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**MEDITERRANEAN ACTION PLAN**

**MEDPOL**

Meeting of MED POL Focal Points

Rhodes (Greece), 25 - 27 May 2011

***DRAFT***

**Regional Plan for the reduction of BOD<sub>5</sub> in the food sector as part of the  
implementation of Art. 15 of the LBS Protocol**

**Delegates are kindly requested to bring their documents to the meeting**

## Table of Contents

A-	Regional Plan on the reduction of inputs of organic load (BOD) from food sector in the framework of the implementation of Article 15 of the LBS Protocol	1
1.	Rationale	1
1.1	The LBS Protocol	1
2.	Proposed Regional Plan	1

**A- Regional Plan on the reduction of inputs of organic load (BOD) from food sector in the framework of the implementation of Article 15 of the LBS Protocol**

**1. Rationale**

**1.1 The LBS Protocol**

According to the provisions of the LBS Protocol, countries shall take the appropriate measures to prevent, abate, combat and eliminate to the fullest possible extent pollution of the Mediterranean sea Area caused by discharges from rivers, coastal establishments or outfalls, or emanating from any other land -based sources and activities within their territories, giving priorities to the phasing out of inputs of substances that are toxic, persistent and liable to bioaccumulate. Annex 1(a) of the Protocol outlines the sectors on which the provisions of the Protocol should apply and specifically the food sectors (1a, 21); Annex 1c lists the priority categories of substances which might be released from food sectors as follows:

Annex 1c, 13: compounds of nitrogen and phosphorus and other substances which may cause eutrophication;

Annex 1c, 17: non-toxic substances that have adverse effect on the oxygen content of the marine environment; and

Annex 1c, 19: non-toxic substances that may have adverse effects on the physical or chemical characteristics of sea water.

In addition, the meeting of MED POL Focal Points held in Kalamata in 2009 (Document UNEP(DEPI)/MED WG. 334/8), decided to include substances releases from food sectors in the action list of substances to be addressed as priority in the framework of Art 15 of the LBS Protocol.

**2. Proposed Regional Plan**

The Secretariat proposal related to the reduction of nutrients and BOD<sub>5</sub> from the food sectors here below takes into full account the LBS Protocol, the EU WFD and Waste Water and the Marine Strategy Directives, the national regulations on food sectors of the Mediterranean Countries (see Document UNEP(DEPI)/MED WG. 352/Inf.4) and follows the provisions of Article 15 of the LBS Protocol.

The proposed text includes ELVs for the reduction of BOD<sub>5</sub>, making use of up-to-date BAT and BEP. The proposal is addressing only industries which are releasing more that 25 m<sup>3</sup>/d of waste water.

*Regional Plan on the reduction of inputs of [BOD<sub>5</sub>] from selected food sectors in the framework of the implementation of Article 15 of the LBS Protocol*

**ARTICLE I**

**Definitions of Terms**

For the purpose of this Action Plan:

- (a) "Emission Limit Values (ELVs)" means the maximum allowable concentration measured as a "composite" sample, of a pollutant in an effluent discharged to the environment.
- (b) "Best Available Techniques (BAT)" means the latest stage of development (state of the art) of processes of facilities, or of methods of operation which indicate the practical suitability of a particular measure for limiting discharges, emissions and waste. (Annex IV, A of LBS Protocol).
- (c) "Best Environmental Practices (BEP)" means the application of the most appropriate combination of environmental control measures and strategies. (Annex IV, B of LBS Protocol).
- (d) "Organization" means the body referred to in article 17 of the Convention.

**ARTICLE II**

**Scope and Objective:**

- 1. The area to which this Regional Plan applies is the area defined in accordance with Art. 3 of the LBS Protocol. This is intended for all the food sector industries listed in appendix II within the hydrological basin discharging directly or indirectly into the Mediterranean Sea.
- 2. The objective of this Regional Plan is to prevent pollution and to protect the coastal and marine environment from the adverse effects of discharges of organic load (BOD<sub>5</sub>) from food sectors.

**ARTICLE II (Bis)**

**Preservation of Rights**

The provisions of this Regional Plan shall be without prejudice to stricter provisions respecting the levels of organic load (BOD<sub>5</sub>) from food sectors contained in other existing or future national, regional or international instruments or programmes.

