

3342

C.1

Z174NORWAY

# ENVIRONMENT

---

# NORWAY



**Office of International Activities**  
**U.S. Environmental Protection Agency**  
**October 1977**

E  
N  
V  
I  
R  
O  
N  
M  
E  
N  
T

F  
O  
R  
W  
A  
Y

Office of International Activities  
Environmental Protection Agency  
October 1977

FOR INTERNAL USE ONLY

En  
E  
C  
C.

## PREFACE

This is a brief report on the organization and management of environmental activities on the national level in Norway. Reports on Japan, Luxemburg, Belgium, Great Britain, the Netherlands, Spain, Australia, the Federal Republic of Germany, Sweden, Switzerland, Canada and France have already been distributed. Similar reports on other countries will be available soon. These reports, which are background papers for EPA staff involved in international activities, are not for distribution outside the Agency.

Emphasis is on policy and regulatory functions of national environmental agencies as well as on legal instruments for environmental control. Research and development, often under the auspices of other departments, for example, science and technology, are not covered in these reports.

Source documents for the reports, received under the International Documents Exchange, are available in the EPA Headquarters Library. English summaries of the foreign documents are published in the monthly bulletin "Summaries of Foreign Government Reports."

## TABLE OF CONTENTS

	<u>Page</u>
I. National Organization for Environmental Control	1
II. Environmental Laws	9
III. Standards	19
IV. Enforcement Procedures	21
V. Interrelationships Between Government and Industry	24
Reference Notes	28
Bibliography	30
Appendix	31

## E N V I R O N M E N T A L   P R O T E C T I O N   I N   N O R W A Y

### I.      National Organization for Environmental Control overall government structure

The Kingdom of Norway has a population of almost four million people concentrated primarily in a few major areas around cities like Oslo, Bergen and Trondheim. The country's high mountains and deep fjords make only four percent of Norwegian territory suitable for agriculture. Its forests provide the raw material for about one-fourth of its total exports, and it is one of the world's major fishing nations.

Norway is governed under the May 17, 1814 Constitution promulgated by the National Assembly of Eidsvoll. It is an hereditary monarchy with succession to the throne operating in direct male line in order of primogeniture. Although executive power is nominally vested in the King, it is actually exercised through the Council of State (King's Cabinet), which consists of the Prime Minister and 14 Councillors of State or Ministers (statsråder). Both the King and his Council sign all resolutions, and the King has a suspensive right to veto legislation, although no recent monarch has exercised this power.

Legislative power rests with the unicameral Storting, whose 155 members are elected every four years by universal adult suffrage. After each election, the Storting is given a bicameral character for legislative purposes when party leaders, in consultation with their party members, divide it into two parts: the Lagting, composed of one-fourth the total membership, and the Odelsting, comprising the remaining three-fourths. All bills are first introduced into the Odelsting. After passage by the Odelsting, they are sent on to the Lagting, which may pass them or return them with amendments. If a bill is passed twice by the Odelsting and both times rejected by the Lagting, then it is submitted to the plenary Storting, where it must receive a two-thirds majority. Any change in the Constitution must also be

considered in the Storting as a whole.

There are certain minor exceptions to the legislative power of the Storting. The Cabinet can proclaim "provisional decrees," which are laws pertaining to a restricted area when it is necessary to act quickly and the Storting is not in session. The Storting can at any time delegate other legislative authority to the Cabinet, which also has certain legislative competence in church affairs.<sup>1\*</sup> In general, however, the power of the King and his Council has greatly diminished since the introduction of the parliamentary system in 1884. Since this date, with one exception, the King's Council has sat only as long as it has enjoyed the confidence of the Storting.<sup>2</sup>

It should be pointed out that Norwegian parliamentary government differs in some respects from other parliamentary systems.<sup>3</sup> A vote of no confidence in the government does not result in a dissolution of the legislative body and a new election, but a new government is formed from the parties as they are already represented in the Storting. Secondly, the ministers are not members of the Storting; they are allowed to take part in the debates of the parliament, but they have no vote.

The special office of "Ombudsman" was established by law on June 22, 1962 to protect the rights of citizens in relation to public administration. The Ombudsman is elected for a four-year term by the Storting, cannot be a member of this body, and must exercise the position of Ombudsman as his sole occupation. His services are offered free of charge.<sup>4</sup> A law of March 22, 1968 expanded the responsibilities of the Ombudsman to include not only matters of national government but municipal administration as well.

#### national environmental body

The Norwegian Ministry of Environment, established by Royal Decree on

---

\*All reference notes will be found beginning on page 28.

May 5, 1972, is responsible for: coordinated planning of the use of water and land resources at the municipal, regional, county, and national levels; pollution control and noise abatement; waste disposal; conservation of nature areas, flora and fauna, and hunting and fishing resources; supervision of open-air recreation areas; preservation of landmarks, historical and cultural sites; and coordination of environmental matters.

The Ministry of Environment is headed by the Minister, who is assisted by the Under-Secretary of State and a Private Secretary, the Minister's personal assistant. These offices are political and may change personnel if a new Government is elected. The office of Secretary General, with primarily administrative functions, is, in contrast, a permanent post, not a political one.

The Ministry is divided into five departments, which in turn are divided into several sections (see organizational chart, page 3a). The General Coordination Department deals with matters of administration, staff, internal finance, and coordination of interdepartmental affairs. It also coordinates the Ministry's informational and educational activities, aspects of international cooperation, and cooperation with research institutions.

The Pollution Control Department produces general surveys of existing pollution and of the utilization of air and water resources. It develops guidelines for the use of air and water resources and prescribes measures for the prevention of pollution, waste problems and noise. The department prepares general pollution legislation and is responsible for the organization of central and local administration for pollution control. It analyzes the economic aspects of pollution abatement and allocates state grants, loans and subsidies to industries and municipalities for pollution control equipment during transitional periods. Legal and administrative questions pertaining to the Act Restricting the Use of Fuel Oil, the Water Pollution Act and air pollution cases in violation of the Neighbor's Act, sections

19-23, also fall within the purview of this department. In addition, the department is responsible for consideration of the environment and natural resources in physical planning.

The Nature Conservation and Open-Air Recreation Department deals with the application of the Open-Air Recreation Act and the Expropriation Act, section 2, no. 37, as well as with all matters pertaining to the Nature Conservation Act. It also carries out planning for seashore and mountain areas and administers and manages matters pertaining to hunting and wildlife.

The Planning Department develops legislation, policy and regulations relating to planning and approves or ratifies regional, municipal and local plans. It also studies regional development and assists projects at the regional level. Its Architect Division offers training courses and seminars for planners and local officials and provides technical guidelines for physical planning. This division also handles matters pertinent to the Building and Planning Act, the Act Relating to Historic Monuments and Archaeological Remains, and the Building Conservation Act.

