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## **Reader's guide**

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## Foreword

Work has been done since late 1994 on the Netherlands Soil Protection guideline for industrial activities (NRB) at the initiative of the Ministry of Housing, Spatial Planning and the Environment's Soil Directorate. The NRB has been developed to support the implementation of soil protection policy in business and industrial activities. The NRB is a tool for the competent authority and for entrepreneurs to help them determine the risk of soil threatening activities, select adequate soil protection measures and facilities and support the drawing up (and enforcement) of permit conditions. The NRB guideline has been drawn up in consultation between the authorities, and business and industry. The following organisations participated in the project group which compiled and produced the guideline:

- Association of Netherlands Municipalities (VNG);
- Association of Provinces (IPO);
- Directorate-General for Environmental Management of the Ministry of Housing, Spatial Planning and the Environment (VROM);
- The Bureau for the Environment and Spatial Planning (BMRO) of the Confederation of Netherlands Industry and Employers (VNO/NCW);
- Order of Dutch Consulting Engineers (ONRI);
- The Soil Protection Facilities Programme project bureau (PBV), in conjunction with the Netherlands Information Center for Soil Protection Facilities (NIBV), the Center for Civil Engineering, Research and Codes (CUR) and the certification body Kiwa;
- Soil Protection Expertise Network (ENBB);
- Information Center for Environmental Licensing and Enforcement (InfoMil).

### Reason for the NRB guideline

The points of departure for the preservation of a sustainable soil quality are given in the Netherlands National Environmental Policy Plan (NEPP) 2 [4]:

*"Soil policy aims at achieving and preserving a sustainable soil quality. The soil has to be able to serve the potential purposes for which it is intended within the natural parameters. In implementing this objective, consideration is given to what can be achieved in relation to other social objectives. The approach is through prevention and cleanup."*

More specifically with reference to preventive soil protection policy the NEPP-2 asserts:

*"Policy is geared to keeping the target value as the yardstick of a sustainable soil quality. For the short term the ALARA principle is adopted to reduce pollution as far as is reasonably possible."*

Moreover action point 44 in NEPP-I [7] stated as being: *"to take preventive measures at industrial sites."*

The NRB fills in the details of national soil policy.

Soil protection in the case of industrial activities is broadly speaking regulated by:

- regulations in general administrative orders based on the Environmental Management Act and the Soil Protection Act;
- conditions in permits based on the Environmental Management Act;
- the duty of care article, section 13 of the Soil Protection Act;
- the duty of care section, section 1.1a of the Environmental Management Act.

The working out of these leaves scope for individual interpretations and different permit-granting authorities consequently included a variety of conditions in the permits.

Both the permit-granting authorities – for drawing up permit conditions – and business and industry – for assessing their establishment – felt a need for unambiguous and comprehensible information. This resulted in the initiative to compile and publish the NRB.

### Status of the NRB

The NRB has been confirmed at administrative level by the Ministry of Housing, Spatial Planning and the Environment/Directorate General for the Environment (VROM/DGM), the Union of Water Boards, the Association of Provinces, the Association of Netherlands Municipalities within the Soil Steering Party (Stubo, formerly called Stubowa). Hence the NRB has the status of a harmonising tool for assessing the need and reasonableness of soil protection measures and facilities.

The NRB does not have any formal legal status but as a tool that has been confirmed at administrative level it does have a powerful steering function.

The NRB is not binding. Deviations from it are possible provided these are clearly motivated in e.g. the preamble to the environmental permit.

Consequently application of the NRB is not optional. There may be deviations but there have to be clear reasons for these bearing in mind equality before the law.

It is only once the NRB has been converted into conditions in permits or general administrative orders that legally binding regulations arise.

## Notification

The NRB helps companies in weighing the options with regard to possible methods of soil protection. To this end the NRB contains a description of the state of the art of suitable facilities and measures.

