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Ordinance on the Remediation of Polluted Sites (Contaminated Sites Ordinance, CSO)

of 26 August 1998 (Status as of 1 May 2017)

The Swiss Federal Council,

based on Article 32c paragraph 1 second sentence and Article 39 paragraph 1 of the Environmental Protection Act of 7 October 1983¹ (EPA),

ordains:

Section 1 General Provisions

Art. 1 Aim and subject matter

¹ This Ordinance is intended to ensure that polluted sites are remediated if they cause harmful effects or nuisances, or if there is a real danger that such effects may arise.

² It regulates the following procedures for treating polluted sites:

- a. their recording in a register;
- b. the assessment of the need for monitoring and remediation;
- c. the assessment of the objectives and urgency of remediation;
- d. the specification of the measures for investigation, monitoring and remediation.

Art. 2 Definitions

¹ *Polluted sites* means sites whose pollution originates from waste, and that are restricted in area. They comprise:

- a. waste disposal sites, i.e. inoperative or operative landfills and other sites where waste has been deposited, except for sites at which only unpolluted excavation material, quarried material or spoil have been deposited;
- b. industrial sites, i.e. sites whose pollution originates from inoperative or operative installations or industrial operations in which environmentally hazardous substances have been used;

AS 1998 2261

¹ SR 814.01

- c. accident sites, i.e. sites polluted as a result of extraordinary events, including industrial accidents.

² *Sites in need of remediation* are polluted sites that cause harmful effects or nuisances or where there is a real danger that such effects may arise.

³ *Contaminated sites* are polluted sites in need of remediation.

Art. 3 Construction and alteration of buildings and installations

Polluted sites may be modified by the construction or alteration of buildings and installations only if:

- a. they are not in need of remediation and the project does not make their remediation necessary; or
- b. their later remediation is not seriously hampered, or, insofar as they are modified by the project, they are remediated at the same time.

Art. 4 General requirements for measures

Investigation, monitoring and remediation measures under this Ordinance must correspond to the state of the art and be documented by those responsible.

Section 2 Register of Polluted Sites

Art. 5 Creation of the Register

¹ The authorities shall identify the polluted sites by evaluating existing information such as maps, registers and reports. They may obtain information from the holders of the sites or from third parties.

² They shall give notice of the content of the proposed register entry to the holders and provide them with the opportunity to state their opinion and to provide clarification. At the request of the holders, the authorities shall issue a declaratory ruling.

³ They shall enter in the Register those sites that are established as polluted in accordance with paragraphs 1 and 2 or where there is a high probability that they are polluted. Where possible, the entries shall contain the following information:

- a. location;
- b. type and quantity of waste delivered to the site;
- c. period of disposal of waste, period of operation, or time of accident;
- d. investigations and measures already taken for the protection of the environment;
- e. effects that have already been ascertained;
- f. endangered environmental areas;
- g. particular events such as waste incineration, landslides, floods, fires or major accidents.

⁴ The authorities shall divide the polluted sites into the following categories based on the information contained in the Register, particularly with regard to type and quantity of waste delivered to the site:

- a. sites from which no harmful effects or nuisances are to be expected; and
- b. sites requiring an investigation as to whether they are in need of monitoring or remediation.

⁵ The authorities shall prepare a list of priorities for performing the investigations. In doing so, they shall pay due regard to the information contained in the Register concerning the type and quantity of waste delivered to the polluted site, the likelihood of substances being released and the importance of the environmental areas affected.

Art. 6 Keeping the Register

¹ The authorities shall add information on the following to the entry in the Register:

- a. the need for monitoring and remediation;
- b. the objectives and urgency of remediation;
- c. the measures taken or ordered by them for the protection of the environment.

² They shall delete the site entry in the Register if:

- a. the investigations show that the site is not polluted with environmentally hazardous substances; or
- b. the environmentally hazardous substances have been eliminated.

Art. 6a² Coordination with the structure and land use planning

The authorities shall take account of the Register in their structure and land use planning.

Section 3 Need for Monitoring and Remediation

Art. 7 Preliminary investigation

¹ Based on the list of priorities, the authorities shall require a preliminary investigation to be carried out within a reasonable period for sites in need of investigation. This shall normally consist of a historical and a technical investigation, so that the need for monitoring and remediation can be assessed (Art. 8), and the environmental hazard evaluated (risk assessment).