The Department of Natural Resources surveys the use and availability of natural resources and issues guidelines for their future utilization. Among other things, it coordinates data systems and services concerned with natural resources and develops automatic mapping and other tools in natural resources management. Resource accounting and budgeting and the coordination of natural resources management are also under the supervision of this department.

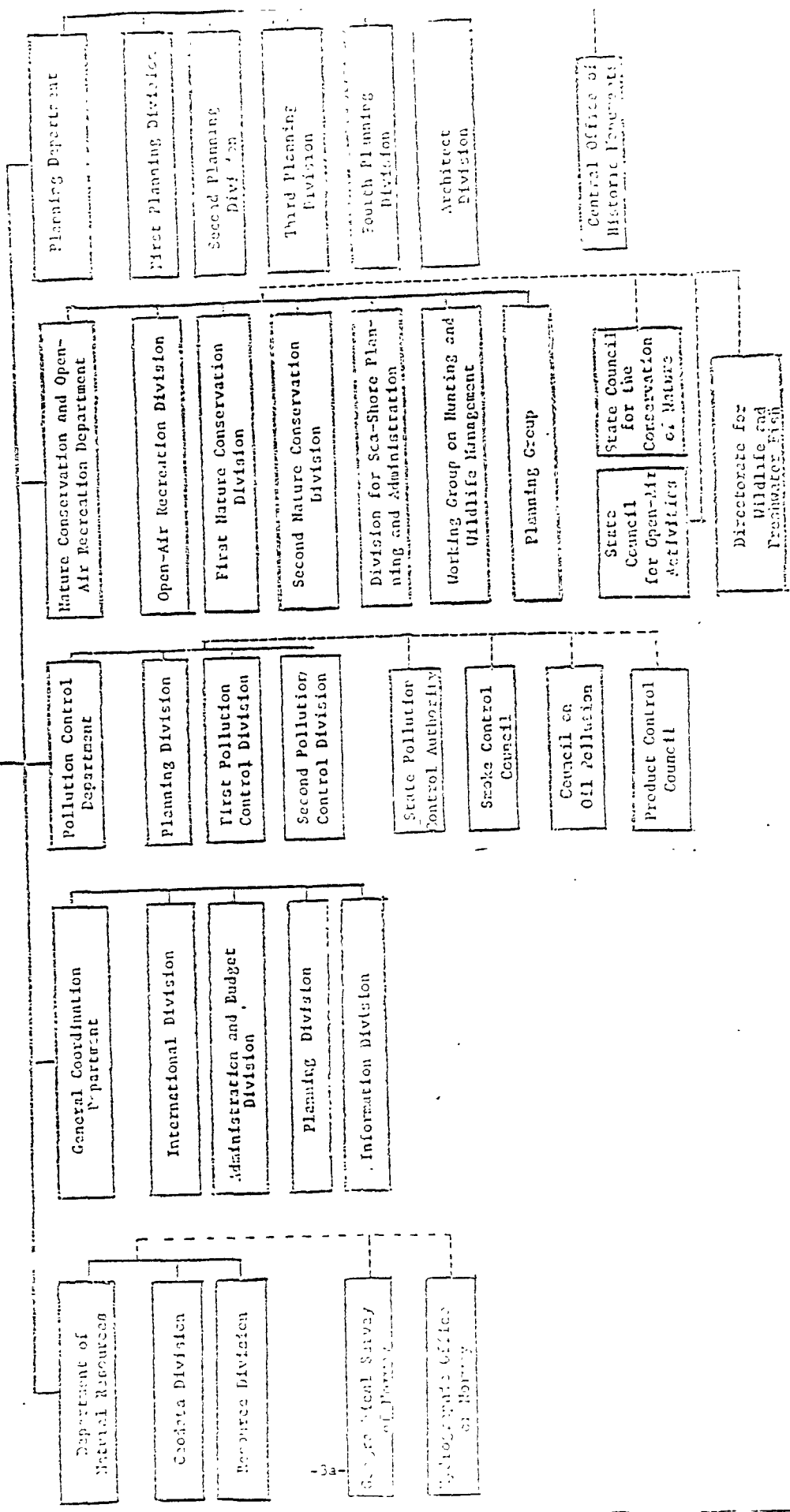
Several organizations with significant functions are subordinate to the departments of the Ministry of Environment. They include the State Pollution Control Authority, the Smoke Control Council, the Council on Oil Pollution, and the Product Control Council, all of which are responsible to the Pollution Control Department.

The State Pollution Control Authority, established on May 24, 1974 by Royal Decree, issues permits for the discharge of polluted water to industrial



Minister  
Under-Secretary of State  
Private Secretary

Secretary General



plants and other polluting establishments that might be harmful or disturbing to a large part of the population or cause damage over a wide area. The Authority may also issue regulations or prohibitions for the whole country applying to potentially polluting types of enterprises. The Authority acts as secretariat for the Smoke Control Council, the Council on Oil Pollution, and the Product Control Council.

The Smoke Control Council issues permits for the discharge of polluting emissions into the air in accordance with the Neighbor's Act. The Council has eight members appointed by various organizations and authorities, among others, the Federation of Norwegian Industries and the Norwegian Federation of Labor. The chairman of the Council is a Supreme Court judge.

The Council on Oil Pollution, established pursuant to section 3 of the 1970 Law on Protection Against Damage Due to Oil, is in charge of the supervision, planning and coordination of programs to prevent damage from oil pollution. Its 17 members are elected every four years from various government agencies and institutions.

Finally, the recently established Product Control Council, among other things, collects information on potentially harmful products, suggests appropriate measures to be taken in regard to such products, informs the public, and coordinates matters regarding harmful products that fall within the jurisdiction of several other authorities. It has 13 members, appointed for two-year terms by other ministries as well as by organizations representing industry, employer, employee, consumer, and environmental interests. The Council and the Pollution Control Authority work in close cooperation in implementing the Products Control Law.

Other institutions subordinate to departments of the Ministry of Environment are: the State Council for Open-Air Activities, the State Council for the Conservation of Nature, and the Directorate for Wildlife and Freshwater Fish, under the Nature Conservation and Open-Air Recreation Department; the Geographical Survey

of Norway and the Hydrographic Office of Norway, responsible to the Department of Natural Resources; and the Central Office of Historic Monuments, within the jurisdiction of the Planning Department.

Three institutions which, while not subordinate to the Ministry, work in close affiliation with it are the Norwegian Institute for Air Research, the Norwegian Institute for Water Research and the Norwegian Institute of Urban and Regional Research.

other agencies with major responsibility in environment

Although the Ministry of Environment has taken over many of the responsibilities previously assigned to other governmental departments, certain areas of environmental responsibility still remain with other agencies.

