

HELCOM RECOMMENDATION 23/8 *)

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

REDUCTION OF DISCHARGES FROM OIL REFINERIES

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 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 oils and hydrocarbon of petroleum origin, 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,

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 oil refineries are one of the main source of oil discharges,

BEING MINDFUL of the pollution caused by oil refineries,

DESIRING to limit this pollution by accomplishing the treatment of oil refinery effluents corresponding to modern technology,

*) Superseding HELCOM Recommendation 6/2

DESIRING ALSO to have more adequate information on the total discharges into the Baltic Sea of oil and oil products,

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 to the Governments of the Contracting Parties to the Helsinki Convention that:

1. At new and existing oil refineries the following provisions should be applied as from the beginning of the production:
 - a) cooling waters should be separated from other waters and retained uncontaminated by oil;
 - b) storm waters from polluted plant areas should be collected and connected to treatment plants; and
 - c) waste waters should be subject to biological or other equally effective treatment. The oil content (measured using IR spectroscopy) of the effluent should not exceed the monthly average of 5 mg/l and the total discharge should not exceed 3 grammes per ton of crude oil and other feed stocks, processed.

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. Analysing methods

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

RECOMMENDS ALSO to the Governments of the Contracting Parties to the Helsinki Convention that corresponding TOC and/or COD_{Cr} values should be measured and submitted whenever oil discharges are reported to the Helsinki Commission,

RECOMMENDS FURTHER that programmes drawn up to reduce pollution from oil refineries and results achieved should be reported every three years to the Helsinki Commission.

REPORTING FORMAT FOR HELCOM RECOMMENDATION 23/8 CONCERNING REDUCTION OF DISCHARGES FROM OIL REFINERIES

Lead Country:

Country:

Year:

1. Name, site and type¹⁾ of the oil refinery²⁾. Refer also if there is a reception facility in the refinery and the storage capacity (m³) and the treatment capacity (m³/d).

2. Description of the cooling system

Cooling system	Yes / No	Cooling capacity (MW)
Air		
Water once through		
Water, recycled		

3. Waste water treatment including:

Type of effluent	Flow of discharge (m ³ /a)	Mineral oil concentration at exit of system (mg/l)	Type of treatment ³⁾ (please tick): 1) gravity separation; 2) advanced separation; 3) biotreatment.
Process water			
Uncontaminated cooling water			
Cooling water, contaminated or mixed with other contaminated waters			
Storm- and other surface water run-off			
Ballast water			
Other, specify what			
Which types of effluents are mixed with other waste water streams before treatment?			

4. Feedstock and discharge of oil including

total feedstock processed (10 ⁶ t/a)	
oil refining capacity (10 ⁶ t/a)	
total quantity of oil discharged (according to table under point 3) (t/a)	
ratio of oil discharged to feedstock processed (g/t)	
quantity of oil discharged due to accidental spillages (not included in c) (t/a)	

5. Analytical methods including:

Analytical method used to measure mineral oil concentration (please indicate if different for different waste water streams)	
Infrared: extraction solvent; wavelenghts; standard solution	
Gravimetric extraction solvent	
Sampling method and frequency	

6. Effluent loads other than mineral oil

Parameter	Concentration at exit of system ^{*)}	Total quantity discharged (t/a)
COD _{Cr}		
BOD		
TOC		
Total extractable		
Phenolic compounds		
Other aromatic		
Sulphides		
Total nitrogen		

^{*)} Before connection with cooling water

7. A brief description on eventual programmes drawn up to reduce the pollution caused by the refinery regarding storm waters, cooling waters, process waters. The description of programmes drawn up is especially important for refineries not in compliance with this Recommendation.

8. Have any changes taken place since the last HELCOM reporting round (during the last 3 years) regarding: refinery operations; effluent treatment system; other.

9. When available refineries should provide a simple flow diagram of the refinery effluent system showing:

- the flow rates for the several streams (m³/a);
- the main processing steps of the treatment plant;
- the location of the sampling and flow measuring points.

10. Summary of evaluation of compliance with the requirements of the Recommendation

	Yes	No	Partly
Collection and treatment of stormwaters			
Separation of cooling waters			

Biological treatment of all contaminated waste waters			
Oil content of the effluent < 5 mg/l			
Total oil discharged \leq 3 g/ton crude			
Problems encountered in the implementation of the requirements and the foreseen development of the situation			

1) Note:

Type I - Simple refinery: composed of crude oil distillation units, catalytic reforming units and facilities for the treatment of distillate products including desulphurization.

Type II - Type I plus catalytic cracking and/or thermal and/or hydrocracking.

Type III - Type II plus stream cracking in refineries only and/or production of lubricants within refinery fence.

Type IV - Type II and Type III plus petrochemical industry.

Type V - Production of lubricants only (not included in the Recommendation 23/8).

2) Note:

Reporting should be restricted to oil refineries which process more than 1.000 000 ton crude oil per year and discharge directly into surface waters.

3) Note:

1) e.g. API, CPI, Tank

2) e.g. Chemical addition, Air flotation, Sedimentation, Filtration

3) e.g. Trickle filter, Activated sludge, Aerated pond.