

650 Town Center Drive, 20th Floor  
Costa Mesa, California 92626-1925  
Tel: +1.714.540.1235 Fax: +1.714.755.8290  
www.lw.com

# LATHAM & WATKINS LLP

## FIRM / AFFILIATE OFFICES

Beijing	Moscow
Boston	Munich
Brussels	New York
Century City	Orange County
Chicago	Paris
Dubai	Riyadh
Düsseldorf	San Diego
Frankfurt	San Francisco
Hamburg	Seoul
Hong Kong	Shanghai
Houston	Silicon Valley
London	Singapore
Los Angeles	Tokyo
Madrid	Washington, D.C.
Milan	

April 15, 2021

Susan Nakamura  
Assistant Deputy Executive Officer  
South Coast Air Quality Management District  
21865 Copley Drive  
Diamond Bar, CA 91765

File No. 018282-0000

Re: Proposed Rule 1109.1 BARCT Analysis

Dear Susan:

I am writing on behalf of the Regulatory Flexibility Group (“RFG”) and the Western States Petroleum Association (“WSPA”) to comment on the process for developing proposed best available retrofit control technology (“BARCT”) standards pursuant to California Health & Safety Code (“HSC”) Section 40920.6(a) in connection with Proposed Rule 1109.1 (“PR 1109.1”). Based on recent statements and information provided in the PR 1109.1 Working Group and elsewhere, we do not believe staff’s current approach meets the requirements of Section 40920.6(a). We are particularly concerned about the manner in which staff is evaluating cost-effectiveness and incremental cost-effectiveness for the control options under consideration.

HSC Section 40406 defines (“BARCT”) and specifies that, among other factors, economic impacts be taken into account when establishing BARCT:

*As used in this chapter, “best available retrofit control technology” means an emission limitation that is based on the maximum degree of reduction achievable, taking into account environmental, energy, and economic impacts by each class or category of source.*

HSC Section 40920.6 sets forth the steps that a district must take prior to adopting BARCT standards. HSC Section 40920.6 was enacted by Senate Bill 456 adopted by the Legislature and signed into law in 1995 (“SB456”). SB456 also added HSC Section 40440.11 which sets forth the procedures that must be followed by SCAQMD when establishing best available control technology (“BACT”) standards that are more stringent than the federal lowest achievable emission rate (“LAER”) standard. HSC Sections 40920.6 and 40440.11 contain

essentially identical requirements for conducting average and incremental cost-effectiveness analyses in the standard setting process.<sup>1</sup> HSC Section 40920.6(a) provides as follows:

*(a) Prior to adopting rules or regulations to meet the requirement for best available retrofit control technology pursuant to Sections 40918, 40919, 40920, and 40920.5, or for a feasible measure pursuant to Section 40914, districts shall, in addition to other requirements of this division, do all of the following:*

*(1) Identify one or more potential control options which achieves the emission reduction objectives for the regulation.*

*(2) Review the information developed to assess the cost-effectiveness of the potential control option. For purposes of this paragraph, "cost-effectiveness" means the cost, in dollars, of the potential control option divided by emission reduction potential, in tons, of the potential control option.*

*(3) Calculate the incremental cost-effectiveness for the potential control options identified in paragraph (1). To determine the incremental cost-effectiveness under this paragraph, the district shall calculate the difference in the dollar costs divided by the difference in the emission reduction potentials between each progressively more stringent potential control option as compared to the next less expensive control option.*

*(4) Consider, and review in a public meeting, all of the following:*

*(A) The effectiveness of the proposed control option in meeting the requirements of this chapter and the requirements adopted by the state board pursuant to subdivision (b) of Section 39610.*