One of these, the Ministry of Social Affairs, implements the 1960 Health Law, pursuant to which regulations concerning the amount of lead in gasoline have been issued as well as municipal health regulations stipulating that sewage and wastewater installations must pass inspection by the Board of Health. Furthermore, the 1933 Law on Inspection of Foodstuffs authorizes the Ministry to issue regulations on drinking water and to issue approval of waterworks. The Ministry also administers the Law Concerning Municipal Sanitation Fees.

Two other ministries exercise specialized environmental functions related to their general areas of competence. The Poisons Board in the Ministry of Agriculture must approve pesticides and other plant protection products before they may be marketed. The Ministry of Communications is responsible for the regulation of noise from cars and airplanes as well as equipment for the prevention of pollution from automobile exhaust systems.

The Ministry of Industries is responsible for the implementation of legislation concerning nuclear energy. Legislation pertaining to the continental shelf is also administered by this Ministry, which may issue regulations providing for

the security of activities involving the extraction of petroleum from the North Sea.

Other ministries also have duties contributing to the prevention of pollution of the sea. Under the 1933 Harbor Act, the Ministry of Fisheries is authorized to issue regulations concerning the pollution of harbor areas. The Ministry may also forbid or limit pollution from industry which may hamper fishing pursuant to the 1955 Salt Water Fisheries Law. In addition, the Ministry of Commerce and Shipping has issued regulations on the transportation of dangerous products at sea pursuant to the 1903 Act on Government Control of Ship's Seaworthiness.<sup>5</sup>

#### national-regional-local-government relationships

The Norwegian people have always enjoyed a certain degree of autonomy in local affairs, primarily due to their country's natural topographical barriers.<sup>6</sup> It was not until 1837 that the country obtained a Local Government Act (formannskapslovene). This law did not specifically define the duties of local government but stated that the Storting was to delegate such power, a provision which still prevails.

Today Norway is divided into 20 counties (fylke), each county headed by a governor (fylkesmann), representing the central government. Within the counties, there are 47 urban municipalities (bykommuner) and 396 rural municipalities (herredskommuner). They are administered by municipal councils (kommunestyre), consisting of from 13 to 85 councillors, and by a committee (formannskap), which is elected by and from the members of the Council. These rural and urban municipal councils manage municipal affairs and have the right to assess taxes and appropriate funds. However, certain financial matters, for example the obtaining of loans, must be approved by the Crown.<sup>7</sup> The Crown can also request strict supervision of a municipality when its financial status seems to warrant it or as a consideration to its creditors. In the last decade, the central government has delegated more and more

power to local authorities, including decision-making in the fields of education and public health, public relief and the building and maintenance of roads.<sup>8</sup>

In environmental matters, municipal authorities are responsible for water supply, sewage treatment and sanitation. The municipalities also have authority for land use planning within their boundaries, and they can prevent the establishment of a polluting industry if they feel it would have a negative influence on the population and housing.<sup>9</sup> All planning activities are supervised by the county governor, who is appointed by the central government. The governor's office functions as a secretariat for regional planning and may, in some cases, provide major assistance in local planning. Ultimately, all plans require the approval of the Ministry of Environment.<sup>10</sup>

## II. Environmental Laws legislative system

Norway makes an important distinction between laws and resolutions. The Norwegian system defines a law as "a legislative act which affects or regulates a citizen's rights and duties and his relationship to the state."<sup>11</sup> Resolutions, which are not given the status of law, deal with matters such as the approval of treaties and budgets, the granting of citizenship, financial affairs, questions about the rules of the Storting and constitutional amendments. Only members of the Odelsting or members of the King's Cabinet can introduce law proposals or bills. Resolutions, on the other hand, can also be introduced by members of the Lagting. Citizens can and do prevail on Odelsting members to introduce bills for them, but the great majority of bills and resolutions come from the King's Cabinet (Government-regjering) in the form of royal propositions.<sup>12</sup> After a bill has been presented, it is normally assigned to a committee to be studied. When it is returned from committee, it is debated, depending upon its nature, either in the plenary Storting or on the floor of the Odelsting before a vote is taken. If the Odelsting passes a bill, it must also be signed by the Lagting before the King signs it into law. Resolutions are referred to committees as well and are debated and voted in the same manner as are bills. They must, however, be considered by the Storting in plenary session.

### promulgation

Since 1977, Norwegian statutes, decrees, and ordinances have been published in Norsk Lovtidend, the public law gazette.

### highlights of environmental legislation

#### general

Norway does not have a comprehensive environmental law although such legislation is currently under consideration.<sup>13</sup> Several laws, however, contain

general provisions under which certain types of pollution may be controlled. One of these, the May 16, 1860 Health Law authorizes health officials to make agreements and to issue guidelines in order to prevent nuisances, including noise, which could prove damaging to public health. Another, the December 7, 1956 Law on Workers' Protection contains general provisions to assure a healthy and safe work environment and establishes certain rules to prevent pollution at the work site. It includes, for example, instructions on how to store and use dangerous substances. This law will be superseded by the Law on Workers' Protection and the Work Environment, etc., which was passed on February 4, 1977 and will go into effect at a time to be decided by the Crown. Finally, the June 18, 1965 Building Act, as amended, contains general provisions regarding land-use planning, including provisions to prevent noise pollution.

Norway obligated itself to certain general environmental provisions at the international level when it signed the Nordic Environmental Protection Convention on February 19, 1974, followed by passage of the April 19, 1976 Law No. 21 Giving the Convention Between Norway, Denmark, Finland and Sweden the Status of Law in Norway. The Convention, which is comprehensive and deals with a variety of pollution problems, provides that in granting a permit for an activity that is potentially detrimental to the environment, an examining authority should consider a possible nuisance to a neighboring Nordic nation in the same manner as he would a nuisance in his own country. It gives citizens of one Nordic country the right to institute proceedings relative to the permissibility of a disturbing activity with the appropriate court or authority in a second nation. The convention, which applies to stationary installations, defines harmful activities as the discharge from land or facilities of solid or liquid waste or gas or other substances into watercourses, lakes or seas as well as pollution of the air, noise, vibration, changes in temperature, and emission of ionizing radiation or light.

## water

Norway has a comprehensive water pollution act in the June 26, 1970 Law No. 75 on the Prevention of Water Pollution, amended May 31, 1974, which is intended to protect groundwater, lakes, watercourses, and the sea from pollution and to reduce existing pollution, especially if it endangers the health and well-being of man and animals. The law seeks to prevent disagreeable odors and the unpleasant appearance of water; adverse influences on the bottoms of lakes, watercourses or the ocean; and harmful changes in water level or temperature range. The law specifies conditions for obtaining and holding certain licenses to prevent pollution and authorizes the Crown to issue regulations on activities and installations entailing a particular pollution risk. On May 31, 1974, authority for the implementation of this law was shifted from the Ministry of Industry to the Ministry of Environment.

Although some pollution control is also afforded by the June 24, 1933 Law Concerning the Harbor System, section 24 of which stipulates that it is unlawful to dispose of solid waste in harbors or in narrow or shallow waters which are used for general travel.

