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REGULATIONS ON AIR POLLUTION AND WASTE INCINERATION IN EUROPE: SELECTED COUNTRIES *

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Abstract

REGULATIONS ON AIR POLLUTION AND WASTE INCINERATION IN EUROPE: SELECTED COUNTRIES

This paper provides an overview of the environmental laws in ten European countries. The introduction discusses the general approaches to environmental legislation utilized in these countries. The laws of each country are then examined under the following headings:

- General Air Pollution and Control Regulations
- Authorities for Legislation and Administration
- Physical Planning and Zoning
- Pollution Standards
- Environmental Impact Assessment and Licensing
- Appealing and Complaining Procedures
- Sanctions and Penalties
- Indemnification
- Monitoring
- Economic Impact of Regulations

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REGULATIONS ON AIR POLLUTION AND WASTE INCINERATION IN EUROPE: SELECTED COUNTRIES

1. Introduction

The research for this paper was done for the purpose of showing an overview on European legislation on waste incineration and air monitoring. Some of the topics which are connected to this matter are dispersed in specific other laws like the civil procedure, tax laws, etc. so that these topics could only be treated in a very general way.

Only a few countries regulate all air polluting matters in a general environmental code (Denmark, The Netherlands, Switzerland) followed by orders or regulations elaborating various aspects.

Most of the European countries deal with air pollution and incineration of waste problems within several fields of national laws. The most important of these laws deal with maintenance of clean air (Austria, Belgium, France, Federal Republic of Germany, Italy, Luxembourg, The Netherlands, United Kingdom), in connection with particular articles in several laws dealing with industrial processes (France, Italy, Luxembourg); industry and trade codes (Austria, FRG); public health (Italy, U.K.); protection of labourers (Austria, Belgium, U.K.); land planning (Austria, FRG, U.K.), etc. In addition, some countries have special waste laws which regulate waste management, including incineration (Austria, Netherlands). Besides in almost every studied country air quality in different geographical zones is taken into account when deciding the site for new industries or licensing specified activities.

In some countries more regulations on air quality management can be found in particular articles in forestry laws, energy laws, nature

protection laws or maritime laws. For idemnification or penalties, most countries refer to their Civil Code or Penal Code.

Furthermore, EEC Member States have to follow the different Directives issued by the European Council on Air Quality or general environmental matters.

A number of countries do not set standards or limits for emissions, but want "the best practicable means" or "the newest available technology" to be used in polluting plants. However, most of the studied countries have a combined system which sets some limits for certain polluting substances and requires the best technology for all other emissions*. The Council of the European Community has issued directives for air quality with limit values and guide values for sulphur dioxide and suspended particulates (15 July 1980), limit values for lead in the air (3 December 1982); standards for nitrogen dioxide (7 March 1985); for noxious substances from new waste incinerators (8 June 1989/Annex 1) and for dust particulates from old waste incineration plants (21 June 1989/Annex 2). Member States can also set more severe standards.

Furthermore, the Council of the European Community set directives for an Environmental Impact Assessment which should have been enacted by national laws of the Member States in June 1988 at the latest (Annex 3). Most of the European Countries require operating permits either for all major stationary sources of air pollution or for specified categories of activities or establishments. However, the European Council's Directive on the Assessment of the Effects of Certain Public and Private Projects on the Environment adopts the concept of public opinion expressed through channels determined by the member states. Specifically Article 6(2) of the Directive states: "The public concerned is given the opportunity to express an opinion before the project is initiated" and (3) the Member States shall "determine the public concerned, specify the way in which

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* European legislation differs between "emission" and "immission"; the "emissions" mean the polluting substances deriving from a define source which can be measured at the source itself (chimneys, vehicles, etc.), meanwhile "immissions" are the total amount of pollutants which come from different undefined sources.

the public may be informed..., determine the manner in which the public is to be consulted...". Interestingly, most EC-Member States with definite regulatory apparatus on permits and EIA's have not yet adopted this part of the Directive.

In Annex I and II all industries to which the Directive applies are listed. For those industries which are listed in Annex I, it is mandatory to undertake an EIA prior to obtaining a permit. Waste incinerators are included in the list, item 9. Annex II includes all those industrial and servicing establishments for which the licensing requirement of EIA is at the discretion of the individual Member State.

The protection of the environment cannot be done without economic investments; therefore, most countries try either to offer economic incentives for innovations or to prevent pollution by economic disincentives (or penalties). Some countries have even created special funds to help in environmental matters.

On the other hand, many countries still allow non-investment in environmental protection if investment would not be "economically reasonable".

However, all these laws, regulations and orders were - and are - permanently being amended, not only because of technical progress (according to the frequently used formulation "with the best available knowledge of technology"), but also - and mainly - because a great number of regulations were shown inefficient for the ever increasing need for better environmental protection and pollution control. While this report was written, it is probable that a number of new or amended regulations were issued, so that an updating will be necessary at regular intervals.

I UNITED KINGDOM

A. General Air Pollution and Control Regulations

Based on the the Clean Air Acts of 1956 and of 1968, the Alkali Works Regulations Act of 1906, the Public Health Acts of 1936 and 1961, the Control of Pollution Act of 1974 and the Health and Safety at Work Act of 1974 a great number of orders and circulars concerning air pollution have been issued.

The main goal of these regulations is to prevent harm to public health and to control nuisance (public nuisance, when concerning a group of persons, is classified as a crime; statutary nuisance has to be removed by the authorities). In general the reduction of air pollution has to follow "the best practicable means".

Furthermore, the Town and Country Planning Regulations of 1988 establish an Environmental Impact Assessment as necessary in issuing permits for the operation of plants.

B. Authorities for Legislation and Administration

The Secretary of State for the Environment in conjunction with the Secretaries of State for Scotland and Wales are reponsible for the development and review of air pollution control policy. Air pollution issues have to be considered by the Royal Commission on Environmental Pollution (20 scientists) and by the Environment Committees of the House of Commons and the House of Lords.

C. Physical Planning and Zoning

The Town and Country Planning Regulations of 1988 prohibit issuing any planning permit without consideration of environmental information: "the local planning authority or the Secretary of State or an inspector shall not grant planning permission pursuant to an application to which this regulation applies unless they have first taken the environmental information into consideration" (article 4 (2)).

These regulations also enact the Environmental Impact Assessment according to the European Councils' directives (Annex 4).

D. Pollution Standards

Only a few national emission or pollution concentration standards are set by law. The use of the "best practicable means" is emphasized "where used with respect to the prevention of the escape of noxious and offensive gases, has reference not only to the provision and the efficienct maintenance of appliances adequate for preventing such escape, but also the manner in which such appliances are used and to the proper supervision, by the owner, of any operation in which such gases are involved". (Alkali Act Sec. 27 (1))

The "best practicable means" are published by the Alkali Inspectorates (45 inspectors) every year after exchanging information about new technologies with industry in the "notes on best practicable means" or the "presumptive standards". Also published are emission limits, measurement techniques, etc.

E. Environmental Impact Assessment and Licensing

The United Kingdom has followed the EEC Council's Directive within the prescribed time by issuing EIA regulations in the Town and Country Planning Regulations, England and Wales; the Environment Assessment Regulations Scotland, and other relevant regulations in 1988.

As in the Council's Directive, plants are divided into two classes. For the first category (which includes waste incineration), an EIA is needed. For the second category, local planning authorities have to check if EIA is needed. In the joint circular no.15/88, the Secretary of State defines those projects which will certainly need an environmental assessment:

- major projects which are of more than local importance
- projects on a smaller scale which are proposed for particularly sensitive or vulnerable locations.

- in a small number of cases, projects with unusually complex and potentially adverse environmental effects, where expert and detailed analysis of those effects would be desirable and relevant to the principle as to whether or not the development should be permitted.

F. Appealing and Complaining Procedures

The regulations on the EIA do not explain if the public has a right to appeal against licensing. In the Joint Circular to the EIA No.15/88 it is only mentioned that "applicants have the normal right of appeal against refusal or planning permission" (Annex 5). It is probable that interested persons would have the same right through the common law.

If the local authority decides that a project needs an EIA, the applicant can also ask for the direction of the Secretary of State.

G. Sanctions and Penalties

Statutary nuisance, i.e. nuisance which derives from a licensed installation, has to be dealt with by the same authority who issued the license, either by a prohibition and abatement notice or by penalties. Appealing to the High Court is possible. An appeal can be made to the Magistrate's Court if it can be proved that the nuisances were produced even though "the best practicable means" were used.

