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ANALYSIS OF THE NEW CONAMA 491/19 RESOLUTION ESTABLISHING AIR QUALITY STANDARDS: ITS IMPLICATIONS FOR LARGER SIZED COMPANIES

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Abstract: This article provides a critical analysis essay of the recently published Conama Resolution 491/18 on air quality standards recommended by the World Health Organization (WHO). According to the Brazilian Institute for the Environment and Renewable Natural Resources (IBAMA), the implementation of the new resolution will raise many environmental benefits and improvements to human health, since the expectations are to eliminate about 99% of the pollutant emissions in Brazil. This paper wants to discuss the interferences and implications of this new Resolution in meeting air quality standards for projects with high atmospheric emission potential, such as mining and steelmaking, since emission values are very high. Its much more restrictive than the former Resolution 03/90. Given more than a decade waiting for a modern and updated Resolution on air quality considering countries like Brazil, where serious problems on high rates of respiratory diseases and deaths are already accounted and those WHO-Standards should've been implemented since back to 2005. Although Conama Resolution 491 / 18 mentions that it is guided by WHO-Standards, this was not actually applied in practice regarding the so-called intermediate standards. The intermediate patterns with no goal and time to reach can stimulate the inertia of any attempt to reach the limits, as in São Paulo where the legislation follows practically the same mechanisms. After all, the reason for the existence of the intermediate patterns were based on temporary goals, leading in a staggered way to the achievement of final standards. This would require mechanisms and deadlines that could effectively stimulate progression to the most restrictive standards over time, and this has not been aimed in this new legislation. In addition to these issues it is observed that large companies, especially those related to the mining and steel industry, are those that have the most potential for being subjected to infractions through subjective and "conflictual" aspects of Conama Resolution 491/18 not very well enlightened.

Keywords: Resolution Conama 491/18, air quality, mining and steel, environment and World Health Organization - WHO, Attorney General of the Republic.

INTRODUCTION

The recently published CONAMA Resolution No. 491/18, which sets the new air quality standards, taking as reference those recommended by the World Health Organization (WHO) in 2005, revoked CONAMA Resolution No. 03/90 and the standards of primary and secondary quality, established by CONAMA Resolution No. 05/89. The amendment was adopted by the Council plenary, keeping the basic text on air quality standards much more restrictive than the previous resolution, very close to WHO-Standards. According to the Brazilian Institute for the Environment and Renewable Natural Resources (IBAMA), the implementation of the new phase of the Program on Vehicle Emissions Control will bring many environmental benefits, as well as human health features, since the expectation through this measure is to eliminate about 99% of the Brazilian pollutants emissions.

The benefits to human health include reducing heart disease, lung disease and stroke. However, the Attorney General filed an action of unconstitutionality to the Superior Court based on the argument that although it uses as reference the guide values on air quality recommended by the World Health Organization (WHO) in 2005, the

resolution does not treat the air quality standards adequately. It's too permissive on starting values, failing to set decisive deadlines for reaching successive stages of air quality standards and presenting a vague decision-making procedure.

According to the Attorney General of the Republic the resolution doesn't grant the availability of clear and accessible information on air quality to the population. In this new resolution the elaboration of the Control of Atmospheric Emissions Plan is under responsibility of the state environmental organs.

The deadline is up to three years after the resolution becomes effective, ie until 2021. The plan should contain which regions will be involved, the identification of the main sources of pollutants and what they are, as well as the establishment of goals and deadlines for the implementation of so-called Intermediate Standards. Each federal entity should still be responsible for issuing an Air Quality Assessment Report annually.

OBJECTIVES

The objective of this article is to discuss the interferences and implications of the new



AIR POLLUTION CONFERENCE BRAZIL

CMAS SOUTH AMERICA

COMMUNITY MODELING AND ANALYSIS SYSTEM

resolution to meet the indicated standards against projects with great potential for atmospheric emission, such as steel and mining, since the emission values are much more restrictive than the values of the former Resolution 03/90.