There has been a long-standing desire to control oil damage in Norwegian waters. In this respect, the March 6, 1970 Law No. 6 on Protection Against Damage Due to Oil, as amended June 11, 1976, is designed to prevent, avert and restrict damage due to oil in the sea as well as in watercourses and on land. It empowers the Crown to prohibit the discharge of oil or mixtures containing oil into the sea from vessels or other installations in sea areas where such discharges are prohibited under international agreements to which Norway is a party. It also prohibits such discharges into the sea or on land from any other source if they can enter into the sea. Oil separators or similar devices must be installed on all Norwegian ships, and precautionary measures must be taken in order to prevent the escape of oil. Norwegian vessels are also required to keep a special oil register to record



the cleaning of tanks and the discharge of oil residues.

Pursuant to Law No. 6 of 1970, Interim Regulations Concerning Warning About the Escape of Oil-Mixed Liquids were passed on March 16, 1973. The regulations, which were amended on October 3, 1973, stipulate that anyone who notices an oil spill is obligated to report it regardless of who is responsible for the damage. The regulations make various provisions for differing circumstances, depending, for instance, on whether the oil spill is caused by a ship or an airplane; whether it comes from a production platform or a storage tank on the Continental Shelf; or whether it occurs over Norwegian territory or watercourses, in international waters, or in the territorial waters of a foreign state.

Norway is party to a number of international conventions to prevent pollution of the seas. She has ratified the May 12, 1954 International Convention for the Prevention of Pollution of the Sea by Oil, which prohibits the discharge of oil in certain zones and restricts such discharges elsewhere. It requires ships to be equipped with devices to separate and store oily waste, and ports to be provided with facilities for the collection of such waste. Appropriate commissions are to be established to study the records pertaining to any accidental discharge or loss of oil. Resolutions also encourage participating governments to cooperate in research and education on measures to eliminate the discharge of persistent oils at sea.

Norway also ratified the November 29, 1969 International Convention Relating to Intervention on the High Seas in Cases of Oil Pollution Casualties (Brussels Convention). The Convention, designed to protect party states from oil pollution of the sea or their coastlines resulting from a maritime casualty, permits a state to take measures to prevent, reduce or eliminate the danger.

Pursuant to the Convention, the June 16, 1972 Law No. 46 on Undertakings in Accordance with the Brussels Convention was passed, authorizing the May 2, 1975

Interim Regulations on Intervention on the High Seas in Case of Oil Pollution or Danger of Oil Pollution Resulting From a Maritime Accident. The regulations outline methods to be used in case of a maritime accident involving oil pollution and authorize the Council on Oil Pollution to organize and execute plans to stop or prevent pollution. In addition, Norwegian authorities may confer with nations which may also be affected by pollution and with the nation under whose flag an involved vessel was sailing.

On November 28, 1970, Norway signed the 1969 Convention for Cooperation in Dealing With Pollution of the North Sea by Oil (Hamburg Convention). The signatories promised to notify any member country of oil spillage which might threaten the second nation's coast and to assist in eliminating the polluting oil if help was requested.

Finally, Norway is party to the February 15, 1972 Oslo Convention for the Prevention of Marine Pollution by Dumping From Ships and Aircraft. The participating countries agreed to take all possible steps to prevent pollution of the sea by substances that might create hazards to human health, harm living resources and marine life, damage amenities, or interfere with other legitimate uses of the sea. Certain substances, such as mercury and mercury compounds, cadmium and cadmium compounds, and persistent plastics and other persistent synthetics, were totally prohibited.

#### air

Low density population and a widescale industrial use of clean, smokeless hydroelectricity should make air pollution less serious in Norway than is the case.<sup>14</sup> The country's topographical character and meteorological conditions, however, contribute to the air pollution problem with high mountains and deep closed valleys where sulfur dioxide and other air pollutants are sometimes trapped for several days before strong winds can carry them away. This is particularly a problem in

Vestlandet, in the western part of the country.<sup>15</sup> To compound the problem, southeast and southwest winds sweep so-called acid precipitation, formed when atmospheric pollutants gradually increase the acidity of rainwater, from the industrial belts of continental Europe and Great Britain across Norway. The southern part of the country, where total sulfur dioxide emissions were 0.6 tons per square kilometer in 1973, is particularly exposed to this source of pollution, which has far-reaching effects in many areas.<sup>16</sup> It has caused soil deterioration, which in turn has had a negative effect on vegetation. As the acidification of water has increased, a drastic reduction of the fish population has been noted as well.

To control pollution from Norwegian industrial installations, the June 16, 1961 Neighbor's Act, as amended, forbids industrial or other enterprises which spread gases, smoke, radiation, or the like so as to cause damage or inconvenience to many people over a large area to undertake operations without prior approval by the Crown. Before granting such approval, licensing authorities consider the kind of industry, the amount of pollution, and the age of the industrial plant.

During the cold winter months, the concentration of sulfur dioxide in the air increases considerably as the result of the burning of heavy fuel oils for heating purposes.<sup>17</sup> The June 19, 1970 Law No. 64, Placing Restrictions on the Use of Fuel Oils, etc., empowers the Crown to limit air pollution by issuing regulations prohibiting the combustion of oil and the combustion of oil containing sulfur and sulfur residues in excess of certain maximum levels. The regulations may also apply to the design, equipment, and operation of oil-fired installations, although exceptions can be granted. Provisions of the regulations may also apply only to certain periods of the year.

The November 16, 1973 Crown Resolution Prescribing Regulations on the Utilization of Leaded Gasoline was issued in pursuance of the June 20, 1964 Law No. 5 on Pharmaceutical Products and Poisons and the May 16, 1860 Public Health Act.

It stipulates that substances other than lead may not be added to gasoline without the consent of the Ministry of Social Affairs. Leaded gasoline may not be used in heating or lighting installations or for cleaning purposes. It must also be colored in accordance with instructions from the Ministry, and the pumps serving tanks containing leaded gasoline must be specially marked.

#### noise

Noise nuisance may be controlled under certain general laws such as the previously mentioned June 16, 1961 Neighbor's Act, as amended, the May 16, 1860 Health Law, and the June 18, 1965 Building Act. Aircraft noise is limited to an extent by the August 29, 1976 Regulations on Noise Certification of Civilian Aircraft, which require civilian subsonic jets and civilian propeller-driven craft meeting certain specifications to obtain noise certificates from the Norwegian Civil Aeronautics Administration in order to be registered.