If 10 citizens complain against an installation because of nuisance, the health administration has to intervene.

H. Indemnification

The Health and Safety at Work Act defines damages (death or psychic/physical injury of a person) and gives the right of claiming for such damages.

Damages can also be claimed if caused by a negligent violation of the building rules. Claiming has to be done according to Common Law.

I. Monitoring

Industrial air pollution is monitored on the one hand by Her Majesty's Industrial Air Pollution Inspectorate and Her Majesty's Industrial Pollution Inspectorate, and on the other hand by local authorities. The Royal Health and Safety Commission has to control all plants which are regulated by the Alkali Act (including the registration of the plants).

The requirement of yearly renewal of the operating licence can also be regarded as a kind of control, although usually it will be only a formal act. Nevertheless, it can be used as a tool for setting stricter standards.

J. Economic Impact of Regulations

The" best practicable means" include a cost-impact-analysis and authorities have to assist applicants in finding an economically practicable solution.

Even for planning preparation, economics are to be taken into account: "Developers who are required to prepare environmental statements may incur some additional costs in doing so...In deciding on the extent of that information required to be submitted, planning authorities' aim should always be to keep the costs imposed on developers to the minimum consistent with compliance with the Regulation" (Joint Circular no.15/88).

An economic incentive may also be the "Pollution abatement Technology Award Scheme" which has been promoted by governmental and non-governmental institutions.

II FEDERAL REPUBLIC OF GERMANY

A. General Air Pollution and Control Regulations

The Federal Republic of Germany has a wide range of environmental protection regulations, although there is no General Environment Protection Code.

The most important law for air pollution control is the Act for Protection against Environmental Effects due to Air Pollution, Noise, Vibrations and Analogous Phenomena (Gesetz zum Schutz vor schädlichen Umwelteinwirkungen durch Luftverunreingungen, Geräusche, Erschütterungen and ähnliche Vorgänge-Bundes Immissionsschutzgesetz BImSchG of the 15 March 1974, latest amendment of 26 July 1988). The goal of the Act is to protect human beings, fauna, flora and other real properties from harmful environmental impacts and to prevent such impacts. It applies to the construction and operation of installations; the manufacture, marketing and import of installations, combustibles and fuels,and equipment; operation and testing of motor vehicles, trailers, air and watercraft; the building of roads and railways; the monitoring of air pollution in the Federal Territory; and the establishment of clean air plans.

A licence is required for the construction and operation of plants which are liable to produce harmful environmental effects or to cause serious detrimental annoyance to the general public or the immediate neighbourhood. A number of ordinances concerning special fields like large heating plant emission control have implemented this act. For example, the Technical Instruction for the Conservation of the Purity of the Air (Technische Anleitung zur Reinhaltung der Luft of 28 February 1986) is an internationally important ordinance, because it sets limit values for 120 noxious organic components, which are partially adopted by other countries which lack their own standards. This ordinance also gives technical details to the Air Protection Act and applies for practical pruposes to all of the industry.

Other Regulations concerning air pollution are in the Code of Trade and Industry, the traffic laws, waste law, forestry law, natural protection law, land planning law, Civil and Penal Codes.

B. Authorities for Legislation and Administration

Like other countries, the Federal Republic of Germany shares its authority between central and provincial authorities, but unlike Austria, the central government can regulate or at least can issue a skeleton law for all environmental goals setting a legal framework/guidelines for provincial legislation.

In most cases, administration is in the hands of the provincial authorities, even if in some cases the administrative procedures, have been regulated by the central government (i.e. licensing according to the Air Protection Act or the mining law).

C. Physical Planning and Zoning

The Regional Planning Law (RaumordnungsGesetz) 1989 requires an intensive co-operation between the provinces and the federal government in all planning matters to ensure environmental protection or improvement. For this goal, the provinces have to study, to describe and assess the impact of planning on human beings, fauna and flora, soil, water, air, climate and countryside including their respective interaction. The same has to be done for the impact on cultural and other real properties. As in the case of the Environmental Impact Assessment, the public has to be informed and given an opportunity to be heard.

Land-use-planning regulations are also in the BImSchG which defines 3 types of regional protected zones:

1. Loaded zones where emission registers have to be instituted for an air quality policy. In these zones all state of-the-art technological measures for air cleaning have to be taken.

2. Protected zones: certain installations cannot be established or may function only temporarily.

3. Smog areas: Defined by the provinces. Plants can work only temporarily, and the use of certain fuels is prohibited or limited when there is a danger of smog.

D. Pollution Standards

The Decree on Large Combustion Plants establishes uniform emission standards for new and existing combustion sources. For all other plants subjected to licensing, the Technical Instruction for Air Quality Control provides emission standards. Those standards have to follow state-of-the-art technology and have to be updated.

E. Environmental Impact Assessment and Licensing

The Federal Republic of Germany has made a draft law on EIA within the requested time (1988) which is not yet approved as a law, but has already created a countrywide discussion.

However, in the present situation, all stationary sources must be licensed anyway, and the licensing requirements are - according to the standards for air quality emissions, technological state-of-the art, waste avoidance and waste-heat utilization - one of the most severe in Europe. Nevertheless the public hearing provision does not go as far as required by the Council's Directive, although most laws allow at least the concerned people to raise objections against the issuance of a licence.

F. Appealing and Complaining Procedures

Objections to a planned installation can be made by everybody (Para. 14 BImSchG - but the jurisdiction excludes associations and foreigners) up to a certain time limit. After that, not even neighbours can object against already licensed installations, unless they have other rights from private contracts which allow a civil action.

Concerned persons still can ask for measures to prevent nuisances. The procedure is regulated by the adminstrative law.

G. Sanctions and Penalties

Para. 62 BImSchG contains regulations for offenses and penalties for all infractions in connection with incineration or heating plants.

H. Indemnification

If neighbours ask for measures to abate immissions and those measures are not possible with the state-of-the-art technology or are economically unreasonable, they can ask for indemnification. Other damages are to be claimed by civil law.

I. Monitoring

Monitoring of emissions is the responsibility of those who operate emitting plants. Immission control is done by the provinces under the supervision of the Ministry of Environment, Nature Conservation and Nuclear Safety created in 1986 which gets scientific support from the Federal Environmental Agency (Umweltbundesamt).

J. Economic Impact of Regulations

The Federal Republic of Germany also allows a balancing of investment costs and environmental benefit. With its 10-year-old programme for the promotion of pollution abatement, it shares up to fifty percent of the investment costs in already existing plants.
In addition economic incentives are given by preferential loans or accelerated tax rebates.

III FRANCE

A. General Air Pollution and Control Regulations

There are four important laws implementing the clean air policy of France:

1. The Act on the Control of Air Pollution and Odors (Loi no. 61-842 du 2 août 1961, relative à la lutte contre les pollutions atmosphériques et les odeurs) is the basic law regulating air pollution control, applying to all sources of atmospheric pollution. It makes provision for administrative regulations and guidelines for emission control. This law has been implemented by several decrees, establishing, for example, special protected areas or regulating the problem of accumulated emissions.

2. The Act Relating to Establishments Classified for the Protection of the Environment (Loi no. 76-663 du 19 juillet 1976 relative aux installations classées pour la protection de l'environment) is the first european law which decrees the need for an Environmental Impact Assessment (EIA): All establishments presenting serious danger or causing serious inconvenience in the fields of interest referred to in Article 1 (neighbourhood, health, security, public order, agriculture, protection of the environment and nature and conservation of monuments and sites) shall be subject to an authorization by the Prefect based on EIA. Such authorization shall be granted only if the danger or inconvenience can be prevented by measures specified in the Prefect's order. (Art.3, ibid)

3. The procedure for the Environmental Impact Assessment is regulated in the Environmental Protection Law (Loi no. 76-629 du 10 Juillet 1976 relative à la protection de la nature).

4. The Decree Concerning the Control of Polluting Emissions in the Air and certain uses of Thermal Energy (décret no. 74-415 du 13 mai 1974 relatif au contrôle des émissions polluantes dans l'atmosphère et à certaines utilisations de l'énergie thermique) applies to all stationery installations liable to produce polluting emissions with the exception of basic nuclear installations. Certain installations included in a list issued by the Prefect may be made subject to special requirements.

