

CONVENTION ON THE PROTECTION OF THE MARINE
ENVIRONMENT OF THE BALTIC SEA AREA

HELSINKI COMMISSION - Baltic Marine
Environment Protection Commission

HELCOM 23/2002
Minutes of the Meeting

23rd Meeting
Helsinki, Finland, 5-7 March 2002

Annex 11

HELCOM RECOMMENDATION 23/9 *)

Adopted 6 March 2002
having regard to Article 20, Paragraph 1 b)
of the Helsinki Convention

**RESTRICTION OF ATMOSPHERIC EMISSIONS AND WASTE WATER DISCHARGES FROM
HARD COAL COKERIES**

THE COMMISSION,

RECALLING Paragraph 1 of Article 6 of the Convention on the Protection of the Marine Environment of the Baltic Sea Area, 1992 (Helsinki Convention), in which the Contracting Parties undertake to prevent and eliminate pollution of the Baltic Sea Area from land -based sources by using, inter alia, Best Environmental Practice for all sources and Best Available Technology for point sources,

HAVING REGARD also to Article 3 of the Helsinki Convention, in which the Contracting Parties shall individually or jointly take all appropriate legislative, administrative or other relevant measures to prevent and abate pollution in order to promote the ecological restoration of the Baltic Sea Area,

RECALLING ALSO Article 5 of the Convention on the Protection of the Marine Environment of the Baltic Sea Area, 1992 (Helsinki Convention), in which the Contracting Parties undertake to prevent and eliminate pollution of the marine environment of the Baltic Sea caused by harmful substances,

RECALLING ALSO Annex I, Part 1 of the Convention, according to which the Contracting Parties shall, in their preventive measures, give priority to the groups of substances including heavy metals, cyanides and oil listed in Annex I, Part 1 which are generally recognised as harmful substances,

RECALLING FURTHER the Ministerial Communiqué 1998, calling to implement the HELCOM Recommendation 19/5 on the HELCOM Objective with regard to Hazardous Substances, which is to prevent pollution of the Convention Area by continuously reducing discharges, emissions and losses of hazardous substances, with the ultimate aim of concentrations in the environment near background values for naturally occurring substances and close to zero for man-made synthetic substances, until 2020,

*) Superseding HELCOM Recommendation 17/4

RECALLING FURTHER that the Ministerial Declaration 1988, of the ninth meeting of the Helsinki Commission calls for a considerable reduction of land-based pollution,

RECOGNIZING that hard coal cokerries are notable sources of discharges of ammonia, phenols and cyanides to water and emission of dust to atmosphere,

RECOGNIZING ALSO that hard coal cokerries may be notable sources of discharges of polyaromatic hydrocarbons (PAH) to water,

DESIRING to limit atmospheric emissions and waste water discharges from hard coal cokerries with Best Available Techniques,

DESIRING ALSO to improve knowledge on these emissions and discharges,

RECOMMENDS to the Governments of the Contracting Parties that they apply the precautionary principle, the principle of the Best Available Techniques and the substitution principle, by which is meant substitution of the use of hazardous substances by less hazardous substances or preferably non-hazardous substances where such alternatives are available,

RECOMMENDS that the Governments of the Contracting Parties to the Helsinki Convention take the following measures for hard coal cokerries:

1. *Requirements for the reduction of waste water discharges:*

1.1 production processes, recovery of by-products (ammonia, etc.), gas cleaning equipment, waste- and stormwater treatment technology and, in particular, recycling of waters should be developed in order to minimize discharges of nitrogen, phenols, cyanide, COD and PAH;

1.2 internal and external measures should be taken to minimize accidental discharges (e.g. installation of sufficient storage capacity for untreated waste water);

1.3 sludges out of biological waste water treatment should be disposed of in the manner causing minimal environmental hazard, e.g. be charged into coke ovens together with the coal;

1.4 specific discharges (g per tonne hard coal) and concentrations in effluent (mg/l) should not, as an annual average for each mill, exceed the following values:

tot-N (i)	
COD _{Cr} (TOC)	100 (40) g/t
PAH (ii)	0.03 g/t (or 7 g/t suspendable solids)

as 24h or shorter period limit value (as annual mean value):

NH ₄ -N	30 mg/l (25 mg/l)
Phenol	0.5 mg/l (0.3 mg/l)
CN _{vol}	0.2 mg/l (0.1 mg/l)

(i) No limit value, but should be measured

(ii) Measurement at least six PAHs contained in DIN 38 409-H13-3

The mixing or diluting of different waste waters (i.e. mixing of treated process water with cooling water) for the purpose of compliance with the limit values established for the effluent should not be allowed. This means that all limit values mentioned above refer to the process waste water.