---

<sup>1</sup> See HSC Sections 40440.11(c)(3) and (4) and HSC Sections 40920.6(a)(2) and (3). HSC Section 40920.6 (BARCT) was initially proposed in AB795 (Goldsmith) during the same Legislative session, but was ultimately included in SB456 with HSC Section 40440.11 (BACT) (see Memorandum to Legislative Counsel from Senator Kelley, June 22, 1995). Thus, much of the legislative history pertaining to SB456 refers specifically to the process of establishing BACT standards, and then states that the bill establishes similar procedures for the adoption of BARCT requirements (see, e.g., Appropriations Committee Fiscal Summary, hearing date August 23, 1995, p. 1). The requirements for conducting cost-effectiveness and incremental cost-effectiveness analyses in HSC Sections 40440.11 and 40920.6 are substantively identical. Therefore, unless the context dictates otherwise, statements in the legislative history pertaining to either of these requirements are relevant to both code sections.

*(B) The cost-effectiveness of each potential control option as assessed pursuant to paragraph (2).*

*(C) The incremental cost-effectiveness between the potential control options as calculated pursuant to paragraph (3).*

*(5) Make findings at the public hearing at which the regulation is adopted stating the reasons for the district's adoption of the proposed control option or options.*

HSC Section 40920.6 was intended to limit air districts' pre-existing authority to regulate stationary sources by requiring consideration of cost-effectiveness and incremental cost-effectiveness in the standard setting process. There are numerous references in the legislative history to the objective of "reigning in the regulator."<sup>2</sup> According to legislative staff at the time:

This measure is intended to impose limitations on BACT and BARCT regulations to ensure their cost-effectiveness and workability for affected sources of air pollution.<sup>3</sup>

This bill would place certain requirements and restrictions on South Coast Air Quality Management District (South Coast District) in approving best available control technology (BACT) and on all districts in adopting best available retrofit control technology (BARCT).<sup>4</sup> (emphasis in original)

HSC Section 40920.6 sets forth a five-step process for determining BARCT. Each of those steps is described below using the example of the boilers and heaters  $\geq 40$  MMBtu/hr source category in PR 1109.1.

**Step 1: Identify one or more potential control options which achieve the emission reduction objectives for the regulation.**

Step 1 requires the identification of potential control options (i.e., emission reduction strategies) that achieve the objectives for the regulation (or rule). In the case of PR 1109.1, the objective is to establish NO<sub>x</sub> BARCT standards for specified classes and categories of equipment at petroleum refineries. As staff has correctly explained, this step calls for a "technology assessment" to identify technologically feasible control options for achieving the emission reduction objectives of the rule.<sup>5</sup>

---

<sup>2</sup> See, e.g., Senate Local Government Committee report, Version 4/17/95, p. 2.

<sup>3</sup> Assembly Committee on Natural Resources, Hearing Date 7/10/95 (analysis prepared by Kip Lipper), p. 2.

<sup>4</sup> Department of Finance Bill Analysis, Amendment Date: August 21, 1995, p. 1.

<sup>5</sup> See, e.g., Slide 40, February 11, 2021 PR 1109.1 Working Group presentation.

Staff's technology assessment for boilers and heaters  $\geq 40$  MMBtu/hr is summarized in various PR 1109.1 Working Group presentations beginning with the June 14, 2018 meeting. The initial list of technologies included selective catalytic reduction ("SCR"), ultra-low NOx burners ("ULNB")/low NOx burners ("LNB"), selective non-catalytic reduction ("SNCR"), and flue gas recirculation.<sup>6</sup> Over time, the scope of technologies under consideration was narrowed to:

- ULNB
- SCR
- ULNB in combination with SCR.<sup>7</sup>

**Step 2: Review the information developed to assess the cost-effectiveness of the potential control option. For purposes of this paragraph, "cost-effectiveness" means the cost, in dollars, of the potential control option divided by emission reduction potential, in tons, of the potential control option.**

Step 2 requires determining the cost-effectiveness of the control option(s) identified in Step 1.<sup>8</sup> Staff begins by determining the cost-effectiveness of the most stringent of the identified control options, but if that control option is determined to be cost-effective, staff stops the Step 2 analysis and does not calculate the cost-effectiveness of the remaining control options. The cost-effectiveness of less stringent control options is only calculated if the most stringent control option is not cost-effective.<sup>9</sup> This "short-circuiting" of Step 2 appears to be based on staff's belief that HSC Section 40406 requires that BARCT be established at the most stringent level that is cost-effective. Since staff does not believe that BARCT could be established at a level that is less stringent than the most stringent cost-effective option, it removes any less stringent options from further consideration.

