e-mail):

A2.3 Corporate Applicants. Please give the following details:

Full company name:

Registered office mailing address:

Principal office visiting and mailing addresses (if different):

Company registration number:

Date of formation of company:

Please provide a copy of the certificate of incorporation (registration) and any certificates of subsequent name changes (Attachment 2).

A2.4 Authorised Operational Contact Person. Please give the following details:

Full name:

Position:

Mailing address:

Contact numbers (phone, fax, e-mail):

Section B. Environmental Impacts of the Installation

B1 Scope of Installation and Initial Condition of Site

B1.1 Activities of the Installation. Please fill in the installation summary table below with details of all the activities and operators at the entire installation.

Principal activities	**Operator**
Directly associated activities	**Operator**

B1.2 Site Report. Please provide a site report describing the condition of the site of the installation and, in particular, identifying any substance in, on, or under the land that may constitute a pollution risk.

Document reference number for the report (Attachment 3):

B1.3 Site Maps. Please provide suitable maps showing the location of the site of the installation, the location and nature of the various activities on that site, and the area of the site covered by the site report.

Document reference number for the maps or plans (Attachment 4):

B2 Proposed Operational and Management Techniques

In this section, describe the installation, methods, processes, and operating procedures for the activity, and include a copy of site plans and location maps, process flow diagrams, and other supporting documentation necessary to explain all aspects of the activity.

B2.1 Use of Raw Materials and Water. In Table B2-1, provide a list of *all* the raw and auxiliary materials, substances, and preparations, that will be utilised in the activity. In Table B2-2, provide information about the volume of the water abstracted by the installation and/or consumed from the public drinking water supply, and its use in the activity.

Table B2-1. Details of Process-Related Raw Materials, Intermediates and Products Used by the Installation

Ref. No.	Material/ Substance	Organic/ Inorganic	Danger Category	Amount Stored (tonnes)	Annual Usage (tonnes)	Nature of Use	Radioactive? (Yes/No)	Toxic? (Yes/No, note type of toxicity)

Table B2-2. Water Consumption

Ref. No.	Source of Water	Location of Abstraction Point	Daily Water Consumption, m3/day	Annual Water Consumption, m3/yr	Nature of Use

B2.2 Techniques for Prevention and Control of Emissions and Waste. In a separate document, describe the proposed installation activities and the proposed process techniques and measures to prevent and reduce waste generation and emissions of polluting substances (including during periods of start-up or shut-down, momentary stoppage, leak, or malfunction). Provide the following details:

- Process flow sheet schematics;
- Annual production, mass and energy balance information;
- Diagrams of main plant items;
- Details of chemical reactions in the production process (if relevant) and their kinetics, mass and energy balances;
- Description of all pollution abatement equipment;
- Control and instrumentation systems; and
- Start-up and shut-down procedures.

Document reference number (Attachment 5):

B2.3 Waste Management. Complete Table B2-3, providing for each waste material its name, description, and nature, European Waste Catalogue (EWC) Code reference, source (activity/process) and amount, and management techniques (storage; treatment; recovery, reuse, or recycling; or final disposal). In a separate attachment:

For on-site storage areas, provide information on their location and capacity and demonstrate that appropriate arrangement are in place to guarantee safe storage of hazardous wastes.

For waste to be disposed of off-site, details of transport off-site, name of undertaker, treatment used, location of ultimate disposal, and final method of disposal should be provided. Copies of relevant waste management licences and written agreements of acceptance of wastes should also be provided.

For waste to be disposed of on-site, full details of the disposal site should be submitted, including, among others, site selection procedures, location maps, geological and hydro-geological conditions, operational plans, containment, and gas and leachate management.

Document reference number (Attachment 6):

Table B2-3. Waste Management

Waste material	EWC Code/ Hazard category	Main source(s)	Quantity		Storage (method, location, and undertaker)	Treatment, reuse, or recycling (method, location, and undertaker)	Final disposal (method, location, and undertaker)
			Tonnes/yr	m3/yr			

B2.4 Energy Use and Efficiency. In a separate document, provide a breakdown of energy generation and consumption by source and end-use, respectively. Describe the proposed measures for improvement of energy efficiency. Attach an energy efficiency plan for the installation, if one exists.

Document reference number (Attachment 7):

B2.5 Emergency Preparedness. In a separate document, describe the documented system proposed to be used to identify, assess and minimise the environmental risks of accidents and their consequences. Provide details of existing protection systems for periods of abnormal operation, as well as emergency relief systems.

Document reference number (Attachment 8):

B2.6 Monitoring Systems. Identify emission monitoring and sampling points and complete Table B2-4 (copy as many times as necessary) for each monitoring point for:

a) air emissions;

b) emissions to surface waters;

c) emissions to sewers; and

d) emissions to the ground.

Indicate special provisions for monitoring during installation start-up, shut-down, and abnormal process conditions.

If ambient environmental monitoring is proposed to be carried out, complete Table B2-4 for each monitoring point for:

a) air;

b) surface waters;

c) groundwater; and

d) soil

Table B2-4. Monitoring and Sampling Points (one table per monitoring/sampling point)

Monitoring point ref. No.	Parameter	Monitoring frequency	Accessibility of monitoring/ sampling point	Sampling method	Analysis method/ technique and undertaker	Quality control technique and undertaker

B2.7 Decommissioning and Remediation. In a separate document, describe the existing or proposed measures to minimise the impact on the environment after the activity or part of the activity ceases operation, to avoid any pollution risk and return the site of the installation to a satisfactory state (including relevant measures for the design and construction of the installation, provisions for post-closure care of any potentially polluting residues).

Document reference number (Attachment 9):

B2.8 Environmental Management System (EMS). In a separate document, provide details on the environmental management structure and procedures for the installation. Include EMS certificates, if applicable.

Document reference number (Attachment 10):

B3 Proposed Emissions

B3.1 Emissions to the Atmosphere. Complete all the tables in this section, supplying details of all point emissions to atmosphere. A summary list of all the emission points, together with maps, drawings, and supporting documentation should be included as an attachment. Plans of emission point elevations should also be included, as well as detailed descriptions and schematics (clearly labelled process flow diagrams) of all abatement systems. Provide information on fugitive emissions and respective control measures in a separate attachment.

For emissions outside the [BAT/technical guidance limit], a full evaluation of the existing abatement/treatment system must be provided. *A planned programme of improvement, including budget justification, toward meeting the [BAT/technical guidance limit] is required.*

Table B3-1. Emissions to the Atmosphere: General Characteristics (one table per emission point)

Emission point Ref. No.	
Location	
Vent details: Diameter Height above ground (m)	
Volume to be emitted: Average/day (m3/day) Maximum/day (m3/day) Maximum rate/hour (m3/hr) Minimum efflux velocity (m/sec)	
Temperature (max/min/average)	
For combustion sources: Volume terms expressed as __wet __dry _____%O2	
Average periods of emission (min/hr; hr/day; day/yr)	

Table B3-2. Emissions to the Atmosphere: Chemical Characteristics (one table per emission point)

Emission point Ref. No. ____

Parameter	Prior to treatment[1]				Brief description of treatment	As discharged				
	mg/Nm3		kg/h			mg/Nm3		kg/h		kg per unit of product or raw material (average)
	Average	Max	Average	Max		Average	Max	Average	Max	

[1] Concentrations should be based on Normal conditions of temperature and pressure.

Table B3-3. Emissions to the Atmosphere: Minor Atmospheric Emissions

Emission point ref. numbers	Description	Emission details[1]				Abatement system employed
		substance	mg/Nm3	kg/h	kg/yr	

[1] The maximum emission should be stated for each substance emitted, the concentration should be based on the maximum 30-minute mean. Concentrations should be based on Normal conditions for temperature and pressure.

Table B3-4. Emissions to the Atmosphere: Potential Atmospheric Emissions

Emission point ref. numbers	Description	Malfunction which could cause an emission	Emission details[1]		
			substance	mg/Nm3	kg/h

[1] Estimate the potential maximum emission for each malfunction identified.

B3.2 Discharges to Surface Waters. Complete all the tables in this section, supplying details of all point discharges to surface waters. A summary list of all the discharge points, together with maps, drawings, and supporting documentation should be included as an attachment. Detailed descriptions and schematics (clearly labelled process flow diagrams) of all effluent treatment/abatement systems should also be included. Provide water flow data and representative analysis of water quality in the receiving water body in a separate attachment.

For discharges outside the [BAT/technical guidance limit], a full evaluation of the existing abatement/treatment system must be provided. *A planned programme of improvement, including budget justification, toward meeting the [BAT/technical guidance limit] is required.*

Table B3-5. Discharges to Surface Waters: General Characteristics (one table per discharge point)

Discharge point Ref. No.	
Source of discharge	
Location	
Name of receiving waters	
Flow rate in receiving waters: Dry weather flow (m3/sec) 95-%ile flow (m3/sec)	
Available waste assimilative capacity of the receiving waters (kg/day)	
Volume to be discharged: Average/day (m3/day) Maximum rate/hour (m3/hr) Maximum rate/day (m3/day)	
Average periods of discharge (min/hr; hr/day; day/yr)	

Table B3-6. Discharges to Surface Waters: Physical and Chemical Characteristics (one for each discharge point)

Discharge point ref. No. ____

Parameter	Prior to treatment			Brief description of treatment	As discharged			
	mg/l		kg/day		mg/l		kg/day	kg per unit of product or raw material (average)
	Max hourly average	Max daily average			Max hourly average	Max daily average		

B3.3 Discharges to the Sewer. Complete all the tables in this section, supplying details of all discharges to the sewer. A summary list of all the discharge points, together with maps, drawings, and supporting documentation should be included as an attachment. Describe any effluent pre-treatment systems not described in Section B3.2.

For discharges outside the [BAT/technical guidance limit], a full evaluation of the existing abatement/treatment system must be provided. *A planned programme of improvement, including budget justification, toward meeting the [BAT/technical guidance limit] is required.*

Table B3-7. Discharges to the Sewer: General Characteristics (one table per discharge point)

Discharge point Ref. No.	
Location of connection to sewer	
Name of sewer operator	
Volume to be discharged: Average/day (m3/day) Maximum rate/hour (m3/hr) Maximum rate/day (m3/day)	
Average periods of discharge (min/hr; hr/day; day/yr)	

Provide all relevant information on the receiving sewer, including:

a) a copy of the agreement or permission of the sewer operator to accept the effluent (attach);

b) information on any anticipated problems of sewage treatment associated with the proposed effluent;

c) information on possible reactions of the effluent

d)

e) with other effluents likely to be in the sewerage system; and

f) assessment of likely effects of the effluent on sewer maintenance operations.

Table B3-8. Discharges to the Sewer: Physical and Chemical Characteristics (one for each discharge point)

Discharge point ref. No. ____

Parameter	Prior to treatment			Brief description of pre-treatment before discharging to the sewer	As discharged			
	mg/l		kg/day		mg/l		kg/day	kg per unit of product or raw material (average)
	Max hourly average	Max daily average			Max hourly average	Max daily average		

B3.4 Discharges to the Ground[6]. Complete all the tables in this section, supplying details of all direct discharges onto or into the ground. A summary list of all the discharge points, together with maps, drawings, and supporting documentation should be included as an attachment. Detailed descriptions and schematics (clearly labelled process flow diagrams) of all relevant treatment/abatement systems should also be included.

For discharges outside the [BAT/technical guidance limit], a full evaluation of the existing abatement/treatment system must be provided. *A planned programme of improvement, including budget justification, toward meeting the [BAT/technical guidance limit] is required.*

Table B3-9. Discharges to the Ground: General Characteristics (one table per discharge point)

Discharge point/area ref. No.	
Discharge pathway (borehole, well, percolation area, spreading over land, etc.)	
Location	
Name of receiving waters	
Aquifer classification for receiving groundwater body	
Groundwater vulnerability assessment	
Identity and proximity of groundwater sources at risk (wells, springs, etc.)	
Identity and proximity of surface water bodies at risk	
Volume to be discharged: Average/day (m3/day) Maximum rate/hour (m3/hr) Maximum rate/day (m3/day)	
Average periods of discharge (min/hr; hr/day; day/yr)	

[6] If discharges to the ground are banned by the national legislation, this section should be excluded.

Table B3-10. Discharges to Ground: Physical and Chemical Characteristics (one for each discharge point)

Discharge point ref. No. ____

Parameter	Prior to treatment			Brief description of treatment	As discharged		
	mg/l		kg/day		mg/l		kg/day
	Max hourly average	Max daily average			Max hourly average	Max daily average	

B3.5 Noise Emissions. Provide information on ambient noise measurements in noise-sensitive locations on and around the site, and complete Table B3-11.

Ambient noise measurements:

a) State the maximum Sound Pressure Levels (SPL) which will be experienced at typical points on the boundary of the site (state sampling interval):

Location: _____ SPL_____ L_{eq} dBA

Location: _____ SPL_____ L_{eq} dBA

Location: _____ SPL_____ L_{eq} dBA

b) State the maximum Sound Pressure Levels (SPL) which will be experienced at typical noise sensitive locations outside the boundary of the site (sampling interval of 30 min for daytime and 15 min for night-time).

Location 1: _____ SPL_____ L_{eq} dBA (daytime)

Location 1: _____ SPL_____ L_{eq} dBA (night-time)

Location 2: _____ SPL_____ L_{eq} dBA (daytime)

Location 2: _____ SPL_____ L_{eq} dBA (night-time)

Give details of the background noise levels experienced at the site in the absence of noise from the installation. Prediction models, maps, diagrams, and other supporting documents, including details of noise reduction and control measures to be employed in an attachment.

Table B3-11. Noise Sources Summary Sheet

Source	Noise emission point ref. No.	Equipment ref. No.	Sound pressure, dBA at reference distance	Octave bands (Hz) sound pressure levels, dB (unweighted) per band									Impulsive or tonal qualities	Periods of noise emission
				31.5	63	125	250	500	1K	2K	4K	8K		

B4 Impact on the Environment

Provide written information about the impact your emissions and waste on the environment, based on the Environmental Impact Assessment. In particular, indicate all transboundary impacts of the installation.

B4.1 Impact of Air Emissions. Give summary data and an assessment of the impacts of any existing or proposed emissions on the environment. Attach full details of any relevant dispersion modelling of the atmospheric emissions from the installation.

Document reference number (Attachment 11):

B4.2 Impact of Effluents on Receiving Surface Waters. Give summary data and an assessment of the impacts of any existing or proposed discharges on surface waters. Attach full details on the quality of the receiving waters and of any relevant dispersion modelling of the discharges into surface waters from the installation.

Document reference number (Attachment 12):

B4.3 Impact of Discharges to the Ground. Give summary data and an assessment of the impacts of any existing or proposed discharges to the ground (soil, sub-soil, and rock environment). Attach full details of the assessment as well as a hydro-geological report (to include meteorological and water quality data, aquifer classification and vulnerability). Include a soils survey if discharges are made or planned to be made directly into or onto the soil. Give summary details of known ground and/or groundwater contamination, historical or current, on or under the site.

Document reference number (Attachment 13):

B4.4 Impact of Waste Storage, Treatment and Disposal. Give summary data and an assessment of the impacts of any existing or planned on-site hazardous or non-hazardous waste storage, treatment, and disposal on air, surface water and groundwater, and soil quality.

Document reference number (Attachment 14):

B4.5 Noise Impact. Give summary data and an assessment of the impacts on the environment of noise emissions from the installation.

Document reference number (Attachment 15):

B4.6 Other Impacts. Characterise the odour, electromagnetic and radioactive impacts (if there are respective requirements in the legislation) of the installation under normal operating conditions and abnormal events (accidents).

Document reference number (Attachment 16):

B5 Other Relevant Information

Submit any other relevant information in support of the application in Attachment 17.

SECTION C. NON-TECHNICAL SUMMARY

Provide a non-technical summary of the application, following the structure of the application form.

SECTION D. DECLARATION

With this application, I request an integrated environmental permit, pursuant to the provisions of Regulation No. […] by [date].

I certify that the information provided in this application is truthful, accurate, and complete.

I have no objection to the provision by the [Competent Environmental Authority] of a copy of this application or parts thereof, unless otherwise specifically requested in the Claim of Commercial Confidentiality, to any person or organisation.

Signed by: _____ **Date:** _____

Print signature name: _____

on behalf of [organisation] _____

Position in the organisation: _____

Seal:

INSTRUCTIONS FOR THE APPLICATION FORM FOR AN INTEGRATED ENVIRONMENTAL PERMIT

INTRODUCTION

Normally, operators should apply for a new permit for an installation when they have drawn up full designs, but before starting construction work (whether on a new installation or on changes to an existing one). Where installations are not particularly complex or novel, the operator should usually be able to submit an application at the design stage containing all the information that a regulator needs to make a determination. This would include proposals for management of the installation and training of operational staff. If, in the course of construction or commissioning, after a permit has been granted, the operator wanted to make any changes, the permit conditions would have to be varied in the normal way by formal application or, if appropriate, by a change agreed in writing.

If the installation also needs a separate land-use permit, it is sensible for the operator to make both applications in parallel whenever possible. In addition to avoiding any difficulty for the operator if one permit is granted and the other refused at a later time, simultaneous applications allow for better coordination between the relevant authorities.

The following is the general guidance for producing a good IEP application:

1. Be concise, it is the quality of the application that counts, not the size of it.

2. Set out clearly your response to each issue and explain whether your proposals depart from any relevant indicative requirements laid out in the technical guidance[7]. If your proposals are clear and well justified, it makes their consideration more effective and less time-consuming for all parties.

3. It is essential that your application contain:

    a) A non-technical summary including brief information of how you intend to operate your installation and why such operation represents BAT. A succinct non-technical summary should also assist other audiences such as statutory stakeholder agencies and the public to understand and comment upon your application.

[7] Technical Guidance is an industry sector-specific or cross-sectoral document explaining what constitutes BAT, thereby helping both regulators and operators during the permitting process. Each country may develop it own set of technical guidance documents or use international guidance (e.g., EU BREFs).

b) A reasoned justification that the techniques employed represent BAT. It is sufficient to simply state that your chosen option represents BAT, if it corresponds with the specification in the relevant technical guidance.

c) details of the emissions that will result from your proposed activities.

d) an assessment of the environmental and health impacts of the installation that demonstrates that a high level of protection for the environment and human health is provided.

4. BAT justification will be required where indicative technical guidance requirements are not being met. Deviation from sectoral BAT may be justified on the grounds of technical characteristics, location and the receiving environment. However, it should be noted that individual company affordability is not an acceptable justification for a deviation from BAT.

5. You should include proposals and timescales for all aspects of the installation that require improving. Improvements should be completed as soon as possible and, in most cases, within 3 years.

6. Do not provide unnecessary information in response to any section of the application. For example, in the Environmental Management System section, applicants are not expected to provide copies of working procedures. If you have a documented system which fully answers a particular point, you should simply give the document reference and identify the contact person responsible for its maintenance. To avoid duplication, you do not need to reiterate any information provided in response to other application sections, simply state that this is provided elsewhere and cross-reference it clearly.

7. Your application should refer to normal operations as well as abnormal/potential accident situations.

   A good initial application means the CEA is likely to need to ask fewer questions later on, giving you a faster decision.

SECTION A. GENERAL

A1 Installation

"Installation" means a stationary technical unit where one or more activities are carried out at the same site and that could have a negative environmental impact. Several "technical units" on the same site should be considered as one installation if they carry out successive steps in one integrated industrial activity, one of the activities is directly associated with the other, or both units are served by the same directly associated activity (located on the same site). "Existing installation" is an installation that has been legally operating at any time before the submission of the current permit application. Other installations are considered to be "new installations."

Please provide the name, address and contact numbers of the installation. The installation's address may be different from the operator's address under section A2 below. You should also provide a location map with geographical grid references corresponding to a certain point on the installation. Ideally, it should be a central point for environmental permitting purposes (e.g., the main smoke stack). However, if that is not feasible, choose a point that is representative of the installation.

Please provide details of any valid relevant permits for the installation, including construction permits, waste management licences, health authority authorisations, industrial safety certificates, etc.

A2 Operator

"Operator" means a natural or legal person who is the owner or the manager of the installation and has the authority and ability to ensure compliance with the permit.

A2.1 Legal Status of Operator

Please identify whether you are applying to be the Operator as an individual (group of individuals) or a company/corporate body. You may wish to discuss this issue with the CEA before completing the application if you are not sure which applies.

A2.2 Individual Applicants

You need to provide the information requested here if you are applying as an individual or as a group of individuals. If you apply as an individual and a permit is granted, you will be personally responsible for ensuring compliance with the permit conditions. If you apply as a group of individuals, each of you will be responsible.

A2.3 Corporate Applicants

You need to provide the information requested here if you are applying as a company. You will need to provide a copy of the certificate of incorporation and certificates of any subsequent name changes. The company registration number that is provided under this question should relate to the registered company that would operate the installation, rather than the parent company of a large group of registered companies.

A2.4 Authorised Operation Contact Person

Please provide details of a person the CEA contact with questions both on your application and, if a permit is granted, operational matters at your installation. This need not be someone who can answer any such questions (which may be quite technical in nature) but should be someone who is authorised by the operator to respond to them and can convey them to appropriate people.

SECTION B. ENVIRONMENTAL IMPACTS OF THE INSTALLATION

B1 Scope of Installation and Initial Condition of Site

B1.1 Activities of the Installation

Please complete the table to identify the entire scope of the installation and the activities that are carried out in it. For *Principal activities*, please identify all activities covered by the IEP Regulation. For *Directly associated activities*, please identify all directly associated activities to carried out on the same site which have a technical connection with the principal activities and could have an impact on the environment. For *Operator*, write the name of the operator for each activity (if you are the operator yourself, write "applicant").

B1.2 Site Report

The site report must describe the condition of the installation's site. The site report needs to set out the "initial" condition at the site, including contamination prior to operation of the installation and to allow an effective reference point for comparison with the condition of the site at cessation of operations. A further site report will be required at cessation of operations to enable the Operator (and the CEA) to decide whether there has been any contamination of the land during the operation of the installation and, therefore, whether there is a need for remediation.

The site report should cover all the land on which any of the activities of the installation may take place. This should include any land that is integral to the satisfactory operation of the installation, for example, areas needed for the transportation of materials, and areas around any related pipe infrastructure. If the Operator subsequently wishes to extend the installation once a permit has been issued, such that a wider area of land is required for satisfactory operation, he will have to apply for a variation to the permit conditions and include a site report for the additional land.

It is not possible to specify precise requirements for the amount of investigation each site will require, as all sites will be different. Generally, the following phases of the assessment should be followed:

a) Desk-based research and site reconnaissance. It involves the collection and review of all readily available information (including documents and consultation with relevant parties, such as landowners, operators, and regulatory authorities) to allow the identification and characterisation (as far as possible) of any contamination which may be present at the site. Site reconnaissance should be undertaken to confirm the desk-based findings and provide further information. As a result, a matrix should be developed of former and current uses of the site and associated contaminants and their concentrations (based on available data) in the soil, surface waters, and groundwater. The list of former and current uses will vary greatly between sites, with some sites having several former uses and others having been green-field sites. Naturally occurring contamination may exist on some green-field sites.

b) Additional investigation required at the site. It involves further (and sufficient) data collection (including through sampling and testing) to better characterise the environmental

condition of the site. Based on the results of the investigation, a site report should be produced. The following is the suggested format for the site report:

Installation Site Report

1. Background
- 1.1. Site details
- 1.2. Summary of desk-based research

2. Site Investigation Details
- 2.1. Sampling strategy and methods
- 2.2. Number, location, and type of samples collected
- 2.3. On-site testing details
- 2.4. Selection of test parameters
- 2.5. Limitations and constraints

3. Summary of Site Investigation and Analysis Findings
- 3.1. On-site observations
- 3.2. On-site testing results
- 3.3. Monitoring data
- 3.4. Laboratory test data
- 3.5. Data summary

4. Data Interpretation and Conclusions
- 4.1. Summary of baseline conditions of the site
- 4.2. Main limitations and constraints of the proposed baseline (e.g., relating to data quality/quantity)

5. References

B1.3 Site Maps

You need to provide suitable maps or plans showing the location and area of the installation's site and the location and nature of the various activities on it. The precise way in which this information should be submitted depends on the size and nature of the installation. The map or plan may comprise more than one part to help make the information clearer and more useful, including:

a) A larger scale (for example, 1:2500) map or plan of the site showing location of the installation to which your application relates and any other installations on the same site. This should also show all existing infrastructure (e.g., buildings, roads, storage areas, pipe network, power lines, etc.) within 250 m of the boundary of the installation. It should additionally identify any parts of the site that are not owned or occupied by the applicant, and give details of who is the owner or occupier.

b) A separate schematic plan of the installation to which your application relates. It should identify the various distinct activities identified under question B1.1; show the discharge points for any emissions/effluents to the environment that you are proposing in the application; and indicate grid reference details for the installation.

B2 Proposed Operational and Management Techniques

This subsection requires you to demonstrate that the techniques you are proposing are BAT (according to the relevant technical guidance) and meet other requirements of the IEP Regulations. The CEA will evaluate your proposed techniques based on a combination of assessment with respect to the relevant technical guidance and installation-specific assessment.

Where the technical guidance contains clear, indicative requirements in the form of standards, measures, and timetables that are relevant to your proposed activities, you should either confirm that you propose to meet them or justify a different proposal. If you propose to deviate from any indicative requirements, you should provide an explanation for it. Less strict proposals may be justified due to particular factors relating to your installation or the local environment. For example, you may be operating to a standard that is close to an indicative requirement, but using different technical processes from those upon which the indicative requirement is based. In such a case, it may impose a disproportionate cost to install new techniques for only a small decrease in emissions. However, if you propose a deviation on such grounds, it is essential that you provide a proper cost justification, explaining how the costs of such techniques compare with the emission reductions achievable, and propose an improvement programme supported by an investment budget. You should not seek to justify less strict proposals simply on the grounds that you cannot afford to comply with the indicative requirements.

Some indicative requirements apply to all installations, while others apply only to new or existing installations. If there is a major modification to an existing installation, however, the new plant standards will normally be applicable. This is because the process of making a major modification will often entail significant replacement or addition of technology anyway, so the marginal cost of meeting new plant requirements may be relatively small.

There are various possibilities for the assessment and justification of proposed techniques on an installation-specific basis. These include:

a) justification of deviations from indicative requirements in the technical guidance;

b) assessment of options to determine which of those identified in the guidance is best for your particular installation;

c) development of proposals for parts (or possibly all) of the installation that are not covered by the guidance.

The basic rule is that you should compare a range of options on the basis of costs and benefits and propose what you think is most appropriate to meet the regulatory requirements. However, the level of detail required will depend on the environmental significance of the matter in question. In the more complex cases it will be necessary to develop proposals through a detailed analysis of the costs and benefits of options, taking into account the technical characteristics of the installation, its geographical location, and local environmental conditions. Those cases include any deviation from indicative requirements or issues not covered by the technical guidance where:

a) there are a range of options available which would lead to significantly different environmental impacts; or

b) the cost implications are a major factor (this tends to be connected with the control of the most significant emissions).