#### product control

The June 11, 1976 Law Concerning Product Control is intended to prevent damage to health or to the environment by pollution, waste, or noise from any product. Regulations may be issued pertaining to any aspect of the production, import, distribution, sale, labeling, use or other handling of a product. Limitations may be set on the emission of pollutants or noise from a product, and measures prescribed to reduce waste from the use of the product. Products may be subject to official approval prior to marketing, production or import, or these activities may be prohibited altogether for a given product. Manufacturers or importers are required to obtain any information necessary to determine whether a product may pose health or environmental hazards, and, in general, anyone who handles a product is to exercise care to prevent or limit hazards emitting from it. Furthermore, a producer or importer may be required to provide samples of products or to conduct investigations necessary to determine the nature or effects of products. The August 5, 1977

Regulations Concerning the Implementation of the 1976 Law establishes the Product Control Council and stipulates the duties of the Council, the Ministry of Environment and the State Pollution Control Authority in carrying out the provisions of the Product Control Law.

#### solid waste

Several laws contain provisions for solid waste control. Among these are: the June 8, 1924 Law Concerning the Sanitation Tax, which gives municipalities authority to take care of necessary sanitation problems, including solid waste; the April 12, 1957 Law on Slaughterhouses, the Meat Industry, and Official Meat Control, which provides regulations for disposing of meat waste, animal carcasses, etc.; the June 14, 1974 Provisional Law on Deposit Containers for Beer, Mineral Water, and Other Soft Drinks; and the June 21, 1963 Road Act, which has general provisions prohibiting littering.

In addition, the June 19, 1970 Law No. 63 on the Protection of Nature, as amended on June 2, 1972, a general law dealing with protection of the landscape and the natural environment, includes prohibitions against discharging and dumping wastes in a manner liable to disfigure or impair nature.

Of special significance is the June 11, 1976 Law Concerning Product Control, already mentioned above, which can be used to reduce waste problems from any type of product. Among other things, it authorizes mandatory return and deposit schemes and waste source reduction and sets up handling requirements.<sup>18</sup>

The Recycling Commission, established in 1973, has proposed a new law on the collection, transport, and treatment of waste which would regulate the practical and administrative aspects of waste disposal. The proposal includes recommendations requiring the municipalities to organize systematic refuse collection schemes and authorizing them to set up recycling arrangements, which might help Norway overcome anticipated raw material and energy problems in the future.<sup>19</sup>

#### pesticides

The July 17, 1970 Crown Resolution Amending the Regulations on Plant Protection Products of December 4, 1964 (made pursuant to the April 5, 1963 Law on Plant Protection Products) requires that pesticides and other plant protection products receive approval from the Poisons Board of the Ministry of Agriculture before being marketed. Conditions for approval and information to be included on applications for approval are specified and detailed provisions on packaging and labeling of pesticides are included. A system for classifying such products on a scale ranging from highly toxic to slightly toxic is presented and used as a basis for provisions relating to conditions on the use, manufacture, importation, and sale of plant protection products.

#### radiation

Three laws designed to protect the public from radiation may be mentioned.

The May 12, 1972 Act No. 28 Concerning Nuclear Energy Activities contains provisions relating to the construction of nuclear installations as well as exceptions to these provisions. It includes rules pertaining to the granting of concessions for owning or operating nuclear installations and permits for holding nuclear activities and obligates the operators of nuclear installations to take safety precautions.

The February 9, 1973 Regulations Concerning the Organization and Functions of the Nuclear Energy Safety Authority, issued in pursuance of section 10 of the above act, delineate the structure of the Authority, which is subordinate to the Ministry of Industries. The main responsibilities of the Board include implementation of the functions assigned to it by the 1972 Act and participation in the preparatory work concerning site choices for nuclear installations.

The June 18, 1938 Law No. 1 Concerning the Use of X-rays and Radium

authorizes the issuing of special regulations concerning the installation and operation of radioactive equipment. Special working conditions and regular health check-ups for personnel operating equipment of this kind may also be stipulated.

### III. Standards

#### water

There are no legally binding national water quality standards in Norway. The Neighbor's Act states, however, that government approval of regional, municipal and local planning pursuant to the Building Act of June 18, 1965 is conditional upon adequate provisions for clean water supplies and sewage treatment plants.

In addition, both industrial enterprises and municipalities are required to apply for permission to discharge polluted water according to the June 26, 1970 Law on Prevention of Water Pollution, so that conditions may be set to fit each case.

#### air

There are no legally prescribed national standards to limit air pollution in Norway. However, under the Neighbor's Act, all new or expanding enterprises require a permit to discharge polluting emissions into the air. These permits, issued by the Smoke Control Council, set pollution limits in each instance. The Council has tightened the stringency of its requirements in recent years, and permits have become increasingly hard to obtain,<sup>20</sup> as evidenced by the following examples regarding limitation of sulfur emissions. Since 1970, permission has not been given for the use of fuel oil containing more than 2.5 percent sulfur. An increasing number of firms have been required to use light fuel oil (sulfur content under 0.8 percent) or fuel oil with a maximum sulfur content of 1.2 percent. In a different approach to the problem, the Council required a new oil refinery at Mongstad, with a capacity of four million tons a year, to limit its sulfur dioxide emissions to 2,500 tons per year, or 0.3 tons per hour.<sup>21</sup>

Locally applicable regulations governing the maximum content of sulfur in fuel oils have been laid down in accordance with the June 19, 1970 Act Concerning Restrictions on the Use of Fuel Oil for the Cities of Oslo and Drammen. In Oslo, private oil-burning installations with an annual consumption of up to 700 tons and



all public installations must burn fuel oil with a maximum sulfur content of 0.8 percent. Private installations and all industrial installations with an annual fuel consumption over 700 tons have a limit of 1.2 percent. For Drammen, the corresponding figures are 0.8 percent and 1.2 percent between October 1 and April 1, and 2.5 percent for the rest of the year.

The Ministry of Environment has been studying a proposal for a formal national limit of 2.5 percent sulfur content for heavy oil with possible dispensation when emission gases are cleaned or when the sulfur dioxide is part of the product. For light oils, a limit of 0.3 percent sulfur dioxide is proposed. If approved, these guidelines would be put into effect no later than January 1, 1978.<sup>22</sup>

Lead emissions are limited by the November 16, 1973 Crown Resolution Prescribing Regulations on the Utilization of Leaded Gasoline, which prohibits the use of gasoline containing more than 0.4 grams of lead per liter.

#### noise

Although there are no national noise standards in Norway, some practical steps have been taken to control noise deriving from aircraft. The Oslo Fornebu Airport, for instance, shuts down for regular traffic from 11:30 p.m. to 7:00 a.m. in order to protect citizens against noise.

Noise is limited at the source to an extent by the August 29, 1976 Regulations on Noise Certification of Civilian Aircraft, which contain maximum noise levels for civilian subsonic jet and propeller-driven aircraft when measured at various specified points. These levels conform in general to requirements of the International Civil Aviation Organization.