In the case of boilers and heaters  $\geq 40$  MMBtu/hr, the most stringent of the control options identified above is ULNB in combination with SCR. If staff determines that this control option is cost-effective, it ends the Step 2 analysis without calculating the cost-effectiveness of

---

<sup>6</sup> Slide 21, September 12, 2018 PR 1109.1 Working Group presentation.

<sup>7</sup> Slide 7, February 11, 2021 PR 1109.1 Working Group presentation.

<sup>8</sup> While HSC Section 40920.6(a)(2) uses the singular "option" as opposed to the plural "options," when read in context with the remainder of the code section, it is clear that in cases where more than one control option has been identified in Step 1, Step 2 requires evaluation of the cost-effectiveness of *each* of the control options. HSC Section 40920.6(a)(3) requires calculation of the incremental cost-effectiveness for the potential control "**options**" identified in paragraph (1), which can only be done if the cost-effectiveness of each control option was calculated in Step 2. In addition, HSC Section 40920.6(a)(4)(B) requires consideration of the cost-effectiveness of "**each potential control option as assessed pursuant to paragraph (2).**"

<sup>9</sup> Slides 40 and 45, February 11, 2021 PR 1109.1 Working Group presentation.

the two less stringent options. As a result, staff does not calculate the cost-effectiveness of either ULNB or SCR as stand-alone control options. Furthermore, the cost-effectiveness evaluation of the combined ULNB/SCR control option evaluates the costs and emission reductions in the aggregate and does not identify the relative contributions of the two elements of the combined option. As discussed further below, staff's approach precludes it from being able to properly complete the incremental cost-effectiveness analysis called for in Step 3, which requires having a cost-effectiveness value for each of the control options identified in Step 1.

**Step 3: Calculate the incremental cost-effectiveness for the potential control options identified in paragraph (1). To determine the incremental cost-effectiveness under this paragraph, the district shall calculate the difference in the dollar costs divided by the difference in the emission reduction potentials between each progressively more stringent potential control option as compared to the next less expensive control option.**

Step 3 requires ranking each of the possible control options and their associated cost-effectiveness figures from the least stringent to the most stringent, and then determining the incremental cost-effectiveness associated with moving from each control option to the next most stringent control option. As explained in the legislative history of SB456:

The District must determine the incremental cost-effectiveness of each per ton of emissions reduced of each progressively more stringent contemplated control option as compared to the next less expensive option by dividing the annual cost of the more stringent control option by the difference in annual emissions reduction between the more stringent control option and the next less stringent contemplated control option.<sup>10</sup>

Consideration of incremental cost-effectiveness was viewed as one of the most critical elements of SB456 when it was adopted. As stated by the sponsor of the bill, the California Council for Environmental and Economic Balance ("CCEEB"):

Although the law [HSC Section 40406] requires economic considerations to be taken into account, this bill specifies that *incremental* cost-effectiveness be evaluated. This consideration is crucial. A particular technology might achieve a 75% reduction in nitrogen oxide emissions at a cost of \$50,000 per ton but another technology might achieve an 85% reduction at a cost of \$120,000 per ton. The diminishing effectiveness of the reductions when compared to the cost **would be examined according to the bill's provisions**. The bill ensures that significant air quality improvement will result from the major capital investments made

---

<sup>10</sup> Senate Local Government Committee report, Version 3/30/95, pp. 1-2; Senate Local Government Committee report, Version 4/17/95, pp. 1-2.

by businesses for retrofit pollution control equipment.<sup>11</sup> (emphasis added)

CCEEB went on to explain the purpose of conducting an incremental cost-effectiveness analysis using a hypothetical that is conceptually the same as the current situation for boilers and heaters  $\geq 40$  MMBtu/hr:

In trying to maintain economic balance with environmental issues, it is imperative to consider the incremental cost-effectiveness of control alternatives. Without this concept, a company could be forced to pay hundreds of thousands of dollars more for controls that achieve only minor additional reductions in emissions.