B. Authorities for Legislation and Administration

The Ministry for Environment determines the national policy for air quality, with technical support from the Air Quality Agency created in 1980.

The Prefects of the districts are in charge of implementation and licensing: although the Prefects represent the central government, the licensing itself seems decentralized because it is depending on specific regional conditions as stated by regional authorities.

C. Physical Planning and Zoning

The Decree Concerning the Control of Polluting Emission in the Air and Certain Uses of Thermal Energy (décret no.74-415 du mai 1974 relatif au controle des émissions polluantes dans l'atmosphère et à certaines utilisations de l'énergie thermique) creates special protected zones where climatological conditions also have to be taken into consideration: major emission sources have to take all available measures to remedy or reduce emissions when meteorological conditions make air pollution noxious to human health (art.4).

D. Pollution Standards

France has established national emission standards only for particulates from combustion plants. For the licensing procedure, the "best available technologies" are required: special inspectors from the Environment Ministry are continuously visiting foreign technology centers and industries in order to obtain the latest technologies. The licensing

authorities have the right to order a newly licensed plant (up to 4 years since receiving the license) to acquire those technologies identified by the inspectors if neighbours or communes are inconvenienced by emissions.

A special way for setting emission limits in France is the so-called "contrats de branches" where the Ministry of Environment makes an agreement about emission limits with specific industrial branches.

E. Environmental Impact Assessment and Licensing

France passed the first Environmental Impact Assessment Law in Europe. In the Nature Protection Law of 1976 together with the Decree of 1977 are listed those plants which need an EIA and those which must only be declared. If a plant is only declared, the owner may have to fulfill certain standards within certain financial limits.

In the enquiry for the EIA not only studies about possible accidents are necessary, but also an indemnification plan has to be set up. Furthermore, the requirements of all work protection regulations must be fulfilled. The application has to be sent to the Prefect (Bureau de l'environnement, service des installations classées ou service d'hygiène) who, after checking the completeness of the information, sends it to the "Inspection des installations classées".

The EIA procedure is divided in an internal and an external procedure: The internal procedure is the administrative one where all relevant authorities have to give their opinion within two weeks; on the basis of these opinions, the inspector works out a report and application for the Health Council who gives a decision recommendation to the prefect.

The external EIA procedure is the public hearing (according to the Décret sur les enquêtes publiques of 12 July 1983): the Prefect has to publish in at least two local newspapers and in all concerned communes that the license is being processed. The statements of the administrative authorities, as well as, dissenting opinions of the applicant have to made public.

The public enquiry has to last not less than one month and has to be supported by press-conferences and even audio-visual media. Public opinion has to be recorded and presented to the applicant who may answer.

A final report of the external procedure is made to the Prefect. The report is taken into consideration together with the Health Council's recommendation by the Prefect in reaching a decision on whether to grant the license. The Prefect has to decide upon the license within 15 days. The license expires if not used within 3 years.

F. Appealing and Complaining Procedures

Appeals against licensing can be made according to Civil Law or to Administrative Law.

The administrative appeal (recours) has to be made in the first instance to the regional administrative court. After its decision, it can be made directly to the State Council.

Entitled to appeal are: the applicant within two months, the communes or communal associations within four years after licensing; other people can appeal within four years if they already lived in the neighbourhood before the installation of the plant and have an interest on their own (art. 14 Law of the classified installations).

Article 40 of the Environmental Code also entitles associations and societies which are registered and deal with environment for at least three years to appeal. Arguments for appealing are not only legal defects, but also "inappropriateness" of the installation.

It is left to the courts discretion whether to confirm or to reverse the licence or to make new obligations for it.

G. Sanctions and Penalties

The law on classified installations regulates all measures which can be taken against air polluters:

If the inspectors of classified installations notify irregularities in operation to the Prefect, the Prefect can fix a time limit for repairing. After expiration, he can order the repair by way of substitution to the cost of the operator, or, after hearing the department's Health Council, close down the installation (art.23).

If the plant has been operating without license or declaration, it can also be closed down by the Prefect until the owner has made the licensing or declaration procedure (art. 24). Penalties are regulated in art.18-20

H. Indemnification

There are no specific regulations for indemnification; only in the case that private property becomes declared "protected natural good", can the owner claim compensation for the depreciation of the property (art. 20 Environmental Code). Other indemnifications for damages have to be claimed by civil law (the operator is "civilement responsable" when those damages result from stock-keeping or transportation of dangerous, easily perishable or irritating substances).

I. Monitoring

Decree no.74-415 describes the monitoring of installations by special inspectorates. In 1980 an Air Quality Agency was created which gives technical support to monitoring matters.

J. Economic Impact of Regulations

The licensing procedure takes place in a dialogue form between the applicant and the authorities. An economic analysis has to be made after the environmental impact assessment: often the concerned plant will be compared to other, already operating, plants of the same category.

The Highest Court Jurisdiction declares that only equipment which are not impracticable can be required. This means an equipment which does not disturb the economical balance of the plant can be required. Therefore, the cost-impact analysis can also be made by the tribunals.

France has wide subsidy system for environmental improvements.

IV ITALY

A. General Air Pollution and Control Regulations

The Act on the Control of Atmospheric Pollution (Provvedimenti contro l'inquinamento atmosferico) applies to solid-fuel or liquid-fuel fired thermal installations, industrial installations and motor vehicles generating smoke, dust, gas and odours likely to deteriorate normal sanitary conditions of the air and thus impair health and cause economic damage. It is one of the first European Air Pollution Control Laws and applies to defined zones:

1) Zone A includes towns of 70,000 to 300,000 inhabitants to the north of Rome or even smaller ones if air conditions are unfavourable and to the south of Rome towns with 300,000 to 1 million inhabitants.
2) Zone B includes all towns north of Rome bigger than the above mentioned and all towns to the south with more than 1 million inhabitants.

The National Commission for Clean Air can also include smaller towns in zone B if necessary on the basis of demographic, industrial and meteorological factors. Zone A is less polluted than zone B. The goal of the Act is to regulate total immissions.

Moreover a decree of the Ministry of Health of 12 February 71 establishes a list of polluting industries, with the objective to take measures preventing air pollution in those communes not contained in the above mentioned zones.

The Presidential Decree Embodying Regulations on the Control of Air Pollution in the Field of Industry (Regolamento per l'esecuzione della legge 13 Luglio 1966 recante provvedimento contro l'inquinamento atmosferico, limitatamente al settore delle industrie) of 15 April 1971 contains detailed regulations regarding such matters as installations for reducing pollution (design and mode of use); procedure for applying for

licenses; surveillance and inspection of industrial establishments; maximum pollution levels and control procedures; and standards for certain substances.

In February and May 1987 Italy issued two Urgent Decrees for Waste Matters (Disposizioni urgenti in materia di smaltimento dei rifiuti) which give general instructions to the communes on how to deal with waste and establish both time limits and financial support according to the technology used.

Also to be mentioned is the Health Law (Testo unico delle leggi sanitarie of 27 July 1934) which charges the mayor with the responsibility of classifying and controlling establishments.

B. Authorities for Legislation and Administration

The Environment Ministry, established in 1986, is in charge of air quality management with the advice from the National Environmental Council. The Regional Committees against air pollution have to survey illegal activities.

The mayors have a major role in administration, and they have the discretionary authority on licensing and classifying plants outside zones A and B. Their decisions, however, can be reviewed (upon request) by the regional Prefect who also is the competent authority for all matters in zone A and B.

C. Physical Planning and Zoning

As mentioned above, Italy's whole air quality policy is based on land planning and zoning. In zones considered to exceed certain pollution levels licensing can be suspended indefinitely.

D. Pollution Standards

Article 20 of the Act on the Control of Atmospheric Pollution declares, that "emissions which may harm public health or pollute the air have to be held within the most restricted limits allowed by technical progress". Such limits are set individually for each plant during the licensing procedure by regional authorities.

General emission standards are set by the Decree of 1971 for industrial activities for 11 noxious substances (SO_2, CL_2, F, NO_2, Pb, dust particles, Si, chloric acid, hydrogen sulphide, CO and organic compounds). These standards can be modified by the Ministry of Health and the Ministry for Industry, Traffic and Trade after hearing the Central Commission for Air Pollution and the Highest Council of Health. This was done in 1983, raising the standards to international levels.