Considering the desired broad use in environmental permits, at October 9, 2003, the draft NRB is notified to the European Commission (notification number 2002/0390/NL) in order to comply with article 8, section 1 of the directive no. 98/34/EC of the Council of European Communities, laying down a procedure for the provision of information exchange in the field of technical standards and regulations and rules regarding services of the information society (OJEC L 204), as changed by directive no. 98/48/EC from July, 20, 1998 (OJEC L 217).

## ALARA and the NRB

The NRB gives a description of suitable soil protection facilities and measures that can be used to comply with the ALARA principle in permit conditions for soil threatening industrial activities. For this purpose reference has been made to Best Available Technology (BAT) as laid down in research documents and assessment guidelines (BRLs) used for certification regulations.

On top of this, the added value of the NRB lies mainly in the simple way soil risks can be quantified and the decision-making process can be structured by means of the decision-making model for Soil Protection on Company Premises (BBB).

The decision-making model indicates which soil protection measures and facilities offer fail-safe soil protection for each soil threatening activity.

The Soil Protection Facilities Programme (PBV) is of essential importance for the technical realisation and assessment of impermeable facilities. At the initiative of the construction industry, the PBV converts the general framework and standards of the NRB into technical principles with reference to impermeable containment facilities. The PBV includes recommendations, reports and assessment guidelines. The PBV concentrates primarily on developing impermeable constructions such as floors, pavements and seals, and drainage systems for liquids such as reservoirs and gutters, company sewers and collection basins.

The NRB has availed itself of the results of the PBV, if any, the main points of which have been adopted. Reference should be made to the separate PBV documents for details and specific applications.

### Mutual recognition

Soil protection facilities and services legitimately made or marketed in other member states of the European Community and/or legitimately produced in a state being a party to the European Economic Area Agreement, are considered to be equal to facilities and services mentioned within the NRB, as far as they provide the same level of protection as pursued by the NRB.

# NRB set-up

To improve the NRB's readability and practical usefulness, the contents of the first version of the NRB guideline (published in separate chapters between 1997 and 2000) have been subdivided into two separate sections:

## Section A

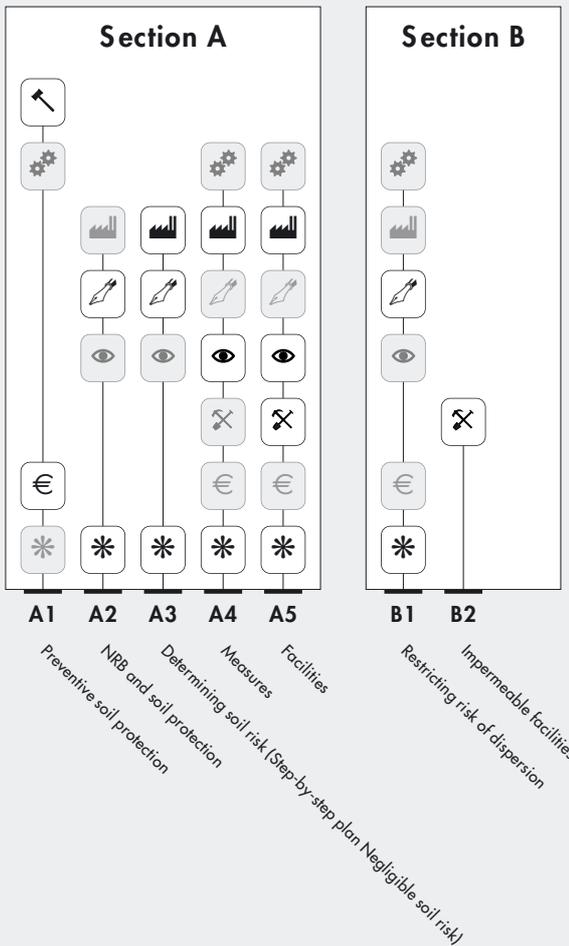
An informative section, primarily geared to achieving a negligible soil risk; this is intended to provide back-up for the decision-making within companies about their soil protection strategy, and for the competent authority as a basis for the permit preamble and permit conditions.

## Section B

A substantive section containing technical details geared to working out soil protection in specific situations.