For example, consider the situation where the District is proposing to require two technologies for the control of NO<sub>x</sub> emissions from a source. Method A costs \$1,000,000 and removes 100 tons per year of NO<sub>x</sub>. Method B costs an additional \$1,000,000 and removes an additional 5 tons per year of NO<sub>x</sub>. Installation of both methods would thus cost \$2,000,000 and would result in 105 tons per year of total NO<sub>x</sub> reductions. The current “Top-down” analysis would indicate that installation of both methods combined would be cost-effective (\$19,050 per ton which is less than the District’s cost-effectiveness threshold for NO<sub>x</sub> which is \$25,000 per ton).<sup>12</sup>

However, the performance of an incremental cost-effectiveness analysis shows that the implementation of both methods is not cost-effective. For the last 5 tons per day of NO<sub>x</sub> reduced, the company would be paying \$1,000,000 (i.e., \$200,000 per ton). Since the \$200,000 per ton exceeds the District’s \$25,000/ton threshold, the incremental analysis shows that implementation of both methods is not cost-effective.<sup>13</sup>

Contrary to staff’s interpretation that BARCT must be established at the most stringent control level that is determined to be cost-effective, districts are in fact prohibited from imposing a more stringent control option unless it is *incrementally* cost-effective relative to the next less stringent control option. This was specifically intended to alter the manner in which standards had been established previously:

---

<sup>11</sup> June 30, 1995 letter from California Council for Environmental and Economic Balance to the Honorable Byron D. Sher, Chairman, Assembly Committee on Natural Resources.

<sup>12</sup> Note that the SCAQMD’s cost-effectiveness threshold for NO<sub>x</sub> has doubled since adoption of HSC Section 40920.6.

<sup>13</sup> SB456 White Paper prepared by bill sponsor CCEEB, pp. 3-4.

This bill would allow businesses more flexibility when adding or expanding pollution emitting facilities. **Currently the only control equipment that is an option is the one that results in the greatest amount of emission reductions.** Finance notes that this bill could result in an increase of emissions emitted from certain categories of equipment regulated by the districts.<sup>14</sup> (emphasis added)

In order to conduct the incremental cost-effectiveness required in Step 3, staff must have evaluated the cost-effectiveness of all of the potential control options in Step 2. This illustrates why staff's approach of short-circuiting Step 2 once it has identified the most stringent control option that is cost-effective is flawed – without cost-effectiveness values for all of the potential control options, it is impossible to conduct Step 3.

Staff has adopted an alternative theory regarding what is required in Step 3 that clearly does not comport with the explanation of incremental cost-effectiveness provided in the legislative history. According to staff, the incremental cost-effectiveness analysis is conducted only after “the BARCT assessment is complete and NOx limits are established.”<sup>15</sup> However, the incremental cost-effectiveness analysis in Step 3 is *part of* the BARCT assessment and a critical step in determining what the BARCT level should be – the incremental cost-effectiveness cannot inform what the BARCT level should be if it is completed *after* “the BARCT assessment is complete and NOx limits are established.”

Staff also asserts that the incremental cost-effectiveness analysis “serves as a check to demonstrate the NOx limits [proposed BARCT] represents the ‘maximum degree of reduction achievable by each class or category.’”<sup>16</sup> However, as the legislative history makes clear, the incremental cost-effectiveness analysis is not intended to simply confirm that staff has selected the *most stringent* cost-effective control option - quite to the contrary, the purpose of the incremental cost-effectiveness analysis is to determine whether BARCT must be set at a level that is *less stringent* than the most stringent cost-effective control option.