This article presents an analysis of the interactions of the new Conama Resolution 491/18 with the atmospheric dispersion modeling studies. What should be the analyzes to be worked out, how should modeling reports be worked out in the face of the new resolution?

Finally, to take an approach on the recent challenge of the PGR with the STF regarding the action of unconstitutionality of the new resolution.

METHODOLOGY

The methodology used will be review and critical analysis of current legislation, using the authors' experience to deal with legal issues through the scenario of interaction with large enterprises with high potential for atmospheric emission, as well as a research of issues in the post-resolution debate.

In addition, an analysis of the Attorney General opinion regarding the unconstitutionality of the respective resolution. Future scenarios of mining and steel enterprises will be evaluated in the light of the new legislation, comparing their emissions by means of available data with the guidelines of the new legislation.

RESULTS

The first stage of the new resolution came into effect as of publication on November 21, 2018 and comprises Air Quality Standards called Intermediaries - PI-1 and Final Standards - PF, which are:

II - air quality standard: one of the air quality management instruments, determined as the concentration value of a specific pollutant in the atmosphere, associated with a time interval of exposure, in order for the environment and the health of the population to be preserved in relation to the risks of damage caused by air pollution;

III - intermediate air quality standards - IP: standards established as temporary values to be met in stages;

IV - final air quality standard - PF: guideline values defined by the World Health Organization - WHO in 2005; V - critical episode of air pollution: situation characterized by the presence of high concentrations of pollutants in the atmosphere in a short period of time,

resulting from the occurrence of meteorological conditions unfavorable to the dispersion of the same;

The Intermediate and Final Air Quality Standards shall be adopted, each subsequently, taking into account the Air Emission Control Plans (PCEA) and the Air Quality Assessment Reports (RAQA), prepared by the state bodies and district environment. The state bodies must prepare the PCEAs within three years from the entry of the normative act on. In addition, the plans should take into account the standards defined in the new resolution, as well as the guidelines contained in the PRONAR - Air Quality Control Program.

The Air Quality Assessment Reports shall be prepared annually and contain the monitoring data and air quality evolution with the minimum content set forth in Annex II of the Resolution. The new resolution also provides for the elaboration of Plans for Critical Air Pollution Episodes, based on levels of attention, alert and emergency, which should provide for preventive measures with the aim of avoiding serious and imminent risks to the health of the pollution.

Finally, the new legislation grants the state environmental agencies the power to define criteria in air quality standards for licensing purposes.

According to the PGR (Attorney General of the Republic) when it comes to air quality standards, the new resolution deliberates on concepts, establishes parameters, makes decisions and creates attributions to state and district environmental agencies, even to the Public Ministry.

In this way, the Attorney General's understanding is that the resolution does not adopt a typical regulatory nature and it is within its competence, as it innovates in the legal system with articles endowed with legal autonomy, abstraction, generality and impersonality.

In this way the PGR (Attorney General of the Republic) understands by the direct action of unconstitutional action against resolution that contains serious errors of primary normative content. Based on the criteria defined by the current legislation on air quality, Conama Resolution 491/18 has:

Art. 9 The Ministry of the Environment shall prepare an annual monitoring report and will present it at the last regular meeting of CONAMA.

Art. 10. The state and district environmental agencies shall elaborate,

based on levels of attention, alert and emergency, a Plan for Critical Air Pollution Episodes, to be submitted to the competent authority of the state or the Federal District, aiming at preventive measures with the aim of avoiding serious and imminent health risks to the population according to the pollutants and concentrations listed in Annex III. Single paragraph. The Plan mentioned in the caput should indicate those responsible for the declaration of the various levels of criticality, and should be disclosed in any of the mass media.

Art. 11. The levels of attention, alert and emergency referred to in art. 10 shall be declared when the emissions are expected to be maintained as well as conditions.

