

## Hidden Emissions of Hydrochloric Acid

*Dutch Council of State ruling on subtraction of measurement uncertainty for HCl emissions by incinerator*

*June 9, 2019*

---

The Dutch Council of State has recently ruled that the management of the Waste to Energy plant REC in Harlingen has incorrectly applied the provisions concerning the subtraction of ‘*measurement uncertainty*’ as stated in Annex VI, Part 6, section 1.3 and Part 8, section 1.2 of the IED, the Directive 2010/75/EU on Industrial Emissions<sup>1</sup>.

The ruling states that the actual ‘*measurement uncertainty*’ of the continuous Automatic Measuring System (AMS or CEMS) of the REC – which is to be calculated using the results of parallel measurements that must be performed once every five years in the chimney – must be subtracted when correcting the measured emissions.

The ruling implies that the way in which the incinerator reduced the emissions as measured with the AMS was illegal, because the REC subtracted by default the value of the measurement uncertainty that a particular measuring system may – according to the IED – *at most* have in case it is to be installed in an incinerator (e. g. 4 mg/Nm<sup>3</sup> for a Hydrochloric Acid (HCl) measuring system). However, the real value – calculated using the results of parallel measurements in 2013 – of the measurement uncertainty of the *actual* HCl measuring system installed in Harlingen is much *smaller* than this default, maximum, value: 0.26 mg/Nm<sup>3</sup>.

This ruling of the Dutch Council of State is very important. ToxicoWatch cannot rule out that this practice of handling the ‘measurement uncertainty’ in conflict with the IED occurs in more countries<sup>2</sup>. We note that the ruling specifically quotes from a letter of the European Directorate-General for Environment to the appellants<sup>3</sup> (see attachment):

‘Obviously, where an instrument used to measure is very precise there is less need to deduct values from the measured results compared to a situation where the instrument is less precise. [...] A practice of deduction maximum fixed values regardless of the accurateness of the instrument therefore does not sit well with the Directive as the services see it’.

---

<sup>1</sup> <https://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2010:334:0017:0119:EN:PDF>

<sup>2</sup> *Amsterdam-based lawyer Henri Sarolea and his scientifically trained co-worker Jan Boekeloo were able to demonstrate the defectiveness of the calculations performed by the waste incinerator. These erroneous results had at first been approved by experts associated with the government, and also by experts advising the highest national court (the Council of State) itself, and in 2015 the Council of State ruled accordingly. With the help of the European Commission’s DGM Sarolea and Boekeloo finally succeeded to convince the Council of State to change their earlier judgement of 2015.*

<sup>3</sup> *Letter of DGM European Commission, July 20, 2017, ref: ENV.E2/MV/ts/CHAP(2016)2410*

What are the practical implications of this ruling?

The ruling only considers the HCl emission in the year 2014. In this year the annually averaged emission of hydrochloric acid (HCl) as measured with the installed AMS of the REC was 7.48 mg/Nm<sup>3</sup>, where the Environmental Permit of the REC allows 5 mg/Nm<sup>3</sup>. The established – actual – measurement uncertainty of the AMS for HCl of the REC is 0.26 mg/Nm<sup>3</sup>. So the real emission is 7.22 mg/Nm<sup>3</sup>, and that is evidently in exceedance of the permitted 5 mg/Nm<sup>3</sup> (see Figure 1).