#### pesticides

Norway has prohibited the use of alkylmercury compounds since 1966 and the use of DDT (except for treatment of conifers prior to planting), aldrin and dieldrin since 1970.<sup>23</sup>

#### IV. Enforcement Procedures

##### court system

There are 100 courts of first instance (herredrett or byrett) in Norway. Each community also has a Conciliation Court (forlikssrad), consisting of three persons elected by the district council for a four-year term, before which civil cases must initially be brought for mediation. The Court of Second Instance (lagmannsrett) is primarily a court of appeal, although it also hears certain serious criminal cases as a court of first instance. For the purposes of these courts, Norway is divided into five districts (lagdommer). The third level of judicial authority is the Supreme Court (Høyesterett), which consists of seventeen judges and a president (chief justice). Each case is presided over by five of the judges.

Both civil and criminal cases are heard in the same courts by judges, who are state officials appointed for life. Except for the Supreme Court, the participation of lay assessors and jurors, summoned for each case, varies according to the civil or criminal nature of the case. Environmental cases are dealt with in the regular courts since the country has no environmental court per se.

##### enforcement mechanisms

The Ministry of Environment works closely with local authorities through its Planning Department in order to prevent pollution arising from local endeavors. The two planning divisions of this department have the authority to approve and ratify local plans.

The 1970 Water Pollution Law provides for concessions and permits as the primary means of controlling the discharge of polluted water and assumes that they will be dealt with on an individual basis. Permits are issued for a minimum of ten years, with a five-year warning if the authorities want to cancel or change the terms. Concessions are granted for a shorter period of time or on a temporary basis.

The State Pollution Control Authority is responsible for issuing these permits. According to the May 31, 1974 Amendment to the Neighbor's Act and the Water Pollution Law, the Authority may also issue regulations or prohibitions for the whole country or for certain areas of the country, which apply to enterprises that could cause pollution. All or parts of such regulations and prohibitions may replace provisions contained in an individual permit for a given enterprise. In addition, the Authority may test water quality and often conducts such tests with municipal help or, at times, with the aid of universities under contract.

Municipal Building Boards issue permits to discharge wastewater from waterclosets, kitchens, baths, washrooms, etc., under the Regulations for Sewage Discharge From Scattered Housing and Recreation Buildings, issued pursuant to the 1970 Water Pollution Law.

The Council on Oil Pollution supervises, plans and coordinates programs to prevent damage due to oil pollution. In case of oil spills or discharges of oil or oily liquids into the sea, the closest police authority is notified, which in turn notifies the Council. The municipalities are responsible for oil spills within their borders but are assisted in their planning by the Council.

The Smoke Control Council can set conditions for permits on a case-by-case basis to protect the public from damages arising from industrial or other enterprises that can spread gases, smoke, radiation or the like in a manner causing damage or inconvenience to many persons or over a large area.

#### penalties

In cases of violation of environmental laws, a prison term or a fine or both is often stipulated. Violations of the 1970 Water Pollution Law can result in a fine or imprisonment of up to four months. Under the May 31, 1974 amendment to this law, violations of a permit issued pursuant to the law may result in a fine that continues as long as the violation persists or that is payable upon each

violation. In addition, a permit issued on the basis of false or misleading information given in regard to significant details may be revoked.

Under the 1961 Neighbor's Act, as amended May 31, 1974, a person who fails to apply for a permit as required by the law or who violates other provisions of the law may be punished by a fine or imprisonment up to four months. Under both the Water Pollution Law and the Neighbor's Act, an organization or society may be held responsible for a violation committed by a person representing that organization or society. The entire organization could then be fined or lose its right to operate if the violation was committed to further the interests of the organization or if it derived considerable advantage from the violation.

According to the June 12, 1970 Law Placing Restrictions on the Use of Fuel Oils, intentional or negligent contravention of prescriptions or orders issued pursuant to the law may be punished by fines or imprisonment up to three months.

Other environmental laws contain similar penalty provisions: violation of the June 19, 1970 Law on the Protection of Nature could result in fines; violations of the March 6, 1970 Law on Protection Against Damage Due to Oil is punishable by fines or a prison term of three months; and violation of the June 11, 1976 Law on Product Control may result in fines or imprisonment for up to three months or both.

V. Interrelationships Between Government and Industry

general

Norwegian industry, although generally having a rather free hand, is also subject to certain governmental restrictions. Such control is partially exercised through the March 20, 1970 Law No. 15 on Establishment Control, which stipulates that any new industry wishing to employ more than 15 persons must be approved. For this purpose, the Crown has appointed a Localization Board, an independent, cooperative organization, whose ten members serve four-year terms. Three of the members are proposed by the Federation of Norwegian Industries, two by the Norwegian Federation of Enterprises in Handicraft and Small-Scale Industries and five by the Government.

The building site of a proposed industry must also, according to the Building Act of 1965, fulfill certain environmental requirements before construction can be approved, for instance, adequate provisions for proper sewage disposal and satisfactory water supply. Special provisions for heating plants and furnace installations are also stipulated so that the surroundings are not disturbed by smoke, gas, dust, odor, or noise.

The Government also keeps strict control over industry through certain standards and permit systems, which have already been discussed.

polluter pays principle

Norway subscribes to the polluter pays principle as do all Organization for Economic Cooperation and Development (OECD) countries.

Although the amendment of May 31, 1974 to the Law on the Prevention of Water Pollution affords the opportunity to directly implement the polluter pays principle by authorizing the Crown to establish regulations requiring the payment of fees based on pollution levels at various industries, this has not been carried out to date. Nevertheless, industry must bear the costs of installing equipment to

comply with environmental standards in order to obtain the necessary permits for operation. Pollution control measures utilizing the "best available technology" must be taken into consideration as part of production costs in new industry, and in older industry work is underway for the implementation of guidelines for pollution control measures issued by Parliament in 1973-1974. Treatment requirements and deadlines for implementation have been set for a number of industries, including the ferro-alloy industry, cement industry, iron and steel foundries, galvano-technical industry, fish meal and fish oil factories, dairies, and large segments of the pulp and chemical industries.<sup>24</sup> It is estimated that the aluminum, ferro-alloy, and woodworking industries will have to allocate the largest sums for environmental improvements based on estimates projected to 1984.<sup>25</sup>

According to a study conducted by the Federation of Norwegian Industries, more than 4.9 billion kroner will be needed during the period 1974-1984 to overcome pollution in existing industry alone. Expenditures for water protection during this period will be approximately 2.5 billion kroner; for air protection, about 2,150 million; for waste removal, 2,000 million; and for noise abatement, 75 million.<sup>26</sup>

During the period 1969-1974, according to the study, 60 percent of industry's environmental investments were spent on improvements in air quality, with the aluminum industry constituting the largest investor.<sup>27</sup> In commenting on the study, the Federation accepts the principle that new industry must pay for its own pollution problems, but also expresses the view that existing industry cannot manage this task alone.<sup>28</sup> Industry would prefer an extension of the existing financial arrangements with subsidies and loans from the government to a postponement of environmental investments, which has been mentioned as an alternative.<sup>29</sup>

Current government programs to help industry financially with environmental programs include the December 17, 1975 Regulations on Exemption From Investment Taxes on Environmental Investments, which state that established industries

fulfilling stipulated requirements are exempt from paying taxes on investments made in compliance with environmental regulations pursuant to the Neighbor's Act and the Law on the Prevention of Water Pollution. Provisions of the February 27, 1976 Regulations Concerning Tax-Exempt Fund Allotments for Environmental Protection Measures are intended both to help industry better meet the demands of environmental protection and to stimulate employment. In addition, the government has earmarked funds for direct loans. During the winter of 1975-1976, for example, 225 million kroner were reserved for this purpose.<sup>30</sup> Furthermore, the state offers older industry guarantees for loans on the open market, liquidity loans for special purposes, exemption from investment charges, and direct state grants.