In many situations, however, it will not be necessary to carry out a detailed analysis of options. This may be the case where, for example, an indicative requirement is inappropriate for obvious technical reasons, such that a deviation from it can be justified in a few words. Equally, if there are only minor additional emissions from your installation beyond those covered by the technical guidance (exceedance of less than 5%), you are not required to demonstrate that you have completed a detailed comparison of alternative control techniques. Rather, you are expected to propose techniques that you believe will meet the regulatory requirements. The CEA will then consider whether what you have proposed is acceptable.

B2.1 Use of Raw Materials and Water

As a general principle, the applicant needs to demonstrate the measures taken to:

a) *reduce* the use of chemicals and materials; and

b) *substitute* more harmful with less harmful materials.

In the table provided, list all raw and auxiliary materials, substances (including water), and preparations that will be utilized in the activity. Include all process-associated cleaning chemicals, water treatment chemicals, cooling/boiling water additives, and laboratory chemicals (in the latter case, detail only chemicals with annual usage of over 2.5 kg or 2.5 litres). The list must also include danger category, toxicity and radioactivity information on these materials. The information should also be provided on the average quantity stored and annual consumption. A detailed inventory of raw materials used on-site should be available upon request.

In cases where a raw material is comprised of a number of substances and cannot be properly classified in Table B2-1, each component chemical substance must be specified and detailed in the table, and the various columns completed. As a general principle, those component substances of a material should be listed that have the potential to pollute any of the three environmental media should they fall out of management control.

To show that the proposed raw materials are consistent with BAT, justify (for example, on the basis of impact on product quality) the continued use of any substance for which there is a less hazardous alternative.

With respect to water use, supply information on any surface water or groundwater abstraction, consumption of publicly-supplied drinking water, and water use at the installation in Table B2-2. In addition, the applicant may:

a) include a diagram of the water circuits with indicative flows; and

b) describe any water audits already conducted and the water efficiency improvements made or planned.

B2.2 Techniques for Prevention and Control of Emissions and Waste

A description should be provided of all proposed activities/processes to be carried out at the installation, as well as of any pollution prevention and control measures that will be employed (including during periods of start-up or shut-down, momentary stoppage, leak, or malfunction). The following information must be supplied:

a) Process flow sheet schematics;

b) Diagrams of main plant items where they have environmental relevance; for example, landfill liner design, incinerator furnace design, effluent treatment plant design, etc.;

c) Details of chemical reactions in the production process (if relevant), kinetics, mass and energy balances;

d) Description of all pollution abatement equipment, including details on equipment maintenance and calibration, as well as equipment back-up;

e) Control and instrumentation systems, with details on how the control systems incorporate environmental monitoring information; and

f) Start-up and shut-down procedures, with a description of safeguards during abnormal operating procedures.

Demonstrate that the proposals are BAT by confirming compliance with the indicative requirements in the technical guidance or by justifying deviations or alternative measures.

B2.3 Waste Management

Details of all waste materials generated on the site, including name, hazard category, and sources. The European Waste Catalogue (EWC) should be consulted and the correct waste code assigned to each material. The quantities of each type of waste generated on an annual basis should be calculated and stated in Table B2-3. Any seasonal variations should be explained. Applicants should also provide conversion factors used to related volume (m^3) and weight (tonnes) of each waste stream.

All n-site waste treatment, recovery, reuse, and recycling techniques to be used should be described, with an indication of a particular method, location, and undertaker. Demonstrate that the proposals are BAT by confirming compliance with the indicative requirements of the technical guidance or by justifying departures or alternative measures. If a disposal option is planned, justify why recovery, reuse, or recycling are technically or economically impossible.

For waste to be disposed of off-site, details of transport off-site, name of undertaker, treatment used, location of ultimate disposal, and final method of disposal should be provided. Copies of relevant waste management licences and written agreements of acceptance of wastes (for planned new installations – copies of preliminary agreements) should also be provided.

For waste to be disposed of on-site, full details of the proposed landfill must be supplied in full, including:

a) Site selection procedure;

b) A map of the landfill site, indicating the fill sequence proposed and all auxiliary activities; plans and cross-drawings of the landfill, indicating existing and proposed finished ground levels;

c) Information on the geology, hydrogeology, and hydrology of the landfill site and the environs, including data on groundwater and surface water quality, with a relevant vulnerability assessment; meteorological data for the landfill area;

d) Operational plans, including a waste stability assessment;

e) Information on leachate and landfill gas containment, removal and treatment proposals; design details and location information for leachate, landfill gas, surface and groundwater monitoring installations in and around the landfill;

f) Information on post-closure arrangements, including restoration proposals.

B2.4 Energy Use and Efficiency

Provide the energy generation and consumption information in terms of primary energy sources and electricity. Supplement the information about energy generation and consumption with an energy flow diagram showing how energy is used throughout the process. Where energy is exported from the installation, provide this information as well.

Describe the current or proposed position with regard to the indicative energy efficiency requirements of the technical guidance and provide justifications for *not* using any of the techniques described. Provide an energy efficiency plan that appraises the costs and benefits of different energy efficiency options.

B2.5 Emergency Preparedness

Provide an accident management plan that identifies the hazards to the environment posed by the installation, assesses the risks associated with those hazards, and identified the techniques necessary to reduce the risks. Information should be given on all measures and procedures that are in place or are planned to be implemented for the minimisation of impact on the environment from accidental emissions and emergency situations that may arise during the operation. The information should also include the provisions for response to accidental emissions and emergency situations which may arise outside of normal working hours (at night, during week-ends and holidays). Details that should be provided include, among others:

a) details of storage of all raw materials, products, and wastes;

b) information on possible contamination of air, soil, groundwater and surface water;

c) potential points of contamination and areas most at risk;

d) details of spills or emergency release containments measures and equipment;

e) details of contaminant collection and surface treatment systems.

B2.6 Monitoring Systems

All sampling and monitoring points are to be identified and located on a scaled plan. The numbering/labelling sequence for the monitoring and sampling points must be logical, simple, and sequential (e.g., A1-An for air, SW1-SWn for surface water, etc.).

Some of these locations will be directly related to emission points (e.g., on an air stack), some will be adjacent to sensitive receptors (e.g., noise metering at dwellings), and others will be located where they can be used to monitor any impact on ambient conditions (e.g., up- and down-wind dust gauges, up- and down-gradient groundwater monitoring boreholes, up- and downstream river monitoring locations, etc.). All ambient monitoring locations should be designated specifically (e.g., prefixed by an A).

Location maps of all such sampling and monitoring points should be provided. Table B2-4 should be completed for all relevant points, noting parameters to be monitored and monitoring frequency. (In designing the monitoring programme, the variability of emissions should be taken into account.) References should also be made to the following:

a) accessibility of sampling/monitoring points;

b) sampling methods;

c) analytical and quality control procedures, including equipment calibration, equipment maintenance, and data recording and reporting procedures to be followed in order to ensure accurate and reliable monitoring;

d) undertakers of all monitoring, sampling, and analysis operations, including details of their proper accreditation and certification.

Where relevant (in additional tables devised, as necessary), details should be provided as to how the proposed monitoring systems will demonstrate compliance with the regulatory emission limit values and environmental quality standards.

B2.7 Decommissioning and Remediation

A site closure plan should be submitted to demonstrate that, in its current state, the installation can be decommissioned without any pollution risk and the site returned to a satisfactory state compared with the state described in the original site report. Common sense should be used in the level of detail, since the circumstances of closure will affect the final plans. However, a site closure plan should include:

a) Up-to-date details of all underground pipes and vessels;

b) Proposed arrangements for removal or flushing out of pipelines and vessels where appropriate and their complete emptying of any potentially harmful contents;

c) Method and resources necessary for the clearing of lagoons;

d) Method of ensuring the safety of any on-site landfills;

e) The arrangements for removal of asbestos or other potentially harmful materials;

f) Methods of dismantling buildings and other structures;

g) Methods for testing of the soil to assess the degree of any pollution caused by the activities and the need for any remediation to return the site to a satisfactory state as compared with the initial site condition report.

B2.8 Environmental Management System (EMS)

An effective system of management is a key technique for ensuring that all appropriate pollution prevention and control techniques are delivered reliably and on an integrated basis. Describe your EMS to demonstrate how it meets the requirements listed in the table below. The description should make clear who holds responsibility for each of the requirements. The second column explains where

in the application the response to each requirement is best dealt with to avoid duplication. Copies of all procedures are not needed, but examples may be included in the application.

If you are certified to ISO 14001, provide a copy of your certificate. You may also include a summary of the latest EMS audit to support your application.

EMS Requirement	How to Reflect in the Application
1. Clear management structure and allocated responsibilities for environmental performance	Describe in this section
2. Identification, assessment and management of significant environmental impacts	Describe in section B4
3. Compliance with regulatory requirements	Compliance with a permit satisfies this requirement
4. Establishing an environmental policy and setting objectives and targets	Attach the environmental policy (if one exists), objectives and targets
5. Environmental improvement programme to implement objectives and targets	Reflect in proposals under relevant questions in section B2.
6. Operational controls to prevent and minimise significant environmental impacts	Reflect in responses to relevant questions in section B2.
7. Emergency preparedness and response	Respond to question B2.5
8. Communication: internal within the management structure and external with the statutory stakeholder agencies and the public	Describe in this section
9. Managing documentation and records: how mandatory records and other EMS documents are created, maintained, and stored	Describe in this section
10. Training: adequate procedures for training all relevant staff, including contractors	Describe in this section
11. Monitoring and measuring performance: key indicators of environmental performance and procedure to monitor and review progress on an ongoing basis	Describe in this section
12. Corrective action: procedure to analyse non-conformance with the EMS (including regulatory non-compliance) and take action to prevent its recurrence	Describe in this section
13. Auditing: regular, preferably independent audits to check that all activities are carried out in conformity with these requirements	Describe in this section
14. Management reviews and environmental reporting: procedure for senior management reviews (annual or linked to the audit cycle), reporting information required by the permit, and reporting on the achievement of internal objectives and targets	Describe in this section

B3 Proposed Emissions

Complete all the tables in this section, describing the nature, quantities, sources, and characteristics of proposed emissions to the atmosphere, discharges to surface waters, to the sewer, and to the ground, as well as noise emissions. It is also important to include information on emissions per unit of production or raw materials used for comparison within the industrial sector. For each type of emissions and parameter, compare the emissions with the benchmark values given in the existing technical guidance. Where the benchmarks are not met, either revisit the proposed operational and management techniques described in section B2, or provide a detailed and time-specific programme of improvement to achieve the BAT/technical guidance limits.

B4 Impact on the Environment

In this section, provide an assessment of the potential significant environmental impacts of the proposed emissions, based on the Environmental Impact Assessment conducted for the installation. First, identify important receptors of pollution, which may include areas of human population, nature conservation or other sensitive areas, air, water (watercourses and groundwater), soil, material assets, and the cultural heritage. The impact on those receptors should be compared with *environmental quality standards* and other statutory and non-statutory obligations.

Inability to demonstrate compliance with environmental quality standards should lead to consideration of alternative proposals that are available and that have a lower environmental impact, even if the alternatives have to go beyond what might normally be accepted as BAT. (This would be typical of a situation where a multiplicity of installations discharge in close proximity to each other. In such a situation, some sort of voluntary arrangement between neighbouring operators might be possible, in which case the application would have to reflect this.)

Particular attention should be paid to transboundary environmental impacts, i.e., those that extend beyond the national borders. (There may be a provision in the legislation defining a certain zone along the border, within which all installations are considered to have a transboundary environmental impact.)

B4.1 Impact of Air Emissions

Provide information on the current ambient air quality based on results of air quality monitoring. Give details of any dispersion modelling carried out and the predicted ground-level pollutant concentration within 5 kilometres of the site as a result of the emissions from the installation. In particular, it is necessary to demonstrate that an appropriate assessment of vent and stack heights has been made to ensure that there is adequate dispersion of the minimised emissions to avoid exceeding local ground-level pollution thresholds and limit national and transboundary pollution impacts. The assessment should be based on the most sensitive receptor, be it human health, soil, or terrestrial ecosystems.

B4.2 Impact of Effluents on Surface Waters

Provide information on the current quality and characteristics of the receiving watercourses, including:

a) flow data of water upstream and downstream of the discharge point, mixing zones, and available dilution;

b) re-aeration characteristics;

c) retention times (for lakes);

d) physical, chemical, and biological quality of receiving water and sediment;

e) presence of any biological species sensitive to any substance in the effluent.

Information should also be supplied on existing or proposed uses and/or designations of receiving waters, and on sensitive areas within 2 kilometres of the discharge point that could be affected by the effluent. Give details of any modelling or dispersion studies carried out and the predicted pollutant concentrations at the designated monitoring points.

B4.3 Impact of Discharges to the Ground

The scope and detail of this assessment will largely depend on the extent and type of ground discharges at the site, which in turn are related to the risk. For larger ground discharges, e.g., re-injection, land spreading, etc., a comprehensive assessment must be completed to justify the suitability of the proposed discharges. The analysis should take account of the topographic, meteorological, geological, hydrological, and hydro-geological data, including any and all information related to ground and groundwater contamination. In the case of land spreading, a comprehensive soils survey must be supplied, which addresses the physical, chemical, and biological characteristics of the soil. The assessment should also identify all surface water bodies and water wells that may be at risk as a result of the ground discharge.

B4.4 Impact of Waste Storage, Treatment and Disposal

An assessment should be made of the impact of any existing or planned on-site hazardous and non-hazardous waste storage, treatment, and disposal on air quality (primarily odour and dust – emissions from incineration should be considered under question B4.1), soil quality, and surface water and groundwater quality. The aquifer classification and vulnerability (particularly for water springs and wells) should be identified and included in the impact assessment.

B4.5 Noise Impact

Identify the nearest noise-sensitive sites: typically, dwellings, parkland and open spaces – schools, hospitals, and commercial premises may be considered noise-sensitive, depending on the activities undertaken there. In addition, specify any other points/boundary where special conditions have been applied by the local authority as part of land use planning. Provide details of any environmental noise measurement surveys, modelling or any other noise measurements undertaken with regard to the noise impact of the installation. Identify any specific local issues and proposals for improvements.

B4.6 Other Impacts

Where *odour* could be a problem, categorise the emissions as preventable (odours can normally be contained within the site boundary by using odour containment and abatement techniques, to be described under item B2.2) and unpreventable. Demonstrate that there will be no significant odour problems under normal operating conditions. If required by law, electromagnetic and radioactive impacts of the installation should also be described here. Identify the actions to be taken in the event of abnormal events (accidents) that may lead to potential problems with these impacts.

B5 Other Relevant Information

This section of the application form provides an opportunity for you to provide any other information that you wish the CEA to take into account in considering your application. You may attach any information that you consider relevant to the application. Avoid supplying non-relevant information as it can slow down the consideration of the application and delay the permitting decision. Note that any information supplied as part of the application may be reflected in the permit conditions.

SECTION C. NON-TECHNICAL SUMMARY

You must provide a non-technical summary of your application. It should cover the answers to all the previous questions of the application. it should follow the same order, highlighting the main points in language that would be understandable by the general public. Typically, the non-technical summary for a more complex application should be around 10 pages. Summaries for very simple applications need not be more than one or two pages.

SECTION D. DECLARATION

By completing and signing the declaration, you certify that the information in the application is correct. Unsigned applications will be returned without consideration. The application may be signed by more than one person, if that is required by the Operator's internal management structure. If the Operator is an individual, he/she must sign the application him/herself. If the Operator is a company/corporate body, the person signing the application must either be the manager of the installation or another appropriately authorised person. However, this does not have to be the authorised operational contact person identified under item A2.4 of the application.

Chapter IV
Integrated Environmental Permit Form
(with instructions)

Integrated Environmental Permit Form

INTRODUCTORY NOTE

The following Permit is issued under Regulation No. […] to operate an installation carrying out one or more of the activities listed in […] of this Regulation, to the extent authorised by the Permit. The Permit includes conditions that have to be complied with. **This introductory note does not form a part of the Permit.**

Brief description of the installation regulated by this Permit (no longer than one page):

Other valid permits related to this installation:

Permit holder	Permit number	Date of issue

Permits or other authorisations related to this installation that are superseded by this Permit:

Holder	Reference number	Date of issue

Contacting the Regulator. In matters related to this Permit, the CEA shall be contacted at the following address:

The Permit Number shall be quoted in any communication with regard to this Permit.

Confidentiality. The Permit requires the Operator to provide information to the CEA. The CEA will place the information on the public register in accordance with the requirements of the IPC Regulation. If the Operator considers that any information provided is commercially confidential, it may apply to the CEA to have such information withheld from the public register.

Appeal. An appeal against this Permit may be submitted in writing to the [national environmental authority] at the following address:

It must be received by the [national environmental authority] within [30] days beginning on the day this Permit is issued.

Sanctions for Violation of this Permit. The Operator found in violation of any condition of this Permit will be subject to administrative sanctions in accordance with Law [on Environmental Protection], up to the suspension or revocation of this Permit, and/or criminal prosecution.

Variation and Surrender of the Permit. This Permit may be varied in the future. The Status Log shall include all the details conserving the amendment of the Permit. Before this Permit can be surrendered, an application to surrender the Permit must be made in accordance with the Regulation.

Status Log

Detail	Date	Comment

Definitions

End of Introductory Note.

[Full Name and Logo of the Competent Environmental Authority]

INTEGRATED ENVIRONMENTAL PERMIT

Permit No. XXXXXX

The [CEA] in exercise of its powers under Regulation No. […], Law No. […], hereby authorises

[name] ("the Operator"),

whose Principal Office is located at ***[full address]***,

to operate an installation at ***[site address]***

to the extent authorised by and subject to the conditions of this Permit.

Signature

[name, title of authorised person]

Date

Administrative fee of […] paid [date].

PERMIT CONDITIONS

1. The Permitted Installation

1.1.1 The Operator is authorised to carry out the activities and/or the associated activities specified in Table 1.1.1.

Table 1.1.1. Permitted Activities

Activity	Description of activity	Principal or directly associated activity	Limits of specified activity

1.1.2 The activities authorised under condition 1.1.1 shall not extend beyond the Site, as shown on the plan/map below.

1.1.3 There are no pre-operation conditions.

OR

The Permitted Installation shall not be brought into operation until the following measures have been completed and the CEA has been notified of it in writing:

a) xxx
b) xxx
c) xxx

2. Operational Matters

2.1 Use of Raw Materials and Water

2.1.1 The Operator shall not exceed the limits for fresh water abstraction specified in Table 2.1.1.

Table 2.1.1. Water Abstraction Limits

Abstraction point reference	Water source	Daily abstraction limit, m3/day	Annual abstraction limit, m3/yr

2.1.2 The Operator shall, subject to the conditions of this Permit, use raw materials and water as described in the documentation specified in Table 2.1.2.

Table 2.1.2. Use of Raw Materials and Water

Description of documentation	Reference to relevant items	Date received
Permit application	Item B2.1	
Request for additional information of [date]	Response to question […]	
Application for permit variation		
Request for additional information of [date]		

2.1.3 Other specific conditions related to the use of raw materials and water may be set here.

2.2 Techniques for Prevention and Control of Emissions and Waste

2.2.1 The Permitted Installation shall, subject to the conditions of this Permit, be operated using the techniques and in the manner described in the documentation specified in Table 2.2.1.

Table 2.2.1. Techniques for Prevention and Control of Emissions and Waste

Description of documentation	Reference to relevant items	Date received
Permit application	Item B2.2	
Request for additional information of [date]	Response to question […]	
Application for permit variation		
Request for additional information of [date]		

2.2.2 Other specific conditions related to techniques for prevention and control of emissions and waste may be set here.

2.3 Waste Management

2.3.1 The Operator shall, subject to the conditions of this Permit, manage its waste as described in the documentation specified in Table 2.3.1.

Table 2.3.1. Waste Management

Description of documentation	Reference to relevant items	Date received
Permit application	Item B2.3	
Request for additional information of [date]	Response to question […]	
Application for permit variation		
Request for additional information of [date]		

2.3.2 *Other specific conditions related to waste management may be set here.*

2.4 Energy Use and Efficiency

2.4.1 The Operator shall, subject to the conditions of this Permit, use energy as described in the documentation specified in Table 2.4.1.

Table 2.4.1. Energy Use and Efficiency

Description of documentation	Reference to relevant items	Date received
Permit application	Item B2.4	
Request for additional information of [date]	Response to question […]	
Application for permit variation		
Request for additional information of [date]		

2.4.2 Other specific conditions related to energy use and efficiency may be set here.

2.5 Emergency Preparedness

2.5.1 The Operator shall, subject to the conditions of this Permit, prevent and limit the consequences of accidents as described in the documentation specified in Table 2.5.1.

Table 2.5.1. Emergency Preparedness

Description of documentation	Reference to relevant items	Date received
Permit application	Item B2.5	
Request for additional information of [date]	Response to question […]	
Application for permit variation		
Request for additional information of [date]		

2.5.2 Other specific conditions related to emergency preparedness may be set here.

2.6 Monitoring Systems

2.6.1 The Operator shall, subject to the conditions of this Permit, conduct monitoring and evaluate its results as described in the documentation specified in Table 2.6.1.

Table 2.6.1. Monitoring Systems

Description of documentation	Reference to relevant items	Date received
Permit application	Item B2.6	
Request for additional information of [date]	Response to question […]	
Application for permit variation		
Request for additional information of [date]		

2.6.2 The Operator shall provide safe and permanent access to all its monitoring and sampling points.

2.6.3 *Other specific conditions related to monitoring systems may be set here.*

2.7 Decommissioning and Remediation

2.7.1 The Operator shall, subject to the conditions of this Permit, make provisions for decommissioning of the Installation and for the remediation of its site after it definitively ceases operation as described in the documentation specified in Table 2.7.1.

Table 2.7.1. Decommissioning and Remediation

Description of documentation	Reference to relevant items	Date received
Permit application	Item B2.7	
Request for additional information of [date]	Response to question […]	
Application for permit variation		
Request for additional information of [date]		

2.7.2 Other specific conditions related to decommissioning and remediation may be set here.

3. Emission Limit Values

3.1 Emissions to the Atmosphere

3.1.1 Emission to the atmosphere from the emission point(s) specified in Table 3.1.1 shall only arise from the source(s) specified in that Table.

Table 3.1.1. Air Emission Points

Emission point reference	Source	Location of emission point
A1		
A2		
A3		
…		

3.1.2 The limits for emissions to the atmosphere for the parameter(s) and emission point(s) set out in Table 3.1.2 shall not be exceeded.

3.1.3 The Operator shall carry out monitoring of the parameters listed in Table 3.1.2, from the emission points and at least at the frequencies specified in that Table.

Table 3.1.2. Emission Limits to the Atmosphere

Parameter, unit (mg/m3)	Emission points							
Frequency of monitoring	A1	A2	A3	A4	A5	A6	…	

3.1.4 Where an annual mass limit for a substance in stated in Table 3.1.3, the aggregate emission of such substance from the Permitted Installation to the atmosphere from the emission points specified in Tables 3.1.1 and 3.1.2 shall not exceed that limit in any year.

Table 3.1.3. Mass Limits for Air Emissions

Substance	Mass limit	
	kg/yr	g/sec

3.2 Discharges to Surface Waters

3.2.1 There shall be no discharges to surface waters from the Permitted Installation.

OR

Discharges to surface waters from the discharge points specified in Table 3.2.1 shall only arise from the source(s) specified in that Table.

Table 3.2.1. Discharge Points to Surface Waters

Discharge point reference	Source	Receiving water
W1		
W2		
W3		
…		

3.2.2 Limits for the discharges to surface waters for the parameter(s) and discharge point(s) set out in Table 3.2.2 shall not be exceeded. There shall be no discharge to surface waters from the Permitted Installation of any substance for which no limit is specified in Table 3.2.2, except in a concentration which is no greater than the background concentration.

3.2.3 The Operator shall carry out monitoring of the parameters listed in Table 3.2.2, from the discharge points and at least at the frequencies specified in that Table.

Table 3.2.2. Discharge Limits to Surface Waters

Parameter, unit (mg/l)	Discharge points							
Frequency of monitoring	W1	W2	W3	W4	W5	W6	…	

3.2.4 Where an annual mass limit for a substance in stated in Table 3.2.3, the aggregate discharge of such substance from the Permitted Installation to surface waters from the discharge points specified in Tables 3.2.1 and 3.2.2 shall not exceed that limit in any year.

Table 3.2.3. Mass Limits for Discharges to Surface Waters

Substance	Mass limit, kg/yr

3.3 Discharges to the Sewer or Wastewater Treatment Plant

3.3.1 There shall be no discharges to any sewer or wastewater treatment plant from the Permitted Installation.

OR

Discharges to the sewer or wastewater treatment plant from the discharge points specified in Table 3.3.1 shall only arise from the source(s) specified in that Table.

Table 3.3.1. Discharge Points to the Sewer or Wastewater Treatment Plant

Discharge point reference	Source	Receiving sewer or WWTP
S1		
S2		
S3		
…		

3.3.2 Limits for the discharges to the sewer or wastewater treatment plant for the parameter(s) and discharge point(s) set out in Table 3.3.2 shall not be exceeded.

3.2.3 The Operator shall carry out monitoring of the parameters listed in Table 3.3.2, from the discharge points and at least at the frequencies specified in that Table.

Table 3.2.2. Discharge Limits to the Sewer or Wastewater Treatment Plant

Parameter, unit (mg/l)	Discharge points							
Frequency of monitoring	S1	S2	S3	S4	S5	S6	…	

3.2.4 Where an annual mass limit for a substance in stated in Table 3.3.3, the aggregate discharge of such substance from the Permitted Installation to the sewer or wastewater treatment plant from the discharge points specified in Tables 3.3.1 and 3.3.2 shall not exceed that limit in any year.

Table 3.2.3. Mass Limits for Discharges to the Sewer or Wastewater Treatment Plant

Substance	Mass limit, kg/yr

3.4 Discharges to the Ground

3.4.1 There shall be no discharges to the ground from the Permitted Installation.

OR

Discharges to the ground from the discharge points specified in Table 3.4.1 shall only arise from the source(s) specified in that Table.

Table 3.4.1. Discharge Points to the Ground

Discharge point reference	Source	Location of discharge point
G1		
G2		
G3		
…		

3.4.2 Limits for the discharges to the ground for the parameter(s) and discharge point(s) set out in Table 3.4.2 shall not be exceeded.

3.4.3 The Operator shall carry out monitoring of the parameters listed in Table 3.4.2, from the discharge points and at least at the frequencies specified in that Table.