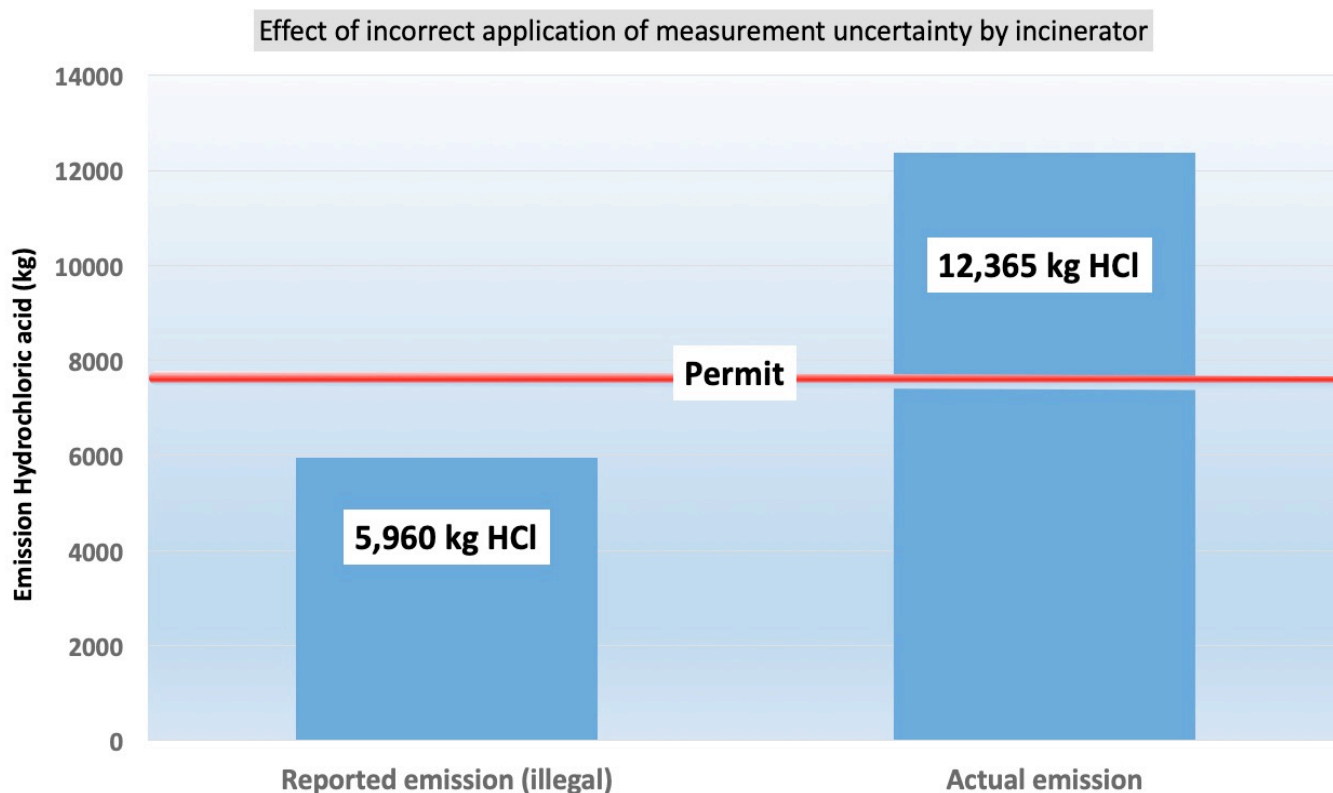


Figure 1: Emission (kg) of HCl in 2014 according to the incinerator (left), and after research by and ruling of the Council of State (right)\*

\*Note: The exceedance of the Permit increases in the years 2016 and 2017, cf. Figure 2

In order to keep this excessive illegal emission hidden, the REC however bluntly subtracted by default 4 mg/Nm<sup>3</sup> from the annually averaged value of 7.48 mg/Nm<sup>3</sup>, and stated that the resulting 3.48 mg/Nm<sup>3</sup> complies with the Permit. The ruling of the Council of State implies the incinerator has for many years emitted thousands of kilos HCl in deviation of the annual emission reports (cf. Figure 2). Experts doubt the incinerator will be able to reduce the hydrochloric acid emissions.