Art. 12. The Ministry of the Environment and the state and district environmental agencies shall disclose on their web page monitoring data and information related to the management of the air quality.

Art. 13. The state and district environmental agencies shall disclose Air Quality Index - IQAR as defined in Annex IV.

Art. 14. The CONAMA Resolution No. 03/1990 and items 2.2.1 and 2.3 of CONAMA Resolution No. 5/1989 are revoked.

In 2005 the World Health Organization (WHO) released an update of its known air quality "guidelines" for air quality guidelines, based on recognized international studies. They are guides with concentration values set for certain atmospheric pollutants, considered as the limit to indicate the lowest health risk, and serve as a parameter for the countries in the elaboration of their standards of air quality measurement. The EU was one of the first to use these figures as a reference.

In this way, the values recommended in Conama Resolution 03 of 1990 were already far behind the international references when, in 2010, civil society environmental organizations provoked the process of revision of the Resolution, that is, 5 years later. Taking into account the values reviewed by the WHO in 2005, it has been 13 years without our resolution on air quality being revised.

Recently, in May 2018, WHO released alarming estimates of the risks and epidemic of deaths from air pollution. According to the organization about 7 million people as a result of exposure to airborne microparticles suspended in the air. In Brazil, an estimated 50,000 annual deaths are due to air pollution. In this way, it was to be expected that air quality standards, in turn, would already begin

with the definitions established by the WHO, since the 13-year gap has been established. Although Conama Resolution 491 mentions that it is guided by WHO standards, this does not actually happen in establishing the so-called intermediate standards Pls. See below in the comparative table between WHO and Conama Resolution 491.

Pollutant	Sample concentration time	Conama Resolution 491. Intermediate Standard	OMS 2005
Particles inhalation (MP10)	24 hour	120	50
	Annual average	40	20
Particles inhalation (MP2,5)	24 hour	60	25
	Annual average	20	10
Ozone (O3)	8 hour	140	100

Source: Conama Resolution 491 and World Health Organization (WHO).

In fact, the values adopted by air quality standards assume the goal function to be achieved, stimulating states, municipalities, productive sector and organized civil society to guide their agendas in accordance with the reach of this protective north, in spite of state environmental authorities they can set their own goals, provided they are more restrictive (stricter and more secure).

Although CONAMA Resolution No. 491/2018 aims to achieve, in the final standard, although after 13 years after the WHO reports, it does not establish peremptory periods between the intermediate stages (PI-1, PI-2 and PI- 3) and the final step (PF), stimulating the inertia of any attempt to reach the limits, as in the São Paulo legislation that has practically the same mechanisms. After all, the reason for the existence of intermediate patterns is that they effectively function as temporary goals, leading in a staggered way to the achievement of final standards. This would require mechanisms and deadlines that could effectively stimulate progression to the most restrictive standards over time.

The mechanism of pattern progression can still stagnate in the initial pattern, not only due to the absence of peremptory time between stages, but also through the writing of art. 4, paragraph 4 of the CONAMA Resolution No. 491/2018, which provides that "if migration to the subsequent standard is not possible, the standard already adopted" prevails. According to the PGR, the device, too generic, allows the perpetuity of high levels of atmospheric contamination.

The question being asked is whether, in fact, states will actually advance their policies for setting final standards as outlined in Resolution



AIR POLLUTION CONFERENCE BRAZIL

CMAS SOUTH AMERICA

COMMUNITY MODELING AND ANALYSIS SYSTEM

491? In what time and periodicity will this evolution take place? Is there a risk of not moving towards final standards? In addition to all these issues there are still many questions and uncertainties that put the productive sector in a situation of discomfort.

Initial analyzes indicate that medium- and large-sized mining ventures with extensive exposed areas such as tailings dams, sterile and ore piles will not meet the air quality standards for particulate matter emissions in the face of higher values new legislation.