In addition to being contrary to the statute as explained in the legislative history, as a practical matter, staff's approach to Step 3 cannot possibly produce any useful information. Under its approach, staff identifies a control option that is more stringent than the most stringent control option that is cost-effective (i.e., the proposed BARCT standard), and then confirms that the alternative to the proposed BARCT standard is not cost-effective. There are two possible options for how this analysis can play out. Either the proposed BARCT standard *is not* the most stringent control option identified in Step 1, in which case any more stringent alternative control option evaluated for comparison would have already been evaluated and rejected as not cost-effective in Step 2, making the Step 3 exercise redundant and meaningless. Alternatively, the

---

<sup>14</sup> Department of Finance Bill Analysis, Amendment Date: August 21, 1995, p. 3.

<sup>15</sup> Slide 44, March 18, 2021 RECLAIM Transition Working Group presentation.

<sup>16</sup> Slide 46, February 11, 2021 PR 1109.1 Working Group presentation.

proposed BARCT standard *is* the most stringent control option, in which case any more stringent control option identified by staff for comparison is by definition not technically feasible. There is no value in establishing that a control option that is not technically feasible is also not cost-effective.

An interpretation of what is required in Step 3 that cannot possibly produce any meaningful information clearly cannot be correct.

**Step 4: Consider, and review in a public meeting, all of the following:**

Step 4 obligates the district decision-maker (Governing Board) to consider the information developed in Steps 1-3 before adopting the proposed standard.

**(A) The effectiveness of the proposed control option in meeting the requirements of this chapter and the requirements adopted by the state board pursuant to subdivision (b) of Section 39610 .**

**(B) The cost-effectiveness of each potential control option as assessed pursuant to paragraph (2).**

Use of the phrase “*each potential control option*” makes it clear that Step 2 requires analysis of the cost-effectiveness of each and every control option identified in Step 1. As discussed above, staff’s approach fails to satisfy this requirement when the Step 2 analysis is short-circuited following identification of the most stringent control option that is cost-effective. In order to provide the information specified above, the cost-effectiveness of any less stringent control option must also be analyzed.

**(C) The incremental cost-effectiveness between the potential control options as calculated pursuant to paragraph (3).**

As discussed above, the “*potential control options*” referred to above are those identified as technically achievable in Step 1. A control option that was not identified in Step 1 because it failed to pass the technology assessment, and was not therefore subject to a cost-effectiveness analysis in Step 2, is not a “*potential control option*” and comparing such an option to the proposed control option does not satisfy this requirement.

**Step 5: Make findings at the public hearing at which the regulation is adopted stating the reasons for the district's adoption of the proposed control option or options.**

The reason that findings are required is because the statute vests the decision-maker with discretion to select what it believes to be the BARCT standard based on its consideration of the information generated in Steps 1-3. If the statutory mandate were to simply adopt the most stringent control option that was also cost-effective, that would not require the exercise of any discretion, and there would be no need for findings to support the decision of Governing Board. However, as discussed above, the statute grants the decision-maker authority to adopt a control option that is less stringent than the most stringent cost-effective control option based on



LATHAM & WATKINS<sup>LLP</sup>

consideration of the incremental cost-effectiveness analysis. There is no other explanation for why the statute would require findings to support the selected control option.

\*\*\*\*\*

We appreciate your attention to the issues addressed in this letter, and we look forward to discussing them further with you. If you have any questions, please do not hesitate to call me at (714) 755-8105 or email me at michael.carroll@lw.com.

Best regards,



Michael J. Carroll  
of LATHAM & WATKINS LLP

cc: Regulatory Flexibility Group  
Western States Petroleum Association  
Wayne Natri, SCAQMD  
Barbara Baird, SCAQMD  
Stationary Source Committee Members