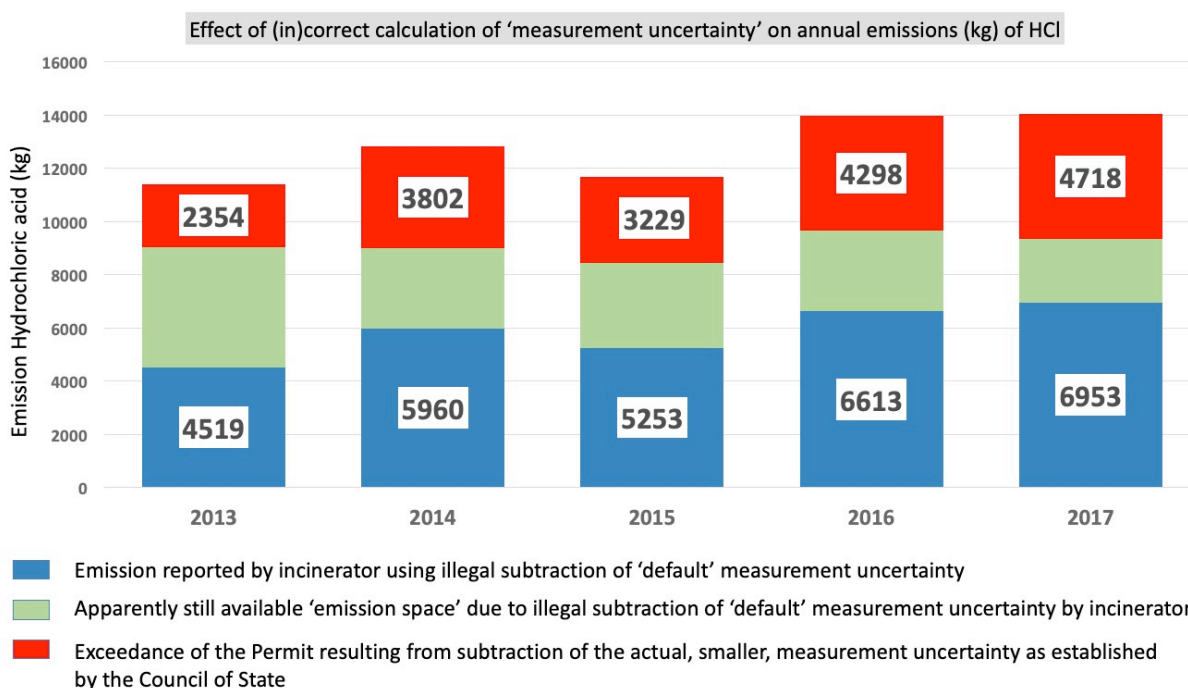


Figure 2: Annual emissions (kg) of HCl resulting from the subtraction of, on the one hand, the larger but incorrect value 4 mg/Nm<sup>3</sup> (resulting emission: blue) and, on the other hand, the smaller but correct value 0.26 mg/Nm<sup>3</sup> (resulting emission: blue + green + red) for 'measurement uncertainty'



**EUROPESE COMMISSIE**

DIRECTORAAT-GENERAAL

MILIEU

Directoraat E - Uitvoering en Ondersteuning aan lidstaten

ENV.E.2 - Uitvoering milieumaatregelen

**20 JUL. 2017**

Brussel,

ENV.E2/MV/ts/CHAP(2016)2410

Mevrouw B. Hofman

Namens: Stichting Afvaloven Nee

E-mail: [bastianabcn@yahoo.com](mailto:bastianabcn@yahoo.com)

Subject : your complaint

Dear Mrs Hofman,

I refer to your complaint of 14 July 2016 sent to the European Commission and which was registered as CHAP (2016)2410. You have received a separate acknowledgement and there have been informal contacts with my services. We now have completed our assessment, taking also account of explanations received by the Dutch authorities raised in the context of a discussion on the conformity of the Dutch provisions transposing Directive 2010/75/EU of the European Parliament and of the Council of 24 November 2010 on industrial emissions.

Your complaint relates to the Administrative Law Division's ruling of 15 July 2015 which rejected your appeal against a negative decision taken by the Dutch regional authorities on your request for enforcement of legal provisions pertaining to a waste incineration plant in the province of Friesland. Your appeal to the Council was based on the allegation that the authorities (the legislator included) misinterpreted Section 1.3 of Part 6 of Annex VI to Directive 2010/75/EU of the European Parliament and of the Council of 24 November 2010 on industrial emissions where it comes to the correction of measured emissions. To summarise, you claimed that the Directive does not permit the authorities to deduct from the measured emissions the maximum confidence interval referred to in Directive by default whereas the authorities claimed the contrary. You explain that the deduction of a fixed value may lead to distortion by masking the fact of exceedances of the imposed limit values for pollutants. The case at hand concerned the deduction by the authorities of 4 mg/Nm<sup>3</sup> for HCL and 0,4 mg/Nm<sup>3</sup> for HC, based on Article 5.19 of the Dutch Decree on industrial activities (*Activiteitenbesluit milieubeheer*). The Dutch Council of State however agreed in its ruling with the arguments put forward by the authorities and rejected your appeal.

Key to your complaint is the interpretation of Section 1.3 of Part 6 of Annex VI to Directive 2010/75/EU of the European Parliament and of the Council of 24 November 2010 on industrial emissions and notably whether that provision allows for the standard deduction of a maximum value. It must be emphasised from the start that only the Court of Justice of the European Union is entitled to provide a final interpretations of EU law and that therefore the elements provided hereafter by the Commission services cannot be considered as a final interpretation of the Directive.

More importantly even, it must also be made clear from the start that the text of the Directive does leave some room for arriving at different interpretations. For that reason alone we cannot conclude that the national (judicial) authorities have made a manifest error and that there are sufficient indications of an infringement of EU law. Nevertheless, the services of DG ENV consider that the preferred interpretation of the Directive goes along the lines you have described.