**ARTICLE III**

**Measures**

- 1. Reduction of pollution load by application of BEP and BAT

Industrial Food Plants outlined in Annex II which discharge more than [4 000 pe] into water bodies. shall meet the following requirements (2-hour or 24-hour values) (see Annex I. A:

<b>Parameter</b>	<b>Value</b>
Chemical Oxygen Demand (COD)	[160] mg/l
or	
Total Organic Carbon (TOC)	[55] mg/l
Biochemical Oxygen Demand BOD <sub>5</sub> or (BOD <sub>7</sub> )	25 mg/l (30 mg/l)

In case the food sector installation discharges into the sewerage system, the competent authorities shall establish ELV and an authorization compatible with the operation and the emission discharge values of the urban waste water treatment plant.

Appendix III and document UNEP MAP MTS 142, entitled “Guidelines for the application of BATs and BEPs in industrial sources of BOD, Nutrients and Suspended Solids for the Mediterranean Region”, could be used as relevant references for the implementation of the above measures.

2. The Parties shall ensure that their competent authorities or appropriate bodies shall monitor related discharges into water to verify compliance with the requirements of the above table taking into account the guidelines included in Appendix I.
3. The Parties shall take the necessary steps to enforce these measures in accordance with their national regulations.

#### **ARTICLE IV**

##### **Timetable for Implementation**

The Parties shall implement the above measures, according to two deadlines: [2015] and [2019]. The Parties shall decide on the deadlines for the implementation of the ELVs indicated in the table of Article III above on the sectors outlined in Annex II, taking into account their national circumstances and respective capacity to implement the required measures. A national programme of action, including the adopted deadlines, shall be communicated to the Secretariat within 180 days after the adoption of the regional plan by the Contracting Parties. The Secretariat shall inform the Parties accordingly.

#### **ARTICLE V**

##### **Reporting**

In conformity with Article 26 of the Convention and Article 13, paragraph 2(d), of the LBS Protocol, the Parties shall report on a biennial basis on the implementation of the above measures and on their effectiveness. The Contracting Parties shall review the status of implementation of these measures in [2013] and [2017].

#### **ARTICLE VI**

### **Technical Assistance**

For the purpose of facilitating the implementation of the measures, capacity building, including transfer of know-how and technology will be provided by the Parties and the Secretariat. Priority will be given to those Parties who have ratified the LBS Protocol.

### **ARTICLE VII**

#### **Entry into Force**

The present regional Action Plan shall enter into force and become binding on the 180 day following the day of notification by the Secretariat in accordance with Article 15, paragraphs 3 and 4 of the LBS Protocol.

**APPENDIX I**  
REFERENCE METHOD OF MEASUREMENT

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

**APPENDIX II**  
BRANCHES OF FOOD INDUSTRIES

- 1) Dairy industry
- 2) Fruit and vegetable processing
- 3) Breweries
- 4) Winery and Distilleries
- 5) Fish processing industry
- 6) Sugar manufacturing
- 7) Vegetable oil processing
- 8) Canning and preserving
- 9) Meat processing and slaughtering

**APPENDIX III**  
GUIDELINES FOR THE REDUCTION OF WASTE WATER VOLUME AND POLLUTION  
LOAD BY THE FOLLOWING

- automatic control of processes;
- installation of cooling circuits instead of run-through-cooling;
- use of vapor condensates for cleaning operations;
- recycling of preheated water from heat exchangers for cleaning operations;
- recycling of low polluted waste waters for cleaning operations;
- multiple use of cleaning waters;
- use of biodegradable cleaning agents;
- decentralized cleaning stations in order to shorten the pipes for cleaning agents;

- push away of liquid products in pipes with compressed air and vacuum instead of water;
- use of nitric acid for cleaning operations instead of other acids;
- control of product losses by continuous waste water sampling and analyses;
- improving the basic technology for reducing raw material losses;
- installation of safety mechanisms to prevent overfilling;
- use of peroxyacids instead of chlorine-containing cleaning agents and disinfectants to avoid generation of hazardous chlorinated substances;
- mechanical cleaning before cleaning with liquids and disinfection to minimize the use of cleaning agents and disinfectants;
- controlled discharge of waters containing disinfectants in order to protect subsequent biological treatment;
- collection of product residues for further use, e.g. as feed for animals and fertilizers;
- separate collection and disposal of disinfectant rests and used concentrates;
- separate collection and treatment of fat, blood and nutrients;
- transportation of processed fish and sea products in a plant preferably without water;
- equipment of floor drains with fixed sink strainers.