Table 3.4.2. Discharge Limits to the Ground

Parameter, unit (mg/l)	Discharge points							
Frequency of monitoring	G1	G2	G3	G4	G5	G6	…	

3.5 Noise Emissions and Other Impacts

3.5.1 *Specify any necessary conditions related to noise emissions from the Permitted Installation, as well as its odour, electromagnetic and radioactive impacts.*

4. Off-Site Conditions

4.1.1 There are no off-site conditions

OR

Off-site conditions can be set here.

5. Improvement Programme

5.1.1 The Operator shall complete the requirements specified in Table 5.1.1 by the date specified in that Table, and shall send a written notification of the completion of each requirement (noting the date of completion) to CEA within [14] days of the completion of each such requirements. For the requirements whose implementation schedule is longer than one year, written progress reports shall be submitted annually to the CEA.

Table 5.1.1. Improvement Programme Requirements

Reference	Description of the requirement	Deadline

6. Records

6.1.1 The Operator shall maintain records ("Specified Records") of:

a) all monitoring and sampling conducted in accordance with the conditions of this permit and any analysis or evaluation made on the basis of such data;

b) any malfunction, breakdown, or failure of the Permitted Installation's equipment or techniques (including any short- or long-term remedial measures) that may have, has had, or might have had an effect on the environmental performance of the Installation. These records shall be kept in a log maintained for that purpose;

c) other Specified Records may be required.

6.1.2 Specified Records and any other records made by the Operator in relation to the operation of the Permitted Installation ("Other Records") shall be made available for inspection by the CEA at any reasonable time.

6.1.3 A copy of any Specified or Other Records shall be provided to the CEA on demand and free of charge.

6.1.4 Specified Records and Other Records shall:

a) be legible;

b) be made as soon as reasonably practicable; and

c) indicate any amendments which have been made and shall include the original record whenever possible.

6.1.5 Specified Records shall be retained for a minimum period of [4] years from the date when the records were made. Other records shall be retained for a minimum period of [2] years.

6.1.6 A record shall be made at the Permitted Installation of any complaints concerning the Installation's effect or alleged effect on the environment. The record, kept in a log form, shall give the date of complaint, a summary of any investigation into the cause of the complaint, and the results of such investigation.

7. Reporting and Notifications

7.1 Reporting

7.1.1 All reports and notifications required by this Permit shall be sent to the CEA at the address specified in the Introduction to this Permit.

7.1.2 The Operator shall report the parameters listed in Table 7.1.1 with respect to all emission or discharge points specified in that Table and for all the reporting periods specified in that Table. Unless otherwise agreed in writing between the CEA and the Operator, the standard CEA reporting forms shall be used for reports submitted to the CEA. The reports shall be submitted to the CEA within [28] days of the end of the reporting period.

Table 7.1.1. Reporting of Monitoring Data

Parameter	Emission/discharge point reference	Frequency of reporting	Date of first report

7.2 Notifications

7.2.1 The Operator shall notify the CEA without delay of:

a) the detection of an emission of any substance which exceeds any limit or criteria in this Permit specified in relation to that substance;

b) the detection of any fugitive emission which has caused or may cause pollution;

c) the detection of any malfunction, breakdown, or failure of equipment or techniques which has caused or may have the potential to cause pollution;

d) any accident which has caused or may have the potential to cause pollution.

7.2.2 The Operator shall submit a written confirmation to the CEA of any notification made under condition 7.2.1 of this Permit by sending the following information within 24 hours of such notification:

a) name of Operator;

b) permit number;

c) location of Installation;

d) time, date, and location of the emission/discharge of polluting substances;

e) best estimate of the quantity or the rate of emission/discharge, and the time during which the emission/discharge took place;

f) environmental medium into which the emission/discharge took place; and

g) measures taken, or intended to be taken, to stop the emission/discharge.

As soon as practicable thereafter, but no later than within [28] days after the submission of the original notification of the incident, the following additional information shall be submitted in writing to the CEA:

h) any more accurate information on the matters notified in the original written confirmation;

i) measures taken, or intended to be taken, to prevent a recurrence of the incident;

j) measures taken, or intended to be taken, to rectify, limit, or prevent any pollution or damage to the environment which has been or may be caused by the emission/discharge; and

k) the dates of any previous incident notifications within the previous 24 months.

7.2.3 The Operator shall give the CEA written notification as soon as practicable of any of the following:

a) permanent cessation of the operation of any part of or all of the Permitted Installation;

b) cessation of the operation of any part of or all of the Permitted Installation for a period likely to exceed [6 months]; and

c) resumption of the operation of any part of or all of the Permitted Installation after a cessation notified under condition 7.2.3(b).

7.2.4 The Operator shall notify the following matters to the CEA, in writing, within 14 days of their occurrence:

a) any change in the Operator's name and address;

b) where the Operator is an individual or a group of individuals, the death of any of the named Operators;

c) where the Operator is a registered company, its dissolution or a change in its ownership and corporate status (including a lease); and

d) any steps taken with a view to the Operator going into bankruptcy.

7.2.5 The Operator shall notify the CEA, in writing, within 14 days of their occurrence, of any changes to its other permits, licences, authorisations, or regulatory agreements that may be relevant to the conditions of this Permit.

8. Payment of Environmental Taxes and Charges

8.1.1 The Operator shall pay the environmental taxes and charges according to the Law […]. The amount due shall be calculated as the sum of the taxes/charges for each parameter specified in Table 8.1.1, in accordance with the rates and the method of measurement of the environmental impact indicated in that Table.

Table 8.1.1. Applicable Environmental Tax and Charge Rates

Environmental impact category	Parameter, unit	Method of measurement	Per-unit tax/charge rate
Air emissions	…		
	…		
Wastewater discharges	…		
	…		
Waste generation	…		
	…		
Water abstraction	…		
	…		
Natural resource taxes	…		
	…		
	…		

8.1.2 Environmental taxes and charges are payable quarterly, as follows:

a) for January 1-March 31 – no later than April 30;

b) for April 1-June 30 – no later than July 31;

c) for July 1-September 30 – no later than October 31;

d) for October 1-December 31 – no later than January 31.

8.1.3 The Operator shall transfer the total payment due to [the tax authorities] by the deadline indicated under 8.1.2 and provide the CEA with a copy of the transfer order receipt, accompanied by a table of calculation of the due tax/charge amounts that shall include every parameter specified under 8.1.1, no later than 14 days after making the payment transfer.

8.1.4 Failure to pay due environmental taxes and charges in full and on time shall entail monetary penalties and administrative sanction in accordance with the [Tax Code] and the Law [on Environmental Protection].

9. Validity and Provisions for Variation

9.1.1 This Permit shall enter into force on ***[date]*** and expire on ***[date]***.

9.1.2 The Operator shall apply for a renewal of this Permit at least [60] days before its expiration date.

9.1.3 The Operator shall apply for a variation of this Permit in case the Operator plans a *significant change in operation*. The Operator shall use the standard Integrated Environmental Permit Application Form and complete it with respect to any changes compared to the original permit application, including proposed variations of the permit conditions. Following the standard application procedure, this Permit may be amended by a Notice of Permit Variation issued by the CEA.

9.1.4 When the envisaged change of operation is not likely to require a variation of the permit conditions, the Operator shall seek a written agreement from the CEA in the following manner:

a) The Operator shall give the CEA written notice of the details of the proposed change, indicating the relevant part(s) of the Permit, at least [30] days before the change is scheduled to take effect.

b) such notice shall include an assessment of the possible environmental impacts of the proposed change and justify the Operator's belief that the change does not require an application for variation of this Permit.

c) Any change proposed by the Operator in such notice shall not be implemented until a written agreement amending this Permit is granted by the CEA. If an agreement in writing is refused by the CEA, the Operator shall submit an application for variation.

9.1.5 If the Operator changes address, as indicated on the Permit, he shall notify the CEA through a formal notification letter within [5] days of the change. This Permit shall then be deemed amended.

9.1.6 The CEA reserves the right to change the conditions of this Permit at any time at its own initiative by issuing a Notice of Variation.

END OF PERMIT

Integrated Environmental Permit Form: Instructions

INTRODUCTORY NOTE

The *Brief description of the installation* should give a simple explanation of the activities covered by the permit. It is intended to help the public understand the key environmental issues related to the installation. It should also explain where further information on the installation can be found.

Where the installation is covered by more than one permit, the table on *other valid permits* should be used so that anybody using the public register is guided to the associated permits to make the regulatory process more transparent. Reference should also be made to the *permits and authorisations superseded by this permit*. This information is likely to be of benefit to the public and should also serve as an additional check to ensure that the installation has the correct permits/licences in place and that there is no duplication.

The status log should give details of any actions taken by the CEA with regard to the permit from the time of the original application, such as:

- application received;
- request for additional information sent;
- additional information received;
- permit granted;
- application for variation received;
- variation granted;
- permit suspended;
- application for surrender received;
- permit revoked or surrendered.

In the *Definitions* sub-section, list all the terms used more than once within the permit and add other relevant definitions, as necessary (for example, it is important to set standard conditions for measurement of gaseous emissions, so that monitoring results are comparable).

PERMIT CONDITIONS

1. The Permitted Installation

This section of the permit should identify and describe all the activities at the installation that are covered by the permit. The operator should have identified these in his permit application. A table in the permit is a convenient way of confirming the descriptions given by the operator. Such a table also offers the opportunity for more detail/clarification, e.g., by stating the limits or scope of each activity.

The site of the permitted installation should also be defined. The operator should have supplied a suitable plan in the permit application, and the area should be identical to that covered by a site condition report. This ensures that the operator will need to apply for a variation of the permit if he wishes to expand his activities beyond the permitted area.

This section may also be used for prescribing measures that must be undertaken before the installation comes into operation. This situation may arise in connection with a landfill operation, for example, where checks on liner installation may be required before operation commences.

2. Operational Matters

Conditions related to operational matters should be based on BAT, as described in the technical guidance, taking account of the technical characteristics, geographical location and local environmental conditions of the installation. These conditions may confirm the operator's proposals but may also include additional requirements. *The CEA may choose to either reproduce in the permit the information included in the application and subsequent submissions by the operator, or attach these documents as an annex to the permit, with necessary references to it in the text of the permit.* The following instructions contain some indicative BAT requirements that could be included in the permit.

2.1 Use of Raw Materials and Water

The nature and consumption of raw materials and water used in the process are factors that should be considered in determining which of the available techniques is BAT for the specific installation. In any case, the operator should have satisfactorily justified his choice of raw materials, having regard to the possible availability of less environmentally hazardous alternatives.

This condition can be used to confirm the operator's selection of raw materials or to specify any substitutions judged to be necessary. In addition, the CEA should ensure that:

- The operator maintains a detailed inventory of raw materials used on-site;
- The operator has procedures for the regular review of new developments in raw materials;
- The operator has quality assurance procedures for controlling the content of raw materials.

In the case of water use, the CEA should set limits for water abstraction from surface water and groundwater sources. It should also require that the operator maximise its recycling within the production process through the use of water-efficient techniques. Less contaminated water streams, such as cooling waters, should be kept separate where there is scope for reuse, possibly after some form of treatment. The operator should establish water efficiency objectives and conduct regular reviews of water use (water efficiency audits).

2.2 Techniques for Prevention and Control of Emissions and Waste

This condition allows confirmation of the operator's proposals for facilities and processes designed to minimise the impact of releases to the environment, or the specification of any further requirements. These techniques may include production process improvements (cleaner production) as well as abatement processes ("end-of-pipe" treatment). The creation of waste should be avoided. Where this is not possible, it should be minimised by appropriate selection of raw materials and process operation, and by recycling wastes within the process or re-using them elsewhere.

To be effective, this condition must either refer to details in the operator's application or reproduce them in the permit. In any case, in determining the terms of this condition, an assessment has to be made as to whether the details provided by the operator are satisfactory on the basis of the industry-specific technical guidance on BAT, having regard to the technical characteristics, geographical location and local environmental condition of the particular installation.

2.3 Waste Management

This condition should confirm that proposed arrangements for handling waste are satisfactory on the basis of BAT indicative standards set out in the technical guidance, or it should specify further conditions judged by the regulatory authority to be necessary for the specific installation. In general, it should ensure that the proposed arrangements meet the following indicative requirements:

- A system should be maintained to record the quantity, nature, origin, frequency of collection, mode of transport and treatment method of any waste which is disposed of or recovered.
- Wherever practicable, waste should be segregated and the disposal point selected should be as close to the point of production as possible.
- Records should be maintained of any waste sent off-site.
- Storage places should be located away from watercourses and sensitive areas (e.g., areas of public use) and protected against vandalism.
- Storage areas should have containment arrangements, where appropriate, to avoid contamination of soil and groundwater.
- Appropriate storage facilities should be provided for wastes that are flammable, sensitive to heat or light, etc., and incompatible waste types should be kept separate.
- Storage areas should be clearly marked and signed, and containers should be clearly labelled.
- The maximum storage capacity of storage areas should be stated and not exceeded. The maximum storage period for containers should be specified.

2.4 Energy Use and Efficiency

The condition relating to energy efficiency should be based on the indicative BAT requirements set out in the technical guidance. In either confirming the provisions for energy efficiency proposed by the operator or in specifying further provisions, this condition should ensure the presence of basic operating, maintenance, and housekeeping measures (such as insulation and containment) that address energy saving in the following areas:

- air conditioning, process refrigeration and cooling systems;
- operation of motors and drives;

- compressed gas systems;
- steam distribution systems;
- space heating and hot water systems;
- boiler maintenance; and
- other maintenance relevant to the activities within the installation.

The permit should require that the operator have an energy efficiency plan for the installation which identifies all techniques relevant to saving energy on the installation, the extent to which these are in place, the extent to which they could lead to other adverse environmental impacts, and which proposes an optimal course of action.

2.5 Emergency Preparedness

This condition should address prevention of accidents (e.g., overfilling of vessels, plant failure, failure of containment, runaway reactions, etc.) and minimisation of their consequences either by confirming the proposals contained in the operator's application or by specification of further requirements. Examples of techniques for risk prevention or reduction that the operator should be required to have include:

- an inventory of substances, present or likely to be present, which could have environmental consequences if they are released in an accident;
- procedures for checking raw materials and wastes to ensure compatibility with other substances with which they may accidentally come into contact;
- emergency control systems, including automatic alarms;
- pollution release containment equipment;
- installation security systems to prevent unauthorised access;
- safe shutdown procedures;
- well-defined roles and responsibilities and training of personnel involved in accident management; etc.

In the drafting of this condition, particular attention should be paid to the hazardous situations identified in the relevant technical guidance as being typical of the sector or installation concerned (e.g., loss of containment during process cleanout in a chemical plant). Consideration also needs to be given to possible interaction with issues of occupational health and safety and to the need for notification of the relevant authority.

2.6 Monitoring Systems

This most important condition should ensure that arrangements for monitoring and sampling are adequate for assessing the impact of emissions from the installation on air, land and water, including groundwater. It should include a detailed specification of measurements to be made, methodology, frequency, and evaluation procedure. This should address the following aspects:

- monitoring, sampling, and analysis methods and procedures, including prescription of either continuous monitoring or spot sampling;

- reference conditions and averaging periods, calibration intervals and methods;

- criteria for the assessment of non-compliance with permit limits and details of monitoring strategy aimed at demonstration of compliance;

- procedures for monitoring during start-up and shutdown and abnormal process conditions.

This condition may also contain a specification of arrangements that allow the regulatory authority to have advanced notification of self-monitoring so that the regulator may witness or audit the monitoring to confirm it is carried out to a satisfactory standard. It should also require the operator to provide safe and permanent access to specified routine sampling points and safe but non-permanent access for other points when required.

2.7 Decommissioning and Remediation

This condition should specify the steps to be taken before, during and after cessation of operation of the installation in order to avoid any deterioration of the condition of the site during its operational lifetime, and to enable return of the site to a satisfactory state as compared with the state described in the original site condition report.

When permitting a *new* installation, this condition can be used to specify the steps to be taken at the design stage to minimise risks during decommissioning. For example, the design should ensure, among other things, that:

- underground tanks and pipe work are avoided where possible (unless protected by secondary containment);

- there is a provision for the draining and clean out of vessels and pipe work prior to dismantling;

- lagoons and landfills are designed with a view to their eventual cleanup or remediation;

- insulation is provided which is readily dismantled without dust or hazard;

- materials used are recyclable where practicable.

For *existing* installations, where potential problems are identified, a programme of improvements should be put in place on an agreed timescale.

The main requirement to be specified is for maintenance of a *site closure plan* to demonstrate that, in its current state at any time, the installation can be decommissioned, avoiding any pollution risk and allowing return of the site to a satisfactory state. The plan should be kept updated as material changes occur.

3. Emission Limit Values

It is usually most convenient to present the ELVs and relevant conditions by way of tables that first identify the principal emission points for which limits are to be set. These emission points should be

given a reference number and their location identified on the site plan, together with other relevant information (such as the height of the release point for air emissions). The tables should also identify the source within the process that causes the emission so as to prevent the operator from releasing, by way of a specified emission point, emissions from other non-specified process sources, even if the total is within the limit for that emission point. This is a matter of BAT.

The presence of substances created by abnormal operation should also be identified, since process abnormalities can introduce substances into pollution releases that are not normally present.

The types of ELVs and associated conditions that may be set include:

- Mass limits (over a period of time, e.g., in kilograms or tonnes per year or grams per second, or, sometimes, per unit of production);
- Concentration limits (concentration of a pollutant in the discharge flow, e.g., in grams per cubic meter or milligrams per litre);
- Percentiles (percentage of measurements that have to comply with the limit, usually between 90% and 97%);
- Maximum sound pressure levels (for noise); and
- Frequency of monitoring and sampling times.

Where appropriate, ELVs may be expressed as averages over a suitable period and, in the case of gases, should refer to standard reference conditions. For minor emissions, releases from relief vents, etc. that may be described as "fugitive releases," the regulator would generally rely on implementation of BAT for process operation, management, maintenance, etc.

ELVs should be proposed by the operator and validated or amended by the CEA. The CEA should refer to the technical guidance for benchmark ELVs but must ensure compliance with the applicable environmental quality standards. If the local environmental conditions require stricter ELVs than would be derived from consideration of BAT, the EQS should take precedence and the stricter ELVs must be included in the permit.

If the operator envisions to transfer effluents to a wastewater treatment plant, the permit should identify the precise source and nature of the waste stream, the destination treatment plant, and the means of transfer. Limits should be set on the input to the treatment plant, both in terms of quantity and composition (e.g., material content, concentrations, pH, etc.). This is particularly important where there are several process streams discharging to the same treatment plant which can interact with each other adversely (e.g., strongly acidic or alkali streams and some chemical solutions whose reaction may create products with implications for either occupational safety or environmental impact, or both). The setting of limits for such transfers will also have to have regard to the performance and capacity of the treatment plant and to the conditions and limits set for its operation.

4. Off-Site Conditions

Off-site conditions should be directly relevant to operation of the permitted installation. Examples of the use of such conditions might include a requirement for installation and maintenance of monitoring equipment to assess the affect beyond the permitted site of emissions from the installation's high stack, or off-site boreholes to assess migration of leaks from the installation. In each case, the

condition would specify the nature of the equipment or boreholes, their location, the measurements to be made, their frequency and any provisions for maintenance and eventual removal, or for restitution of the land.

5. Improvement Programme

If the CEA accepts the argument from the operator of an existing installation that the techniques currently in use are not BAT because of the expense of an immediate move to a BAT, it should require the improvement of existing and introduction of new techniques over a certain period of time, consistent with the Technical Guidance. The improvement programme should be based on the operator's proposals but may go beyond them. If these are medium- and longer-term improvements, it is necessary to require the operator to report periodically on the status of BAT in his installation. Annual reporting would be appropriate for improvement measures that are supposed to take longer than a year to implement. In addition to reporting on progress, each such report should identify and assess new applicable techniques and re-examine techniques that were available at the time of the application but were not then economically justifiable.

6. Records

"Specified records" are records related to environmental monitoring results and any accidents that had, or could have had, an effect on the environment. They may also include environmental audit reports, records of payment of environmental taxes and charges, notices of violations, etc. "Other records" are routine operational records, including equipment maintenance and calibration log sheets, repair records, water and energy bills, records of shipment of products and materials in and out of the installation, etc.

The condition should specify the time for which records should be retained (usually 4-6 years). There may be a case for some site condition-specific records to be retained until the permit is surrendered. Routine operating records have a shorter retention time (2-3 years).

A formal log of complaints made by members of the public is also considered useful for complaint investigation and can give an indication of an operator's response to the public. This is consistent with a move towards increased stakeholder involvement in environmental matters.

7. Reporting and Notifications

Generally, all the parameters that are required by the permit to be monitored should be reported. The frequency of reporting usually varies from quarterly to annual. It depends on the significance of the environmental impact from the installation (larger polluters should report more frequently), the monitoring regimen (those parameters that are monitored directly should be reported more frequently than those estimated based on process inputs), as well as other factors noted in the technical guidance. It may be convenient to list the reports required in a standard schedule.

This condition should also address arrangements for reporting of information to the regulatory authority. In particular, there should be a clear reference to the address for reporting of specified information, thus removing any room for confusion or delay.

Notification of unauthorised emissions or situations with potential to cause an emergency pollution release involves three stages. These cover arrangements for immediate notification, followed by written confirmation, and a then a full report of the incident together with details of any remediation undertaken and any corrective action to ensure that a similar situation does not occur again.

It is necessary to require that the CEA be informed of any temporary or permanent cessation in the operation of the installation. Such cessation might require a review of conditions in order to ensure that the installation does not pose any risk in its non-operational state.

In addition, having regard to the need for effective interaction with other regulatory requirements, it is helpful to specify arrangements for informing the regulatory authority of any matters arising from any other permits, licences, or agreements that interact with the environmental permit.

8. Payment of Environmental Taxes and Charges

Under this condition, the permit should list the environmental tax and charge rates that are directly applicable to the installation (including any coefficients that may exist). It should be explicit that the reporting of parameters for the purposes of tax/charge payments does not replace the reporting required under Condition 7.1.2.

To ensure transparency and effectiveness of environmental tax/charge collection, a copy of these conditions should be forwarded to the tax authorities (if they are responsible for collection).

9. Validity and Provisions for Variation

The permit should specify the date of its entry into force and the validity period. The effective date would usually be the same as requested in the application. The validity period of an environmental permit is normally stipulated in a regulation (for an integrated permit, it should be no less than 5 years). The permit should instruct the operator as to when he should apply for a renewal of the permit (e.g., 60 or 90 days before the expiration of the current permit). In addition, clauses should be included stating when the operator is required to apply for a revised permit (e.g., in case of change of ownership of the installation and modifications to the regulated activity) and when the CEA reserves the right to initiate the revision process (e.g., when pertinent legislation changes). A formal written agreement to changes in the permit should only be allowed in cases where small changes in operating techniques do not affect the permit conditions.

Chapter V
Combination of the Environmental Quality-Based and Technique-Based Approaches in Integrated Permitting for Large Industrial Installations

CHAPTER V

TABLE OF CONTENTS

5.1. INTRODUCTION

Emission limit values (ELVs) are one of the most important elements of an environmental permit. It is the responsibility of the permitting authority to assess the requirements for and impose ELVs for pollution releases into air and water[8], based upon a proposal provided by the operator in an application. Therefore, the basis for setting ELVs is a key issue that needs to be resolved in the context of a transition to an integrated permitting system.

Environmental literature often refers (with some minor variation of terms) to the *"environmental quality approach"* and the *"technique-based approach"* as principal methods for setting ELVs.

In the EECCA region, the regulation is currently based almost entirely on the environmental quality approach, and the ways in which it is put into practice in these countries significantly diminish its effectiveness. At the same time, in the European Union (among others, in the IPPC Directive) and in North America it is increasingly recognised that an optimal definition of ELVs in permits must be based on a combined assessment of environmental quality and the current state of technology for reducing harmful releases. This ***"combined approach"*** asserts the complementary rather than mutually exclusive nature of the two methods of determining permit requirements.

The objective of this chapter is to provide guidance to competent environmental authorities in EECCA countries on using the combined approach for setting ELVs in integrated permits for large industrial installations.

Section 5.2 explains the theoretical basis of the combined approach and describes its application in the EU. Section 5.3 summarizes the current situation and recent trends in EECCA countries in regulating pollution discharges. Section 5.4 focuses on different aspects of implementing the combined approach in the EECCA region.

[8] Under the integrated permitting system, waste management is not regulated through limit values, as is currently the case in many EECCA countries, but through permit conditions for operational and management techniques.

5.2. THE CONCEPT AND EU PRACTICE OF THE COMBINED APPROACH

5.2.1. What Is the Combined Approach?

The combined approach to setting ELVs in permits is a systematic assessment of the techniques to be used at the permitted installation vis-à-vis the applicable environmental quality requirements.

The environmental quality approach and the technical approach have different objectives in environmental management. Limit values determined by using the *environmental quality approach* are based on the assimilative capacity of the receiving environmental medium, i.e., ensure that the releases of regulated pollutants do not exceed relevant environmental quality standards (EQSs).

The aim of *technique-based limit values* is to ensure the adoption of the best technical means for minimising the environmental impact of discharges regardless of local environmental conditions (in other words, putting into practice what is known as "the precautionary principle"), taking into account the feasibility of those means in the context of the prevailing economic circumstances but not prescribing a particular technology. Technique-based ELVs may be derived from a consideration of the best available techniques (BAT), as described in the relevant technical guidance, or fixed in a regulation (so-called 'statutory ELVs'). *Statutory ELVs* represent maximum ELVs that can be set in permit conditions (i.e., the least stringent limits that can be applied). The main function of statutory ELVs in the framework of the combined approach is to limit the discretion of the permitting authority in setting installation-specific permit ELVs.

When applied separately, each approach has potential drawbacks. Technique-based regulation may be insufficient to protect the environment unless it has a linkage to environmental quality. It can also prove too costly in situations where the ELVs with which it is capable of complying are unnecessarily stringent. On the other hand, an approach based solely upon the assimilative capacity of the environment presumes a reasonably complete understanding of the nature of environmental impacts and the availability of information to quantify them. Consequently, reliance upon such an approach may inadvertently allow polluters to benefit from the lack of evidence of some environmental impacts. Also, by focusing attention on the environmental requirements, the approach tends to lead people to think only of end-of-pipe pollution control solutions and provides no particular incentive for technological innovation.

Therefore, these two approaches need to be used in combination in order to achieve both effective environmental protection and incentives for process optimisation and technological innovation. Whereas the technique-based approach ensures that the process operates with a technical base known to be capable of delivering a particular level of environmental performance, the environmental quality approach further ensures that this technique also respects the needs of the local environment.

5.2.2. The Combined Approach in EU Legislation

Before the adoption of the IPPC Directive in 1996, air emissions and wastewater discharges in the EU were regulated through a combination of environmental quality standards and statutory, fixed ELVs[9]. (Integrated pollution control was introduced in certain EU Member States well before the IPPC Directive came into effect, e.g., in the UK's Environment Protection Act of 1990, upon which much of the IPPC Directive was founded.)