#### major industries

Norwegian industry is, to a large extent, based on raw materials produced within the country. Forests, which cover approximately one-quarter of Norway's surface, provide raw materials for almost one-quarter of its total exports.<sup>31</sup> Norway ranks fifth among the world's fishing nations, making the fishing industry of major importance.<sup>32</sup> Mining has always been an essential industry with iron and other ores extracted from the earth since ancient times.<sup>33</sup> The country's hydroelectric power production is second in Europe only to that of the Soviet Union.<sup>34</sup> This power has made possible the tremendous upswing of the aluminum industry in Norway in the last three decades.<sup>35</sup> Oil and natural gas from the Norwegian continental shelf are also expected to be of great significance in the future.

#### environmental protection by industry and government-industry cooperation

There is a general awareness in Norwegian industrial circles that research is of utmost importance in solving pollution problems. As a result, the Federation of Norwegian Industries in 1968 established its own research agency, the Pollution Board of the Federation of Norwegian Industries, later renamed the Industrial

Environmental Protection Board, which cooperates with the government.

The Norwegian Council for Scientific and Industrial Research has also worked closely with the Ministry of Environment. This cooperation resulted in the development of the research project "The Effects of Acid Precipitation on Forest and Fish," which was co-sponsored by the Agricultural Research Council of Norway.<sup>36</sup>

Industry also works closely with the Ministry of Environment to find solutions to specific problems. When the Statoil/Mobil group was denied permission by the Ministry to use a specific type of sludge in boring on the Continental Shelf, plans for a new system were made in close cooperation with the State Pollution Control Authority.<sup>37</sup>

Cooperation between industry and the authorities exists on the local level too. Because oil pollution is a real threat along the coast of Norway, many municipal councils have formed committees in order to handle acute oil pollution. These committees not only include the local fire chief, the chief of police, and the harbor captain, but also, if possible, a representative of the oil industry.<sup>38</sup>



## Reference Notes

Numbers in brackets following entries are the identification numbers assigned to documents which have been abstracted for the Foreign Exchange Documents Program of the EPA Office of International Activities. Copies of documents are filed under these numbers at the EPA Headquarters Library in Washington, D.C.

1. Henry Naerstad. Laerebok i Samfunnskunnskap, (Oslo: Rich. Andvord, 1955), p 79.
2. Frank J. Duffy. The Political Institutions and Government of Norway, (Oslo: University of Oslo, 1953), p 80.
3. ibid., p 81.
4. Ola Johnsrud and Tore Sandberg. Politisk ABC, (Oslo: Gyldendal Norsk Forlag, 1969), p 27.
5. Norway. Ministry of Environment. Tiltak mot Forurensninger. Parliamentary Report, no. 44 (1975-76), p 85.
6. Frank J. Duffy, op. cit., p 111.
7. Leiv Mjeldheim. Politiske Prosessar og Institusjonar, (Bergen: Universitetsforlaget, 1969), p 170.
8. ibid., p 171.
9. Olav S. Nedenes. Miljøvern, (Oslo: Ministry for Local Government and Labor, 1970), p 167.
10. Douglas V. Smith. Norway Innovates in Environmental Planning, (Oslo: Norwegian Institute of Urban and Regional Research, 1973), p 9.
11. ibid.
12. ibid., p 75.
13. United States. Department of State. "Norwegian Outlines International and Domestic Environmental Priorities." Department of State Airgram, No. A-168, (Oslo: Amembassy, Sept. 20, 1974), pp 1-2. [ID #02171A]
14. "Environmental Protection in Norway." News of Norway, March 9, 1973, p 19.
15. United States. Department of State. "Air Pollution in Norway." Department of State Airgram, No. A-188, (Stockholm: Amembassy, January 7, 1975), p 8.
16. Olav R. Skage. Luftforurensing og Arealdisponering, (Oslo: Norwegian Institute of Urban and Regional Research, 1970), p 43.
17. Acid Precipitation and Its Effects in Norway, (Oslo: Ministry of Environment, September, 1974) p 4. [ID #02656A]

18. Per A. Gulden. Environmental Product Control, (Washington, D.C.: U.S. Environmental Protection Agency, May, 1976), p 92.
19. "Ecological Topics." News of Norway, January 16, 1976, p 2.
20. Acid Precipitation and Its Effects in Norway, op. cit., p 8.
21. ibid.
22. ibid., p 9.
23. Douglas V. Smith, op. cit., p 3.
24. Norway. Ministry of Environment, op. cit., p 8.
25. "Environmental Protection Will Cost Much More Than Expected." Aftenposten, November 18, 1975, p 13.
26. ibid.
27. ibid.
28. "Ecological Topics," op. cit., p 3.
29. "Environmental Protection Will Cost Much More Than Expected," op. cit., p 13.
30. "Gro Harlem Brundtland: Many Industries Do Not Comply With the Concession." Aftenposten, October 30, 1975, p 29.
31. Gunnar Jerman and Finn P. Nyquist. New Norway, (Oslo: The Export Council of Norway and Grøndahl and Søn, 1970), p 58.
32. ibid., p 66.
33. ibid., p 42.
34. ibid., p 20
35. ibid., p 38.
36. Acid Precipitation and Its Effects in Norway, op. cit., p 3.
37. "Statoil/Mobil Was Denied Using Oil-Sludge." Aftenposten, November 22, 1975, p 11.
38. Beredskap Mot Akutt Forurensning. Norges Offentlige Utredninger, no. 25, (Oslo: Universitetsforlag, 1974), p 33.

## Bibliography

Publications that were of significant value in the preparation of this study and are recommended for those undertaking research on environmental protection in Norway are listed below.