The sections have then been subdivided into separate parts aimed at different user groups. Not all the parts are relevant to every user group. The diagram below indicates which parts are intended for which users.

-  The black boxes indicate the most important chapters.
-  Grey squares with black letters refer to the background information which is of relevance to that particular user group.



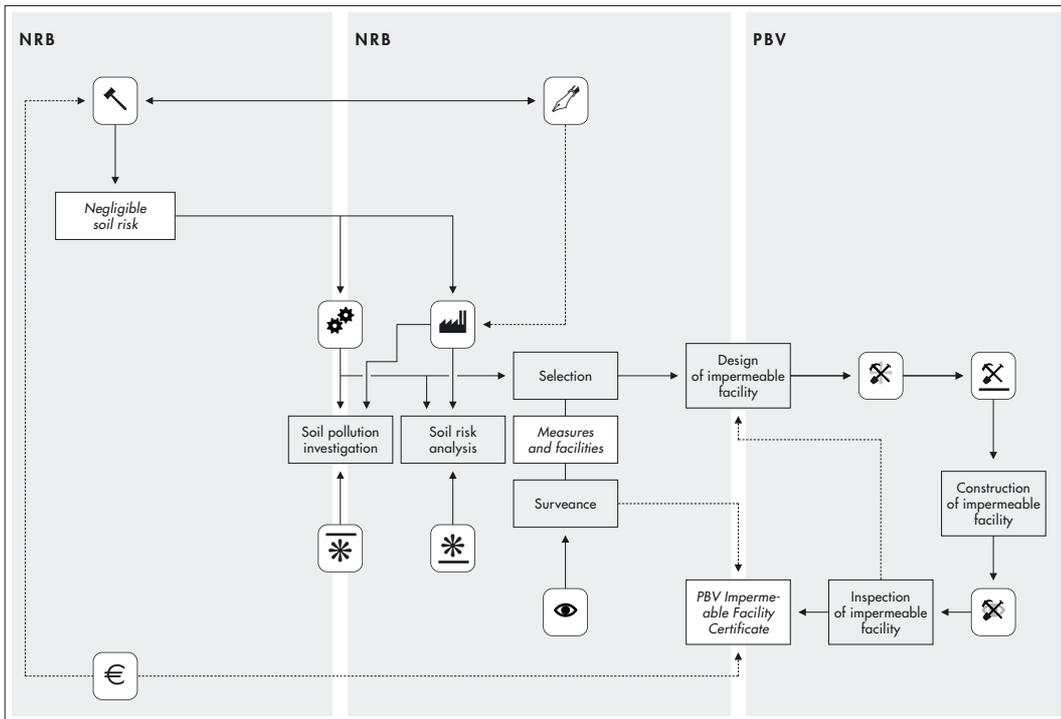
-  Manager – decision-maker
-  Environmental officer Section 840 company
-  Environmental officer; Permit activity
-  Permit-granting authority
-  Enforcing authorities; Supervisor
-  Civil engineering consultant; Qualified inspector; Building contractor
-  Backer
-  Environmental and/or soil consultant

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The diverse user groups have an individual responsibility in the process of selecting, assessing and achieving soil protection measures and facilities. These responsibilities are given in *italics* in the diagram below; for each responsibility an indication is given of the underlying role. The arrows show the links between different users and their tasks/responsibilities.

The left-hand side of the diagram refers to information and tasks in section A of the NRB. The right-hand side refers primarily to information accessible through the Soil Protection Facilities Programme (PBV) (see part B2 for this).

#### Task and responsibilities regarding soil protection



-  Manager – decision-maker
-  Environmental officer Section 840 company
-  Environmental officer; Permit activity
-  Permit-granting authority
-  Enforcing authorities; Supervisor
-  Civil engineering consultant; Qualified inspector; Building contractor
-  Backer
-  Environmental and/or soil consultant

## Definitions

### Acceptable soil risk

Situation in which an enhanced soil risk has been made acceptable using risk monitoring soil investigation and by anticipating soil cleanup, if any.

