

FORMATION AND SOURCES: FIELD CASES

REGULATION AND CONTROL OF THE EMISSIONS OF PCDD/F IN FRANCE

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Introduction

For the French government, the end of the nineteen eighties coincides with the awareness of the danger due to the atmospheric emissions from industrial sources, and, in particular, the PCDD/F emissions.

This led to the adoption of new regulations which determine the limit values of PCDD/F emissions for municipal waste incinerators (MWIs) as well as for special waste incineration and coincineration plants (SWIs). MWIs have been submitted to normalised and regulated functioning conditions since 1991.

In reality, we will see afterwards that the modernisation of this branch of industry in accordance with this new regulation has been done with more or less success. We will notice it by taking stock of the inventory of the PCDD/F emissions in France.

As part of the previous dispositions, independent and recognised companies ensure the control of the emissions of PCDD/F in MWIs and SWIs.

Finally, we will study the evolution of the European regulation and will detail the foreseen consequences relative to the management of MWIs and SWIs.

The regulation of PCDD/F emissions in France

In France, the redaction of new regulations which set the limit values of PCDD/F emissions in the atmosphere – but also, of course, other pollutants – are defined by the Minister of the Environment and Regional Development. Once these laws are adopted by the Parliament, the Minister is in charge of their application.

Only MWIs and SWIs are submitted to the control of their PCDD/F emissions. The by-law of October 10th 1996 and the circular of May 30th 1997 set this limit to 0,1 ng I-TEQ/Nm³. An annual control of these emissions is planned for all these plants. In case of MWIs, this control is meant for plants whose capacity of incineration is ≥ 6 t/h.

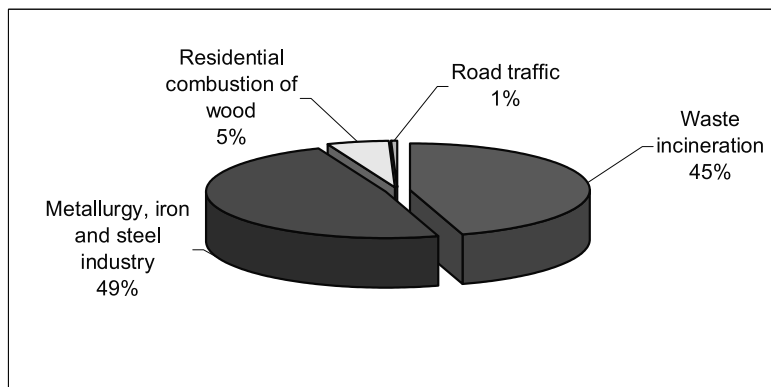
At the level of départements (subdivision administered by a prefect), and under the authority of prefects, DRIRE (Regional Direction for Industry, Research and Environment) take care of the control of the activities of MWIs and SWIs for the attention of the Minister of Environment, as part of the Classified Installations for the Protection of Environment. These installations have the particularity to be regulated by special laws and an Environmental Code, as their activity can be harmful to the environment. At a regional level, DRIRE are in charge of the inspection of these installations. Thus, DRIRE collect the annual results of the PCDD/F measurements. In this way, it was possible to establish an inventory of the global emissions of PCDD/F in France.

Inventory of the emissions of PCDD/F in France – Conformity of MWIs and SWIs

A study carried out in 1995 by CITEPA (Technical Interprofessionnal Centre for Studies of Atmospheric Pollution), available on the official internet site of the Minister of Environment, shows

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Table 1. Estimation of the emissions of dioxins in France¹ (overall inventory: 1,723 g I-TEQ/a)



that two major activities are responsible for more than 90% of the emissions of PCDD/F in France. The table below precises this assertion:

MWIs and SWIs represent 45% of the emissions of PCDD/F in France. For this reason, the French government has set in motion a program aimed to the reduction of PCDD/F and the control of the emissions of MWIs and SWIs. Indeed, the circular of May 30th 1997 plans an annual measurement of the PCDD/F emissions for MWIs whose capacity of incineration is ≥ 6 t/h.

Since then, the emissions have not ceased to decrease, notably thanks to the closing of ancient or non conform sites according to the by-law of January 25th 1991, as can be seen from the following table.

Table 2. Evolution of the emissions of municipal waste incinerators whose capacity is ≥ 6 t/h¹

Years	Emissions in g I-TEQ/Nm ³
1997	500
1998	300
1999	200

As mentioned previously, the by-law of January 25th 1991 determines the legal conditions to run municipal waste incinerators. It also plans to conform installations with capacities ≥ 6 t/h, at the latest, on December 1st 1996. For installations whose capacity of incineration is inferior to 6 t/h, this date is fixed to December, 1st 2000. In reality, this bringing into line of all MWIs has been a slow process, for which the respect of the deadlines mentioned in the by-law were often infringed.

At the end of 1996, 30 incinerators out of 70 whose capacity of incineration was ≥ 6 t/h, were in conformity with this by-law. At the end of 2001, 75 units out of 77 were in conformity¹.

The same study of the French Minister of Environment and Regional Development, in January 2002, indicates that 104 MWIs out of 188 whose capacity of incineration is < 6 t/h, were closed down between 1998 and 2001.

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Today, 161 MWI are open in France, 77 with a capacity of incineration ≥ 6 t/h and 84 with a capacity of incineration < 6 t/h. 110 are in conformity. Five of them started to undertake works of putting on conformity. Still 40 of them are functioning in spite of the non conformity of their installations¹.

The inspection companies

The evaluation of the emissions of municipal waste incinerators is ensured by independent inspection companies. As part of these regulatory controls, the companies have to be accredited by the COFRAC (French Committee of Accreditation) in accordance with the 97 Program, relative to emission and ambient air measurements. The agreement numbers 7 and 8 defined in the by-law of September 4th 2000, concerning PCDD/F sampling and PCDD/F analysis delivered by the Minister of Environment, are also required.

As such, 34 inspection societies got the accreditation for the sampling of PCDD/F and only 6 for the analysis of PCDD/F, including the German laboratory, GfA mbH².

Consequences linked with the European legislation and its evolution

As part of the harmonisation of the European regulation, notably in the environmental field, the controls realised by accredited societies in incineration plants are meant to intensify.

As a proof, the guideline 2000/76/CE of the European Parliament and Council relative to the incineration of waste, adopted on September 4th 2000 imposes the control of the atmospheric emissions of PCDD/F for the incineration and coincineration plants twice a year. A measurement every three months is planned during the first 12 months of their running. Out of this period, the frequency of these controls can be brought back to one control per year, on condition that the strict requirements stipulated in the guideline, article 11, are respected.

The dispositions of this guideline apply from December 28th 2005 for the existing installations. This deadline is brought forward to December 28th 2002 for the new installations (activated after December 28th 2002 due to licensing or request for authorization).

Besides, this guideline does not exclude to restrain the limits of PCDD/F emissions, among others, in order to reduce their emissions in the atmosphere. This progressive reduction process of emissions of PCDD/F is also the objective of the French Minister of Environment which banks on emissions < 7 g I-TEQ/a in the year 2007.

References

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