The first wave of ***EU legislation on air quality*** in the 1980s focused on sulphur dioxide, particulate matter, lead and nitrogen dioxide. The legislation established *air quality standards* (referred to as 'limit values') that were to be achieved within a short period of time. The Air Quality Framework Directive (96/62/EC) expanded the regulation to carbon monoxide, ozone, some heavy metals and volatile organic compounds (see Appendix 5.1 for the full list of pollutants for which the EU has established environmental quality standards).

In parallel to this *quality standards* approach, a *fixed emission limit value* approach was adopted for point sources of air pollution, in particular for large combustion plants, incinerators, and certain installations using organic solvents (see Appendix 5.2 for the list of relevant Directives).

The same approach was used in the ***water quality legislation***. The first wave of legislation in the 1970s and 1980s included *water quality standards* on dangerous substances discharged to water used for drinking water abstraction, fish waters, shellfish waters, bathing waters, and groundwater. Community-level EQSs are set for the so-called List I substances under Directive 76/464 on pollution caused by dangerous substances discharged into water (see Appendix 5.1). Member states were required to set EQSs for List II substances. The legislation on dangerous substances discharged to water also included technology-based *statutory emission limit values*.

In practical terms, this "first generation" of the combined approach meant that where environmental (air or water) quality standards are not exceeded, ELVs in permits could not be higher than the statutory ELVs. However, if the application of statutory ELVs did not ensure compliance with the EQSs, stricter permit conditions had to be imposed.

The IPPC Directive (96/61/EC) introduced the notion of Best Available Techniques (BAT) and required that for installations covered by this Directive BAT be the primary consideration in setting ELVs in integrated environmental permits. The BAT reference documents (BREFs) do not prescribe one particular technique to be used but suggest a range of emission levels that are achievable by the use of the various best available techniques which exist on the market. Individual permit ELVs should be determined based on this range of emission levels associated with the use of BAT for a particular process (as suggested in the BREF), but also taking into account technical characteristics of the installation concerned, its geographical location and local environmental conditions.

According to the IPPC Directive, the interaction between technique-based and environmentally-based considerations for setting ELVs should abide by the following general principles:

- BAT should always be used as a general principle to ensure even-handed consideration of cases, regardless of the actual environmental situation pertaining to each case.

[9] Statutory ELVs are sometimes referred to as 'emission/effluent standards', not to be confused with permit ELVs.

- Requirements based on environmental quality should be calculated or otherwise estimated, so that a permitting authority can see in the proper context what it would be possible to achieve (in terms of environmental protection) by the use of BAT and its associated ELVs. When used appropriately, this approach can assist in allocating resources more effectively, for example, in establishing improvement programmes for installations to achieve BAT.

- Where EQSs would be exceeded, even if BAT were to be installed and operated, further reduction of polluting releases must be achieved over and above what would be achievable by the use of BAT alone, so that the given source or a group of sources operating in a particular area would not contribute to a breach of applicable environmental quality requirements. In cases where the cost of such additional measures would be prohibitive or where the feasibility of them might be questionable, the permitting authority may force the closure of certain existing sources or deny permits for new sources, process expansion or modification.

- Plans for future economic expansion of installations should be environmentally sound. ELVs should hence be set with a margin of safety vis-à-vis the EQSs, and EQSs themselves should be reviewed regularly.

The statutory ELVs established in EU Directives are not based on BAT but rather on an agreed existing technique or technology[10] at the time of their promulgation. Where an installation is subject to both IPPC rules and fixed ELVs under other Directives, the latter values serve as minimum requirements. The permitting authorities of the Member States are not allowed to establish case-specific ELVs that are less stringent than these statutory ELVs. The rationale for this approach is to provide a "safety net" against any risk of overly flexible application of the rules of the IPPC Directive. In reality, the EU practice of regularly updating BAT references is likely to result in ELVs that will be more stringent than the maximum statutory values. Even so, it is envisaged that further statutory ELVs (in their role of defining the minimum requirements) may be established in forthcoming Directives, particularly with respect to water pollution, in order to protect the aquatic environment against high levels of certain priority substances.

The combined approach was also reflected in the Water Framework Directive (2000/60/EC), which combines the requirement to implement all existing technique-driven source-based measures (i.e., BAT) in a river basin with the water quality standards and statutory ELVs from the earlier water-related Directives[11].

[10] The words "technology" and "technique" are not interchangeable and should not be confused. BAT refers specifically to best available *technique* on the understanding that effective pollution control can involve the use of non-technological techniques.

[11] As the EU water legislation is further streamlined and updated, some of the "first wave" Directives will be replaced: for example, the Surface Water, Fish Water, Shellfish Water, Groundwater Directives and the Directives on Dangerous Substances.

5.3. CURRENT SITUATION AND TRENDS IN EECCA COUNTRIES

This section summarises the main aspects of the current EECCA country practices of setting ELVs in environmental permits. A comprehensive description of the permitting systems across the region with examples from individual countries is presented in the "Review of Environmental Permitting Systems in Eastern Europe, Caucasus and Central Asia" (OECD, 2003).

5.3.1. Prevalence of the Environmental Quality Approach

In the EECCA region, the environmental quality approach is the basis for setting ELVs. Limit values for emissions (into air) and effluents (into water) are set for individual sources based on the hypothesis that releases at these levels would not result in an exceedance of environmental quality standards (Maximum Allowable Concentrations, MACs) in the respective media.

The main deficiencies of the environmental quality standard setting practice in EECCA countries include:

Lack of risk management. The mainstay of environmental regulation in EECCA countries is the principle of zero risk to human health, which conditions the stringency of environmental quality standards. This approach presupposes full regulation of all environmental hazards regardless of the level of risk posed, preventing the implementation of a risk management strategy which would allow prioritisation of environmental impacts and cost effectiveness of measures. As a result, there are about 400 ambient air quality MACs and some 1,200 MACs for water bodies used for fishery purposes (the "default" water use designation of almost all surface water bodies, corresponding to the most stringent quality requirements). There is a general requirement that a substance may not be discharged to water or emitted to air unless it has a corresponding MAC, even though the vast majority of these substances cannot be monitored. In addition, there is an expectation that ambient quality standards will be respected for 100% of the time. This is unrealistic because it presumes that variations in ambient quality are primarily the consequence of controllable variations in emission or discharge quality; in reality there are many possible causes of such variation (e.g., extreme weather events or sunlight-induced algal blooms at particular times of the year) that are not within reasonable operational control.

Lack of technical considerations. Having centred their regulatory systems on excessively strict ambient quality standards, EECCA countries fail to consider the technical and economic feasibility of resulting ELV requirements. This approach has led to greatly differentiated requirements for similar enterprises and an imposition of excessive costs for their achievement (which has led to industry's resentment of compliance). Since many enterprises cannot comply with MAC-derived ELVs, "temporary" (higher level) emission limits are used in practice in several EECCA countries with a goal to facilitate a step-by-step attainment of MACs. These limits are negotiated between the enterprise and the permitting authority (with wide discretionary powers) on a case-by-case basis as part of the permitting process. In most instances, the temporary (but routinely renewed) limits are set at values close to actual pollution levels, providing no incentive for pollution reduction and defeating their declared purpose.

Lack of revision provisions. Revision of environmental standards is a procedure that helps to ensure the effectiveness of regulations. There are no provisions in EECCA countries mandating the public review of ambient standards and related ELV setting procedures. This prevents the timely recognition of the adequacy of the requirements and their improvement. In addition, a possible revision of standards is viewed by some stakeholders (e.g., health authorities) as a "weakening" of environmental requirements. Finally, the dispersion models used to calculate ELVs based on MACs are often inadequate to specific analytical needs and depend on data that are often unavailable or unreliable.

5.3.2. Emerging Trends in Technique-Based Regulation

A number of EECCA countries have recently introduced into their environmental protection legislation certain provisions that seem to correspond to the concept of BAT. At the same time, there are major weaknesses in the way in which this is defined and implemented. BAT is frequently defined, wrongly, as "best existing technologies" (see the definition of BAT in Chapter I). This compromises the focus of BAT both on economic considerations and process operation and maintenance techniques. Furthermore, even where the BAT concept (however it is defined) has been adopted in the law, EQSs remain the basis for setting the ELVs in permits. For example, in Georgia, if the EQS is exceeded, a permit can still be issued to an operator if it uses BAT[12]. This is inconsistent with the basic principle of integrated pollution prevention and control because, in effect, it gives a higher priority to granting a permit to an operator, regardless of consequence, than it does to environmental protection.

At the same time, there is a growing trend in EECCA countries to introduce statutory ELVs. In the Russian Federation, the framework Law on Technical Regulation was adopted in 2002 with industry's support in an effort to clarify and make more transparent and coherent the technical norms regulating products and processes. The reform of Russia's whole system of technical standards and specifications, which is currently a major obstacle for investments, is designed to facilitate the country's accession to the World Trade Organisation. Eventually, some 400 technical regulations (referred to as '*reglaments'* in Russia) are expected be adopted under this Law setting out detailed requirements, including those covering environmental impacts (under the "environmental safety" category).

The recognition by the Russian government of the problems with the current environmental permitting system provided an additional incentive to fix ELVs in the legislation. In doing so, the reform's proponents plan to introduce technical considerations into permit requirements and limit the discretion of permitting authorities in setting ELVs. It is also seen as a way to get around the issue of excessively stringent EQSs that are difficult to reform due to the strong institutional opposition (as mentioned above).

A draft technical regulation law on wastewater discharges has already been developed[13] and may be promulgated in 2004, while one on air emissions will be elaborated in the near future. The draft law on wastewater discharges contains a number of progressive provisions in the spirit of the combined approach:

[12] "Review of Environmental Permitting Systems in Eastern Europe, Caucasus and Central Asia," OECD, 2003

[13] The draft of 20.02.2004 of the "Water Discharges" law can be found on the website of the Danish-funded project "Reform of the Water Sector Legislation in the Russian Federation" at www.waterlaws.ru.

- The draft law incorporates the concept of BAT (although it is misinterpreted as "best available technologies" and refers mostly to end-of-pipe effluent treatment) and contains a timeline for its implementation. It envisages a 3-year compliance deadline for new installations and existing installations undergoing a substantial change and a 9-year transition period for all existing installations.

- The draft law establishes a list of dangerous substances (List I containing toxic organic compounds, carcinogenic substances, heavy metals, heavy mineral oils and other hazardous water pollutants) that would be banned after 9 years. For List II of priority parameters of water pollution, the draft law establishes fixed ELVs – minimum requirements for physical and chemical characteristics of the effluent (see Appendix 5.3). These fixed ELVs are not specific to particular industrial sectors: they would apply to all effluents, including those of wastewater treatment plants. They are set for almost the same substances (and with similar values) to those found in the daughter directives to Directive 76/464/EEC on the discharge of dangerous substances to water.

- In a break away from the rigid old system, the draft law specifies the number of samples out of the total (ranging from 7% to 25% depending on the sampling frequency) that may not be in compliance with the statutory ELV.

- The draft law would require compliance with the applicable ambient water quality standards within 9 years for sensitive areas (eutrophication zones and specially designated water bodies) and 15 years for all water bodies.

Although on paper the Russian draft law covers all the elements of the combined approach (fixed ELVs, BAT, and EQSs), the actual implementation of the new system is likely to be undermined by the gaps and discrepancies in the regulatory framework. For the combined approach to function, environmental quality requirements must be taken into account, as required by Russia's Law on Environmental Protection and the Water Code. If the MACs remain mandatory at their current unrealistically stringent levels, these MACs would almost always override the statutory ELVs and become the governing constraint in setting ELVs in permits. Under such circumstances, the ELVs in permits would almost always be stricter (being based upon the MACs) than the statutory ELVs, which would call into question the whole point of having the statutory ELVs at all. If the MACs were to be turned into guidance values that would become mandatory only in 15 years' time (as seems to be the case under the draft law on wastewater discharges), then in the interim ELVs in permits will be set purely based on technological considerations and not on the combined approach. It is entirely possible, however, that the Russian Federation will undertake the necessary reform of its MAC system (see Section 5.4.3 below) and make the regulation internally coherent.

There is one further major weakness in the emerging regulatory regime in Russia: it lacks a mechanism for determining BAT. Without such a mechanism, which must include a procedure and technical references, the transition to integrated permitting would be impossible (see Section 5.4.1 of this Chapter as well as the discussion on the development of BAT technical guidance in Section 6.3.3.3 of Chapter VI). It may also make sense to differentiate the statutory ELVs by industrial sector (i.e., to have sector-specific statutory ELVs); this would allow the ELVs to take proper account of appropriate sector-specific techniques.

The Russian Federation's example of setting technical emission and effluent standards is likely to be followed by at least three other EECCA countries, namely Kazakhstan, Armenia, and Belarus, where a framework law on technical regulation very similar to Russia's has either been promulgated or is under development. It is reasonable to expect that environmental laws setting maximum ELVs in these

and possibly other EECCA countries would also follow the Russian model. In Ukraine, there are plans to introduce technology-based, industrial sector-specific air emission standards (i.e., statutory ELVs). It is still unclear whether these will become minimum requirements for combined consideration with the EQSs or norms to be directly written into permits without considering environmental quality requirements.

5.4. IMPLEMENTATION OF THE COMBINED APPROACH IN EECCA

Under the combined approach to setting environmental permit requirements, assessment of BAT is carried out in conjunction with the assessment of the sensitivity of the local environment. In cases where statutory maximum ELVs are defined in applicable legislation, these should be regarded as the least stringent permissible ELVs (i.e., ELVs set by the permitting authority should always be at least as stringent as the statutory maximum ELVs).

The approach comprises the following steps that need to be taken by the permitting authority:

a) Assess the BAT-based ELVs proposed by the operator in the permit application.

b) Identify if fixed ELVs have been provided by legislation for the pollutants in question. A minimum requirement is that the emission is in compliance with statutory ELVs.

c) Calculate the ELVs that would be required in order to ensure compliance with the applicable environmental quality standards. This calculation would only make sense if the EQSs are set in accordance with realistic environmental quality objectives. Since realistic environmental quality objectives are lacking in EECCA countries at present, effective application of this step in the combined approach requires further reform of the environmental planning and regulatory systems of EECCA countries. (Section 4.3 below describes reforms to the EQS system).

d) Set ELVs in the permit, taking into account BAT, statutory ELVs, and EQSs. The emission or discharge should be reduced as much as possible by the use of BAT and at least comply with any fixed ELV provided in the legislation. Furthermore, it should be evaluated together with emissions or discharges from all other sources to the same environmental recipient to ensure that the recipient medium will be in compliance with applicable quality standards.

Each of these steps is discussed in the following subsections in connection with actions required in EECCA countries to implement the combined approach.

5.4.1. Assessment of BAT-Based ELVs

The operator should demonstrate in his permit application that he is using or intends to use the appropriate BAT for his particular industrial sector or go beyond it in order to reduce as much as possible the emissions, discharges, and consumption of natural resources. The selection of BAT should be based on the national technical guidance documents (see Section 6.3.3.3, Chapter VI). If no relevant national BAT guidance has been published by the time when the operator makes an application, the permitting authority should advise the operator on other pertinent sources of data (e.g., international BAT guidance). The operator's proposed ELVs for the installation should be close to the indicative ELVs from the technical guidance. If the applicant does not or intends not to comply with BAT, he has to justify his proposed approach by providing information about the problems with accessibility of BAT or the prohibitive costs of the techniques that are necessary. On the other hand,

the operator may propose to use more advanced techniques which would reduce its environmental impacts further than indicated in the technical guidance.

Determining BAT involves comparing techniques that prevent or reduce emissions and identifying the one that will have the lowest impact on the environment. Alternatives should be compared both in terms of the primary techniques used to run the process and the abatement techniques to reduce emissions further. The option which minimises the environmental impact from the installation is deemed to be BAT. An option may be eliminated on the grounds of cost only in cases where a properly conducted cost-benefit analysis shows that the incremental cost of the option (as compared with other options) is unreasonably out of proportion to the incremental benefit obtained. The cost-benefit analysis should take account of both operating and capital costs. The benefits should include any cost savings. For example, using a purer raw material may be more expensive at first, but may save money overall by improving product quality or producing less waste.

It is essential that the permitting process remain open and transparent. If it has been established that a particular technique is BAT within a certain sector, then the permitting authority should normally impose the ELVs that correspond to the use of that technique in all permits for that sector. The permitting authority must be able to explain any cases where they have approved any significant deviation from BAT and respective ELVs because of a different cost-benefit ratio in the particular local environmental and/or technical circumstances. BAT-based ELVs for existing sources should be as stringent as those for new sources. However, existing installations can be granted some flexibility by permit writers (e.g., in the form of an improvement programme with gradual tightening of ELVs), taking into account specific local conditions of the installation. In exercising such flexibility, the permitting authority must be able to revoke the operator's permit if the envisaged improvement programme were not to be implemented.

The lack of profitability of a particular company or industrial sector should not affect BAT determination. The permitting authority should not authorise more lenient ELVs or a delay in the implementation of BAT just because an operator argues for it on the basis of its own financial problems. If an improvement programme is impossible to implement over a reasonable time period (less than 5 years) or the operator cannot afford it, then the permit must be refused. (It should be understood that it is absolutely unacceptable to operate without a permit.) Conversely, if an operator were in a healthy financial situation and could afford to pay more than the cost of BAT, the permitting authority should not use this to justify imposing stricter ELVs than indicated in the BAT guidance. The imposition of stricter ELVs is justifiable on the grounds of necessity for compliance with environmental quality standards or if such ELVs are proposed in the application by the operator (reflecting innovative techniques going beyond BAT).

5.4.2. Application of Statutory ELVs

As mentioned earlier, statutory ELVs can be defined in order to establish the least stringent requirements that a permitting authority must set in installation-specific permits. Statutory ELVs may be generic or industrial sector-specific. Development of multiple sets of sector-specific standards is more expensive and time-consuming but allows the requirements to be more closely tied to relevant technical considerations and, consequently, both more realistic and more fair in terms of the relative burden that they place upon different industrial sectors. However, it would never be accurate to claim that statutory ELVs are based on BAT because:

- BAT always implies cross-media integration, whereas statutory ELVs are media-specific.

- Technological advances and innovation mean that BAT and the corresponding technical guidance (being reference documents rather than acts of law) are continually subject to review and possible revision, whereas statutory ELVs, once enshrined in law, do not vary until the law is specifically amended.

It is important to restrict the use of statutory ELVs to a necessary minimum number of key priority substances for the industrial sectors subject to integrated permitting, including, in particular, those hazardous substances whose impact on ambient environmental quality is difficult to model (see Section 5.4.4 below). Statutory ELVs for such hazardous pollutants would ensure a minimum level of environmental protection for any recipient medium. They may be expressed in concentration terms or in pollutant loading per unit of production.

The legislation stipulating statutory ELVs must make clear that these are *the least stringent permissible* ELVs rather than limits that must be put directly into permits. The inclusion into primary or secondary law of binding ELVs conflicts in principle with the concept of holistic cross-media environmental management and encourages end-of-pipe technologies as opposed to technological innovation. In addition, it does not provide the permitting authority with the necessary flexibility to take account of local environmental quality considerations. However, this conceptual conflict can be resolved by promulgating minimum requirements for emissions, i.e., statutory ELVs, and *explicitly* stating in the legislation the primacy of BAT and EQSs in setting permit ELVs.

Industrial sector-specific statutory ELVs may or may not be the same for large industry subject to integrated permitting and small and medium-sized installations that are outside its scope. With respect to SMEs, technique-based statutory limits are usually directly binding rather than minimum requirements.

5.4.3. Reform of Environmental Quality Standards

The introduction in EECCA countries of the combined approach in particular and the integrated permitting system in general will be impossible without reforming the current systems of environmental quality standards. This section highlights the main issues of such reform, particularly with respect to water quality management, which, due to a wide variety of water uses, is a more complex area than air quality management.

Linkage with Environmental Quality Objectives

The ultimate objective of a reform of the system of environmental quality standards is to reach a balance between what is desirable from an environmental point of view and what is feasible from a technical and economic standpoint. In other words, *environmental authorities in the EECCA region need to set achievable environmental quality objectives (EQOs) that would be translated into realistic environmental quality standards (EQSs).*

In EECCA countries, environmental quality standards and objectives have been mistakenly interpreted to mean the same thing. In fact, an EQO is a *planning tool* that can be expressed in either qualitative or quantitative terms, whereas an EQS is a *regulatory tool*, a criterion that a particular parameter is required to meet as a condition for the achievement of an EQO (see Box 5.1).

Box 5.1. Environmental Quality Objectives and Standards

It is essential to understand the distinction between:

- A quality objective, which is a clear statement of the result (in environmental quality terms) that a particular set of actions is intended to produce.
- Environmental quality standards that comprise the set of criteria that define whether or not that objective has been achieved.

When establishing objectives for an environmental action plan, it is usual to express those objectives in terms such as, for example, "air quality should not have a detrimental impact on public health" or "surface water should be suitable for …" This gives rise to the concept of (in the case of surface water) use-related EQOs: they are a succinct and readily understandable statement of intention.

An EQS is a condition that the value of a particular parameter must fulfil. It is normally (but not always) expressed in statistical terms. Typical examples are:

- BOD ≤ 2.5 mg/l for 90% of the time
- Dissolved oxygen ≥ 40% of saturation for 95% of the time
- 6.0 ≤ pH ≤ 9.0 for 90% of the time
- Oil and grease undetectable by taste and odour. (Note that this is just as valid an environmental quality standard as any numerical condition.)

The link between EQSs and particular characteristics of the environment is established in the law by saying, for example: "Sections of river that are designated as raw water sources for potable supply must comply with the following quality standards … [list of standards]". To make such a legal provision meaningful, a competent authority has to decide which sections of river should be so designated.

The proper management of risk is an essential aspect of environmental management. Its aim is to reduce risk to an *acceptable and reasonable level* in the context of whichever specific EQOs apply. Policy decisions based on risk management should dictate new ambient standards for air and water quality for different locations. This will not necessarily make the standards less stringent in every case than they are at the moment (although in many cases it will). However, it will make them fair and more understandable to the regulated community. The risk management philosophy should also be reflected in expressing environmental quality standards in statistical terms (90^{th} or 95^{th} percentile standards), which is common in the European and North American regulatory systems (see Box 5.2).

Box 5.2. Percentiles in Environmental Quality Standards

If a particular environmental quality parameter at a given location varies with time (for whatever reason), then that variation can be represented as a statistical frequency distribution. This defines the probability of the parameter in question having a particular value at any instant in time. Within that range of variation, the 90^{th} percentile (for example) is defined to be the value that the parameter is likely to exceed for 10% of the time.

It is advisable to express environmental quality standards as percentiles rather than as absolute maximums. The reason for this is simple. If a standard is expressed as an absolute maximum, then the chance of failure increases as the number of samples increases, because even a single sample in excess of the standard would constitute failure of the entire set of samples. However, if the standard is expressed as a percentile, then it becomes possible to assess overall compliance in a way that is not biased by the number of samples taken. Not only is this fairer, but it also avoids the risk of unjustified investment based upon excessive importance being attributed to a single event.

Polluting Substances to Regulate

The number of polluting substances regulated through EQSs (and ELVs) should be limited to those that can be effectively monitored with the available technical capacity and human resources. A regulatory requirement makes sense only if it is possible to demonstrate compliance or non-compliance with it. The choice of priority substances may be guided by the example of the European Union's environmental Directives. Annex III of the IPPC Directive contains an "indicative list of the main polluting substances to be taken into account if they are relevant for fixing emission limit values," i.e., priority substances to be regulated in large industrial installations (see Table 5.1 below).

Table 5.1. Indicative List of Regulated Substances under the IPPC Directive

Air Pollutants	Water Pollutants
1. Sulphur dioxide and other sulphur compounds 2. Oxides of nitrogen and other nitrogen compounds 3. Carbon monoxide 4. Volatile organic compounds 5. Metals and their compounds 6. Dust 7. Asbestos (suspended particulates, fibres) 8. Chlorine and its compounds 9. Fluorine and its compounds 10. Arsenic and its compounds 11. Cyanides 12. Carcinogenic or mutagenic substances 13. Polychlorinated dibenzodioxins and polychlorinated dibenzofurans	1. Organohalogen compounds and substances which may form such compounds in the aquatic environment 2. Organophosphorus compounds 3. Organotin compounds 4. Carcinogenic or mutagenic substances 5. Persistent hydrocarbons and persistent and bioaccumulable organic toxic substances 6. Cyanides 7. Metals and their compounds 8. Arsenic and its compounds 9. Biocides and plant health products 10. Suspended solids 11. Substances which contribute to eutrophication (in particular, nitrates and phosphates) 12. Substances which have an unfavourable influence on the oxygen balance (measured as BOD, COD, etc.).

It is also feasible to use the standards stipulated in the European Union's environmental Directives (see Appendix 5.1) and those of the EU member states as benchmarks. At the same time, it is important to adapt the EU requirements, as appropriate, to the local conditions. EU requirements presuppose a particular level of monitoring, and sampling frequency is in some cases specified alongside the numerical limit values. If such limit values are being considered for use elsewhere, then one should at the same time consider what level of monitoring can be realistically implemented and how this should be reflected when stating the requirement in local law. Transposition of requirements should also take into account particularities of the local natural environment such as naturally occurring pollutants.

Surface Water Quality Categories and Standards

In order to provide a basis for river basin management planning, clear objectives need to be set for surface water quality. Surface water quality categories are well suited for this purpose, as long as they are properly structured and used.

Since the majority of measures taken to protect surface water quality are generally designed with the intention of rendering the water suitable for some particular purpose or set of purposes, it makes sense to design the classification system around suitability for different types of use. In this way, each quality objective (expressed in terms of a surface water quality classification) would have a corresponding set of surface water quality standards that a competent authority would use to estimate ELVs and to make investment planning decisions.

This approach to surface water quality classification, and the way in which such a classification is used, differs from the systems presently in place in EECCA countries (as noted in Section 5.3.1 above). Consequently, effective surface water quality management will require a reform of the existing system of *water body classification* in EECCA countries.

The first step is to identify the environmental quality categories that will be promulgated in the law. In the case of surface water quality, these are referred to as "classes."

One option for water class designation is to define them in order of decreasing water quality. Each class is described in terms of one or more qualitative statements and the uses for which water in that class is deemed to be suitable. The classes need to be hierarchical, in the sense that the set of uses for any class should be a wholly contained subset of the uses for the class above it (i.e., the next better quality class). This approach represents a clear progression of quality, from bad to very good. It is therefore well suited for defining planning objectives and measuring progress towards a better environment. The example in Table 5.2, which represents a proposal elaborated in an EU technical assistance project in Moldova, shows how it is possible to do this[14].

[14] Note that the original classification contains requirements for more parameters than are shown here. This example has been limited to BOD and ammonia simply for the purposes of illustrating the principle.