2. Requirements for the reduction of emissions to the air:

2.1 Dust emissions from hard coal cokeries should be avoided or collected and dedusted before being allowed to enter into the atmosphere;

2.2 Fugitive emissions from hard coal cokeries should be avoided as far as technically feasible, e.g. by enclosing the coke pushing operation besides good operational and housekeeping practices;

2.3 a) Low emission coke cooling techniques, preferably dry quenching, should be used. Dust emissions in the waste gas from dry quenching should not exceed 20 mg/m³ (ndg) for new plants and 50 mg/m³ (ndg) for existing plants. The total dust emissions from wet quenching may not exceed 50 g per tonne of coke for new plants and 80 g per tonne of coke for existing plants;

b) Filling gases from hard coal cokeries are to be conveyed to the crude gas as far as possible. Filling gases which may not be passed on should be burned. The emission of particulate matter in the combustion waste gas should not exceed 25 mg/m³;

c) Before coke pushing the coke should be fully carbonized. Waste gases from coke oven pushing should be captured and passed through a dust collector. Dust emission after dust filters should not exceed 5 g per tonne of coke;

2.4 The total emissions (including e.g. fugitive emissions from pushing, leaking doors and charging holes and dedusted gas) from all process steps should be measured or estimated and reported.

3. Analysing methods

Internationally accepted standardized sampling, analysing and quality assurance methods (e.g. CEN-Standards, ISO-Standards, OECD-Guidelines) should be used whenever available,

RECOMMENDS FURTHER that the Contracting Parties report to the Commission the discharges, atmospheric emissions and the pollution control measures taken every three years starting in 2003,

DECIDES that this Recommendation should be reconsidered in 2005 regarding requirements and especially concerning a limit value for tot-N and limit values concerning total dust emission from wet quenching.

REPORTING FORMAT FOR HELCOM RECOMMENDATION 23/9 CONCERNING RESTRICTION OF ATMOSPHERIC EMISSIONS AND WASTE WATER DISCHARGES FROM HARD COAL COKERIES

Lead Country:

Country:

Year:

1. Name and location of plants and their production

Plant	Location	Production (t/a)

2. Waste water discharges

a) Status of the plant concerning measures in order to minimize discharges of nitrogen, phenols, cyanide, COD_{Cr} and PAH

Measure	Measure has been carried out (Yes/No)	Work is going on (Yes/No)
Production processes are modernized		
By-products (ammonia, etc.) are recovered		
Gas cleaning equipments are modernized		
Recycling of polluted waters is carried out		
Storm water from plant area is treated before discharging		
Other, what		

b) Status of the plant concerning internal and external measures in order to minimize accidental discharges

Measure	Measure has been carried out (Yes/No)	Work is going on (Yes/No)
Installation of sufficient storage capacity for untreated waste waters		
Other, what		

c) Status of the plant concerning treatment of sludges out of biological waste water treatment

Measure	Measure has been carried out (Yes/No)	Work is going on (Yes/No)
Sludges are charged into coke ovens together with coal		
Other, what		

d) Status of the plant concerning specific discharges

	Specific discharges in g/t hard coal
N _{tot}	
COD _{Cr}	
TOC	
PAH	
SS	

e) Status of the plant concerning concentrations in effluent

	24 h or shorter value in mg/l	Annual mean value in mg/l
NH ₄ -N		
Phenol		
CN _{vol}		

3. Emissions to the atmosphere

a) Status of the plant concerning dust and fugitive emissions

	Yes	No	Partly
Dust emissions are avoided			
Dust emissions are collected and dedusted			
Fugitive emissions are avoided			
A low emission coke cooling techniques are used (preferably dry quenching)			
The particulate matter content of dedusted gases from dry quenching is $\leq 20 \text{ mg/m}^3(\text{ndg})$ (new plant)			
The particulate matter content of dedusted gases from dry quenching is $\leq 50 \text{ mg/m}^3(\text{ndg})$ (existing plant)			
The total dust emissions from wet quenching is $\leq 50 \text{ g/t coke}$ (new plant)			
The total dust emissions from wet quenching is $\leq 80\text{g/t}$ (existing plant)			

b) Status of the plant concerning filling gases

	Yes	No	Partly
Filling gases are conveyed to the crude gas			
Filling gases are burned			
The particulate matter content in the combustion waste gas is $\leq 25 \text{ mg/m}^3$ (ndg)			

c) Status of the plant concerning waste gases from coke oven pushing.

	Yes	No
Waste gas from coke oven pushing are collected and dedusted		
Dust emission after dedusting is ≤ 5 g/t coke		

d) Status of the plant concernig monitoring of emissions.

	Yes	No	Partly
The total emissions from all process steps are measured and reported			
The total emissions from all process steps are estimated and reported			

4. The current state of technologies suitable for further reduction of discharges and emissions.

Measures have been introduced (Yes/No)		
Timetable for further reductions (Yes/No)		
According to timetable further reductions will be carried out by year		
Technology (A brief description)	Technology has been carried out (Yes/No)	Work is going on (Yes/No)

5. Specify means used when nationally putting into force the Recommendation

- via general reference in the national legislation
- via a specific adoption of an amendment to existing national legislation
- via administrative or other means, please specify.

Possible problems identified when putting into force nationally the Recommendation.