### Bulk goods

Unpacked granular material.

### Company emergency plan

A description of arrangements and conditions which a company has in place to minimise and combat the effects of calamitous (undesired) events.

### Control measure

See measures, control.

### Drip pans

Impermeable facility with a limited capacity whose soil protection effect is guaranteed by targeted supervision and effective cleaning.

### Duty to cleanup

Obligation, in view of the duty of care clause in the Environmental Management Act and the Soil Protection Act, to restore the soil quality to the baseline situation once soil pollution has occurred.

### Emission

The release of substances from an industrial activity.

### Emission score

Measure of the chance of emissions from a specific industrial activity; determined by the soil protection measures and facilities in place.

### Facility, source-based

Physical facility at installation level to restrict the chance of emissions such as double-walled tanks, flangeless hoses and/or leak detection.

### Facility, effect-based

Physical facility in or directly on the soil to restrict the chance of imissions, such as impermeable facilities, drip pans and/or liquid retaining facilities.

### Immission

The penetration of substances into the soil.

### Impermeable facility

Effect based facility that guarantees, that provided there is effective maintenance and adequate inspection and/or monitoring no liquid can be present on the outside of the facility which is not exposed to the liquid.

### Impermeable system design

Source-based facilities within or on a process installation, forms of design of the installation including mountings which guarantee that no unchecked liquids can be released from that installation.

### Incident management

Measures to avoid and/or restrict soil emissions such as the clearing away of spills (good housekeeping) or the effective intervention with adequate means in the case of failure of process operations.

### Increased or high soil risk

Situation in which the measures taken and the facilities in place do not protect the soil adequately.

### Inspections

Regular checks of the physical state of source-based or effect-based facilities.

### Liquid retaining facility

A facility that is not impermeable but which is capable of retaining substances that have been released temporarily long enough for these to be cleared away before they penetrate the soil.

### Measure, control

Measure geared to the industrial operations such as control and process equipment and careful processing procedures comprising: maintenance, inspection and supervision as well as incident management.

### Measure, general

Source-based measure geared to process design and process equipment and material choice to restrict the chance of emissions.

### Measures, organisational

System of general and control measures geared to the facilities in place and aiming at restricting soil risk.

### Maintenance programme

A programme in which it has been established how, with what frequency and by whom maintenance of the soil protection facilities must take place with a view to the long-term sound functioning of the facility.

### Monitoring soil quality to reduce the risk

See Soil investigation: monitoring soil quality to reduce the risk.

### Negligible soil risk

Situation in which the chance of soil pollution is negligible as a result of a sound coordination of measures and facilities.

**Packed goods**

Packed materials (depending on the aggregate state).

**Scale score**

The score for the risk of spread and the scale of the soil contamination that occurs as a result of an emission.

**Soil investigation: soil pollution investigation**

Investigation aiming at establishing soil pollution unambiguously in retrospect as a result of an industrial activity;

It involves taking stock of the baseline situation with regard to the soil quality prior to or as soon as possible after the industrial activity has commenced and carrying out an identical soil investigation of the final situation after termination of the activity.

Soil quality can be investigated in a comparable way in the meanwhile (interim soil investigation).

**Soil investigation: monitoring soil quality to reduce the risk**

Monitoring aiming at spotting emissions resulting from an industrial activity at an early stage with the aim of making a soil risk acceptable.

**Soil pollution**

Observed change in the soil quality as a result of a soil immission.

**Soil pollution investigation**

See soil investigation: soil pollution investigation.

**Soil risk analysis**

See soil risk checklist.

**Soil risk (category)**

Classification of the chance of (and the scale of) soil pollution by a specific industrial activity.

**Soil risk checklist**

Instrument for establishing the chance of emissions in the case of a specific industrial activity; see also emission score.

**Supervision**

Checking of the effective implementation of acts during the process geared to avoiding or spotting spills or the failure of process equipment.

**Viscous liquid**

Syrupy liquid, which when spilt barely spreads if at all.

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