Table 5.2. Example of Hierarchical Surface Water Quality Classification and Standards

Class	Description/Uses	Surface Water Quality Standards		
		BOD5, mg/l 90th percentile	Total ammonia, mg/l 90th percentile	… plus other parameters, as appropriate
1	Water of very good quality suitable for all freshwater fish species. Suitable for potable supply after basic treatment and for all other abstractions. High amenity value.	≤2.5	≤0.25	Parameters must be: a) appropriate for the uses in each class; and b) measurable at the levels required, in order to assess compliance.
2	Water of good quality suitable for all freshwater fish species, which differs from Class 1 only in the amount of treated effluent likely to be present. Suitable for potable supply after intermediate treatment and for all other abstractions. High amenity value.	≤4.0	≤0.60	
3	Water of fair quality suitable for high class cyprinid fish species. Suitable for potable supply after advanced treatment. Suitable for agricultural and industrial abstraction. Moderate amenity value.	≤6.0	≤1.3	
4	Water of fair quality suitable for cyprinid fish species. Suitable for potable supply after advanced treatment. Suitable for agricultural and industrial abstraction. Moderate amenity value.	≤8.0	≤2.5	
5	Water of poor quality that is likely to limit cyprinid fish populations. May be usable for low grade industrial abstractions.	≤15.0	≤9.0	
6	Water of bad quality in which fish are unlikely to be present. Very polluted water bodies that may cause nuisance.	>15.0	>9.0	
7	Water where there are insufficient data available by which to classify water in Classes 1 to 6.	-	-	

Source: Modified from a proposal for Moldova in "Support for the Implementation of Environmental Policies and NEAPs in the NIS, Task 10d: Moldova. A Framework for Water Quality Standards in Rivers and Point-Source Discharges," EU TACIS, 2003.

The use of qualitative descriptions provides a basis for non-specialists to understand what the classes are all about. This is essential when it comes to consultations with stakeholders at any stage of the process of surface water quality management.

The next step is to establish which parameters are relevant to each class, with the intention of establishing class-specific environmental quality standards in an implementing regulation. This can be done by looking at the parameters and associated standards that are contained in European Community Law relating to the main uses for that class (e.g., for Class 1 in the given example – potable supply after basic treatment and suitability for all fish species). When doing this, the country's ability to monitor should be considered very carefully.

It is clear from this that there are three stages in generating the compliance criteria for a classification scheme such as the one described above:

- Stage 1: Identify the potential uses on which the classification scheme is to be based.
- Stage 2: Look at what standards would be required for each of the uses that feature in the scheme.

- Stage 3: Rationalise these standards by combining potential uses in such a way that the standards for any class ensure that water of that class will be suitable for the uses defined for it *and for all uses associated with poorer quality classes*.

To date, only in Moldova have discussions about reforms to surface water quality categories extended to include all the three stages. Stages 1 and 2 of the process (in isolation from Stage 3) give rise to what some people regard as an alternative method of classifying surface water quality, namely to define a number of main uses each with a use-specific set of compliance criteria. This is conceptually similar to the approach with which EECCA countries are familiar. In fact, it is a classification of potential uses, rather than a classification of surface water quality, and, consequently, cannot be regarded as a comparable alternative to the hierarchical scheme described above. In addition, this sort of "specific use" classification scheme is not particularly representative of the real world in which rivers are seldom used for only one purpose.

The potential uses for surface water would usually include the following:

- Abstraction for drinking water supply
- Bathing and other recreational water contact activities
- Industrial water consumption
- Fisheries
- Irrigation
- Ecological functioning of aquatic ecosystems.

The requirements for water quality vary from one use to another[15]. For example, the presence of organic and oxidisable matter will affect the suitability of water for treatment for drinking water supply and fish farming and will have an impact on its ecological status but will have less impact on bathing or recreation activities. Hence each specific potential use can be assigned a use-specific set of water quality standards. Table 5.3 provides an example of the water quality standards for the key 20 parameters and for the four main water uses in Uzbekistan proposed by a technical assistance project. This does not preclude the further development of these standards into a hierarchical scheme by progressing to Stage 3 as described above.

[15] It should be noted that the requirements for abstraction for drinking water supply are not absolute: it is possible to define different sets of limiting criteria for the surface water at the point of abstraction, depending upon the degree of treatment that the water will receive before being put into supply. See, for example, EU Directive 75/440/EEC.

Table 5.3. Example of Use-Based Surface Water Quality Classification and Standards

	Parameter	Fishery	Bathing	Drinking water abstraction	Irrigation
1	COD	30	40	30	40
2	BOD_5	6	10	3	10
3	pH	6 to 9	6 to 9	5.5 to 9	6.5 to 9
4	Total suspended solids	25	30	25	50
5	Mineralization	1000	1500	1000	1000
6	Total ammonia	1	2	0.3	1.5
7	NO_2^- (nitrites)	0.1	0.5	0.2	0.5
8	NO_3^- (nitrates)	10	25	25	25
9	PO_4^{3-} (phosphates)	0.3	1	0.5	1
10	Ether soluble substances	0.8	0.8	0.8	0.8
11	Oil products	No visual, no taste	0.3	0.3	0.3
12	Synthetic surface active substances	0.5	0.5	0.5	0.5
13	Phenol	Taste	0.005	0.001	0.001
14	Fluorine (mg/l F)	0.05	1.5	1	1
15	Arsenic	0.1	0.1	0.01	0.1
16	Iron	0.005	0.5	0.1	5
17	Chromium (VI)	0.02	0.1	0.05	0.1
18	Copper	0.01	1	0.02	1
19	Zinc	0.04	1	0.5	5
20	Lead	0.1	0.03	0.05	0.2

All limits are expressed in mg/l, 90^{th} percentile

Source: "Support for the Implementation of Environmental Policies and NEAPs in the NIS, Task 10i: Uzbekistan. Policy Package for Developing Incentives to Reduce Industrial Water Pollution," EU TACIS, 2003.

Once promulgated in the law, a water quality classification scheme with respective water quality standards would give environmental agencies on the ground the flexibility to set, after a stakeholder consultation, environmental objectives that would be realistically achievable in the short, medium and long terms without excessive cost. (Environmental agencies should be given a legislative mandate to set environmental quality objectives taking into account the implementation cost.) As the environmental quality improves, the quality objectives should be revised to reflect a policy aiming to achieve an even better environmental quality. An evolution of environmental quality objectives and standards would also entail setting more stringent ELVs for individual pollutants, unless the application of BAT would already result in a better quality of the environment.

5.4.4. Verification of Compliance with EQSs

After the permitting authority has assessed BAT-based ELVs proposed by the operator and checked them against applicable statutory ELVs, it should verify whether those ELVs will assure compliance with the relevant environmental quality standards.

General Approach

The estimation of ELVs based upon air quality standards can be refined by the use of point source emission and atmospheric dispersion modelling. There exist various procedures and software packages for doing this. The estimation of ELVs needed to ensure compliance with surface water quality standards is, in essence, a mass balance procedure (see Box 5.3). However, proper account needs to be taken of the statistical distributions of each variable in the equation as both the standards and the ELVs are expressed in statistical terms, i.e., as percentiles. This "statistical mass balance" procedure is easily incorporated into a computer software package (e.g., the UK Environment Agency's SIMCAT model and its related CONSENTS software packages). It is also known as the method of "combining distributions" because it "combines" the distributions of flow and concentration that characterise the river upstream of the discharge and the discharge itself in order to simulate distributions of flow and concentration downstream of the discharge. The ELV that is calculated in this way will be the one that will result in the air or water quality at a control point just bordering on non-compliance.

Box 5.3. Mass Balance Calculation

When a point source discharge enters a river, the rate at which a pollutant arrives at the point of mixing is equal to the rate at which that pollutant leaves point of mixing. This is known as "mass balance". At any instant in time, the concentration of pollutant downstream of the discharge is represented by the following formula:

$T = (FC + fc) / (F + f)$

where:

F and C are the flow and concentration upstream of the discharge,

f and c are the flow and concentration of the discharge itself, and

T is the resulting concentration downstream of the discharge.

Note that this same relationship does not hold if statistics (instead of instantaneous values) are substituted into the above equation, hence the need for the "combining distributions" approach.

The estimation of ELVs for a significant proposed or existing discharge can be seldom conducted without an analysis of other factors influencing environmental quality in the area (in water management, such analysis would normally be a component of integrated river basin planning). A comprehensive review of all major pollution sources and an evaluation of their cumulative impact on the local environment are important in any of the following circumstances:

- When it is generally agreed that the EQOs need to be reviewed and possibly revised, to take account of significant changes in economic activity and/or pollution loading.

- When some parts of the air basin or watershed are failing to comply with the applicable EQSs and the failure can be attributed to the combined impacts of more than one emission or discharge, or where the reason for the failure is unclear.

- When one or more other emissions or discharges are failing to comply with their ELVs and these other emissions or discharges are likely to influence the choice of ELVs for the installation under consideration.

A model-based analysis of interactions between the significant discharges is an iterative process in which the permitting authority designs an interrelated set of ELVs for the main pollution sources in the area designed to meet the EQSs, helping to determine the necessary limits for the considered installation. However, it is important to choose the right model, as they vary greatly in complexity and

costs. Model selection requires matching the key characteristics of the site and the requirements of the evaluation with the capabilities of the model. Normally, expert advice is required in making a choice. As a general principle, modelling should always begin with the simplest form possible, moving to more complex approaches only where their necessity and value can be demonstrated.

Air Quality Models

The simplest approach to air quality modelling is to use a point source model to estimate ground-level concentrations of the pollutants of interest at some distance from a point source. More complicated models allow the examination of multiple sources, including non-point sources.

As a general guide, it is suggested that a basic analysis of possible impacts on ambient concentrations be carried out on installations that have the potential to emit annually more than 500 metric tonnes of sulphur dioxide or nitrogen oxides, or 50 metric tonnes of particulate matter or any hazardous air pollutant In many cases, simple calculations based on loads and air volumes may be sufficient to provide an order-of-magnitude estimate. A simple screening model can provide a realistic estimate of the order of magnitude of the impact of a single source (an example of a screening model is SCREEN3 used by the U.S. EPA).

Analyses involving multiple sources in the same area (within a radius of 10-15 km) or varying terrain require more complex models that predict dispersion patterns of non-reactive pollutants (e.g., SO_2, NO_x, particulate matter) within 50 km of the emission source (they cannot be used to evaluate the impacts of hazardous, reactive pollutants). Most such dispersion models are similar in design and performance and include the American models ISC3 (Industrial Source Complex) for flat terrain, CTDMPLUS (Complex Terrain Dispersion) for complex relief, as well as the British UK-ADMS[16]. OND-86, a model used in all EECCA countries since the late 1980s, also belongs to this category of models, but it does not take into account important meteorological factors and chemical reactions between pollutants.

The results of air dispersion modelling are typically maps showing the concentration of the considered pollutants throughout the immediate area surrounding the facility. The maps are then evaluated to compare them with ambient air quality standards and identify areas where the EQSs are exceeded.

Water Quality Models

Water quality models are usually classified according to model complexity, type of receiving water, and the water quality parameters that the model can predict. In view of the fact that ELVs and environmental quality standards for surface waters should ideally be expressed as percentiles, stochastic models (i.e., those that simulate statistical variation) are of more immediate relevance in this context than deterministic models (i.e., those that simulate time-series variations based upon mathematical representations of real-world processes). For indicators of aerobic status such as BOD, dissolved oxygen, and temperature, well-established models can be used to simulate long-term changes in the average condition of water bodies. Basic nutrient indicators such as ammonia, nitrate, and phosphate concentrations can also be simulated with reasonable accuracy, at least for simpler water bodies such as rivers and moderate-size lakes. Toxic organic compounds are more difficult to simulate to a reasonably high level of accuracy.

[16] Pollution Prevention and Abatement Handbook 1998: Toward Cleaner Production, World Bank, 1999.

Models can cover only a limited number of pollutants. In selecting parameters for the model, it is important to choose pollutants that are of specific concern while also being representative of the broader set of substances that cannot be modelled in detail.

An example of a simple analytical model suitable for approximating the effects on water quality of individual industrial installations is WQAM. WQAM is not a computer model per se but a collection of simple methods and procedures to analyse changes in water quality due to changes in pollution loading. QUAL2E, which is widely applied in the U.S. and elsewhere, is a steady-state model for simulating well-mixed rivers and streams. It is commonly used for assessing the impact of changes in point-source discharges on water quality. Finally, the United States Environmental Protection Agency's Water Quality Analysis Simulation Programme (WASP6) is a powerful and complex model with a flexible structure use for the analysis of a wide variety of pollutants in almost any type of water body[17].

Interpretation of Environmental Quality Modelling Results

Model results must be treated with care when using them in permitting decisions. It is essential to recognise that that the models and software packages are only analytical tools. The mathematical representation of complex environmental processes involves a significant degree of uncertainty and simplification, which means that it is always possible to design scenarios that will cause the modeller's assumptions to break down. Even when used within the limits of these assumptions, a model's simulations will at best be no better than the data used for input, calibration and verification, and would be significantly compromised if data are lacking or unreliable. Data specific to the air basin or watershed, industrial installations and management scenarios will need to be gathered to make any model operational. Lack of data can give rise to three sorts of problems:

a) A model cannot be calibrated and verified until an appropriate data collection programme has been in operation for a sufficient amount of time.

b) The sort of data collection programme that is needed to support modelling is not necessarily the same as needed for environmental management purposes. Consequently, supplementary data collection programmes may be needed for modelling purposes even in situations where a regulatory monitoring programme is already in place.

c) Sample collection and analysis may be considerably more expensive (often by at least an order of magnitude) than the modelling effort that it is designed to support.

Furthermore, models are a means of achieving a set of management objectives, not an end in themselves. In many cases, it may not be necessary to use an air or water quality model at all. The improper use or misinterpretation of outputs from a model can lead to incorrect results. No model will give a definitive answer that the permitting authority can regard as the required ELV without the application of a fair degree of value judgement, based upon experience and common sense. In short, models will not *make* decisions: they can only *inform* decisions and that only when they are used with an awareness of their assumptions and limitations.

5.4.5. Setting ELVs in the Permit

In setting the permit conditions for the integrated permit, the permitting authority must first consider whether any EQS is being breached or may be breached if BAT-based ELVs are applied. *If not, BAT-*

[17] *Ibid.*

based ELVs or statutory ELVs, whichever are stricter, must be applied, both for new and existing installations.

A more difficult management decision needs to be made if there is or is likely to be an exceedance of an EQS. In this case, the authority will have to determine whether stricter permit ELVs going beyond BAT are required. This will involve assessing the practicality of imposing costs in excess of BAT on the operator, based on the degree to which the installation is responsible for the exceedance and the likelihood for remedial action being taken elsewhere. In seeking most effective ways for ensuring that the EQSs are not exceeded, a disproportionate burden should not be imposed on large installations in comparison with SMEs that are not subject to the integrated permitting regime.

New Installations

If the EQS is being met before the new installation begins operations, then this must remain the case after the operation commences. If the operation of the installation, even under conditions stricter than BAT, would result in the EQS being exceeded, the permit must be refused. If the forecast quality of the environmental medium would be close to the EQS, then measures stricter than BAT may have to be imposed. However, in both these cases consideration should be given to trying to reduce the pollution load from other sources in such a way that a permit may be issued. If the installation were to only make a minor contribution to the EQS exceedance, then it will usually be desirable for the permitting authority to work with other stakeholders to control the other, more significant, sources of pollution.

As a general rule, if the EQS is already being breached, a permit should not be granted. However, if it is clear from the model-supported analysis that the installation would only contribute a negligible amount to the exceedance, and if the permitting authority imposes stricter ELVs on other sources of pollution, which would lead to compliance with the EQS, then the permit may be issued.

Existing Installations

If the installation is the only or the main cause for the EQS exceedance, then permit conditions beyond BAT must be imposed to comply with the EQS. If this is not sufficient or economically possible, the permit should be refused.

If the installation is a significant contributor to the EQS exceedance, but other sources also make major contributions, then all options should be explored to result in compliance with the EQS. It may be more appropriate to impose stricter ELVs for the other sources rather than go beyond BAT for the installation in question. However, if the authorities do not have powers to control these other sources (e.g., air pollution resulting from traffic emissions and other such mobile sources) or if the controls on these other sources will not bring about compliance with the EQS, then stricter conditions should be imposed on the installation or the permit should be refused.

If the installation makes only a minor contribution to the EQS exceedance and other, small installations that do not require integrated permits, make the major contributions, again efforts should be made by the environmental and other authorities to better regulate the other sources of pollution. It would not be appropriate to impose additional costs on, or refuse the permit to, the installation which would only have a minor effect on the problem.

A final scenario may be where the combined effects of a number of large installations result in a breach of the EQS. Here the permitting authority should review the permits for these installations to determine slightly stricter permit ELVs for each rather than impose the entire burden on the last

applicant. This last scenario is of particular importance during the transition period when the integrated permitting system is being gradually introduced. The permitting authorities will have to take care that there is sufficient margin for compliance with EQSs for the sectors of industry that come into the system at a later time.

The above considerations put major emphasis on professional judgement and experience of decision-makers in the permitting authority. Although the individual approaches to setting ELVs may appear overly rigid, most practical decisions will be embedded in a careful and pragmatic examination by the permitting authority of all issues at stake. *Providing permitting authorities with sufficient discretion to exercise this judgement is another crucial element of establishing an effective permitting system.* Such discretion should be allowed in the legislation in order to increase the flexibility of the permitting system in the face of inevitable uncertainties. Well thought-through permitting procedures (like the one suggested in Chapter II of these Guidelines) would help inform the judgement of permit writers.

Once a decision on the ELVs has been made, the regulator has to *write a precise and enforceable permit condition.* A condition should contain the following six elements:

- the limit value (i.e., the ELV itself),
- the emission or discharge rate (in cases where the ELV is expressed as a concentration rather than a load),
- the measuring period,
- the analysis method,
- the control period, and
- the statistics.

The *limit value* is the figure specifying the allowed concentration or load of the pollutant. The *emission or discharge rate* enables an ELV that is expressed as a concentration to be converted into a mass load per unit of time. The *measuring period* is the time period over which the operator should take one sample of the discharge for the purpose of monitoring, for example, one hour. The *analysis method* is how samples should be analysed, including laboratory requirements, if appropriate. The *control period* is the period after which the enforcement authority decides whether the discharge complies with the limit value or not, for example, one year. Finally, the *statistics* should explain how the limit value should be interpreted, for example, as a maximum, an average, or a percentile. Selection of statistics depends on the importance of the environmental impact and the number of samples taken over the control period. If the number of samples is very large, percentiles will be appropriate to use. If it is a small discharge, which is only monitored by taking one or a few samples over a year, a simpler statistical rule should be chosen, e.g., an average of the taken samples should comply with the limit value, or all samples should be below the limit value.

APPENDIX 5.1. EU ENVIRONMENTAL QUALITY STANDARDS

Air Quality

Directives	Substances
99/30	sulphur dioxide, nitrogen oxides, particulate matter, lead
Forthcoming daughter Directives under the Air Quality Framework Directive 96/62	benzene, carbon monoxide, ozone, polyaromatic hydrocarbons, cadmium, arsenic, nickel, mercury

Water Quality

Directives		Substances	
Daughter Directives under Directive 76/484 on pollution caused by dangerous substances discharged into water	82/176	mercury discharged by the chloralkali electrolysis industry	
	84/156	mercury discharged by other industrial sectors	
	83/513	cadmium and its compounds	
	84/491	hexachlorocyclohexane	
	86/280	DDT, carbon tetrachloride and pentachlorophenol	
	88/347	aldrin, dieldrin, endrin, isodrin, hexachlorobenzene, hexachlorobutadiene and chloroform	
	90/415	1,2-dichloroethane, trichloroethane, perchloroethane and trichlorobenzene	
Directive 78/659 on the quality of fresh water supporting fish life. Sets EQSs for two categories of water: suitable for salmonids (salmon, trout) and suitable for cyprinids (coarse fish).		temperature dissolved oxygen pH suspended solids biochemical oxygen demand total phosphorus nitrates	phenols petroleum hydrocarbons non-ionised ammonia total ammonium total residual chlorine total zinc dissolved copper
Directive 76/160 on the quality of bathing water		total coliforms faecal coliforms faecal streptococci salmonella enteroviruses pH colour mineral oils surface active substances (reacting with methylene blue) phenols	transparency dissolved oxygen tarry residues floating materials ammonia nitrogen Kjeldahl pesticides heavy metals eg As, Cd, Cr, Pb, Hg cyanide nitrate and phosphate

Directives	Substances	
Directive 79/923 on quality for shellfish waters	temperature colouration (after filtration) suspended solids salinity dissolved oxygen saturation petroleum hydrocarbons organohalogenated substances	metals: Ag, As, Cd, Cr, Cu, Hg, Ni, Pb, Zn faecal coliforms substances affecting taste of shellfish saxitoxin

APPENDIX 5.2. EU DIRECTIVES SETTING STATUTORY MAXIMUM EMISSION LEVELS

Article 18(2) of the IPPC Directive says that the relevant ELVs in certain other Directives are to be applied as minimum ELVs in integrated permitting. This means that they set *maximum emission levels* of particular substances from particular IPPC installations. This is without prejudice to the possibility of stricter requirements based on BAT or an EQS.

Directive	**Subject**	**Notes**
Air Pollution		
89/369	New municipal waste incineration plants	Repealed from 28.12.2005
89/429	Existing municipal waste incineration plants	Repealed from 28.12.2005
94/67	Incineration of hazardous waste	Repealed from 28.12.2005
99/13	Volatile organic compounds due to the use of organic solvents	
2000/76	Incineration of waste	In force from 28.12.2002 for new plants and from 28.12.2005 for existing plants.
2001/80	Large combustion plants	Replaced 88/609
Water Pollution		
75/439	Waste oils	
76/464	Dangerous substances discharged to the aquatic environment	
82/176	Mercury discharges from the chloralkali electrolysis industry	
83/513	Cadmium	
84/156	Mercury discharges from *other than* the chloralkali electrolysis industry	
84/491	Hexachlorocyclohexane	
86/280	DDT, carbon tetrachloride and pentachlorophenol	Amended by 88/347 and 90/415
88/347	Aldrin, dieldrin, endrin and isodrin, and three other chlorinated organics	
90/415	Chlorinated hydrocarbons	

APPENDIX 5.3. PROPOSED STATUTORY MAXIMUM ELVS FOR THE RUSSIAN FEDERATION

Source: Draft Law on "Water Discharges" of 20.02.2004, Annexes 2 and 3, www.waterlaws.ru

Maximum Values for the Quality of Industrial Effluents for Priority Parameters
(for Discharges into the Sewer or Water Bodies)

Pollutant/Parameter	Maximum Level
pH	6-9
Oil products	0.50 mg/l
Arsenic, total	0.10 mg/l
Cadmium, total	0.10 mg/l
Chromium	
- 6^+	0.10 mg/l
- total	0.50 mg/l
Copper, total	0.50 mg/l
Iron, total	3.50 mg/l
Lead, total	0.10 mg/l
Mercury, total	0.01 mg/l
Nickel, total	0.50 mg/l
Selenium, total	0.10 mg/l
Zinc, total	2.00 mg/l
Cyanides	
- free	0.10 mg/l
- total	1.00 mg/l
Fluorides	20,0 mg/l
Phenols	0.50 mg/l
Intestinal infection agents	none
Viable parasite eggs	no more than 1 after 25x dilution by clean water
Temperature	< 3^0C increase at the boundary of initial dilution zone

Quality Requirements for Wastewater Treatment Plant Discharges into Surface Waters

Pollutants	Compliance timeframe	Wastewater Treatment Capacity			
		< 1000 p.e.*	1000-50,000 p.e.	50,000-25,000 p.e.	> 25,000 p.e.
BOD5, mg/l	within 9 yrs**	30	25	20	15
	after 9 yrs**	20	20	15	10
COD, mg/l	within 9 yrs	90	80	60	50
	after 9 yrs	60	60	50	40
Suspended solids, mg/l	within 9 yrs	20	20	20	15
	after 9 yrs	15	15	15	10
Phosphorus, total, mg/l	within 9 yrs	5.0	3.0	2.5	2.0
	after 9 yrs	3.0	2.0	1.8	1.0
Nitrogen, total, mg/l	within 9 yrs	25	25	12	12
	after 9 yrs	20	15	8	8

* p.e. = population equivalents
** within or after 9 years from the promulgation of the law

Chapter VI
Strategic Approach to the Gradual Transition to Integrated Permitting for Large Industry

CHAPTER VI

TABLE OF CONTENTS

6.1. INTRODUCTION

Recently, several EECCA country governments (e.g., in Georgia, Moldova, Ukraine, and Kazakhstan) have given a high priority to the reform of environmental permitting. In most cases, their main driving force was to create a better investment climate through ensuring fairness and transparency of regulation. Another important incentive for reforming the permitting system is the need to achieve higher effectiveness of the country's environmental management. Finally, some EECCA countries are aiming at convergence with the legislation of the European Union, including the integrated permitting system mandated by the IPPC Directive.

At the same time, it is recognised that the existing environmental permitting systems in EECCA countries would need to be improved gradually to eventually establish an integrated permitting regime. EECCA countries do not have to transpose the IPPC Directive and apply it literally, but to develop an effective permitting system, they would need to take into account the experience of IPPC implementation in Western and Central Europe.

The purpose of this chapter is to discuss and provide guidance on the strategic approach to the introduction of integrated permitting for large industries, including:

- *the scope of an integrated permitting system;*
- *institutional and legal issues of the transition to the integrated permitting regime; and*
- *the timing of the introduction of integrated permitting for industrial installations.*

Section 6.2 of this chapter discusses the scope of an integrated permitting system and recommends how EECCA countries may determine, based on the scope of the IPPC Directive, which industrial activities should be made subject to their own integrated permitting systems. Section 6.3 discusses the legal and institutional aspects that will have to be considered during the transition, including the adjustment of the regulatory framework, designation of a permitting authority, and capacity building. Finally, Section 6.4 discusses the timing for the introduction of integrated permitting for industry, with a particular emphasis on the phasing in of this new system based on a prioritisation of industrial sectors.

6.2. SCOPE OF AN INTEGRATED PERMITTING SYSTEM

6.2.1. Scope of the Regulation and the Use of Threshold Values

The integrated permitting regime in the EU is not intended to apply to all enterprises or all categories of industry. It is a complex system and is primarily aimed at large industry and industry that has a high capacity for pollution of the environment and/or harm to human health. It is also directed at those industries that pollute more than one medium.

The IPPC Directive applies to six categories of industrial activities listed in Annex I to the Directive:

- ***Energy industries***: large combustion plants (over 50MW rated thermal input), oil and gas refineries and coal gas plants;
- ***Production and processing of metals***: ferrous and non-ferrous metallurgy with installation capacity over certain thresholds;
- ***Mineral industries***: production of cement clinker, asbestos and asbestos-based products, and glass manufacturing;
- ***Chemical industries***: production of basic organic and inorganic chemicals, fertilizers, biocides, pharmaceutical products and explosives;
- ***Waste management***: disposal or recovery of hazardous wastes, municipal waste incinerators, hazardous waste landfills and municipal waste landfills with installation capacity over certain thresholds;
- ***Other activities***: paper and pulp production, pre-treatment and dyeing of fibres or textiles, slaughterhouses over the established production capacity thresholds, certain activities in the food and drinks sector, and intensive farms.