E. Environmental Impact Assessment and Licensing

Italy has five different licensing procedures depending on the category of the plant. Industrial plants are all those "which extract, produce, transform or stock any goods in a stationary location". In addition to the licence for the construction of the installation, a separate operating licence is needed.

The regional air control commission has to make a statement after having heard the mayor; the latter has to set individual standards for allowable amount of emissions and measuring of emissions.

The licensing usually is given without any opportunity for the public to make objections. However a Decree of the President of the Council of Ministers (Decreto del Presidente del Consiglio dei Ministri) of 10 August 1988 (which is not a law but can be adopted like a law) introduces the EIA procedure for installations of the type in Annex I of the Council's Directive. The incineration of noxious waste requires an EIA if the licensing is the responsibility of the regional/provincial authority. In those cases, the public has to be informed by both the applicant and the authority through several newspapers. Every Italian citizen has the right to examine the project plans and to raise objections against the project.

F. Appealing and Complaining Procedures

The applicant can complain against a negative decision to the president of the regional executive authority. Against his judgement, appeal to the Administrative Court is open. Neither instrument have suspensive effect. Against the classifying of the installations outside

the zones A and B by the Mayor, the applicant and those citizens who have a legal interest can make an administrative appeal (associations excluded).

G. Sanctions and Penalties

The Mayor can take all necessary measures against pollution in substitution and to the cost of the oprator. For industrial plants in zones A and B the provincial Prefect can order a temporary closing down. In case of negligence some penalties are listed in the Act on the Control of Atmospheric Pollution.

The Penal Code provides sanctions for polluting activities, but usually criminal judges inflict only small penalties.

H. Indemnification

No indemnification is provided by environmental laws.

I. Monitoring

Italy requires monitoring of only those immissions which are generated from industrial activities (which may be impossible to measure separately).The Environment Ministry established in 1986 is in charge of air quality management, with advice from the National Environmental Council. Technical support is given in every region by the regional committee against air pollution.

J. Economic Impact of Regulations

In practice, the order for "holding the emissions within the most restricted limits allowed by technical progress" is interpreted as "allowed by practicable technical progress" and "practicable" in this connection is interpreted as economically practicable.

However, there is a large system of economic incentives and disincentives through either subsidies or fines for environmental management. Concerning waste management, the Urgent Decrees for Waste Matters offer to all Italian communes to raise loans of up to a total sum of 450 billions lire for investments in waste management, without prescribing the technology to use. Moreover, the second Urgent Decree creates an environment fund.

V THE NETHERLANDS

A. General Air Pollution and Control Regulations

The basic laws of the Netherlands to prevent and restrict air pollution are:

The Air Pollution Act (Wet inzake de luchtverontreiniging) of 26 November 1970 enacted in 1972 with the object to prevent and abate air pollution by means of regulations. It concerns engines, fuels and polluting activities, but defines only the latter ("an operation as a result of which one or more pollutants may be discharged into the surrounding atmosphere, and which is not the consequence of the normal use of equipment or fuel...") It provides a licensing system as well as the issuing of emission limits.

Waste management and waste incineration are also regulated in the Waste Substances Act (Act of 23 June 1977 containing regulations concerning domestic refuse; unroadworthy motor vehicles and other categories of waste) which requires licensing for all waste treatment, processing or destruction establishments.

In 1980 The Netherlands issued the first part of their Environmental Protection Act (Wet algemene bepalingen milieuhygiene, 1 September 1980) which regulates the licensing procedure and the appeal procedure. The WABM makes uniform the different laws which apply to the environment (i.e., mining law, public nuisance law, nuclear energy law, air pollution act, marine law, waste law) and was last amended in April 1986. This act also requires that a Central Council for Environmental Protection has to report every year on the state of the environment in the Netherlands and shall make recommendations to the Minister of Environment for further regulations.

B. Authorities for Legislation and Administration

The authority for most of the air pollution matters concerning stationary sources is delegated to provincial authorities with possible

assistance from a "National Environment Enforcement Support Team". Every 5 years the Ministry of Environment has to establish guidelines for the fight against air pollution after consulting the Council for Air Pollution.

C. Physical Planning and Zoning

Article 19 (2) of the Air Pollution Act of 1972 provides the mandate for issuing an order with a list of potential air polluting industries for already polluted regions. Those industries may not be built, function, be reconstructed or extended without a permit from the provincial government.

D. Pollution Standards

The Netherlands has few emission standards (for large industries established by general administrative order under the Air Pollution Act and for small industries under the Nuisance Act of 1952). In licensing procedure the Netherlands has stricter standards and permits the best available technologies to be imposed by provincial or municipal authoritites. Those best available technologies are not mentioned by law but stated by the government in "notes". These "notes" are brought to the knowledge of the Parliament, can easily be updated, and are used in jurisdiction.

Furthermore, territorial and expert authorities together with trade associations work out model regulations where foreign standards and dates (mainly from the USA or the FRG) are frequently adopted.

E. Environmental Impact Assessment and Licensing

The Netherlands ena ed its EIA Law in 1986 (in the amendment of 1987 for complying with the EEC Council's Directive/Annex 6) after a 6-years-experience where 12 EIA procedures were made voluntarily in the manner prescribed by the law draft of 1980.

This EIA law goes further than the Council's Directive, particularly for the public hearing: everybody, foreigners included, can make objections. Then a draft of the decision is brought to the knowledge of all involved persons who may give their opinion within two weeks.

Inspectors of central government aid in regional decisions. The authorities are reponsible to regularly monitor the plant.

F. Appealing and Complaining Procedures

Appeal procedures are regulated in the WABM for all matters with relevance to the environment (art.42-56). The legal remedy is the appeal to the Crown (sovereign or government) who decides upon the recommendation of the Department of administrative litigations of the State Council.

Entitled to appeal are all persons who already objected to the licensing, all those persons who can prove that they were not able to do so before, further the applicant and the advisors called in. The appeal has to be made within one month. The judgement on the appeal becomes final after one month.

G. Sanctions and Penalties

Chapter XI from the Clean Air Act mentions that the Ministry of Environment can take all measures to accomplish the directives of the law to the cost of the polluter. If there is any possible danger for human health, the polluter can be fined or sentenced to imprisonment.

Concerning waste incineration, the penalties for acts in contravention of the provisions laid down by or in virtue of different sections of the Waste Substances Act are listed in the same Act.

H. Indemnification

The Netherlands has created a fund for air pollution (art.64 Clean Air Act). From this fund, everybody who is damaged by air pollution over the territory of the Netherlands can claim indemnification which may be accorded on the principle of equity after ceeding the procedural rights against the polluter to the fund.

The injured person has to give not only details of the damages but also has to explain which measures he himself has taken to avoid or to abate this damage. He also has to value the damages, which will not be compensated if less than 250 florin. The claim for indemnification has to be made within 30 days after knowledge of the damage.

I. Monitoring

Monitoring is made by regional and local authorities under the supervision of the Ministry of Housing, Physical Planning and Environment.

J. Economic Impact of Regulations

The Netherlands provide a compensation system if it would not be reasonable to let an applicant or operator bear the cost of all necessary investments.

A special Environmental Fund was created for this purpose as well as for the development of clean technologies or alternative energy. Tax reductions or premiums are also foreseen to encourage investments in air pollution abatement.

VI BELGIUM

A. General Air Pollution and Control Regulations

The Clean Air Act of 1965 (Loi relative à la lutte contre la Pollution atmosphérique) is a skeleton law prohibiting certain forms of pollution, controlling the use of devices or equipment liable to cause pollution, and requiring the installation of plants or equipment to prevent pollution. It is the basis for the different orders which can be decreed in the future, regulating different types of pollution control.

The orders required by the Clean Air Act were issued only after 1970, and the most important for incineration processes is the Order on the Control of Air Pollution through sulphur oxides and dust particles emitted by the boilers of industrial premises, containing rules for fuels, immission and emission standards and the height of chimneys. It concerns all kind of incineration plants except those incineration processes which are an integrated part of chemical or metallurgical processes.

The above described processes are regulated in the Labour Law (Réglement Général pour la Protection de Travail) part four of which also concerns steam boiler plants.

In the Royal Order of 8 May 1987, the incineration of waste at sea was prohibited.

B. Authorities for Legislation and Administration

National Authorities (Ministry of Health) are responsible for general standard-setting, whereas, regional and communal authorities deal with licensing and local enforcement, air pollution monitoring and the setting of stricter regional standards. The matter is even more complicated than in other countries with divided authorities because of the regional differences of language, and therefore laws on the same subject differ substantially .