1. Gulden, Per A. Environmental Product Control--A Comparative Study of the United States and Norway. Washington, D.C.: U.S. Environmental Protection Agency (Office of International Activities), 1976.
2. Nedenes, Olav S. Miljøvern--Teknisk/Økonomiske Analyser Ved Oversiktsplanlegging (Environmental Protection--Technical/Economic Analysis With Survey Plan). Oslo: Ministry for Local Government and Labor, 1970.
3. Norway. Ministry of Environment. Acid Precipitation and Its Effects in Norway. Oslo: Ministry of Environment, September 1974. [ID #02656A]
4. Norway. Ministry for Local Government and Labor. Vern om Naturmiljøet (Protection of the Natural Environment). Oslo: Norwegian Institute of Urban and Regional Research, 1971.
5. Norway. Ministry of Environment. Lov om Produktkontroll (Law on Product Control). Oslo: Odelsting Bill No. 51, 1974-1975. [ID #04396A]
6. Norway. Ministry of Environment. Tiltak mot Forurensninger (Measures Against Pollution). Parliamentary Report, no. 44 (1975-76). Oslo: Ministry of Environment, 1976.
7. Norway. Norway's Nature Protection League. Naturvern i Norge (Nature Protection in Norway). Oslo: Norway's Nature Protection League, 1970.
8. Beredskap Mot Akutt Forurensing (Preparation to Handle Acute Pollution). Norges Offentlige Utredninger, no. 25. Oslo - Bergen - Tromsø: Universitetsforlaget, 1974.
9. Norway. Erstatningsansvar for Forurensingsskader (Claim for Compensation for Pollution Damages). Norges Offentlige Utredninger, no. 8. Oslo - Bergen - Tromsø: Universitetsforlaget, 1972.
10. Skage, Olav R. Luftforurensing og Arealdisponering (Air Pollution and Land Use). Report 15. Oslo: Norwegian Institute of Urban and Regional Research, 1970.

APPENDIX

NORWEGIAN ENVIRONMENTAL LAWS AND REGULATIONS  
INCLUDED IN THIS REPORT

GENERAL

ID. NO.\*

May 5, 1972 Royal Decree Establishing the Norwegian Ministry of Environment	
June 28, 1957 Open-Air Recreation Act As Amended in 1969	
June 19, 1970 Law No. 63 on the Protection of Nature, As Amended	01455A
June 18, 1965 Building Act As Amended by the Act of June 19, 1969	01458B
June 16, 1961 Neighbor's Act With the Amendment of June 19, 1969	01452A
May 24, 1974 Establishment of the State Pollution Control Authority	
June 29, 1951 Act Relating to Historic Monuments and Archaeological Remains	
May 16, 1860 Health Law	
1933 Law on the Inspection of Foodstuffs	
February 4, 1977 Law No. 4 on Workers' Protection and the Work Environment	
April 19, 1976 Law No. 21 Giving the Convention Between Norway, Denmark, Finland and Sweden the Status of Law in Norway	
December 17, 1975 Regulations on Exemption From Investment Taxes on Environmental Investments	
February 27, 1976 Regulations Concerning Tax-Exempt Fund Allotments for Environmental Protection Measures	

AIR

June 19, 1970 Law No. 64 Placing Restrictions on the Use of Fuel Oils, Etc.	01456A
Nov. 16, 1973 Crown Resolution Prescribing Regulations on the Utilization of Leaded Gasoline	02315A

---

\*These are the identification numbers assigned to documents abstracted for the Foreign Documents Program of the EPA Office of International Activities

ID. NO.

June 19, 1970 Act Concerning Restrictions on the Use of Fuel Oil  
for the Cities of Oslo and Drammen

June 16, 1961 Neighbor's Act With the Amendment of June 19, 1969 01452A

May 31, 1974 Law No. 18 To Amend the June 16, 1961 Neighbor's Act  
and the June 26, 1970 Law No. 75 on the Prevention of Water Pollution 01452B

May 16, 1860 Health Law

NOISE

June 18, 1965 Building Act As Amended by the Act of June 19, 1969 01455B

June 16, 1961 Neighbor's Act With the Amendment of June 19, 1969 01452A

May 16, 1860 Health Law

August 29, 1976 Regulations on Noise Certification of Civilian  
Aircraft

PESTICIDES

April 5, 1963 Law on Plant Protection Products

July 17, 1970 Crown Resolution Amending the Regulations on Plant  
Protection Products of December 4, 1964

PRODUCT CONTROL

June 11, 1976 Law Concerning Product Control, As Amended 04396A,B,C

August 5, 1977 Regulations Concerning the Implementation of the  
1976 Law Concerning Product Control 04396D

RADIATION

June 18, 1938 Law No. 1 Concerning the Use of X-rays and Radium

May 12, 1972 Act No. 28 Concerning Nuclear Energy Activities 01658A

February 9, 1973 Regulations Concerning the Organization and  
Functions of the Nuclear Energy Safety Authority

SOLID WASTE

June 8, 1924 Law Concerning the Sanitation Tax

April 12, 1957 Law on Slaughterhouses, the Meat Industry, and Official  
Meat Control

June 14, 1974 Provisional Law on Deposit Containers for Beer, Mineral  
Water, and Other Soft Drinks

ID. NO.

June 21, 1963 Road Act

June 19, 1970 Law No. 63 on the Protection of Nature, As Amended

01455A

June 11, 1976 Law Concerning Product Control, As Amended

04396A,B,C

WATER

June 24, 1933 Law Concerning the Harbor System

June 26, 1970 Law No. 75 on the Prevention of Water Pollution

01460A

May 31, 1974 Law No. 18 To Amend the June 16, 1961 Neighbor's  
Act and the June 26, 1970 Law No. 75 on the Prevention of  
Water Pollution

01452B

July 14, 1972 Regulations Concerning the Dumping of Substances  
Liable to Have Harmful Effects on Marine Life and Human Health

01460B

February 24, 1977 Interim Regulations to Prohibit the Discharge of  
Waste From Ships

01460C

March 6, 1970 Law No. 6 on Protection Against Damage Due to Oil

01459A

March 16, 1973 Interim Regulations Concerning Warning About the  
Escape of Oil-Mixed Liquids

June 16, 1972 Law No. 46 on Undertakings in Accordance With the  
Brussels Convention of November 29, 1969 Relating to Intervention  
on the High Seas in Cases of Oil Pollution Casualties

May 2, 1975 Interim Regulations on Intervention on the High Seas in  
Case of Oil Pollution or Danger of Oil Pollution Resulting From a  
Maritime Accident

Resolution to Transfer Responsibility for Matters Involving Pollution  
By Ships From the Ministry of Commerce to the Ministry of Environment

04401A

February 16, 1977 Regulations Concerning Storage and Spreading of  
Livestock Manure

04450A

1903 Act on Government Control of the Seaworthiness of Ships

June 17, 1955 Salt Water Fisheries Law

A-106

UNITED STATES

ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, D.C. 20460

OFFICIAL BUSINESS

PENALTY FOR PRIVATE USE, \$300

AN EQUAL OPPORTUNITY EMPLOYER

POSTAGE AND FEES PAID

U.S. ENVIRONMENTAL  
PROTECTION AGENCY

EPA-335



SPECIAL FOURTH-CLASS RATE