  The full list of IPPC Directive categories and sub-categories is found in Appendix 6.1.

The IPPC regime in the EU is not directly aimed at small and medium-sized enterprises (SMEs)[18]. Most of the IPPC Annex I industrial activities contain capacity thresholds below which the IPPC regime does not apply, and thus would exclude many SMEs from the scope of the Directive. The relevant capacity threshold values are also listed in Appendix 6.1. At the same time, for example, for the chemical industry sector in Annex I, no capacity threshold levels are set – the Directive applies to all enterprises engaged in the industrial production of the named chemicals, whatever their size.

[18] In the EU, SMEs are considered to be enterprises with less than 250 employees and a turnover of less than 50 million euros (see Commission Recommendation 2003/361/EC of 6 May 2003 concerning the definition of micro, small and medium-sized enterprises).

There is a need to clearly define what is meant by a capacity threshold level. The IPPC Directive refers to threshold values in terms of "*production capacities or outputs*". This has led to a certain confusion, but it is suggested that the only technically coherent meaning of 'capacity' is the maximum ("installed") capacity at which the installation is capable of being operated[19].

To avoid the splitting up of activities in an attempt to fall below the relevant threshold values, and thus outside the integrated permitting regime, the Directive makes it clear that where an operator carries out several activities of the same nature on the same site, the capacities of such activities are added together.

6.2. Additional Sectors and Thresholds: Experience from EU Member States

In recent years, here has been a noticeable policy shift to allow more flexibility in European environmental legislation. The IPPC Directive is a good example of this policy shift in that it sets minimum requirements in many areas, giving member states some degree of flexibility in implementing them, as well as leaving them free to extend the scope of the activities covered.

The United Kingdom, for example, had an integrated permitting system in place before the introduction of IPPC. The Integrated Pollution Control regime applied to a slightly different scope of industrial activities than those listed in Annex I to the IPPC Directive. For example, the UK scheme did not include waste prevention, energy efficiency and noise pollution. When the IPPC regime was introduced in the UK, it necessitated the addition of certain categories of industry that had not been previously covered (e.g., landfills, intensive farming and the food sector). However, it was decided to apply IPPC to those activities that were covered by the IPC regime but not included in the Directive, in particular, some activities in the chemical and waste management sectors. In the chemical sector, the UK IPPC regime also applies to, among others, the production of all organic compounds and halogens, as well as to activities that involve the use of ammonia. In the waste sector, in addition to the scope of the Directive, the UK IPPC regime applies to the incineration of any chemical or plastic waste and to the production of fuel from waste. Other sectors additionally included in the UK IPPC system include certain timber activities and rubber production and processing.

It has been estimated that of the some 5000 installations in the UK that are subject to the IPPC regime, a few hundred fall into the 'extra' categories that are not covered by the Directive.

Many of the new EU member states, such as Latvia, Slovakia and Slovenia, have adopted legislation that fully coincides with the categories in the Directive. Hungary has added a number of categories of industry, mainly dealing with the exploitation of natural resources, including coal, iron ore, non-ferrous metal, and uranium ore mining, and oil and natural gas extraction, all within certain production capacity thresholds[20]. Estonia has added oil shale production and refining as well as wood and peat production to the energy sector coverage, and the production of paints, varnishes and glues to the chemical sector coverage[21].

[19] Communication from the Commission to the Council, the European Parliament, the European Economic and Social Committee and the Committee of the Regions "On the Road to Sustainable Production, Progress in Implementing Council Directive 96/61/EC Concerning Integrated Pollution Prevention and Control," 19.06.2003.

[20] Hungarian Government Decree 193/2001 on the Detailed Regulations for Integrated Environmental Permitting

[21] Estonia's Integrated Pollution Prevention and Control Act, 01.05.2002

6.2.3. Determining the Scope of the Integrated Permitting System in EECCA Countries

While there is unlikely to be a 'one size fits all' scope of integrated permitting that would apply to all EECCA countries, a common approach to determining the scope may be adopted, comprising the following steps:

1. Preliminary list of categories of industries. A preliminary list should be prepared of categories and sub-categories of industrial sectors to be subject to integrated permitting. In developing this list of potential categories of industries, it is suggested that the regulator use the list of categories in Annex I of the IPPC Directive as a starting point:

- Include categories 1-4: energy industries, production and processing of metals, mineral (non-metal) industries, and chemical industries.
- For category 5, waste management, it is important to include all hazardous waste landfill sites, operations for recovery of hazardous waste, hazardous waste incinerators, and non-hazardous waste and municipal waste incinerators. It would be unreasonable to try and include all municipal waste landfill sites in the indicative list, and a preliminary threshold value should be included (the IPPC Directive covers landfills either receiving more than 10 tonnes/day or with a total capacity exceeding 25,000 tonnes).
- Clearly, not all remaining installations should be included under "other activities", and preliminary threshold values must be set. For the purposes of the indicative list, the threshold values in the Directive may be considered.
- Include any other large-scale industries in the country, especially those of national importance (e.g., timber industries, intensive fish farming, etc.) having a negative impact on more than one environmental medium.
- Include any other industries that have a potential to cause significant pollution to the environment or harm to human health (but nuclear power stations are usually regulated by special legislation and should, therefore, not be covered here).

2. Define production capacity. A definition of production capacity should be agreed. To avoid the confusion that the IPPC Directive caused in the Member States, it is recommended that 'production capacity' be defined in terms of the maximum capacity at which the installation is capable of being operated. Thus, if the equipment is capable of running 24 hours a day at a certain rate, then this should be its production capacity, whether or not the equipment is actually operated at this capacity for the whole 24 hours a day.

3. Inventory of installations on the preliminary list. An inventory of all installations in the country that fall within the preliminary list of qualifying categories of installations should be prepared. While some of the information needed may be available from government agencies (e.g., pollution or statistical registers), additional information will most likely be required from the installations themselves. The inventory should include:

- Type of industry (category and sub-category);
- Location;
- Size (production capacity, as defined; number of employees);
- Main effects on the environment and human health (production and management of hazardous substances and wastes, air emissions and wastewater effluents).

4. Final list of installations subject to integrated permitting. Based on the findings of the inventory, a list of categories (and installations themselves) subject to the integrated permit regime should be prepared.

Categories or sub-categories of industry should not be excluded from the preliminary list unless their environmental impact in the country is insignificant. The industry categories for which no threshold values have been assigned in the IPPC Directive should normally be included entirely. For others, production capacity threshold values could be adjusted to reflect the country specifics and not to place undue burden on SMEs.

The costs of implementing an integrated permitting system are likely to be high for industry – especially the introduction of BAT. However, the costs of BAT for a particular industry sector should not be a factor *per se* in deciding whether to include or exclude that sector from the scope of the integrated permit. The costs of implementation will be a more significant factor in determining the transition periods for implementation.

Based on the results of discussions with all stakeholders, including industry, a finalised list of industry categories and, where relevant, production capacity threshold values should be approved.

6.3. INSTITUTIONAL AND LEGAL ASPECTS

Most EECCA countries still issue permits that are single-medium based. Separate permits are required for discharges to water, emissions to air and for waste disposal. In addition, in many EECCA countries licences are required for the use of natural resources, including water abstraction. Thus, the introduction of an integrated permit would result in a philosophical change in approach to pollution prevention and control. An integrated permit is much more than a simple amalgamation of existing permits, because there are requirements to consider pollution of the environment as a whole and include permit conditions for the rational use of natural resources, waste minimisation, accident prevention and remedial actions. The key requirement under an integrated permitting regime is the obligation for industry to use best available techniques (BAT) – a relatively new concept for most EECCA countries who emphasise end-of-pipe regulation.

The introduction of an integrated permitting system would require changes in national laws and regulations, institutional arrangements, increased technical, human, and financial capacity of regulatory agencies, and strengthened linkages with EIA, enforcement, and other policy instruments. All these issues are considered below.

6.3.1. Legal Issues

It will be crucial to determine how the change to an integrated permitting system should be incorporated into the existing legal frameworks in EECCA countries. The current legal framework (which generally establishes single-medium permitting) will have to be assessed to determine how to best introduce the integrated permitting regime. In some EECCA countries, this has already been done through gap analysis or the development of tables of concordance with the IPPC provisions.

Amendments would likely be required to the existing primary environmental legislation (e.g., the framework law on environmental protection, the water code, and the laws on air protection and waste) to introduce the requirement for integrated permitting and to introduce and define the concept of BAT. (The notion of BAT, albeit often misinterpreted as “best existing technology”, has already been introduced in several EECCA countries, e.g., in Ukraine, Moldova and the Russian Federation). These laws should stipulate that the integrated permitting system will replace, not supplement, the existing single-media permits for the relevant industry sectors. The environmental framework law should make clear that the integrated permitting system will *only* apply to those sectors of industry and installations above thresholds that are specified in the law on integrated permitting. It should also provide definitions of the terms ‘installation’ (currently, permits in EECCA are issued to enterprises) and ‘operator’.

In addition, a separate *law on integrated permitting* and/or (based on the country’s realities) a series of amendments to existing environmental laws should be prepared in order to:

- specify the industrial sectors (with thresholds, where relevant) subject to an integrated permit;
- set out transition periods for different sectors;

- define the competent permitting authorities;
- define the major categories of permit requirements for operators: to prevent or reduce pollution, use energy efficiently, avoid or reduce waste production and ensure safe waste management, introduce accident prevention and response measures, and ensure post-closure remediation;
- define the combined approach to setting ELVs in integrated permits (see Chapter V);
- stipulate principal requirements for self-monitoring and reporting (a linkage to the establishment of a pollution release and transfer register, PRTR, would also be useful); and
- specify the period of validity of the integrated permit and conditions for its revision.

Secondary legislation should establish a permitting procedure, a standard permit application form to be used by operators, and a standard permit format to be used by the permitting authorities. Standardised forms may also be established for operators to report to the competent authorities on emissions from their installation. Secondary legislation should also be used to approve technical guidance documents on BAT.

6.3.2. Institutional Structure

This section discusses institutional considerations for the introduction of an integrated permitting system and institutional arrangements required for the actual issuance of permits.

6.3.2.1. Management of the Transition

One of the most important factors in the transition to a new system of environmental permitting is the high-level political support. This support is vital throughout the transition process but it is especially critical in launching the reform. In some EECCA countries, a political decision to start the environmental permitting reform may be linked to overall government strategy for European integration, in others it may stem from the pressure from industrial investors to streamline the permitting system.

After a political decision to move forward has been made, an *overall strategy* for introducing an integrated permitting system will have to be discussed and agreed upon at the national level. A number of different government agencies usually have responsibilities for industrial and environmental regulation. Because of the potential implications of an integrated permitting regime for industry, these ministries should be engaged at a high level to arrive at a consensus opinion on the scope and other aspects of the integrated permitting system. To ensure effective *institutional coordination* already at this early stage of the process, it is suggested to establish a high-level **Integrated Permitting Working Group** (IPWG), including representatives of the ministries of environment, economy, industry, energy, etc. The Working Group would be chaired by the deputy minister of environment.

The IPWG, supported by technical experts from the respective ministries, should be charged with developing, endorsing, and overseeing the implementation of a broad strategy of the introduction of integrated permitting, including defining its scope of coverage, establishing an appropriate legal framework, and possible institutional reorganisation. The Working Group should also establish priorities (in terms of industrial sectors) for the timing of introduction of the integrated permitting system.

The **Ministry of Environment** (or its equivalent) should have responsibility for:

- Developing legislation for the implementation of the integrated permitting system, based on the recommendations of the IPWG;
- Developing national BAT reference (technical guidance) documents;
- Developing procedures and guidance documents for the permitting authority and industry; and
- Establishing a national permit database.

The ministry may also wish to prepare leaflets for industry and the public informing them about the new system. In order to assess the effectiveness of the newly introduced integrated permitting system, the ministry should carry out periodic *regulatory reviews*, particularly during the transition period.

Effective management and coordination of these tasks may require the establishment of a new **Integrated Permitting Department** (IPD) within the environment ministry. The IPD would have to work very closely with existing medium-specific departments at the environment ministry and rely on their expertise in developing technical guidance documents. The IPD would also have to liaise with the ministries of industry and economy to ensure that the BAT guidance documents are feasible and realistic.

The work load of the IPD within the environment ministry will be significantly higher in the early stages of development of the integrated permitting regime, when it will have to develop the necessary legislation, collect and disseminate information on BAT, develop national BAT guidance documents and create a national permit database. Consideration should be given to the possibility of 'out-sourcing' some of these initial tasks to outside consultants to avoid overloading the ministry staff (the institutional capacity issues are further discussed in Section 6.3.3).

EECCA countries may wish to use the example of several new EU member states and consider the establishment of a national IPPC Centre which could be outsourced from the environment ministry to an independent institution. Those EECCA countries that already have operational cleaner production centres may want to utilise the existing capacity and expand the scope of these centres' activities. The role of such a centre could include:

- Establishing and maintaining a database on BAT;
- Providing information to regulators and operators on BAT;
- Providing training on best practice, permit applications and enforcement; and
- Developing guidance documents on the implementation of integrated permitting.

6.3.2.2. Designation of Permitting Authorities

In considering institutional arrangements for the permitting authorities, the issues to be addressed are:

- One or several permitting authorities acting in a fully coordinated manner;
- Whether the permitting authority should also be the inspection authority;
- What should be the institutional linkages with environmental assessment; and
- What should be the division of permitting responsibilities between the national and the regional (territorial) levels.

One Permitting Authority or Several

Most EU member states have one environmental permitting authority for each jurisdiction. However, there are some exceptions to this: the Netherlands has a single permit issued by the regional environmental body, but separate water authorities are also closely involved in permitting decisions. In Hungary, a permit is issued by the Regional Environmental Authority and a separate permit for water use and discharges is issued by the Water Management Directorate (although these two bodies are likely to be merged in the future and a single permit issued).

In most EECCA countries, environmental permits are issued by one authority, albeit separate departments issue separate single-medium permits. These units rarely coordinate their efforts, undermining the effectiveness of the permitting regime. In addition, to approve a permit, endorsements are required from other authorities, e.g., the fire inspection, the sanitary-epidemiological service, etc.

There are three alternatives for institutional arrangements for the authority responsible for issuing integrated permits (the approach adopted by individual EECCA countries should reflect their own institutional particularities):

- **Coordination between medium-specific departments.** A single integrated permitting department is not established. Rather, a 'core team' of permit specialists from different single-medium departments coordinate through a written procedure or come together in a committee to discuss and issue an integrated permit. In this case, an integrated application should be sent to one of the existing departments. This option is the least desirable because it would add issues of coordination within the environmental authority to the coordination with other stakeholder agencies. However, it may be attractive to EECCA countries where environment ministries may not have enough resources to establish an IPD.

- **More than one permitting authority.** This situation may arise when one authority is responsible for environmental issues and another for industrial safety issues (as in many EECCA countries), or when a water use permit is issued by river basin authorities (as in several EU countries). If these authorities issue separate permits, there is a risk that such permits will contain conditions that are inconsistent with each other, compromising the integrated approach. It is then advisable that the environmental agency be the lead permitting authority receiving integrated applications, and the draft permit be sent to the secondary permitting authority for inclusion of 'its' conditions and comment on the 'core' environmental conditions. This would have to be done through a formal procedure.

- **Single permitting authority.** Full institutional integration is achieved through establishing a single integrated permitting department within the environmental authority which would deal with all issues of the integrated permit. This would create 'one-stop shopping' where the operator makes one permit application to one competent environmental authority, which would be under an obligation to liaise with the other stakeholder authorities in setting permit conditions. (In Georgia, for example, permits are issued by the Department of Environmental Permitting within the Ministry of Environment or by regional environmental committees, depending on the category of activity.)

In any event, the permitting authority should consult with other stakeholders that have responsibilities for the installation, or could be affected by it, including health and local authorities. Their views should be obtained by way of formal consultations. However, the final decision should remain with the competent environmental authority.

Whichever permitting authority option is chosen by the country, the designated permitting authority should handle (within its area of jurisdiction) both integrated permitting and permitting of installations not covered under the integrated permitting system. For the latter, a much simpler procedure would apply under general binding rules (GBRs) or single-medium permitting (see Chapter VII). This would avoid the existence of parallel permitting authorities and resulting confusion and inefficiencies. The only exception should be made for installations with intrinsically (without environmental controls) low environmental impact, whose registration (see Chapter VII) should be delegated to local authorities.

Linkage between Permitting and Inspection Authorities

In many EU member states (such as the UK, Hungary, Latvia) the same authority that issues permits also conducts inspections (although in the UK different individuals are involved). On the other hand, many countries (e.g., Estonia, the Czech Republic, and Slovenia) have separate authorities.

There are differences in institutional models adopted within the EECCA region. In some countries (e.g., Armenia, Georgia, Russia), the division of functions between permit-writers and inspectors is a strict requirement, particularly at the national level. In others, one body is responsible for both permit issuance and inspection (e.g., the State Environmental Inspectorate in Moldova and the State Committee for Nature Protection in Uzbekistan[22]).

Although permit writers and inspectors are often part of the same institution (usually working in separate departments), serious lack of communication in issuing and controlling permits has been reported, with inspectors not being adequately informed about the detailed conditions of permits awarded to enterprises. This leads to a reduced ability of inspectors to check the compliance and undermines their credibility. Permit writers are also less effective when they do not receive feedback about compliance with permit requirements. An arrangement where the same individuals are involved in both permitting and inspection is often regarded as a conflict of interest, resulting in 'favourable' permit conditions or 'soft' compliance control. Therefore, permitting and enforcement can be the functions of one institutions only if these functions are performed by different people who, nonetheless, closely coordinate their activities to ensure that permit conditions are clear, precise and enforceable. Coordination is certainly no less important if the two functions are institutionally separate.

[22] Review of Environmental Permitting Systems in Eastern Europe, Caucasus and Central Asia, EAP Task Force, OECD, 2003.

In many EECCA countries (e.g., Azerbaijan and Uzbekistan), government agencies (most often, inspectorates) are allowed to provide paid consulting services to enterprises during the permitting process, including assistance in the preparation of a permit application and evaluation of proposed draft ELVs[23], thereby creating a conflict of interest with their statutory duties. The permitting procedure should clearly stipulate that while the permitting authority must not provide consulting services to the operator to write the permit application, it may discuss with the operator at the pre-application stage his proposed techniques to ensure that they conform with BAT (without prejudice to the outcome of the permitting process).

Institutional Linkages with EIA

In many of the new EU Member States, the environmental permitting authority is also the authority responsible for evaluating environmental impact assessments (EIAs). This enhances and ensures the coordination between the two processes. Indeed, Slovenia has gone one stage further and has fully integrated the EIA and IPPC procedures for new installations into one process.

In some EECCA countries, a similar situation prevails where one authority has responsibilities for EIA and permitting, usually the ministry of environment and its regional branches. In others, it is the Construction Committee ("Gosstroy") that is responsible for EIA for new installations. The EIA is often seen as a process to be gone through rather than an opportunity to fully consider environmental and other issues that should be taken into account in the permitting stage. A number of points should be highlighted regarding the linkages between environmental permitting and environmental assessment[24]:

- There should be a full-scale EIA procedure for every new installation which falls under the integrated permitting system.
- The permitting requirements (including BAT guidance) should be taken into consideration at the EIA stage. This would help avoid the situation where a development consent is granted but a subsequent environmental permit is refused, or where the environmental permitting authority feels forced into granting a permit.
- The EIA findings and conclusions and information collected and submitted during an EIA (even if it was done several years earlier) must be taken into account by the permitting authority.

Division of Permitting Responsibilities between Government Levels

A further institutional issue to be decided is at what level of government should integrated permits be issued. Integrated permits involve complex decision-making and it is probable that local authorities do not have the expertise, staff, or time to make these decisions. While there are arguments to suggest that permits issued at the national level may benefit from a more consistent approach, the national level is somewhat removed from the results of permitting decisions and insufficiently informed about the local conditions (which is essential for determining permit conditions for a particular installation). A balance may, therefore, be achieved by making the regional administrations or regional branches of the environment ministry the competent authority for issuing integrated permits.

[23] *Ibid*.

[24] Linkages between Environmental Assessment and Environmental Permitting in the Context of the Regulatory Reform in EECCA Countries, EAP Task Force, OECD, 2003.

In the UK, it is a central authority (the Environment Agency) that issues permits, albeit through their regional offices. In Slovenia, permits are issued centrally by the national authority. In Estonia, permits are issued by regional units of the Ministry of Environment. In other countries, such as Hungary and Latvia, permits are issued by regional governments. In the Czech Republic, permits are issued by regional governments unless there are trans-boundary pollution concerns, in which case the permit is issued by the Ministry of Environment. However, this creates a need to make a decision as to who should be the authority in a particular case, and the institutional arrangements are now under review.

If a country prefers to concentrate the environmental permitting function at one administrative level, the following key issues may be considered when deciding whether a national or regional permitting authority would be more appropriate:

- Size of the country. The larger the country, the greater the argument in favour of regional permitting authorities. Permitting at the regional level allows the sharing of the administrative burden, preparation of a cadre of specialists reflecting the regional distribution of industry, and broader involvement of the public in the decision-making process.

- Number of installations subject to the integrated permit system. If the country has relatively few installations that would fall under the new regime, it may be more cost-effective for the permitting authority to be at the national level.

- Current level of the permitting authority. The current administrative level for the permitting authority and its effectiveness should be considered. If the current permitting authority is functioning well and has the confidence of the operators and the public, this would argue in favour of maintaining the existing arrangements.

If the permits are to be issued at the national level, then the permitting authority should be the above-mentioned Integrated Permitting Department within the environment ministry.

In most EECCA countries, both national and territorial authorities are involved in environmental permitting. Under this scenario, each administrative level's jurisdiction should be clearly defined. One way of doing that is to issue permits to installations with trans-boundary environmental impacts at the national level. As already mentioned, such practice exists in several EU countries, e.g., in the Czech Republic. The national level is better suited for the necessary consultations with neighbouring countries on regulating such impacts.

Another approach is to link the division of permitting responsibilities with the EIA requirements. If the country has diversified EIA requirements depending on the significance of potential environmental impacts and certain categories of industrial activities (e.g., large power plants, chemical industry) require a national-level EIA, they should also apply for integrated environmental permits at the national level (as is the case in Georgia, for example). That would facilitate the institutional linkages with environmental assessment, as noted above.

The national environmental authority may act as the appeal body for permitting decisions made at the territorial level, particularly if the regional permitting authority is a branch of the national environmental agency. If the regional governments are in charge of environmental permitting, even more importance should be placed on both vertical and horizontal interagency coordination procedure to ensure consistency in application of national policies and permitting guidance documents.

6.3.3. Institutional Capacity Building

The scarce human, technical, and financial resources currently available to environmental authorities in EECCA cannot ensure the adequate functioning of the permitting system. In most EECCA countries, there is a lack of trained personnel, inadequate wages, as well as numerous problems with information exchange within environmental agencies. This section considers some of the capacity building demands that EECCA countries would face in the implementation of the integrated permitting system.

6.3.3.1. Resource Needs

Human Resources

Experience from new EU Member States suggests that at the national level, a department of some 10 people is usually sufficient. For example, Estonia has a staff of 7 at the national level, Hungary 8, and Slovakia and Slovenia both have 10[25]. In these countries, however, the permitting staff have to apply EU standards of BAT and, therefore, are able to use EU BREFs without any amendment. In EECCA countries, one of the key tasks of the national-level permitting staff will be the development of national permitting guidance for territorial environmental authorities and industry, reflecting current economic and technological conditions. While the preparation of BAT reference documents may be outsourced, this will still entail significant expense and time. In some EECCA countries (e.g., in Kazakhstan), specialised agencies have been established under the umbrella of ministries of industry or economy to promote innovation and modern technologies. Those units could be used as focal points for the development of BAT guidance.

The size of the territorial permitting authority will depend on the number of installations to be permitted and any transitional periods, especially for existing installations. The time required to assess an application and to write a permit will vary depending on the type and complexity of the installation. However, general estimates suggest that between 4-7 man-weeks will be required per permit[26]. To put it another way, one person at the permitting authority should be expected to write 5-10 permits a year. One support staff will be required for every 5-6 permitting officials.

Unfortunately, the public funding constraints in EECCA countries are such that staffing levels similar to those of the new member states are unlikely to be attained there. This makes it even more important that the industrial sectors to be made subject to integrated permitting be prioritised and that appropriate transition periods be selected both for new and existing installations. It will be essential that guidance documents on BAT be prepared for industrial sectors before they have to implement the integrated permitting system.

Permitting authority staff should have higher education in a science, technical and/or administration discipline and experience in environmental issues. At the national level, it is advisable to have a lawyer in the permitting department (unless there is a separate legal department at the ministry) to ensure that the draft legislation prepared to implement the integrated permit system is clear and precise and in conformity with the country's legislative framework. At the territorial level, experience of handling single-medium permits and/or of working in industry is also very useful for permitting officials.

[25] Capacity Building in Implementation of the Environmental *Acquis* at the Local and Regional Level; European Commission project EuropeAid/116215/CSV/PHA, 2004, report forthcoming.

[26] Personal communication, Environment Agency, UK.

Financial Resources

In setting up the integrated environmental permitting system, the government agencies involved and the environment ministry in particular, will incur significant costs for the following activities:

- reorganisation of permitting institutions;
- devising procedures and respective documentation;
- preparing technical guidance documents; and
- provision of training.

In addition, it will be important to adequately equip the permitting authorities with computers and good internet connections to enable the establishment of an electronic BAT reference, permit registers and a national permit database, as well as interagency electronic networks (particularly linking the permitting and inspection/enforcement authorities) to make permit information available to all government stakeholders concerned.

While a move away from single-medium permits may save money and time in terms of administrative costs, these savings may be outweighed by the need to consider the additional aspects of integrated permits and the substantial preparatory work that will be required during the transition period[27]. In EECCA countries, the prevailing recent tendency of budget cuts for environmental management makes the reliance on general budgetary funding unrealistic. Therefore, a different mechanism is needed to finance the administrative costs of the permitting system.

The introduction of a ***permit application fee*** payable directly to the permitting authority would contribute to meeting the financial challenge facing EECCA environmental agencies that would like to adopt an integrated permitting system. The size of the fee should be sufficient to cover the permitting authority's staff time for assessing the application. The rates should be different for large and small installations (based on either the enterprise's capital assets or the number of employees) and may also vary by category of economic activity. The latter is the case, for example, in Ireland, where permit application fees range from about 8,900 € to 22,800 € for large industrial activities and from 5,000 € to 10,000 € for small installations[28]. Fees for permit variation (revision) may be lower.