Special technical advisors ("cellule") are helping the regional authorities in waste monitoring and incineration in the french-speaking region. A commission for solid waste has to review any law on this matter.

C. Physical Planning and Zoning

Industries having an impact on the environment are sited in accordance with land-use planning and zoning requirements. The Royal Order of 1971 in the amendment of 1974, created special protected zones.

D. Pollution Standards

Belgium has uniform standards for power plants and industrial combustion plants. Furthermore, the authorities can work out standards for the licensing of a plant in a special field ("conditions types") which may also be required subsequently to the general license granted previously by communal or regional authorities.

E. Environmental Impact Assessment and Licensing

The General Work Law (Reglèment Général pour la Protection du Travail, RGPT 1947) divides establishments into 3 categories which may need a license as classified installations (installations classées).

- major danger sources which need a license from provincial authorities
- less important, smaller plants, which need a license from local authorities
- plants which only have to be declared to the authority

There are no objective criteria for licensing, but for plants of the first category, a public hearing has to be organized. Although only neighbours must be informed, everybody can ask for examination of the records.

In the absence of a clear authority for issuing the EIA laws according to the Council's Directive, the two regions (French and Flemish) have issued respective decrees on EIA which differ in many points of view:

The French Decree on the Evaluation of Incidents on the Environment (Décret organisant l'évaluation des incidences sur l'environnement dans la Région wallone) of 11 September 1985 states that the public hearing is a possibility to receive alternatives to the installation of the project, either for siting; for the technologies in use; for the solution of the problem or even for the necessity of the project itself. The circumvention of the public hearing can result in a sentence to a term of imprisonment of up to six months.

On the other hand the Flemish Decree Relating to the Authorization Anti-Pollution (Décret relatif à l'autorisation anti-pollution) of 28 June 1985 gives many more details on the information required for the EIA but gives to the public only restricted opportunity to be heard (mainly through "public consultative organisms"). In some cases, the Decree determines that a public hearing is not necessary.

The Flemish Decree also allows a probationary license like in Austria, for up to 2 years.

F. Appealing and Complaining Procedures

There are no specific regulations for appealing administrative procedures, but there is the possibility to lodge a complaint with the higher authority (i.e. for licensing by provincial authorities the Minister of Trade or Labour), except for licences given by the Crown (for public installations), but this complaint has no suspensive effect.

The right to complain is given to all interested people (Art.13 RGPT) which is widely interpreted by the State Council: interested people are the applicant, the neighbours, the workers of the factory, the inspectors of the central administration and also environmental associations; in practice, most of the complaints are made by the latter. The State Council can control procedural defects and arbitrary actions.

G. Sanctions and Penalties

Penal sanctions can be substituted by administrative forfeitures. There can also be ordered a temporary or final closing down of the facility (art. 8f Clean Air Act or art. 217 RGPT). Penal sanctions are also provided in the case that territories or other goods have been damaged by lack of proper care or negligence (art. 10 Clean Air Act). There is no explicite obligation for the authorities to take sanction measures against a polluter.

H. Indemnification

Indemnification for environmental damage is not regulated outside the Civil Code except for occupational diseases, for which the operator has to make a contract of insurance. In Article 147 RGPT those occupational diseases are listed.

I. Monitoring

Measurements can be made by officially certified private institutions. Executive monitoring officers have free access to all installations which must submit to regular monitoring.

J. Economic Impact of Regulations

Although economical feasibility is not mentioned in the law, the Highest Court jurisdiction has established this principle for the licensing procedure.

VII LUXEMBOURG

A. General Air Pollution and Control Regulations

The Clean Air Act (Loi relative à la lutte contre la pollution de l'atmosphère) of 21 June 76 is a skeleton law with only 10 articles laying down the conditions for issuing regulations and measures against air pollution such as prohibiting the emission of certain noxious substances, regulating or prohibiting certain air pollution activities, establishing protected zones and even controlling private heating plants at the cost of the owner

The Clean Air Act is implemented by the Law concerning dangerous, noxious and inconvenient installations (Loi relative aux établissements dangereux insalubres ou incommodes) of 16 April 1979 which protects workers and the environment in industry and trade. It regulates the licensing of classified establishments.

The Grand Ducal Regulation concerning the requirements for house heating systems and their control (Réglement Grand-Ducal concernant les exigences que doivent remplir les installations de chauffage à mazout et le contrôle de ces installations, Mémorial A No.53 du 4 juillet 1979) applies to all heating installations and sets emission limits for smoke, soot and CO_2.

B. Authorities for Legislation and Administration

In 1980 a central air quality administration was established. The Environment Ministry co-operates with a National Committee for Environmental Protection.

C. Physical Planning and Zoning

Land-use plans differentiate among residential, industrial and green zones taking into consideration nature conservation aspects. Land planning does not influence substantially the allowable levels of

pollution. It appears that a general environmental policy preserves the overall quality of the environment.

D. Pollution Standards

Luxembourg has neither emission standards nor does the law require the best practicable technology. The law against Air Pollution of 1976 however, enables authorities to prohibit certain emissions. In the absence of national standards, they usually follow foreign standards in the licensing procedure.

E. Environmental Impact Assessment and Licensing

Luxembourg has a licensing system similar to the Belgian one for three categories of plants, classified as more or less polluting. Licenses are less detailed than in Belgium, and often they just specify the height of chimneys, even for big power plants.

However, Luxembourg also has drafted a law on EIA according to the Council's Directive (Projet de Loi concernant l'évaluation des incidences sur l'environnement de certains projets publics et privés) on 20 September 1988 but this has not yet been approved by the Chamber of Deputies.

F. Appealing and Complaining Procedures

The only way of appealing is the appeal related to Constitutional Law with the Legal Department of the State Council (Conseil d'Etat Comité du Contentieux) which can only examine the legitimacy of the decision. However, the licensing authorities can withdraw the licence if they want to require other obligations for the operation.

G. Sanctions and Penalties

If the owner, operator or user of a plant violated the Clean Air Act, he can be charged (after being sentenced) to bear the costs for all necessary measures to abate the pollution.

Further, the Ministry of Environment can take all necessary measures (closing down included) to avoid impending air pollution. These orders can be contested before the State Council (art.6 Clean Air Act). Other sanctions can only be inflicted by a criminal judge (juge d'instruction) upon request of a civil party (neighbours) or the public prosecutor.

Against the closing down, the civil party, the public prosecutor and the operator can appeal, but this has no suspensive effect (art.7). Article 9 contains penalties for certain infractions of the Act.

H. Indemnification

Environmental laws do not regulate indemnification.

I. Monitoring

The monitoring of activities is regulated in art.3 (police, special inspectors); art.4 (free access to plants submitted to monitoring) and art.5 (other rights of monitoring) of the Clean Air Act.

In 1980, a central air quality administration was established. Inter-departmental co-ordination is carried out by the Environmental Ministry with advice from a National Committee for Environmental Protection composed of representatives of governmental agencies, industries and non-governmental organizations.

J. Economic Impact of Regulations

Luxembourg has no legal order for taking economics into consideration, but here too the Highest Court Jurisdiction declares that no technical equipment may be required in the licensing procedure which may make the planned operation "illusory or even impossible".

VIII DENMARK

A. General Air Pollution and Control Regulations

The Environmental Law of 13 June 1973 in the amendment of 1982 is a skeleton law for environmental planning, legislation and administration. The Ministry for Environment can regulate the content of sulphur in fuels and can establish guidelines for immission and emission gauges, but it cannot standardize them.

For most polluting plants and factories a license can be required. Licensing is controlled by the Regulation of 29 March 1974 on approval of particularly polluting enterprises.

The Ministry of Environment implements the environmental policy and legislation by circulars such as the circular from 15 May 74 which regulates the monitoring of non-classified activities by the communes.

B. Authorities for Legislation and Administration

The Minister of Environment is responsible for setting guidelines for standards and limits for emissions; the rest of the environmental control is decentralized according to local situations. The "Environment Agency" under the Ministry of Environment has to coordinate both legal and regional regulations. However, most of the environment policy is being made by the municipal authorities.

C. Physical Planning and Zoning

The Danish land planning system is based on a Zone Law (18 June 1969) which divides the whole country in rural and urban planning zones.