² The historical investigation shall establish the possible causes of the pollution of the site, in particular:

- a. the events and the temporal and spatial history of developments at the site;

² Inserted by Annex 6 No 9 of the Waste Management Ordinance of 4 Dec. 2015, in force since 1 Jan 2016 (AS 2015 5699).

- b. the procedures used for handling environmentally hazardous substances at the site.

³ Based on the historical investigation, a performance specification shall be prepared on the aim, extent and methods of the technical investigation. The performance specification shall be submitted to the authorities for comment.

⁴ The technical investigation shall establish the type and quantity of substances at the site, the likelihood of their release and the importance of the environmental areas affected.

Art. 8 Assessment of the need for monitoring and remediation

¹ Based on the preliminary investigation, the authorities shall assess whether the polluted site is in need of monitoring or remediation in accordance with Articles 9 - 12. In doing so, they shall pay due regard to effects caused by other polluted sites or by third parties.

² They shall state in the Register whether a polluted site is:

- a. in need of monitoring;
- b. in need of remediation (contaminated site);
- c. in need of neither monitoring nor remediation.

Art. 9 Protection of groundwater

¹ Subject to paragraph 1^{bis}, a polluted site is deemed to be in need of monitoring to protect the groundwater, if:

- a. any of the concentration values specified in Annex 1 is exceeded in the eluate of the material at the site; or
- b. for groundwater water protection areas A_u , the concentration of substances originating from the site immediately downstream of the site exceeds 10% of one of the concentration values specified in Annex 1; or
- c. for groundwater outside water protection areas A_u , the concentration of substances originating from the site immediately downstream of the site exceeds 40% of one of the concentration values specified in Annex 1.³

^{1bis} If after several years of monitoring a site, it is established that, considering the evolution of pollutant concentrations and the characteristics of the site, it is highly probable that the site will not need remediation under paragraph 2, the site is deemed no longer to be in need of monitoring.⁴

² A polluted site is deemed to be in need of remediation to protect the groundwater, if:

³ Amended by No 1 of the O of 9 May 2012, in force since 1 Aug. 2012 (AS 2012 2905).

⁴ Inserted by No 1 of the O of 9 May 2012, in force since 1 Aug. 2012 (AS 2012 2905).

- a.⁵ potential water pollutants originating from the site are detected in groundwater catchments of public interest in concentrations that exceed the detection threshold;
- b.⁶ for groundwater in water protection areas A_u ⁷: the concentration of substances originating from the site immediately downstream of the site exceeds one-half the concentration value specified in Annex 1;
- c.⁸ for groundwater outside water protection area A_u s: the concentration of substances originating from the site immediately downstream of the site exceeds double the concentration value specified in Annex 1; or
- d. it is in need of monitoring in accordance with paragraph 1 letter a, and, owing to insufficient retention capacity, or degradation of substances originating from the site, there is a real danger of groundwater pollution.

Art. 10 Protection of surface waters

¹ Subject to paragraph 1^{bis}, a polluted site is deemed to be in need of monitoring to protect the surface waters, if:⁹

- a. any of the concentration values specified in Annex 1 is exceeded in the eluate of the material at the site which is susceptible of affecting surface waters; or
- b. in water that flows into surface waters, a concentration value specified in Annex 1 is exceeded for substances originating from the site.

^{1bis} If after several years of monitoring a site, it is established that, considering the evolution of pollutant concentrations and the characteristics of the site, it is highly probable that the site will not need remediation under paragraph 2, the site is deemed no longer to be in need of monitoring.¹⁰

² For the protection of surface waters, a polluted site is deemed to be in need of remediation if:

- a. in water that flows into surface waters, the concentration of substances originating from the site exceeds by tenfold a concentration value specified in Annex 1; or

⁵ Amended by No I of the O of 22 March 2017, in force since 1 May 2017 (AS 2017 2589).

⁶ Amended by Annex 5 No. 5 of the O on the Protection of Waters of 28 Oct. 1998, in force since 1 Jan. 1999 (AS 1998 2863).

⁷ Amended by Article 29 para. 1 let. A of the O on the Protection of Waters of 28 Oct. 1998 (SR 814.201).

⁸ Amended by Annex 5 No. 5 of the O on the Protection of Waters of 28 Oct. 1998, in force since 1 Jan. 1999 (AS 1998 2863).

⁹ Amended by No I of the O of 9 May 2012, in force since 1 Aug. 2012 (AS 2012 2905).

¹⁰ Inserted by No I of the O of 9 May 2012, in force since 1 Aug. 2012 (AS 2012 2905).