The fee should be paid by the operator at the time of submission of a permit application and retained by the permitting authority regardless of the outcome of the assessment (i.e., whether the permit is issued or refused). If the application is returned to the operator because it is deemed invalid after an initial check by the permitting authority, the operator should have the right to resubmit the application within a certain period of time without having to pay the fee again (see the model permitting procedure in Chapter II).

6.3.3.2. Development of Permitting Procedures

The introduction of an integrated environmental permitting system will require a new procedure for issuing permits. The main components of this "one window" procedure, with the competent

[27] Foreign technical assistance may help cover some of the transition costs, but EECCA countries should not rely on donor money to pay for the introduction of the integrated permitting system.

[28] Integrated Pollution Control Licensing Fees, Irish EPA, www.epa.ie/licences/ipcfees.htm

environmental authority playing the pivotal role, are presented in Chapter I, Section 1.3, and the suggested model procedure itself in Chapter II. The procedure has to be developed and adopted by the environment ministry in consultation with other stakeholder agencies that would take part in the permitting process.

The procedure should designate internal responsibilities and step-by-step actions of permitting authority staff as well as stipulate interactions with the applicant, statutory stakeholders, and the public. It is helpful to design as many standard document forms relevant to the procedure as possible to increase the administrative efficiency of the permitting authorities. An important decision to be made concerns the length of the entire procedure and the time allocated to its individual steps. A relatively lengthy procedure (the indicative timeframe proposed in Chapter II is approximately 5 months, not counting the appeals process) is justified by the need for a thorough, multifaceted, often multi-agency assessment of each application and the involvement of the public. It is essential to underscore that this procedure would only apply to a limited number of large installations covered by the integrated permitting regime (for SMEs, the procedure would be much simpler and shorter) and would lead to issuance of a permit that would be valid for at least 5 years.

Closely linked to the development of an integrated permitting procedure is the design of an application form and a permit form. The suggested model forms with instructions for applicants and permitting authority staff, respectively, are contained in Chapters III and IV. When adapting these model forms and instructions as well as the permitting procedure itself to individual EECCA countries, it is important to make very specific references to the country's laws and regulations in order to identify for the user the legal basis of the procedural requirements.

The developers of a permitting procedure must make sure that it does not come in conflict with any primary or secondary legislation, and if discrepancies are discovered, should either adjust the procedure or propose to amend the legislation. The permitting procedure should also complement and not contradict existing procedures for environmental assessment, building permit issuance, and compliance assurance (inspection) and enforcement.

6.3.3.3. Development of Technical Guidance

The development of national BAT guidance for industry is one of the most labour-intensive components of the transition to integrated permitting. The time required to prepare such guidance is a major factor in phasing in the introduction of new requirements for different industrial sectors.

The creation of BAT notes through original technical research and analysis is an extremely complex and expensive process, as demonstrated by the development of the EU BREFs[29]. EECCA countries will not be able to afford to start this process from scratch. Therefore, it is recommended to use the EU BREFs as a starting point in the EECCA region[30]. The BREFs may and should be expanded to include best techniques available in EECCA, a task that can be carried out by research institutes in close cooperation with industry and environmental authorities. However, the first experience with translating BREFs into Russian suggests that this is a time and resource-consuming exercise resulting in products of dubious quality. The responsible organisations would not only have to watch the quality

[29] Since 1997, 15 BREFs have been formally adopted by the European Commission. At the time of the writing (mid-2004) three BREFs have been finalised but not yet formally adopted, 10 exist in intermediate drafts, and the work on other five has recently commenced (http://eippcb.jrc.es).

[30] An important first step to be taken in this respect by EECCA countries is to harmonise their system of industrial classification with NACE – the EU classification of economic activities.

of translation but also keep in mind that the EU BREFs are regularly updated to reflect technological progress. In exceptional cases, where the industry branch to be covered by integrated permitting is unique to the country and the number of enterprises in that sector makes the effort worthwhile, an original BAT guidance may be designed. On the other hand, if there are only few installations of a particular sector in a country, it would be feasible to prepare a sectoral BAT guidance. Instead, EU BREFs may be used directly in the permitting process.

Generally, sector-specific technical guidance documents should cover the following issues:

- currently applied processes and techniques;
- current emissions and resource consumption levels;
- techniques to consider in the determination of BAT (including information on environmental effects, applicability and costs);
- indicative ELVs; and
- emerging techniques.

There are also two cross-sectoral BREFs currently under preparation: "Economic and Cross-Media Issues under IPPC" and "Energy Efficiency". A BREF on environmental monitoring, covering mostly self-monitoring issues, was issued in July 2003. In addition, EECCA environmental agencies may want to produce guidance on such cross-cutting issues as the preparation of site condition reports in permit applications and on considering local environmental factors in setting ELVs.

6.3.3.4. Training

Training is an indispensable component of the institutional transition to the new permitting system. The permitting authority staff should be fully trained and aware of the new system before it comes into effect. Substantial training and assistance will be required for staff at the national level, especially in:

- the philosophy and concepts of the integrated approach;
- the move towards prevention and BAT and away from end-of-pipe control; and
- the development of BAT reference documents.

At the territorial level, staff training may be required in some or all of the following:

- permitting procedure and communication with other statutory stakeholders and industrial operators;
- the scope of an integrated permit, including issues not previously included in environmental permits;
- the use of BAT guidance;
- conducting stakeholder consultations and public hearings;
- determination of BAT for an installation; and

- permit writing and formulation of clear and enforceable permit conditions.

The costs of training are likely to run into millions of euros and be required over a number of years. Because integrated permitting will be new to EECCA countries, most training, especially in the early years, will inevitably be conducted by outside consultants. There will be a need to conduct training in pilot regions and to ensure that trained staff are then used as trainers for other permitting authority staff. “Hands-on” training where the trainers work with the permitting officials in writing permits for actual installations would be invaluable experience and have the additional benefit of preparing real permits.

The permitting authorities should also consider conducting information sessions and training for operators on the permitting procedure, related requirements, as well as sector-specific and cross-sectoral technical guidance. The costs of such outreach activities should be borne by the regulated community itself.

6.4. TIMING OF INTRODUCTION OF INTEGRATED PERMITTING

The introduction of the integrated approach to pollution prevention and control is likely to require significant expenditure by large industry. For example, it is estimated that in Estonia the cost for its 140 installations will be 489 million euros (37.2% of the industrial GDP), in Poland the cost for the 4000 installations is 6.9 billion euros (13.7% of the industrial GDP), and in Slovenia the cost for the 108 installations is 1.6 billion euros (23.5% of the industrial GDP)[31].

It will be important that existing industry, in particular, has sufficient time to plan and prepare for the investments that may be required to comply with integrated permit conditions. Most large industries have long investment planning cycles, and sufficient time must be given to enable these industries to factor the new requirements into their financial planning. It is also essential to remember that the application of BAT usually brings industry benefits through resource and energy savings, and a reduction in charges for pollution. Capital investment may be partly or fully offset by lower operational costs.

The introduction of an integrated permitting system will also require preparation of BAT technical guidance documents by the national authorities. The length of time needed by the permitting authorities to consider permit applications and to write permits will also have to be factored into the timing considerations.

Therefore, it is important to carefully consider how long it will take to prepare the introduction of an integrated permitting system as a whole and for specific industrial sectors. The timing of the introduction of integrated permitting for existing installations in particular should be in accordance with the priority problems and priority industries identified by the EECCA country.

6.4.1. Timing for Preparation of the Integrated Permitting System

Clearly, an integrated permitting system cannot be introduced for any industry until all the legal and institutional arrangements are in place, guidance documents have been prepared, and the authorities are fully trained in the new procedures.

An indicative timetable is given in Table 6.1 below, based on the experiences of the new member states. Each country should develop its own timetable based on national priorities and needs.

[31] Numbers of installations are taken from "Capacity Building in Implementation of the Environmental *Acquis* at the local and regional level" (EC, 2004, forthcoming); costs of implementation from "The Benefits of Compliance with the Environmental *Acquis*", European Commission DG Environment project B7-8110/2000/159960/Mar/H1, July 2001; the GDP information is from the CIA website www.cia.gov.

Table 6.1. Indicative Timetable of Tasks for the Introduction of the Integrated Permitting System

Year	Task	Main actors	Others
1	Make a political decision to introduce integrated environmental permitting	National government	
	Establish Integrated Permitting Working Group (IPWG)	Ministries of environment, industry, economy	Other relevant government agencies
	Determine scope of the integrated permitting system (industrial sectors and thresholds)	IPWG, MoE	Other stakeholders (including industry) to comment on the scope
	Analyse the legal and institutional requirements of the new system and conduct a needs assessment (human, technical, financial resources)	IPWG, MoE	Stakeholder consultations
	Develop an overall strategy for the transition	IPWG, MoE	Stakeholder consultations
	Prioritise sectors for gradual introduction of integrated permitting	IPWG, MoE	Other relevant agencies to comment on the priorities
	Collect existing material on BAT	MoE	Ministries of industry, energy, agriculture, etc.
	Start drafting necessary primary legislation	MoE	Stakeholder consultations on draft legislation
2	Implement institutional arrangements	MoE/IPD, PA	
	Finalise transition plans for industry	IPD	Industry starts planning
	Start developing BAT technical guidance documents for prioritised industry sectors	IPD	
	Draft law on integrated permitting and necessary amendments to existing legislation published	MoE/IPD	Stakeholder consultations on draft legislation
	Start drafting secondary legislation	MoE/IPD	Stakeholder consultations on draft legislation
	Training commences	IPD, PA	
	Pilot permitting projects	IPD/PA/Industry	
3	Law on integrated permitting promulgated	MoE/Parliament	
	Draft implementing regulations published, then adopted	MoE/IPD	Stakeholder consultations on draft legislation
	Continued work on BAT technical guidance	IPD	
	Preparation of procedural guidance documents	IPD	
	Training and pilot studies continue	IPD/PA/Industry	
4	First BAT technical guidance finalised	IPD	
	Continued preparation of other BAT technical guidance documents on prioritised basis	IPD	
	Procedural guidance documents published	IPD	
	Permit registers and national permit database established	IPD/PA	
5	First integrated permits issued for new installations in the first priority sectors	PA	
6-15	Finalisation of other technical guidance documents	IPD	
	Gradual introduction of integrated permits for new installations for other prioritised sectors	PA	
	Gradual introduction of integrated permits for existing installations, depending on established priorities	PA	

MoE = Ministry of Environment, PA = permitting authority

6.4.2. Phasing in the Integrated Permitting System for Industry

Due to the capacity constraints, it would not be possible for the national-level IPD to prepare BAT technical guidance documents for all sectors of industry before legislation is adopted, and the permitting authorities would not be able to issue permits to all (new or existing) installations within a short period of time. In addition, permitting authorities are likely to lack practical experience with issuing integrated permits at the early stages of the new system's implementation. As a result, different sets of priorities would need to be established to ease the transition to integrated permitting.

6.4.2.1. Sector Prioritisation

It will be necessary to prioritise the sectors of industry so that they enter the new system at different times, with existing installations in these sectors having a reasonable additional period to ensure that they can factor in the introduction of BAT into their financial planning cycles. Adding new pollution abatement equipment to existing technological processes (retrofitting) is often more expensive than investing in new technology in a new installation. For the permitting authorities it will be important that applications for an integrated permit from existing installations are spread out in time so that the authorities are not overwhelmed by applications all arriving at the same time.

Different countries may have different priorities, but there will be a number of common issues for consideration. It may be possible to devise a scoring scheme for different criteria as a mechanism for determining the national priorities. An indicative scoring scheme is shown in Table 6.2 below.

Table 6.2. Criteria for Prioritisation of Industrial Sectors

Issue	Score			Weighting
	1	2	3	
Environmental impact	L	M	H	3
Anticipated compliance costs	H	M	L	3
Foreign direct investment inflow	L	M	H	2
Financial performance	L	M	H	2
Export orientation	L	M	H	1
Number of installations to be regulated	H	M	L	1

L = Low, M= Medium, H=High

The score for each criterion should be multiplied by its weighting factor. The total score is a sum of the weighted scores for all criteria. The ranking of total scores should result in a prioritisation of industrial (sub) sectors.

The industrial sector's environmental impact is a most important consideration – the most polluting industries should be the first to convert to integrated permitting. At the same time, industry's costs of complying with integrated permitting requirements are also a very significant factor: industrial sectors that need major investments in order to achieve BAT would need longer transition periods. The foreign investment inflow, industrial sector's financial performance, and its export orientation are all characteristics of the sector's ability to invest into a major technical upgrade to meet BAT requirements. The number of installations within the sector to be regulated under the integrated permitting system is a measure of administrative costs for the permitting authority. Sectors with a few large installations should become subject to integrated permitting earlier than those with many medium-sized installations.

In EECCA countries where large industrial installations from the same sector are concentrated in distinct administrative regions (e.g., coal or metallurgical industry in Ukraine, oil refineries in Azerbaijan and Kazakhstan, etc.), the sectoral prioritisation may also take a ***regional dimension*** (provided permitting is done at the regional level). This may require focusing institutional capacity building efforts first in the regions that house higher-priority industries (in terms of transition to integrated permitting), with a later roll-out to other regions as the broader range of industries enter the system. However, it would not be feasible to introduce the integrated permitting system region by region, as that would not solve the problem of preparation of technical guidance and may lead to a disruption of an economic level playing field within industrial sectors.

6.4.2.2. Phasing in New and Existing Installations

The phasing in of the integrated permitting system for ***new installations*** should be based on the results of the sector prioritisation exercise. The actual timing of the phasing in will depend on the capacity of the IPD to develop and publish the BAT technical guidance documents, and the capacity of the Permitting Authority to prepare the necessary permits. However, the overall time scale should not be more than 5-6 years.

The timeframe for introducing the integrated permitting system for ***installations undergoing a change in operation*** should be the same as that for new installations. A 'change in operation' is defined in the IPPC Directive as a change in the nature or functioning, or an extension of the installation which may have consequences for environment. During the transition period, if an operator plans to make a change to his operations, he must obtain an integrated permit.

Existing installations should only be required to obtain integrated permits after the deadline for new installations in that sector has passed. The key issue in determining the length of the transition period for existing installations should be based on the expected compliance costs and the financial performance generally of that sector: the greater the compliance costs and the worse the financial performance, the longer the overall transition period would be for that sector. However, there should be an overall deadline (of up to 15 years) for new and existing installations in all sectors to transfer to integrated permits.

6.4.2.3. Pilot Projects

Pilot projects can be a useful tool to assess, among other things, the benefits and costs of implementation of integrated permitting. Pilot application of integrated permitting can be recommended particularly for large new investments where enterprises have sufficient capacity to address new requirements. Criteria for selecting installations for such pilot projects are roughly the same as for the prioritisation of industrial sectors, with the environmental impact, compliance costs, and financial performance being the top ones. Therefore, integrated permitting pilot projects are most feasible in the priority industries that would face the new requirements earlier than others.

A pilot project requires installations to prepare an application based on certain BAT reference (in the absence of a national technical guidance, EU BREFs or other recommendations can be used[32]), go through an integrated procedure involving interagency consultation and public participation, and receive a valid permit that would be recognised by the competent government authorities. Many pilot projects were successfully implemented during the pre-accession period by the new EU member states and have recently started in the EECCA region, with capacity building benefits for both government and industry.

[32] Five pilot installations in Russia's St. Petersburg region used BAT recommendations issued by HELCOM.

APPENDIX 6.1. CATEGORIES OF INDUSTRY SUBJECT TO THE IPPC DIRECTIVE

1. Energy industries
1.1. Combustion installations with a rated thermal input exceeding 50 MW
1.2. Mineral oil and gas refineries
1.3. Coke ovens
1.4. Coal gasification and liquefaction plants

2. Production and processing of metals
2.1. Metal ore (including sulphide ore) roasting or sintering installations
2.2. Installations for the production of pig iron or steel (primary or secondary fusion) including continuous casting, with a capacity exceeding 2.5 tonnes per hour
2.3. Installations for the processing of ferrous metals:
(a) hot-rolling mills with a capacity exceeding 20 tonnes of crude steel per hour
(b) smitheries with hammers the energy of which exceeds 50 kilo-joule per hammer, where the calorific power used exceeds 20 MW
(c) application of protective fused metal coats with an input exceeding 2 tonnes of crude steel per hour
2.4. Ferrous metal foundries with a production capacity exceeding 20 tonnes per day
2.5. Installations:
(a) for the production of non-ferrous crude metals from ore, concentrates or secondary raw materials by metallurgical, chemical or electrolytic processes
(b) for the smelting, including the alloyage, of non-ferrous metals, including recovered products, (refining, foundry casting, etc.) with a melting capacity exceeding 4 tonnes per day for lead and cadmium or 20 tonnes per day for all other metals
2.6. Installations for surface treatment of metals and plastic materials using an electrolytic or chemical process where the volume of the treatment vats exceeds 30 m^3

3. Mineral industry
3.1. Installations for the production of cement clinker in rotary kilns with a production capacity exceeding 500 tonnes per day or lime in rotary kilns with a production capacity exceeding 50 tonnes per day or in other furnaces with a production capacity exceeding 50 tonnes per day
3.2. Installations for the production of asbestos and the manufacture of asbestos-based products
3.3. Installations for the manufacture of glass including glass fibre with a melting capacity exceeding 20 tonnes per day
3.4. Installations for melting mineral substances including the production of mineral fibres with a melting capacity exceeding 20 tonnes per day
3.5. Installations for the manufacture of ceramic products by firing, in particular roofing tiles, bricks, refractory bricks, tiles, stoneware or porcelain, with a production capacity exceeding 75 tonnes per day, and/or with a kiln capacity exceeding 4 m^3 and with a setting density per kiln exceeding 300 kg/m^3

4. Chemical industry
Production within the meaning of the categories of activities contained in this section means the production on an industrial scale by chemical processing of substances or groups of substances listed in Sections 4.1 to 4.6

4.1. Chemical installations for the production of basic organic chemicals, such as:
(a) simple hydrocarbons (linear or cyclic, saturated or unsaturated, aliphatic or aromatic)
(b) oxygen-containing hydrocarbons such as alcohols, aldehydes, ketones, carboxylic acids, esters, acetates, ethers, peroxides, epoxy resins
(c) sulphurous hydrocarbons
(d) nitrogenous hydrocarbons such as amines, amides, nitrous compounds, nitro compounds or nitrate compounds, nitriles, cyanates, isocyanates
(e) phosphorus-containing hydrocarbons
(f) halogenic hydrocarbons
(g) organometallic compounds
(h) basic plastic materials (polymers synthetic fibres and cellulose-based fibres)
(i) synthetic rubbers
(j) dyes and pigments
(k) surface-active agents and surfactants
4.2. Chemical installations for the production of basic inorganic chemicals, such as:
(a) gases, such as ammonia, chlorine or hydrogen chloride, fluorine or hydrogen fluoride, carbon oxides, sulphur compounds, nitrogen oxides, hydrogen, sulphur dioxide, carbonyl chloride
(b) acids, such as chromic acid, hydrofluoric acid, phosphoric acid, nitric acid, hydrochloric acid, sulphuric acid, oleum, sulphurous acids
(c) bases, such as ammonium hydroxide, potassium hydroxide, sodium hydroxide
(d) salts, such as ammonium chloride, potassium chlorate, potassium carbonate, sodium carbonate, perborate, silver nitrate
(e) non-metals, metal oxides or other inorganic compounds such as calcium carbide, silicon, silicon carbide
4.3. Chemical installations for the production of phosphorous-, nitrogen- or potassium-based fertilizers (simple or compound fertilizers)
4.4. Chemical installations for the production of basic plant health products and of biocides
4.5. Installations using a chemical or biological process for the production of basic pharmaceutical products
4.6. Chemical installations for the production of explosives

5. Waste management
5.1. Installations for the disposal or recovery of hazardous waste with a capacity exceeding 10 tonnes per day
5.2. Installations for the incineration of municipal waste with a capacity exceeding 3 tonnes per hour
5.3. Installations for the disposal of non-hazardous waste, with a capacity exceeding 50 tonnes per day
5.4. Landfills receiving more than 10 tonnes per day or with a total capacity exceeding 25 000 tonnes, excluding landfills of inert waste

6. Other activities
6.1. Industrial plants for the production of:
(a) pulp from timber or other fibrous materials
(b) paper and board with a production capacity exceeding 20 tonnes per day
6.2. Plants for the pre-treatment (operations such as washing, bleaching, mercerization) or dyeing of fibres or textiles where the treatment capacity exceeds 10 tonnes per day
6.3. Plants for the tanning of hides and skins where the treatment capacity exceeds 12 tonnes of finished products per day
6.4. (a) Slaughterhouses with a carcase production capacity greater than 50 tonnes per day
(b) Treatment and processing intended for the production of food products from:
- animal raw materials (other than milk) with a finished product production capacity greater than 75 tonnes per day

- vegetable raw materials with a finished product production capacity greater than 300 tonnes per day (average value on a quarterly basis)
(c) Treatment and processing of milk, the quantity of milk received being greater than 200 tonnes per day (average value on an annual basis)
6.5. Installations for the disposal or recycling of animal carcases and animal waste with a treatment capacity exceeding 10 tonnes per day
6.6. Installations for the intensive rearing of poultry or pigs with more than:
(a) 40 000 places for poultry
(b) 2 000 places for production pigs (over 30 kg), or
(c) 750 places for sows
6.7. Installations for the surface treatment of substances, objects or products using organic solvents, in particular for dressing, printing, coating, degreasing, waterproofing, sizing, painting, cleaning or impregnating, with a consumption capacity of more than 150 kg per hour or more than 200 tonnes per year
6.8. Installations for the production of carbon (hard-burnt coal) or electrographite by means of incineration or graphitization

Chapter VII
Regulating Installations Not Covered by the Integrated Permitting System

CHAPTER VII

TABLE OF CONTENTS

7.1. INTRODUCTION

Integrated permitting presents many advantages for industry, permitting authorities and the environment (see Section 1.2 of Chapter I). However, because integrated permitting involves carrying out a detailed examination of the way in which individual installations operate, it can make considerable demands on managerial and technical effort which small and medium-sized enterprises (SMEs) cannot afford. In addition, the large number of SMEs makes integrated permitting too labour-intensive for those charged with their regulation.

There are various options to simplify the permitting regime that may ensure appropriate control of environmental impacts and at the same time allow environmental permitting authorities to devote more of their effort to the regulation of bigger installations with a greater potential to pollute the environment.

The objective of this chapter is to provide guidance to permitting authorities in EECCA countries on simplified permitting for installations that would not be covered by an integrated permitting system (whose scope is discussed in Chapter VI) by describing and evaluating several permitting options and outlining the main transitional aspects of introducing them.

Installations not regulated under the integrated permitting system are conventionally referred to as SMEs throughout the chapter. This is because most (though not all) such installations could be qualified as small or medium-sized under one of internationally accepted definitions[33]. However, if definitions that employ measures of size (number of employees, turnover, capital assets, etc.) are applied, it may happen that some SMEs (in a legal sense) will fall under the scope of integrated environmental permitting, while there may be enterprises that are larger but have a rather small environmental impact. For purposes of environmental regulation, it is important to delineate parts of the regulated community subject to different regulatory regimes so as to avoid gaps or overlaps. This is why the scope for integrated permitting should be legally defined, and installations that are not part of that scope would be regulated under a simplified scheme. At the same time, installations with insignificant environmental impact should not be subject to regulation through permits but should register with local authorities for information purposes only, as described in Section 7.2.

Section 7.3 explains the theoretical basis for simplified permitting of SMEs and sets out its desirable features. It also describes the system of General Binding Rules as a key option for simplified permitting, evaluates their suitability for particular types of installations, and provides guidance on their implementation. Finally, Section 7.4 addresses key issues of the transition to simplified permitting for SMEs, including the changing role of single-medium permitting, institutional aspects and phase-in timeframe.

[33] For example, the European Commission sets a threshold of 250 employees (or full-time equivalents) under which enterprises are considered SMEs. SMEs are also sometimes defined by their capital or sales volume.

7.2. REGISTRATION OF INSTALLATIONS WITH LOW ENVIRONMENTAL IMPACT

Among installations that are not covered by the integrated permitting system, there are those which have no potential to cause significant pollution and which can be subject to a simple registration with local municipal or environmental authorities[34]. Installations with so-called ***"intrinsically low impact"*** must by their very nature *be incapable of producing significant pollution without having to rely on active pollution reduction measures*. If such installation's potential for pollution is low, whatever the circumstances, then regulation is not likely to add value.

In case of registration, the existence of such installations would be known to the environmental authorities at a minimal administrative cost. By contrast, exempting low-impact installations from regulation altogether may bear a risk that environmental authorities are unaware of their existence, which would leave significant scope for abuse.

The operator should be able to demonstrate to the regulator that, given the nature of the installation's activities, the criteria of insignificant environmental impact will be met without having to rely on a significant management effort. If the installation depends, for example, on abatement equipment (scrubbers, filters, etc.), it is unlikely that it can be treated as having only a low potential for impact as failure of these could clearly result in significant releases. It should be able to meet the following (mostly taken from UK regulations) or similar criteria even in the absence of such equipment.

- ***Air emissions:*** Releases of any particular substance from the whole installation into the air should not be significant. For example, the U.S. EPA defines "minor" sources of air pollution (which usually do not require a permit) as those that have no toxic air emissions and emit less than 100 tonnes per year of non-toxic air pollutants.

- ***Wastewater discharges:*** The installation should not release more than 20 m^3 of treated wastewater on any one day into surface waters and no direct discharges into groundwater.

- ***Waste generation:*** The installation should not generate any hazardous waste or more than 1 tonne of non-hazardous solid waste per day, averaged over a year, and no more than 20 tonnes of solid waste on any one day.

- ***Energy consumption:*** The installation should not consume energy at a rate greater than 1 MW.

- ***Noise:*** The noise levels arising from processes and measured at the border of the installations should not exceed the existing noise level (both expressed as LAeq) by more than 3 dB.

- ***Odour:*** A low-impact installation should not have the potential to give rise to an offensive odour noticeable outside the premises where the installation is operated.

[34] The choice of the registration authority will depend on each country's institutional structure. It would usually be either an environmental committee of the city or rural district administration or a city or rural district branch of the central environment ministry.

The above-listed criteria, or similar (they should be relatively simple and not include too many parameters), may be incorporated in environmental legislation and used by the competent authority to determine whether a particular installation has an intrinsically low impact.

New low-impact installations should be required to submit an environmental ***registration form*** at the same time they as they apply for an operating license. Existing low-impact installations that are currently required to obtain environmental permits should be notified by the competent authority that they no longer need to have a permit but need to submit a registration form. Existing installations that presently do not need a permit should also register.