The Law concerning Land and Regional Planning of 1975 does not establish land planning for the whole country, but wants regional and communal planning to integrate environmental matters of countrywide relevance into their planning (specified by circular of the Ministry of

Environment 1977). District Councils have to co-operate with the concerned communes in elaborating emission and immission - registers to work out guidelines for industrial siting in its latest amendments in 1989. This law also states the procedures for the Environmental Impact Assessment.

D. Pollution Standards

Denmark has limits for SO_2 emissions. The best practicable technology is not required by the law, but the Environment Agency is collecting information on new available technologies, both in Denmark and in foreign countries. Furthermore, it sets up guidelines for the licensing of new plants according to the acquired knowledge of new technical progress. Theoretically, the Ministry of Environment can also subject old plants to these criteria, but so far this has not been done.

E. Environmental Impact Assessment and Licensing

In the Annex to the Environment Protection Act are listed the plants which need licensing. As in Belgium, there are also two classes of industrial plants which need license either from regional or from local authorities. Local authorities may also impose technical measures against pollution for non-classified plants.

The Law on Publication allows every citizen who has come into knowledge of a licensing procedure to take (restricted) examination of records.Unrestricted examination of records is only admissible to immediate neighbours. Much information is secret, being regarded as "production secrets" under protection of the Penal Code.

F. Appealing and Complaining Procedures

The Environmental Law explains in Para. 70-73 the procedures of actions, allowing also environmental associations to complain. A special Environmental Appeals Court has been created.

A complaint with the National O . of Environment is possible against every licence, reconstruction order and even monitoring order issued by local authorities. Appeal against the Office's decision is possible to the Environmental Appealing Court which can take into consideration the expediency of the licence and also make an own decision on the matter. The matters for which appealing to this Court are allowed are listed in the Law, appeals against unlisted matters can be made to the Ministry of Environment.

Appeals against building permits have suspending effect.

Only after having tried those adminstrative instances, can appeals also be made to the Civil and Penal Court and the "Ombudsman".

G. Sanctions and Penalties

After licensing, reconstruction orders, even up to closing down, are possible if emissions cause relevant nuisances or danger for human health. Even the removal of a plant can be ordered.

The municipal council can also take substitutional measures to the debit of the operator.

H. Indemnification

Compensation claims can only be prosecuted before the ordinary civil courts. The civil judge can suggest obligations going further than those which have already been made during the licensing procedure.

I. Monitoring

The Environmental Law (Para. 52.54,61) entitles special inspectors to monitor the licensed plants. Measurement systems have to be designed.

J. Economic Impact of Regulations

Since 1976, Denmark has had legislation to provide for subsidies of certain abatement measures imposed by the authorities. Financial support is also available for energy-saving measures, including the modernization of existing combustion plants.

During the licensing procedure, the technical requirements are left to the authorities' discretion: they usually leave to the applicant the choice of economically reasonable technical equipment.

If a pollution abatement is not possible within reasonable costs, the authorities themselves have to make a cost-benefit-analysis taking into consideration the public benefit. Occasionally the "polluter pays principle" is abandoned, and there is communal participation in the costs.

In a few cases, when the authority misjudged the environmental impact of a plant; and therefore requires further restrictions on an already licensed plant, the operator has to be compensated for his new investments.

IX AUSTRIA

A. General Air Pollution and Control Regulations

In Austria, there are two important laws regulating the prevention of air pollution and its control:

The Clean Air Law for Boiler Plants (Luftreinhalteverordnung für Kesselanlagen, LRV-K 1989 which amended the Steam Boiler Emission Law of 1980) and the Trade Code as amended in 1988 (Geverberechtsnovelle 1.1.1989).

Furthermore, the different Austrian provinces (Länder) can limit the number of polluting plants in different areas according to their Town and Country Planning, and also regulate waste incineration in their waste laws (except Hazardous Waste which is regulated in the Hazardous Waste Law (Sonderabfallgesetz) as amended in 1988 and enacted partially in 1989 and completed in 1990).

Regulations about restriction of potentially polluting plants are to be found in the electric energy law, mining law and forestry law.

The civil and the penal codes regulate responsibility and compensation for air pollution. The Environmental Control Law regulates the monitoring of air pollution. Because of the complicated and differentiated authorities in Austria, no nationwide environmental code can be issued unless the Constitution is changed.

B. Authorities for Legislation and Administration

Austria being a federal state, the legislative power is divided between central and provincial authorities.

Since 1 January 1989 the central government has achieved authority for regulating air pollution coming from industry in general, thermic stations and traffic. For house heating emissions the provinces still

have kept their authority, so that there is no possibility for the central government to establish countrywide emission limits. But in 1987 the central government concluded an agreement with the provincial governments concerning the limits of noxious air immissions.

The Smog Alarm Law enacted in 1989 authorizes the Central Government to co-ordinate smog alarm plans of the provinces depending on immission limits stated in this law.

Concerning the incineration of waste, the central government has the competence to regulate only hazardous waste (Hazardous Waste Law 1983 as amended in 1989) including the definition of hazardous waste. Meanwhile the incineration of other waste is regulated by the provinces. The criteria for licensing boiler plants and incinerators also depend on other applicable laws such as the building laws and planning orders (provincial), trade code and forest law (central). But even for central authorities, issuing of environmental orders is difficult. For example: Para. 82(1) of the trade code allows the issuance of environmental standards for installations, but as they have to be set by the Ministers for Labour and Social matters, the Chancellor, the Minister for Environment, Youth and Family and the Minister for Agriculture and Forestry, no order could be issued until now because no agreement could be found.

Therefore (air) pollution control in Austria is complicated and the jurisdiction over particular pollution problems, particularly since the amendment of the Constitution in 1988, is not quite clear. Probably some uncertainty has to be eliminated by the Constitution Court in the future.

C. Physical Planning and Administration

In Austria, town and country planning comes under the jurisdiction of the provinces, so that the regulations differ according to the state of industrialization of the respective provinces. For example, Lower Austria requires in Para. 1 of its Physical Planning Law "the far-sighted planning of a region to guarantee the best use of living space, taking into consideration natural factors, environmental necessities....to

preserve the physical and psychic health of the population, above all in protecting them from noise, vibrations, from pollution of air, water and soil... "

To accomplish this goal, areas are dedicated either as "building areas", "traffic areas" or "green areas". Building areas are divided according to the allowed "emission suitability" into living areas, central areas, working areas and industrial zones. Eventually pollution plants willl only be allowed to be sited in the latter.

No building permit can be granted without the permit of the physical planning, therefore in the last years a number of industries, which had to be reconstructed, were resettled from living areas to industrial zones.

D. Pollution Standards

Para. 1(2) of the LRV-K 1989 requires the limitation of emissions according to technical level which concerns also measurement equipment. A legal definition of "technical level" is given in Para. 21a of the amendment to the Hazardous Waste Law of 1988: "Technical level is the stage of development of the advanced technical processes, equipment or operations, based on the latest relevant scientific findings, whose functioning have been proved or tested".

Para. 4(1) requires continuous measuring for certain boiler plants depending on size and fuel used. Subsequently, standards are set for fuels, and in Para. 5 emission limits are set for dust, SO_2, CO, NOx. In Para. 18, detailed emission limits for waste incinerators are set for dust particles, HCl, HF, SO_2, CO, NO_x, Pb, Zn, Cr, As, Co, Ni, Cd, Hg, and organic compounds (see Annex 7).

In the Smog Alarm Law of 1989, pollution limits for SO_2,NO_2 and CO immissions are set for the establishment of smog control plans.

The Trade Code requires for licensing of incineration plants a limit of emissions "according to the technical level".

E. Environmental Impact Assessment and Licensing

Not being an EEC member state, the Council's Directive on the EIA is not binding Austrian legislation. Nevertheless, licensing with some environmental impact assessment is required in various laws, but with different criteria.

For example Para. 21a (3) of the Hazardous Waste Law (SonderabfallGesetz) of 1983 in the amendment of 1988 requires that the environmental effects of hazardous waste disposal including incineration be assessed according to geology, hydrology, hydrography, climate, topography and infrastructure. In the Trade Code, however, only the effects on human beings, flora and fauna have to be assessed.

On the other hand, according to the Trade Code those establishments that can prove that their technology in use is such that it prevents harmful emissions according to "Scientific, Technical and Medical Levels" Para. 76(1) can be exempted from licensing.