For steel mills, the risks are also non-attendant, especially for large ones, which were built more than three decades ago, whose emission controls were scaled in the face of less restrictive legislation or absent any definition. Let us see how Resolution Conama 491 deals with environmental issues in a broad way, placing levels of concentration and human pollution in the same conditions of pollution for fauna, flora and materials.

Article 2. For the purpose of this resolution, the following definitions are adopted:

1 - atmospheric pollutant: any form of matter in quantity, concentration, time or other characteristics which render or may render air unfit or harmful to health, inconvenient to public welfare, harmful to the environment, fauna or flora or harmful to security, the use and enjoyment of property or the normal activities of the community;

In face of this scenario of definition of pollutant and human standards also become references for fauna, flora and materials. The questions are based on the fact that these values were determined based on studies to human health by the WHO and not for fauna, flora and materials, depending on the species or material being more or less restrictive. As it is known each species is whether the fauna and flora are more or less resistant to air pollution, some, for example, very sensitive like mosses and lichens. The question of materials also in fact refers to innumerable doubts and questions in the face of the resistance of each one of them and their importance.

Atmospheric dispersion models are important tools to predict these realities and indicate the effects of emissions on the new legislation. Early analyzes for mining and steel mills indicated that concentrations of particulate matter and gases as expected were high within the operational area, and concentrations outside the company

boundaries tended to decline. In addition, large mining companies are located outside urban centers and in green areas.

However, the new legislation does not distinguish between what is operational area and external area and what concentrations are limits for the operational areas. For the green areas without population should be adopted the maximum concentration values? In this way, they impose an important legal fragility that the internal values (within the operational areas) are in fact violating the legislation since the legislation does not distinguish between operating environments and external environments, nor regions absent from population, where only fauna and flora.

Another issue that draws attention to the concepts indicated by the new Conama Resolution 491/18, especially with regard to the impacts on "public welfare, harmful materials, fauna and flora or harmful to use and enjoyment of property or the normal activities of the community, "which are in principle questionable.

Taking the term "harmful to materials" as an example, one can understand that the concentrations of a given enterprise that are above the maximum allowed standard value, even if there is no associated community or fauna and flora, may be in violation of "harmful to materials"? Another term that raises important doubts about the obligation to attend refers to the term harmful to security. What, in fact, will this question of air quality be detrimental to safety?

CONCLUSIONS

Given more than a decade waiting for a new resolution on modern and up-to-dated air quality standards, despite of countries like Brazil having serious problems and high rates of respiratory diseases and deaths and a poor public support on health offered to its population, it was about to expect at least the air quality standards given WHO back to 2005.

Although Conama Resolution 491 mentions that it is guided by WHO standards, this is not actually the case in establishing the so-called intermediate standards. The intermediate patterns with no goal and time to reach can stimulate the inertia of any attempt to reach the limits.

After all the reason for the existence of intermediate patterns is that they effectively function as temporary goals, leading in a staggered way to the achievement of final standards. This would require mechanisms and deadlines that could effectively stimulate progression to the most restrictive standards over time. This has



AIR POLLUTION CONFERENCE BRAZIL

CMAS SOUTH AMERICA

COMMUNITY MODELING AND ANALYSIS SYSTEM

unfortunately didn't happen in this new legislation.

Large companies, especially those related to the mining and steel industry, have the greatest potential to be subjected to infractions by the new legislation. Many of them that fail to comply can be closed or receive high fines from environmental agencies for non-compliance. The situation is further aggravated from a legal point of view if it takes into account the subjective and "conflicting" aspects of Conama Resolution 491/18, such as protection against damage to materials and safety.

Addressing these subjective issues of the new legislation, it is important to note that in fact the more restrictive standards will oblige productive sectors to adapt and present better operational practices in their systems. It remains to be seen whether the air quality, especially of the more urbanized regions, will improve since the emissions of motor vehicles, fires and deforestation are important sources of air pollutants, which in turn depend on governmental actions and policies.

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