The registration form for low-impact installations has to be very simple, while making specific reference to the regulation authorising such registration. It should normally include the following:

- Name and address of the operator;
- Location of the installation;
- Brief description of activities carried on it;
- The nature and amount of any polluting releases from the activities (solid, liquid or gaseous) and a statement that they are within the criteria of intrinsically low impact;
- The maximum rate at which energy is used by the activities carried on;
- A statement that no offensive odour from its activities is present outside the installation; and
- A statement that noise levels outside the installation arising from the activities do not increase background levels by more than 3 dB Leq.

An official of the competent environmental or municipal authority should check that the operator has addressed all the required items. If not, the form should be returned immediately with a note indicating where additional information is required. If the form is complete, the official should decide whether it shows that the installation meets all the criteria for intrinsically low impact.

In case of a positive conclusion, the official should make a respective record in an appropriate database[35]. The registration should not have a validity limitation, but the operator should be required to notify the competent authority of any changes to the installation's activities or their cessation. If the installation does not meet some criteria for intrinsically low impact, the official should notify the operator of the need to apply for a environmental permit without which it cannot continue to operate the installation.

The competent environmental authority (CEA) can choose to occasionally inspect selected registered installations to ensure that they still may be properly described as having intrinsically low impact.

[35] If the registration is managed by the municipal authority, there should be a procedure to share the information from this database with the relevant environmental authority.

7.3. SIMPLIFIED PERMITTING OF SMES WITH SIGNIFICANT IMPACT ON THE ENVIRONMENT

Installations not subject to integrated permitting but whose environmental impact is not intrinsically low must be subject to environmental regulation. For example, a 25 MW boiler using fuel oil, typically used to supply heat and steam for a large hospital, may represent a significant source of air pollution. A large number of small farms in one area may generate substantial loads of organic pollutants. Petrol stations and repair shops represent a risk of significant routine or accidental pollution releases. However, most of SME operations will be smaller and simpler than the processes regulated under integrated permitting and as such should be considered for simplified permitting.

7.3.1. Key Features of a Simplified Permitting System

For small-scale operations, the reduction of environmental impact achieved as a result of implementing BAT at each individual installation (as under integrated permitting) may not be worth the effort spent by the operator to justify and for the regulator to assess the proposed techniques. The objective, then, is to regulate classes of SMEs rather than consider each installation individually.

The following features are desirable in a permitting system for SMEs:

- Operators should be encouraged to move away from end-of-pipe techniques for reducing discharges to air or water and adopt integrated operation and maintenance solutions, including effective management techniques.

- The permitting procedure should reduce, compared with integrated permitting, the amount of information the permitting authority has to assimilate and the degree of discretion it would exercise in each case.

- The permitting process should be transparent and easy for the operator and the general public to understand, by reference to published guidance or rules for particular classes of installations.

- It is essential that to secure public acceptance of any system of permitting that the basis of the system remains open and transparent. It is also important that operators can see that they are being treated fairly each with the other. The process of producing pertinent general rules or guidance must be open to comments by the public and other stakeholders.

- A simplified system must offer broadly the same approach between sectors and over time, proportionate to the risks likely. It must be seen to retain fairness between operators subject to full integrated permitting and those subject to simplified permitting. This is greatly helped by transparency in setting statutory emission/effluent limits and granting public access to permits.

- Permit conditions should, wherever possible, be consistent with business practices for a given category of installations. For example, monitoring and reporting requirements based on process data (energy, water, materials use, etc.) should be reasonably preferred over pollution measurements, as the latter are much more expensive. At the same time, permit conditions must be clear and enforceable, and the permitting authority must have powers to inspect against these.

In the permitting system for SMEs, these criteria are applied through the introduction of General Binding Rules (GBRs), which are described in the following sections.

7.3.2. Definition and Advantages of General Binding Rules

A General Binding Rule is a set of standard conditions stipulated in a statutory document, covering operational aspects of an installation and prescribing certain permit conditions that all regulators should apply. Under a GBR, the competent environmental authority (CEA) issues permits consistent with specific GBR requirements. The CEA has no possibility to deviate from the conditions of the GBR, unless this power is established in the statutory document itself.

Key advantages of GBRs include:

- adoption of uniform emission standards (statutory ELVs);
- simplified application procedure and forms, resulting in reduced bureaucracy;
- transparency, predictability and consistency;
- uniform monitoring requirements, facilitating compliance assurance;
- no potential to distort competition within an industrial sector;
- reduced costs for the regulator (although the development
-
- of GBRs requires initial resource investment) and the regulated. For example, the UK Environment Agency estimates that the assessment of a permit application under a GBR (used in the UK for farms) may take as little as four days[36].

For EECCA countries in particular, GBRs have benefits in terms of reduced workload for environmental agencies, emphasis on modern technique-based standards, consistency of regulation (especially useful where the technical capacity of permitting authorities is limited), and preventing opportunities for corruption through reduced discretion for the regulators.

At the same time, GBRs bring a number of disadvantages compared with customised, site-specific integrated permits:

- GBRs are not as flexible as site-specific permits with individual conditions (e.g., they cannot easily take account of local environmental conditions).
- Public participation takes a different form, as permit conditions are not site-specific and the consultation occurs only at the GBR design stage, where the possibility of changes forced by the public is less than for individual permits.
- The prescribed techniques are fixed until the GBR is reviewed, and permitting authorities can do little to impose further improvements.
- GBRs do not fit well with the implementation of economic instruments of environmental protection, such as pollution charges and emissions trading. Those instruments, to have an incentive impact, require the operator to have some flexibility in establishing operating conditions, whereas GBRs specify conditions precisely.

[36] The Application of General Binding Rules in the Implementation of the IPPC Directive, IMPEL Network, 2001. http://europa.eu.int/comm/environment/impel/pdf/gbr.pdf

7.3.3. Scope of Application of GBRs

The Netherlands has extensive experience in the use of GBRs applying to all or some aspects of operation of an installations. The rules contain an overall package of provisions and are issued by the national government, with inspection and enforcement undertaken by local authorities. This type of regulatory approach has been positively received by both competent authorities and industry. It applies to several types of installations, including:

- construction companies;
- dairy farms;
- crop farms;
- dry cleaning companies;
- petrol stations.

In addition to these, the following types of installations may be considered for simplified permitting under GBRs:

- Combustion installations with rated thermal input no more than 50 MW;
- Furnaces producing small quantities of pig iron, 2.5 tonnes per hour or less;
- Ferrous metal foundries melting 4 tonnes per day or less;
- Installations for the bulk storage, blending and mixing of cement;
- Small scale electrolytic plating baths;
- Ceramics manufacturing installations with production capacity below 75 tonnes per day;
- Small scale municipal solid waste incinerators (with capacity of 3 tonnes per hour or less); and
- Other industrial installations with production capacities below the thresholds specified in Annex I to the IPPC Directive (see Appendix 1 to Chapter VI) or similar national legislation.

There are a number of practical criteria that should be met for the development of GBRs to be feasible:

- *A GBR must cover a sufficient number of installations in a given category* for the resources used to develop it to be outweighed by the benefits from reduced effort on individual permit determinations. It is difficult to suggest specific thresholds for appropriate use of a GBR under this criterion, as in each particular country they will depend on the geographical distribution of such installations, their size, the capacity and costs of designing GBRs, etc.
- GBRs can only apply to well-defined categories of installations that use similar, widely accepted technologies that are unlikely to change rapidly. A GBR establishes standard requirements for technologies and techniques to be followed. While GBRs can be revised, there is no advantage to their use, if frequent revision is necessary to accommodate changes in technology. At the same time, a GBR may be an effective method for introducing technological improvement in a sector otherwise seen as out of date when judged against practices in other countries.

- *Installations within each category subject to a GBR should have a relatively uniform impact on the environment.* If the installations' environmental impacts are largely site-specific (i.e., depend significantly on local ambient environmental conditions), the imposition of standard conditions would not be feasible.
- *It is important that the operators of installations targeted by a GBR are well organised* so that their views are coherent and well expressed. GBRs will need to be developed in negotiation between the national environmental authority and the industrial sector's representatives. An industry (trade) association is a best option to ensure that all concerns and variations within that sector are addressed during the development of the GBR.

7.3.4. Development of GBRs

The Ministry of Environment (or its equivalent), in collaboration with ministries of industry, agriculture, and other concerned sectoral agencies, should identify categories of industrial activities where within each installation the same activities are carried out, where there are few alternative methods of carrying out these activities and where the best practices are clearly identified.

The environment ministry, perhaps by contracting a specialised institute, would then produce a first draft GBR based on a number of sources:

- EU BREFs, where they are relevant to installations outside the scope of integrated permitting;
- Existing industry standards of good practice published either by government bodies or by industry associations (where such standards are seen as appropriate), both domestically and internationally; and
- National statutory emission limit values.

Box 7.1. Example of GBR Conditions: UK Guidance for Small Combustion Units (<20 MW Thermal Input)

For small gas combustion units [<20 MW T.I. (in aggregate for multiple units)] the following conditions should be set, unless there is a reason to set specific conditions (e.g., within an Air Quality Management Area).

1. No limit values on air emissions
2. For natural gas firing: a minimum monitoring requirement of once per year for NOx (mg/m3); O2 (%); CO (mg/m3), except that for very small units (< 3 MW T.I.) forming part of the aggregation the monitoring may be waived. Performance of such units would normally be managed through the requirement to adequately maintain plant.
3. For oil firing as a standby fuel:

- Heavy fuel oil: a fuel sulphur limit of 3% (1% after 31.12.2002)
- Gas oil: a fuel sulphur limit of 0.2% (0.1% after 31.12.2007)

4. For oil firing as primary fuel: as for (1), (2), (3) plus additional monitoring requirement of particulates.
5. For Coal firing as primary fuel: as for (4) plus a limit on sulphur in the coal burnt of 1% by weight as certified by the supplier.

This note does not apply to any units that are burning waste as a fuel.

Source: UK Environment Agency

GBRs should be comprehensive and address as far as possible or relevant all aspects covered by integrated permitting (see Chapter IV). In particular, they should address the sources of environmental impact and the techniques that should be used to minimise it. Generally, sector-specific GBRs should cover the following issues:

- currently applied processes and techniques;
- current emissions and resource consumption levels;
- production and management techniques to be used in installations subject to that GBR;
- numerical limits for releases of particular substances (ELVs), where appropriate; and
- self-monitoring and reporting requirements.

The GBR may include an *application form* tailored to fit the particular type of installations under consideration.

In the EECCA region in particular, it is important to distinguish between *GBR requirements for existing and for new installations*. A GBR may set out "new plant standards" and incorporate upgrade requirements for existing installations, in which case they would act as a stimulus for improved environmental performance.

The draft GBR should be sent for comments to the *statutory stakeholder agencies* (the ministry of industry, among others) and discussed with *representatives of the industry concerned*, and their comments should be taken into account. In fact, it is useful to involve industry representatives in the drafting process already in the early stages.

The production of a GBR should also include *public consultation*. However, the nature of such consultation is different from that for an individual permit. Comments on a draft GBR (at the national level) would most likely come from environmental NGOs. The draft GBR should be posted on the environment ministry's website, and a notice to that effect published in a general distribution newspaper as well as in relevant industry journals. It is important that the process be seen as transparent by the general public. After public consultation, the GBR needs to be promulgated in a regulation (secondary legislation).

A key issue is whether a GBR is absolutely binding on the regulator and/or the operator. This should be clear in the statutory document that establishes the GBR. To be absolutely binding, the GBR must address the full range of technologies used within the given category of installations, and local environmental concerns should not be expected to raise a problem.

An alternative approach is to allow for an opt-out to the use of a GBR in favour of a full integrated permit. This might be initiated by the operator (e.g., when alternative techniques are preferred that are not addressed by the GBR) or by the regulator (e.g., to ensure that sensitive local environment is protected). If full integrated permitting is undertaken, all the advantages (especially cost savings to the operator and the regulator) of a GBR would be lost. So it is not feasible to have a GBR for a category of installations, if their significant share would opt out. However, if opt-outs are allowed, the operator must not be able to seek exemption from individual GBR requirements and would have to follow the full integrated permitting procedure (which may well result in stricter permit conditions).

As techniques improve, the GBRs will need to be reviewed and amended using the same procedure as outlined above. A revised GBR must include an upgrade timetable for installations permitted under the old GBR. There can be no fixed review periods for GBRs, but they should not be revised more

frequently than the term of permits issued under those rules (5-7 years). Amending GBRs could require considerable resources both from the national environmental authority and industry, as all respective permits would have to be reviewed as well. This is why this method of regulation is most suitable where techniques are likely to improve only slowly.

7.3.5. Permitting Procedure under GBRs

The introduction of a GBR-based permitting system will require a new procedure for issuing permits which should be developed and adopted by the environment ministry. Its development should be accompanied by consultation with other stakeholder agencies that would take part in the permitting process and with groups representing the regulated industries.

The procedure should designate internal responsibilities and step-by-step actions of permitting authority staff as well as stipulate interactions with the applicant, statutory stakeholders, and the public. A simple standard application form should also be designed.

The developers of a permitting procedure must make sure that it does not come into conflict with any primary or secondary legislation. The permitting procedure should also complement and not contradict existing procedures for environmental assessment, building permit issuance, and compliance assurance (inspection) and enforcement.

The basic procedure should be based on the steps outlined below.

Pre-application Activities

It is important that not too much time be allotted to this stage. However, the operator may ask the CEA for a pre-application meeting to discuss any applicable rules and binding limits and issues to be addressed in the application.

Application

A permit application under a GBR (which may include a specific application form) serves to justify that the installation complies with all the requirements of the GBR. It should include the main items of an integrated permit application (see Chapter IV) but to a lower degree of detail:

- Identification of the installation;
- Identification of the operator;
- Description of the installation's activities;
- Operational and management techniques (to show that they conform to the specific GBR requirements);
- Emissions (to demonstrate compliance with statutory limits stipulated in the GBR);
- Environmental impacts (brief description or reference to the findings of an EIA if one has been performed for the installation[37]); and
- Other relevant information.

[37] Many EECCA countries require at least a simplified EIA for SMEs.

There may be an administrative fee required to be paid with the application to cover the costs of processing it by the CEA.

Receipt and Initial Check of Application

The Designated Administrator (DA) at the CEA should check that the application has addressed all the required questions and open a Working File. Then the Responsible Official (RO) should look at the basic adequacy of the answers presented. For applications based on a GBR both checks should be fairly quick as the GBR determines a limited number of issues that should be addressed. These checks are intended to ensure only that an application meets at least minimum requirements before the determination process begins. It is in no sense a determination of whether to issue a permit or what conditions ought to apply. The initial check of the application should take no longer than [5] days.

If an application is found not to be valid at this stage, it should be returned immediately. The DA should attach a note to indicate where the application falls short of what is required.

Within [5] days of the application being deemed valid, the RO should decide if any major pieces of additional information are needed to ensure that the environmental quality standard will be complied with. The DA would advise the applicant in writing and give him [10] days to respond. If this information is not received, the application should be refused. Requests for additional information should only be made in exceptional cases, as the application should respond to the requirements clearly stated in the GBR.

Commercial Confidentiality

This stage is to ensure that any claim from the operator that all or part of the information in the application is properly considered, and only granted if it is justified. In cases of SMEs operating under GBRs there should be few such claims. The procedure for assessing commercial confidentiality claims would be the same as under an integrated permitting system (see Chapter II).

Consultation

The consultation process in permitting under a GBR is generally confined to issues of local environmental quality (consultation with the local authority) and prior compliance record by the applicant (consultation with the environmental inspectorate and local public health authorities). These stakeholder authorities may have information that could help the CEA to judge whether the application is truthful and accurate. They may also comment on the past performance of the operator or on possible challenges to the environment in the general vicinity of the installation (e.g., the presence of other significant sources of pollution). However, comments on the technique to be used will not be relevant as they have been decided in the GBR.

Within [10] days of the date the application was deemed valid, or within [10] days of the decision on commercial confidentiality, whichever comes later, the DA should send copies of the application to the stakeholder authorities with a cover letter specifying the inputs that would be helpful and asking to provide their responses within [15] days. There is normally no general public consultation for applications from GBR-governed installations, although eventually the permit itself should be put in the CEA's permit register (see below).

The DA should note all responses from the stakeholder authorities in the Working File and inform the RO. If a body fails to respond, the RO may use his judgement to decide either to seek such a response or proceed without it.

Assessment of Application and Determination of Permit Conditions

Determination. For a simple application that is in accordance with the GBR it is unlikely that it would need to be considered by a "permit team" at the CEA, as the different cross-media issues will have been addressed during the development of the GBR. However the RO may need to seek advice from other CEA colleagues where the application is for an installation in a sensitive location where compliance with the environmental quality standard is or maybe under threat.

There is no need for the CEA to consider the merits of any alternative techniques, as all this work has been done in designing the GBR. This will substantially reduce the CEA's effort compared with integrated permitting. Usually, a GBR-based application should be assessed within [10] days of the receipt of the consultation responses.

Issuance. Once the application has been considered, if it complies with the GBR and there are no serious objections by stakeholder authorities during consultation, the permit should be written and signed by the RO. The DA would then send the permit to the operator and place a copy of it in the permit register. The effective date would usually be the same as requested in the application. *The permit should be valid for at least 5 years* and should be renewed under a simplified procedure if the original characteristics of the installations have not changed.

As the permit reflects the GBR, it is possible to either include some of the rules as conditions or, as, for example, in the Netherlands with respect to metal finishing, simply refer to the GBR and thus produce a standard, highly simplified, permit for the sector. The permit should include numerical limits from the GBR (ELVs, limits on the use of water and/or other resources) and contain requirements to monitor and report the actual releases and any accidental discharges beyond these limits. Compliance with GBR-based permit conditions should be verified through regular environmental inspections which would, however, be much less frequent than those of large industrial installations.

Refusal. If the application shows that further conditions are needed to protect local environmental quality, the RO may decide to refuse the application under the GBR and instruct the operator to submit a full integrated permit application. Such an opt-out by the CEA should only be possible if allowed by the applicable regulations and would require an approval by the head of the CEA's permitting department.

If the application fails to show compliance with the GBR, the RO should refuse the application. The criteria for refusal include the following:

- The environmental impact would be unacceptable within the conditions specified in the GBR (a full integrated permitting process may be required);
- The operator's proposals do not comply with specific GBR requirements; or
- It is apparent that the operator cannot comply with the permit conditions due to his lack of the management systems or competence.

If the application is then refused, the DA should advise the applicant, noting the details and deadline for appeal, and copy this notice to the permit register and the stakeholder agencies, specifying the reasons for refusal.

Appeal

The applicable regulations may provide that any person or body, including the applicant for a permit, can make an appeal to the [national environmental authority] or to an arbitration court either against a refusal to grant a permit or against a decision to grant a permit (on the grounds that the local environmental quality considerations have not been sufficiently taken into account). However, there can be no appeal against specific conditions that are set by reference to the statutory GBR.

The regulation may specify that an appeal must be made within [30] days of the CEA's decision on the permit and may require it to describe the grounds for the objection and the reasons, considerations, and arguments on which they are based and be accompanied by whatever documents the objector considers necessary.

If the appeal is against conditions of a permit that has been granted, the permit should not enter into force until the appeal is settled. The operator should be advised of this without delay.

The [national environmental authority] should be able to request any party to an appeal to submit (within a specified period) any information it deems necessary to allow for the consideration of the appeal. For GBR-based permits, appeals would normally be considered and ruled upon internally, without a hearing, within [30] days of the deadline for submission of the appeal(s). The CEA would then within [5] days formalise the decision on the appeal and include it in the permit register.

The appeal may be withdrawn by the objector at any time by way of a written notice to the [national environmental authority] or to the arbitration court, whatever the case may be.

Timeline of the Procedure

It is good practice to set out a period within which the CEA will normally determine a valid application. *The CEA should normally determine a valid GBR-based application within [45] days of its submission.* The following table illustrates the timeline for the simplified permitting process under a GBR. The time required for the CEA to assess a GBR-based application is obviously much shorter than to handle a full-fledged integrated permit application. However, an appeal of the decision may more than double the length of the process.

Table 7.1. Timeline of the GBR Permitting Procedure

Start	**Application received.**
5 days	Initial check of application completed by the DA and RO.
15 days	Application forwarded by DA to stakeholder authorities.*
30 days	Consultation responses received from stakeholder authorities.
40 days	Assessment of the application completed by the RO.
45 days	**Permit or refusal notice issued.**
75 days	Possible appeal(s) received by [national environmental authority] against the decision.
105 days	Appeal(s) determined.
110 days	**Final decision issued by the CEA to the applicant. End.**

* If significant additional information is needed, and the RO sends the applicant a request to that effect, the process is delayed by up to 10 days.

7.4. TRANSITION TO SIMPLIFIED REGULATION OF SMES

The transition to simplified permitting for SMEs should happen at the same time as the introduction of integrated permitting for large industry (see Section 4.1 of Chapter VI), and both should be part of a coordinated permitting reform process. This would help concentrate the resources of permitting authorities on major polluters while lifting the excessive pressure from smaller enterprises.

One of the transition issues is the fate of single-medium permitting (with separate permits for air emissions, wastewater discharges, and waste generation) which is currently the only permitting regime used in EECCA countries and covers all regulated pollution sources (see Section 2.2 of Chapter I). Although the simplification of permitting for SMEs will be less resource-intensive than the establishment of an integrated permitting system (see the discussion in Chapter VI), it will also require certain legal and institutional adjustments that will take time. These transition issues are addressed in this section.

7.4.1. Role of Single-Medium Permitting

As large industrial installations gradually convert to integrated permitting, the country's national environmental authority will have to choose appropriate permitting regimes for the installations that are not covered by the integrated permitting system. While installations with intrinsically low impact can be transferred to a registration scheme fairly quickly, the introduction of GBRs will take time and may not be appropriate for a significant number of installations (see Section 7.3.3).

Therefore, for a number of years single-medium permitting will remain the default option for regulating SMEs that are either unsuitable for a GBR or scheduled to be covered by one at a later date. However, once the development of all appropriate GBRs has been completed and a GBR scheme is fully operational (see Section 7.4.3), the national environmental authority may consider whether it would be feasible to choose one of the three options:

1. Incorporate these installations into the integrated permitting system. This may be appropriate for installations that affect more than one environmental medium but would necessitate the development of technical guidance for them, which is a time-consuming and expensive process.

2. Develop national generic statutory ELVs that would directly apply to all installations not covered by any other permitting scheme, making them a simplified version of a GBR. Such statutory ELVs for selected parameters may also apply to large industry as minimum requirements (see Section 5.4.2 of Chapter V). However, they would necessarily cover only a limited range of polluting substances and, in the absence of technique and environmental quality considerations in permitting decisions for such installations, would fall short of ensuring a high level of environmental protection.

3. Keep a certain number of SMEs under a single-medium permitting scheme[38]. This would be feasible especially for installations that have an impact on only one environmental medium and that are technologically diverse. In this case, single-medium permitting should be procedurally simplified, as it would at that point be used exclusively for selected categories of SMEs.

The first two options would mean a gradual phase-out of single-medium permitting in the country, while the third would retain it for rather limited use after the integrated permitting system has been fully established (which may take up to 15 years). Phasing out single-medium permitting may look attractive from the perspective of reducing the number of permitting schemes, but regulating the "remaining" installations under either integrated permitting or statutory ELVs will also have serious drawbacks, as mentioned above. On the other hand, keeping single-medium permitting as a regulatory option is likely to increase the administrative burden on the permitting authorities, as they would have to handle three different permitting processes: full integrated permitting, simplified GBR-based permitting, and single-medium permitting (this institutional issue is addressed in Section 7.4.2 below).

Ultimately, a decision on the fate of the single-medium permitting system will be based on the medium-specific impacts and sectoral distribution of the SMEs that were deemed unsuitable for a GBR.

7.4.2. Legal and Institutional Issues

Section 6.3.1 of Chapter VI describes ways of introducing integrated permitting into the environmental legislation in EECCA countries. As changes are made to the existing primary environmental legislation concerning the regulation of large pollution sources, it would also be appropriate to provide for simplified permitting regimes for other installations. The applicability criteria for each option (registration, GBRs, and single-medium permits) should be laid out either in a separate law on permitting of SMEs (which must appropriately define this term for the purposes of environmental regulation), or in a section of a law on integrated permitting (if a country chooses to adopt one), and/or in amendments to other environmental laws. The same laws should be used to set transitional periods for the introduction of the new instruments (registration and GBRs), stipulate general requirements for self-monitoring and reporting, and the terms of validity and revision of the respective authorisations.

The competent authority for permitting SMEs should also be designated in the legislation. It is likely to be different for different permitting schemes. Registration of installations with intrinsically low environmental impact is best handled by local (municipal) authorities (e.g., environmental departments of city or rural district administrations). For GBR-based and single-medium permitting, the permitting authority should be the same competent environmental authority (regional or, in some cases, national) that is responsible for integrated permitting so as to avoid the existence of parallel permitting authorities. Since GBRs are themselves products of a multi-stakeholder process, decisions on individual GBR-based permits should be made exclusively by CEAs (subject to consultation described in Section 7.3.5). Single-medium permitting should also be the prerogative of environmental authorities, as is currently the practice.

As for the organisation within the competent environmental authority itself, the task of handling of different permitting schemes for large and smaller installations favours the establishment of single

[38] In many EU countries that had single-medium permitting before the adoption of the IPPC Directive in 1996, as well as in the new Member States, this system has remained in place for installations that are not subject to integrated permitting.

permitting departments within CEAs. This would allow environmental agencies to pool human and technical resources and better organise the processing of permit applications. For example, while there may be different responsible officials for handling integrated, GBR-based, and single-medium permits, the support staff (designated administrators) may be shared. In cases where for political reasons the existing single-medium department structure will be kept, one of these departments would have to be made responsible for processing GBR-based permit applications.

7.4.3. Timing of the Transition

The introduction of a simplified approach to environmental permitting is not likely to require significant expenditure by SMEs except where those enterprises are clearly out of date in their practices. These SMEs must be given sufficient time to enable operators to plan and prepare for any investment that may be required. Large industries have long investment planning cycles, but small industries may need as much time for financial reasons even if the technical issues are simpler.

The introduction of a ***GBR system*** will also require that national authorities prepare such technical rules for a number of categories of installations. For each category of industrial installations identified to be suitable for GBR regulation (the identification process itself is likely to take several months), the development of a GBR is likely to take between six months and one year. Therefore, the entire process may take between 3 years for the first categories of SMEs and 10 years for the full intended coverage of the system. The priority in developing first GBRs should be given to industry categories with the biggest number of installations (to achieve the biggest reduction of administrative costs upfront) and with the strongest industry associations (to facilitate the GBR development process). Unless the GBRs differentiate the requirements for new and existing installations, existing ones should be given a grace period of up to three years to comply with the GBR requirements, depending on the sector (this grace period should be specified in the GBR itself).

The introduction of ***registration*** for installations with intrinsically low environmental impact is not difficult to prepare once the criteria defining such installations are agreed. The system should become operational once the relevant laws and regulations (including a standard procedure and application form for registration) are promulgated, i.e., within 2-3 years from the start of the reform process.