In the license, the authority has to limit emissions "at the technical level". (Para. 77(3))

Nuisance to the neighborhood is defined in Para. 77 (2) as "the way the changes caused in the local situation make themselves effectively felt by a healthy, normal feeling child and a healthy, normal feeling adult".

A license may also be limited to a maximum 3-years probationary working period if environmental effects cannot be entirely foreseen.

Only concerned persons (i.e. neighbours) can ask for obligations for technical changes.

It is in the responsibility of the Ministers of Trade, Work, Environment, Agriculture and Forestry and the Chancellor to set standards for the building and functioning of those plants which have to be licensed. Licensed plants have to be monitored every 5 to 6 years.

The Minister of Environment presented a draft of an EIA-Law in April 1989 which will be discussed in the Parliament in 1990.

F. Appealing and Complaining Procedures

The Trade Code 1988 has weakened the protection of the neighbourhood: although the required standard has been reinforced (not to harm a "normal sensitive child"), appealing is only possible if "the effective local situation" has been changed by the nuisances. Also the possibility of subsequent police orders for the protection of the environment has been abolished (Para. 79a). Other subsequent obligations can only be imposed by the licensing authority for the protection of the interests of clients , workers or neighbours; if a person has become a neighbour of the plant after the licensing, subsequent obligations are only admissible if life or health of this person is in danger.

Subsequent obligations can also be required by the Ministry of Environment when the plant is polluting more than the immediate neighbourhood.

The procedures for appealing are regulated in the respective administrative laws according to the authority under which a decision has been made.

G. Sanctions and Penalties

Besides the administrative sanctions (subsequent obligations for pollution abatement), Austria has amended the Penal Code with "Environmental Crimes" (1 January 1988): if by an infraction of an administrative order or a law the environment is damaged so that there is a danger for a number of persons, or the flora and fauna of a larger zone, or if the restoration of the damaged country would cost more than AS 500,000 - the polluter can be sentenced to prison of up to three years, if intentionally done, or up to one year if negligencely done.

Particularly unusual for a Penal Code is that only those persons will be sentenced who are supposed to know the law or administrative order. It is the first time that ignorance is an excuse in a Penal Law (usually this principle applies only to administrative infractions).

However, the Penal Code refers to administrative orders which in great part have not yet been decreed because of the multiplicity of authorities. Special penalties are mentioned in the Smog Alarm Law.

H. Indemnification

Compensation regulations follow the Civil Code.

Para. 78 (5) Trade Code entitles the licensing authority to ask for liability insurance to get the operation permit for certain installations.

I. Monitoring

The Environmental Control Law (Bundesgesetz vom 20.3.1989 über die Umweltkontrolle) as amended in 1989 declares that the Minister of Environment, Youth and Family is responsible for control of the environment, immissions included. However, he has no right to monitor emissions nor to try to find the source of the immissions. In case of considerable immissions, he has to notify the relevant authorities which have to find a remedy to this problem. If it is probable that the immissions have been created by illegal actions, he has to "denunciate" it. After an appropriate time, the authorities have to inform the Ministry of the measures taken against the pollution.

Furthermore, according to the Trade Code, the licensing authorities have to monitor licensed plants regularly, not later than within a 3-years-interval, by recognized experts.

J. Economic Impact of Regulations

In 1983, Austria created an Environmental Fund administrated by the Ministry of Environment and the Ministry of Finance to which in 1985 one billion Austrian Schillings were allocated. The resources of the fund are to be used primarily for the abatement of environmental pollution concerning air, noise and hazardous waste by improving or substituting part of already existing industrial plants (a similar fund was already

created for water management). For the monitoring of hazardous waste, even the construction of a plant can be financed by the fund. These financial supports are mostly distributed in the form of favourable interest subsidies.

The Trade Code allows authorities not to require equipment "on the technical level" if economically disproportional to the environmental benefit (Para. 79 (1)).

On the other hand, several authorities or public institutions award investment premiums or tax-reductions for environmental innovations (mostly for energy-saving-measures).

X SWITZERLAND

A. General Air Pollution and Control Regulations

Switzerland has issued an Environmental Code (Umweltschuzgesetz v. 7.10.1983) which was enacted on 1 January 1985. It enables the government to set limits and standards for immissions (art.9). A number of decrees have been issued according to the Environmental Code concerning, among others, Clean Air (Luftreinhalteverordnung 1.3.1986) Environmental Noxious Substances (1 March 1986) and Hazardous Waste (1 April 1987). All these decrees set limits and standards for pollution.

B. Authorities for Legislation and Administration

The Federal Office for Environment Protection surveys the enforcement of the Air Protection Ordinance of 1986 which is the task of the cantons. General standards are exclusively set up by the federal government.

D. Pollution Standards

Switzerland has mainly emission standards in its orders to the Environmental Code like the Clean Air Order or the Order on Environmental Endangering Substances. Swiss emission standards mainly follow the more severe USA standards. The application of "practicable technology which is economically feasible" is required for all other sources. Technologies are considered practicable if already used in comparable establishments.

E. Environmental Impact Assessment and Licensing

Switzerland, like Austria, not being an EC member, has nevertheless issued an EIA law in 1987 on the basis of the Environmental Code 1983. The impact on nature and homeland, countryside, water, forests, hunting and fishing has to be studied.

The Cantons choose the procedures which may allow the earliest analysis (art.5/3) and make an assessment of the environmental impact not only in a singular condition but also from a countrywide point of view. This report has to be shown to the public for 30 days, but the applicant can ask for secrecy (art.16).

XI Conclusion

The multiplicity of cultures in Europe means of course also a multiplicity of laws and legal philosophies. Although 12 european countries are associated in the European Community, the functioning of a joint environmental policy is not yet ensured. This can best be shown by the example of the Environmental Impact Assessment which has been required, after a five-years discussion, by the European Council: Proclaimed in 1985, the Council's Directive should have been adopted by the Member States in their National Legislation within a three-year period. At the end of 1989, only four Member States have already issued their respective laws (The Netherlands, Portugal, Spain and United Kingdom).

How difficult it would be to undertake a European-wide environmental policy can be shown in a notice from the European Parliament's work: on 17 February 1989 the European Parliament adopted an opinion on a proposal "for a Directive on the prevention of air pollution from new municipal waste incineration plants. Its approval was qualified by certain amendments concerning emission limit values, systems of measurements and public access to information, which the Commission was unable to accept". (Bulletin of the European Communities Commission, 2/1989). The Council then issued 2 Directives (June and July 1989) for new and existing municipal waste incineration plants where emissions limits for PCDD and PCDF, as well as, measurement standards were omitted (See Annexes 1 and 2).

Nevertheless, environmental policies should be coordinated not only among the european countries but worldwide. The behavior of european countries can point out the points of conflict in elaborating a common approach to pollution control.

XI.1 Legislation

It seems that a primary difficulty for elaborating effective laws lays in the traditional legal systems: the more detailed and elaborated legal systems are, the more difficult it appears to insert environmental goals. When environmental authorities are dispersed, it seems practically impossible to protect the environment efficiently through law, even when the different laws, taken one by one, may appear to serve the goal (see the amendment of the Austrian penal code).

Some countries may have to review their legal system and philosophy and even their traditional distribution of authority for legislation to the favour of the environment: environmental matters should become a separate branch of the law. As a matter of fact, the best legal control of environmental protection can be observed in those countries, where an environmental code has been instituted with the purpose of concentrating and administrating all environmental matters (The Netherlands, Switzerland). This conviction led the United Kingdom to draft an environmental protection bill which was issued on 20 December 1989. It amends all respective articles in the different British Laws to concentrate environmental matters and applies to England, Scotland and Wales. It has to pass through Parliament in the near future and should be enacted as the Environmental Protection Act 1990 in the second part of this year.

Also it is understandable that citizens can observe environmental regulations more easily when they know where to find them without having to be lawyers. This aspect of awareness of the regulations is even expressed in the amendment to the Austrian penal code which states that persons who violate environmental regulations can be sentenced only when they are supposed to know the relevant laws because of their profession or for other reasons.

XI.2 Authorities

It appears that the best functioning of the environmental protection through law also depends upon the factor of how environmental matters are administered. Neither a totally centralized (originally France) nor an almost decentralized (originally Austria) administration best serves the environmental goal.