The said section 1.3 of Part 6 of Annex VI to Directive 2010/75/EU provides for the maximum permitted margin of inaccuracy and determines the maximum percentage by which the monitoring results (including on Hydrogen chloride (HCl) and Hydrogen fluoride (HF) which seem in particular at stake in your complaint) may exceed the emission limit value. The relevant parts of the said Part 6 read:

*"Annex VI on technical provisions relating to waste incineration plants and waste co-incineration plants, PART 6 on monitoring of emissions*

*1.1. Measurements for the determination of concentrations of air and water polluting substances shall be carried out representatively.*

*1.2. Sampling and analysis of all polluting substances including dioxins and furans as well as the quality assurance of automated measuring systems and the reference measurement methods to calibrate them shall be carried out according to CEN-standards. If CEN standards are not available, ISO, national or other international standards which ensure the provision of data of an equivalent scientific quality shall apply. Automated measuring systems shall be subject to control by means of parallel measurements with the reference methods at least once per year.*

*1.3. At the daily emission limit value level, the values of the 95 % confidence intervals of a single measured result shall not exceed the following percentages of the emission limit values:*

<i>Carbon monoxide:</i>	<i>10 %</i>
<i>Sulphur dioxide:</i>	<i>20 %</i>
<i>Nitrogen dioxide:</i>	<i>20 %</i>
<i>Total dust:</i>	<i>30 %</i>
<i>Total organic carbon:</i>	<i>30 %</i>
<i>Hydrogen chloride:</i>	<i>40 %</i>
<i>Hydrogen fluoride:</i>	<i>40 %</i>

*Periodic measurements of the emissions into air and water shall be carried out in accordance with points 1.1 and 1.2."*

The applicable Dutch legislation is Article 5.19(3) of the Decree on environmental activities (*Activiteitenbesluit milieubeheer*), which reads:

*"De waarde van het 95%-betrouwbaarheidsinterval van individuele waarnemingen, op basis waarvan de gemiddelden worden berekend die getoetst worden aan een emissiegrenswaarde, is bij continue metingen niet groter dan de volgende percentages van de emissiegrenswaarde voor de dagelijkse emissies:*

*(...)*

*f. zoutzuur: 40% van de emissiegrenswaarde of 4 mg/Nm<sup>3</sup>;*

*g. waterstoffluoride: 40% van de emissiegrenswaarde of 0,4 mg/Nm<sup>3</sup>."*

These services would interpret section 1.3 of Part 6 of Annex VI to the Directive (and the related Annex VI, part 8, point 1.2) in the light of its objectives and the general requirement of ensuring that EU law can have its full effect.

In that light these services prefer to read these provisions as meaning that only values which have been determined on a case by case basis on the basis of measurements should be deduced from the values obtained through the measurements. This is in line with the rationale of the Directive, which is to protect the human health and the environment by setting limits on the emissions of pollutants and by requiring measuring these emissions<sup>1</sup>. The recognition by the Directive that the measuring instruments can be more or less accurate does in no way imply that measured and/or calculated emissions don't need to reflect reality as close as possible. Obviously, where an instrument used to measure is very precise there is less need to deduct values from the measured results compared to a situation where the instrument is less precise. In other words, although deducting certain values based on uncertainty considerations linked to various elements (different for each installation) including the accuracy of measurement equipment, the measured parameter (sulphur dioxide, NO<sub>x</sub>, dust etc.), measurement conditions (gasses moisture, velocity etc.) or type of installation, is in practice a certain necessity, such deduction possibility must be used as restrictive as possible given the objective of the Directive and the need to ensure its full effect. A practice of deduction maximum fixed values regardless of the accurateness of the instrument therefore does not sit well with the Directive as the services see it.

---

<sup>1</sup> Article 1 on the subject matter reads: "This Directive lays down rules on integrated prevention and control of pollution arising from industrial activities. It also lays down rules designed to prevent or, where that is not practicable, to reduce emissions into air, water and land and to prevent the generation of waste, in order to achieve a high level of protection of the environment taken as a whole."

It would therefore seem that in the case at hand the interpretation given by the national (judicial) authorities, although not manifestly wrong in itself given the room for interpretation which the text of the Directive provides, is not the interpretation which the services would have preferred for ensuring the full useful effect of the Directive under all circumstances.

In the absence of sufficient indications of a manifest error on the side of the national authorities, we therefore do not intend proposing to the Commission the opening of an infringement procedure. Should you however dispose of information liable of changing this conclusion please forward that within four weeks of receipt of this reply.

Yours sincerely,

A handwritten signature in black ink, consisting of a large, sweeping loop on the left side that extends into a long, horizontal line across the middle and right.

Ion Codescu

Head of Unit