

**HELCOM RECOMMENDATION 17/5 \*)**

Adopted 12 March 1996  
having regard to Article 13, Paragraph b)  
of the Helsinki Convention

**RESTRICTION OF DISCHARGES FROM THE IRON AND STEEL INDUSTRY**

**THE COMMISSION,**

**RECALLING** that according to Article 6 of the Convention on the Protection of the Marine Environment of the Baltic Sea Area, 1974 (Helsinki Convention), the Contracting Parties shall take all appropriate measures to control and strictly limit pollution by noxious substances,

**RECALLING ALSO** that Annex II of the Helsinki Convention defines certain metals, oils and cyanide contained in industrial waste waters as noxious substances for the purposes of Article 6 of the Convention,

**RECOGNIZING** that iron and steel industry is a major source of metal, oil and cyanide discharges,

**RECALLING** the Ministerial Declaration at the ninth meeting of the Helsinki Commission,

**DESIRING** more information about the discharges from iron and steel industry,

**RECOGNIZING** the importance of reducing the discharges from iron and steel industry by

- (i) minimizing the hazards to human health and to the environment from toxic, persistent and bioaccumulative substances by the application of best available technology;
- (ii) developing industrial processes (in particular, recycling of waters) and preventing incidental effluent discharges;
- (iii) developing waste- and stormwater treatment techniques and reuse or further utilization and/or processing of the sludge in a manner causing as little environmental hazard as possible,

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\*) This Recommendation supersedes HELCOM Recommendation 11/5

**RECOMMENDS** that the Contracting Parties, as of 1 January 2002 (countries in transition as of 1 January 2005), or immediately upon adoption of a new production unit that has been granted a licence after 1 January 1998, take the following measures to reduce waste water discharges from iron and steel industry:

### 1. General requirements

- a) discharges should be avoided by using dry operations (e.g. gas cleaning techniques which cause no discharges to water);
- b) process water, polluted cooling water and polluted stormwater should be treated separately from unpolluted cooling water at each plant;
- c) installation of closed water systems should be developed for process water and polluted cooling water in order to reach a circulation rate of at least 95%;
- d) production processes, utilization of by-products, waste- and stormwater treatment technology should be developed in order to minimize discharges (e.g. slag granulation by process water);
- e) internal and external measures should be taken to minimize accidental discharges (e.g. installation of sufficient storage capacity for untreated waste waters);
- f) sludges should be disposed of in a manner causing minimal environmental hazard, preferably by treating and entering the sludges to the blast furnace, sintering plant or electric arc furnace;

### 2. Requirements to the effluent of the plant

After having fulfilled the general requirements under 1, the following limit values should not be exceeded as annual mean values (for CN<sub>vol</sub> 24h value);

Type of process	Suspendable solids	Oil	CN <sub>vol</sub>
Blast furnace	10 mg/l	-	0.2 mg/l
Sintering plant	10 mg/l	-	-
Open-heart furnace	10 mg/l	-	-
Basic oxygen furnace	10 mg/l	-	-
Electric arc furnace	10 mg/l	-	0.1 mg/l
Continuous casting	10 g/t	5 g/t	-
Hot rolling	50 g/t ( or 1 t/a ) **)	10 g/t (or 0.2 t/a)**)	-
Cold rolling	10 g/t	5 g/t	-

\*\* ) for existing plants only

For plants with integrated waste water systems the total annual discharges should not exceed the sum of the annual production multiplied with the values above for each process,

**RECOMMENDS ALSO** that the Contracting Parties report to the Commission every three years starting in 2000,

**RECOMMENDS FURTHER** that measurements and requirements for heavy metals as well as possible measurements and requirements for the environmental properties (e.g. toxicity and persistency) of the oil products used should be examined in 2000,

**DECIDES** that this Recommendation should be reconsidered in 2000, especially concerning limit values for continuous casting, hot and cold rolling.

**REPORTING FORMAT FOR HELCOM RECOMMENDATION 17/5 CONCERNING RESTRICTION OF DISCHARGES FROM THE IRON AND STEEL INDUSTRY**

**Country:** \_\_\_\_\_ **Year:** \_\_\_\_\_

For each plant:

- 1) Name of the plant, its production in tonnes/year and its location;
- 2) Process water, polluted cooling water and polluted stormwater treatment and re-circulation systems applied;
- 3) Status of the plant as to the paragraphs 1a , b, c, d, e , f;
- 4) a) Annual mean discharges in mg/l (for cyanide maximum 24h value)

<b>Process</b>	<b>suspendable solids</b>	<b>CN<sub>vol</sub></b>
Blast furnace		
Sintering plant		-
Open-heart furnace		-
Basic oxygen furnace		-
Electric arc furnace		

b) Specific discharges in g/tonnes processed steel:

<b>Process</b>	<b>suspendable solids</b>	<b>oil</b>	<b>Ni</b>	<b>Cr</b>	<b>Zn</b>
Continuous casting					
Hot rolling					
Cold rolling					