It can be observed that in most countries a similar administrative system has been created. The laws or at least a legal framework, standards and measurement methods are worked out by the central authorities (this can also avoid an equivocal interpretation of the law) meanwhile the specific administrative needs are worked out by the relevant regional or local authority. These authorities can adapt standards to real situations within certain limits. The more important a matter seems to be for the environment, the less legislation or regulation can be put into the hands of local authorities (compare the difficulties in Austria for countrywide air quality management).

XI.3 Town and Country Planning

Certainly land-use planning and zoning is an elementary factor in environmental legislation in all countries. It seems evident that the need of a region for environmental protection or improvement differs according to its geographical or meteorological situation, as well as, according to the actual state of pollution. This opinion has been taken into account in almost all countries studied, although the solution of the problems of already polluted zones has still been left open. A general moratorium on granting of licenses in such zones (as possible in Italy) certainly avoids an increase of pollution, but a policy for abatement should be elaborated subsequently.

XI.4 Standards for Pollution Levels

Environmental quality management cannot be done without setting standards for allowable pollution levels. But here, Europe seems to have the most difficulties in coming to a common accordance as can be demonstrated through the discussions either in the European Council or in the European Parliament. Too many interests must be taken into consideration and as a consequence the standards to which European Countries have agreed upon up to now have been few and less severe than for example, US standards in most cases.

It will be a difficult problem for European politicians in the future to make a cost-benefit-analysis whether economical costs or environmental benefits have to be taken into consideration for an effective environmental policy.

An interesting aspect of the "best available technology" requirement is that the gauge of what is prohibited and what is allowed has been transferred to the forefront of technilogical evolution (authorities and tribunals have to define what is technically necessary, suitable appropriate and avoidable (jurisdiction of the Constitutional Court of FRG). This evaluation has to be implemented by regulations.

XI.5 The Environmental Impact Assessment and Licensing

The problems with the Environmental Impact Assessment procedure have already been mentioned. Most countries agree on the need for a licensing system, but unless the EIA procedures use a common procedure, there is a danger that an industry which may not get an operation permit in one country can move over to a country whose licensing system is less severe and in this way still pollute european air (this problem can also occur in a country where the licensing procedure is left to the local authority's discretion). According to the European Council, "the disparities between the laws in force...may create unfavourable competitive conditions and thereby directly affect the functioning of the Common Market". (Council Directive on the EIA).

The only countries where an EIA already was obligatory in 1985 were France and the Netherlands. In the other countries which indeed had a sort of EIA (Ireland, Luxembourg*, FRG and Greece) a great part of the Directive's requirements were missing, and still are because of certain complications in the national legal systems. For example, in the FRG, as in Belgium and Italy, the provinces must issue the respective laws which have first to be enacted in the form of a legal framework by the central government. Even France did not yet make the few changes which are needed to have its law one hundred per cent in compliance with the Council's Directive.

Public participation and information was initially not granted by most of the countries. At best, "interested people" were allowed to intervene. Although the formulation "interested people" has to be interpreted widely today, (everybody should be interested in the environment), jurisdiction in different countries differs from "direct neighbours", and "neighbours up to a certain distance" to "environmental associations". Also the European Council's Directive leaves it up to the Member States to determine the " public concerned".

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* If required by a discretionary decision of the licensing authority

Until now, only a few countries interpreted "public concerned" to mean even environmental associations. The broadest interpretation is given by the Netherlands which allows even persons living in foreign countries to participate.

In this connection must be mentioned the Basic Environmental Law of Portugal (no.11-87 of 7 April 1987) which gives the most support to public opinion:

> -Art. 4 (1): (The Law has to) promote the participation of the people in formulating and executing the policies for the environment and quality of life, as well as, provide for the continuous information exchange between administrative authorities and the citizens to which they are responsible.
>
> -Art. 22 (g) (the fight against noise will be effected through) the sensibilisation of public opinion for noise problems
>
> -Art. 23 (g) (the fight against pollution due to the use of chemical compounds will be effected through) informing public opinion.
>
> -Art. 40.2 "Public initiatives in the field of improvement of the environment or of the quality of life, whether spontaneous or following an appeal by the administration...have to be protected..."
>
> -Art. 40.3. "The state and public institutions have to encourage environmental associations to participate in the realisation of the objectives of the present law".

Another new aspect of the Council's Directive is the fact that member states have to inform other member states if a project is likely to have transfrontier environmental effects. Respectively member states have the right to object to such projects. Those rights are not yet given to non-EEC member states (except by the Netherlands) unless individual member states make individual contracts on this matter with a non member state. This point of view raises some doubts on whether the environment is really a common concern to european states.

XI.6 Appealing and complaining procedures

Although it is a constituent part of the rule of the law in a state to have the possibility to appeal against decisions, it is surprising how insufficiently some countries solve the problem concerning decisions on environmental matters. However, it is to be supposed that the ordinary administrative regulations for appealing can be applied, at least by the applicant.

Nevertheless, it seems most important to define in the environmental regulations themselves what possibilities for appealing are granted not only to the applicant against negative decisions, but also to the public opposed to the license. Almost all countries have neglected the latter or restricted right of appeal to the public concerned (i.e. to immediate neighbours).

On the other hand, a certain security for his investments has to be given to the applicant after getting the license. Subsequent obligations should only be allowed if nuisance was misjudged, unless a financial aid is given for further investments. A possible way of solving the problem of an a hundred-percent-sure environmental impact assessment in advance, which often will be difficult to establish, may be the Austrian or Flemish one: a limited period of operating probation which may deter speculative planning of polluting plants.

XI.7 Sanctions and Penalties

The value of a law can also be judged by how it is observed. Unfortunately, it is contested that laws without sanctions are not very effective.

Because a great deal of environmental damage is caused by industry, it must be discussed if the provided sanctions (fines or even imprisonment - usually for a short time) are likely to prevent industrial managers from polluting. Although a great number of countries mention the closing down of an installation as a possible measure against pollution, this sanction has not been used very often, usually because of the loss of jobs involved with this approach.

A possible way to solve this problem has been found by the Portuguese Environmental Law: among other things the law provides as a sanction the disallowance to the polluter to exercise any profession or business activity (art. 47.3.a) or confiscation in favour of the state of all products used or produced at the moment of the violation (art. 47.3.d).

The UN branch of Crime Prevention and Criminal Justice is already discussing a further criminalization of environment-endangering behaviour since it might be the only effective way of environmental protection (see the proceedings of the First International Conference on Criminal Justice and the Protection of the Environment, September 1989).

XI.8 Indemnification

Indemnification is more or less left open in most of the environmental legislation. Although most countries follow the "polluter pays principle" for air pollution it can be difficult to prove the origin of the pollution. Only the United Kingdom regulated that the polluter has to prove that the damage was not caused by him (in the case of accumulated immissions).

The only country where damaged persons may get an indemnification rather easily is the Netherlands, although it may be difficult to give the required proof of what the person himself has done to avoid the damage. An indemnification fund similar to the Dutch one for injured persons seems to be a practicable way, since for authorities it is far easier to take legal steps than for individuals.

Another possibility is the solution Portugal offers to damaged persons: "It is guaranteed to the citizens to be exempt from the costs of an action in the litigation for indemnification..." (art. 44.1.)

XI.9 Monitoring

Environmental protection is also based on a permanent monitoring of the environment. All countries have already set up a network of immission monitoring stations which usually are under the authority of the Ministry of Environment.

Less clear is the situation for emission monitoring; although most countries foresee a regular monitoring of emitting plants whether by special inspectors or by recognized experts, the measurement methods still differ and so the emission levels have to take this into account. Standard-setting has to go hand-in-hand with the standardizing of measurements methods.

XI.10 Economic Regulations

If countries really require the best available technology, a solution for the costs of implementing such technologies has to be found. The "polluter pays" principle is mostly interpreted in the way that the costs for investments have to be reasonable, which obviously means that not always and not everywhere are the best technologies used (above all when already existing installations have to be reorganized).

For economic reasons, unsatisfying solutions have been found as in Austria where the new Trade Code does not any longer require a retrofitting for old incineration plants if finally closed after six years, or as in the Federal Republic of Germany where "clean air" can be bought (through the "permits system") from installations where the emissions are under the limit.

Probably, the way Denmark and the Netherlands solve the problem of investments that are too expensive (partial public participation) is "the best practicable means" to save a country's air quality, because the standard industry excuse of unreasonably high costs of equipment is removed and the best technology can be installed.