Annex 10: Permit Model

Permit / Model

Sender: Licensing authority

Addressee: Company

I.

By these presents, pursuant to articles ….Act…. you shall be granted the permit to build and operate a plant for the production of cement with Co-processing Waste fuel with an output of …t/d cement in… (place)….(street, correct address)

II.

Plant Components

- rotary kiln with fuel gas channels, stack
- raw material storage
- fuel storage (primary fuel, secondary fuel)
- crushers, mills, coolers
- conveying facilities
- electrostatic filter
- waste processing, supply station
- …..

III.

Application Documents

1. Topographical map
2. Constructions documents:
    - key plan
    - drawings
    - building specification
3. Diagrammatic section of the plant
4. Machine site plan
5. Description of the plant and operation of the plant, the terms of normal working conditions
6. Description of the emission situation
    - the technology for prevention the pollution
    - contents of quantities of emissions
7. Description of secondary fuels: generation, processing, utilizing installation, supply, quality assurance system.
8. Environmental assessments
    - Air pollution immission prognosis (e.g. dust, NO_X, SO_2, heavy metals, PCDD/F)
    - Noise immission prognosis
    - Odor immissions
9. Maintenance of industrial health and safety standards
10. Description of energy saving techniques and/or measures
11. Description for public information
12. ..

IV.

Plant Data

Output: ……t/d cement
Primary Fuel : coal dust, heating oil,
Secondary fuel: solid fuels, liquid fuels, ….

V.

Collateral Regulations

1 Air pollution control

1.1 All waste gases must be collected and must be discharged in a controlled manner via stack.

1.2 Emission measurements must satisfy the following requirements. They must be
- representative and comparable with one another
- permit uniform evaluation
- permit monitoring and verification of compliance with emission limit by state – of-the art measurement practise

1.3 The Emission in the exhaust air of waste gas purification plants shall not exceed the following mass concentrations, always referred standardized conditions (273 K; 1013 hPa) after deduction moisture. Reference oxygen content 10 %

Pollutant [daily average value in mg/m³]	Total emission limit*
Particulate emissions (Total dust)	30
HCL	10
HF	1
NOx	500 - 800
SO_2	50** – (350)
TOC	10**
Dust constituents and filter-slipping metals, metalloid and compounds there of:	
Cd + Tl	0,05
Hg	0,05
Sb + As + Pb + Cr + Co + Cu + Mn + Ni + V	0,5
PCDD and PCDF	0,1 ng I-TE/m³

*Emission limits are fixed on basis "EU directive 2000/76/EG" but local authorities may establish special limits in case by case

** Exemption my be authorised by competent authority in cases where TOC and SO_2 do not result from the incineration waste

1.4 Monitoring of emissions:

- Substances contained in dust, HCL, PCDD/F

For the monitoring of emissions, single measuring are to be conducted.
The emission limit values are considered as being observed if the result of each single measuring does not exceed the fixed emission limit value.
Measurements have to be repeated at least every year an be performed independent experts.

- Dust, NO_X, SO_2

In order to monitor emissions, continuously measuring devices with automatic evaluation are to be installed. The result of the continuous measuring must be recorded
The measuring instruments have to be tested with regard to their functioning once a year by independent experts

- CO (limit value can set by competent authority)

1.5 Qualified laboratories

To ensure a uniform measurement practice, representative measurement results and comparable quality procedures, qualified laboratories are to be commissioned with sampling and analysis activities and calibration procedures.

The location and configuration of the sampling point is to be coordinated with the competent authorities (and the commissioned laboratory, where applicable)

2 Waste fuel control

2.1 Monitoring of Quality assurance for co-processing waste fuels

- point of generation (producer):
  - listing the waste according to type
  - contractual agreement over permissible quality and composition of the waste
  - documentation of quantities disposed of
- processing installation (incoming):
  - routine sampling and analysis*, retention samples
  - documentation of the quantities received and processed
  - routine sampling and analysis by independent expert
- processing installation (outgoing):
  - routine sampling and analysis*, retention samples
  - documentation of the outgoing quantities
- utilizing installation (cement kiln, incoming):
  - routine sampling and analysis*, retention samples
  - documentation of the incoming quantities
- *parameters investigated:
  - calorific value, moisture chlorine, sulfur, ash and ash components
  - heavy metals (Cd, Tl, Hg, Sb, As, Pb, Cr, Co, Cu, Mn, Ni, V)
  - PCB, PAH, etc.
  - maximum value, median value of the level of pollutants in the waste mix,

2.2 Pollutant limits in waste fuels for co-processing [1]

	median value [ppm]	maximum value [ppm]
Cadmium		
Thallium		

[1] Must be defined from the local authorities

Mercury		
Antimony		
Arsenic		
Cobalt		
Nickel		
Selenium		
Tellurium		
Lead		
Chromium		
Copper		
Vanadium		
Manganese		
Tin		
Beryllium		
Chlorine		
PAH		
Sulfur		
PCB		

2.3 Waste fuel catalogue for co-processing in cement kiln

Waste key / group	description of the co-processing fuel

3 Monitoring safe Combustion

- The burning process has to be monitored continuously using modern process control technology,
- The main parameters for analysis of the waste materials (calorific value, chemical composition, etc.) must be put into the process control system on a continuous basis,
- Regulations of primary energy have to follow in reliance on secondary fuel data,
- Waste fuels may only be supplied during normal continuous operation within the rated output range.

3.1 Safety regulations

For supervising the parameters listed below, should be linked to one another by a computer-controlled logic system e.g.:

- Gas temperature less than 900 ° C at kiln inlet,
- Temperature of material at kiln outlet less than 1250°C,
- CO- level above a value to be established by trial (Vol.%),
- Inadmissible control deviations in the set point/actual value comparison for the primary and secondary fuel feed,
- Raw-meal feed of less than 75 % of the max. possible quantity,
- Negative pressure before the exhaust gas fan below the value required at rated output,
- Permissible O_2 level lower than inspection measurements require,
- Permissible NO_x level above 500 mg/m³,
- Failure of burner,
- Dust level above permissible limit.

(This should ensure rapid detection of any disruption to normal operation and use appropriate response system to prevent uncontrolled combustion of residues)

VI.

Noise

In so far as noise must be taken into consideration, the noise immission limit values shall be determined in dependence of existing, surrounding development.

VII.

Sewage Water (if applicable)

VIII.

Reasons

(Reasons for a permission for co-processing waste,

- environmental assessment,
- air pollution control,
- waste management, waste hierarchy,
- public involved
- .....)