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2019 VT 55

No. 2018-249

In re North East Materials Group, LLC/Rock of Ages Corporation Act 250 Permit
(Russell Austin, Pamela Austin, Julie Barre, Marc Bernier, et al., Collectively, Neighbors for Healthy Communities, Appellants)

Supreme Court

On Appeal from
Superior Court,
Environmental Division

April Term, 2019

Thomas G. Walsh, J.

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PRESENT: Skoglund, Robinson, Eaton and Carroll, JJ., and Dooley, J. (Ret.),
Specially Assigned

¶ 1. **EATON, J.** Appellants, Neighbors for Healthy Communities (Neighbors), appeal the Environmental Division’s¹ decision granting an Act 250 permit application to appellees, North East Materials Group, LLC (NEMG) and Rock of Ages Corp. (ROA), for a rock-crushing operation in Graniteville in the Town of Barre. Neighbors argue that the court erred in granting

¹ “The Environmental Board no longer exists, and the Superior Court, Environmental Division, now has jurisdiction over appeals concerning the scope of Act 250 jurisdiction.” In re N. E. Materials Grp. LLC (NEMG I), 2015 VT 79, ¶ 21 n.10, 199 Vt. 577, 127 A.3d 926; see also 10 V.S.A. §§ 6007(c), 6089; 2015, No. 150 (Adj. Sess.), §§ 33, 34; 2013, No. 11, §§ 8, 14. We refer to the Environmental Division as “the court” throughout this opinion.

NEMG’s application because the proposed operation does not comply with either Act 250 Criterion 1, with respect to air pollution due to silica dust, or Criterion 8, with respect to noise from off-site truck traffic. We affirm.

¶ 2. The facts as found by the court are as follows. ROA is a quarrying operation comprised of several adjacent quarries that occupy approximately 930 acres in Barre and 230 acres in Williamstown. The “historic individual quarries” on the site have been in operation for over 100 years. NEMG’s rock-crushing operation—the project at issue—is a component of ROA’s quarrying operation. It makes use of the waste material from ROA’s quarrying activities by reducing the waste to usable and salable sizes. Crushing entails drilling, blasting, removing, and transporting rocks to the crusher equipment. Material is often trucked from the crushing operation even when the plant is not operating.

¶ 3. NEMG’s crushing operation is in Graniteville—a small village in the town of Barre comprised of Upper and Lower Graniteville. Upper Graniteville is located uphill from, and to the southeast of, NEMG’s crushing operation. Upper Graniteville contains a playground and church. Lower Graniteville is located downhill from, and to the northwest of, the crusher site. Graniteville Road, which NEMG utilizes for transporting the crushed rock from the crushing site, passes through both Upper and Lower Graniteville and is one of several roads that transect the ROA property. It is officially designated as a truck route by the Town of Barre from the ROA quarry access road and continuing through Lower Graniteville. Upper and Lower Graniteville each contain a dense cluster of residences, some of which are located near the NEMG crushing site—that is, within approximately 1325-3000 feet of the site—or adjacent to the ROA quarry-access road. Several of these residences belong to Neighbors in this appeal.

¶ 4. The crushing operation began running in 2009 after the District 5 Environmental Commission (the Commission) issued a jurisdictional opinion determining that no Act 250 permit was required for the project. In February 2014, NEMG received an air-pollution control permit to

construct (the air-pollution permit) for the crushing operation from the Agency of Natural Resources (ANR). The air-pollution permit included a condition requiring the installation of wet suppression controls and the operation of such controls as necessary. In August 2016, this Court held that the crushing operation did require an Act 250 permit, contrary to the 2008 jurisdictional opinion. In re N. E. Materials Grp. LLC (NEMG II), 2016 VT 87, ¶ 22, 202 Vt. 588, 151 A.3d 766.² NEMG ceased the crushing operation and applied to the Commission for an Act 250 permit.

¶ 5. The Commission issued a decision in June 2017, stating that the project complied with all Act 250 criteria except Criterion 1 and Criterion 8 with respect to noise and dust. NEMG appealed the Commission’s decision to the Environmental Division. The court reversed the Commission’s denial and issued the decision and judgment order now on appeal. In that decision, the court made findings of fact regarding the project’s impact on air pollution and aesthetics, and it determined that NEMG’s crushing operation complied with Criterion 1 and Criterion 8. Relevant to this appeal, the court concluded that the project’s dust emissions complied with Criterion 1 (air pollution) based on data derived from air-emissions modelling that demonstrated NEMG’s adherence with the requirements of its air-pollution permit would ensure the project’s compliance with the Vermont Ambient Air Quality Standards (VAAQS). The court also concluded the project’s off-site truck noise complied with Criterion 8 (aesthetics) based on modelling that measured the increase in average and instantaneous noise due to truck traffic. The court issued an order mandating conditions to mitigate the impacts of noise and dust and remanded the matter to the Commission “for the ministerial act of issuing a Land Use Permit.” Neighbors appeal the court’s order, arguing that the court erred in concluding NEMG’s rock-crushing

² Our decisions in NEMG I, 2015 VT 79, ¶¶ 2-14, and NEMG II, 2016 VT 87, ¶¶ 1-3, 22, summarize the prior proceedings in this matter, which ultimately required NEMG to seek an Act 250 permit.

operation complied with Criterion 1 and Criterion 8, and ask this Court to reverse and deny NEMG's Act 250 Permit.

¶ 6. We review the Environmental Division's legal conclusions de novo and its findings of fact for clear error. In re Korrow Real Estate, LLC, 2018 VT 39, ¶ 17, 207 Vt. 274, 187 A.3d 1125. We uphold the court's legal conclusions "if they are reasonably supported by the findings." Id. (quotation omitted). "We will defer to the court's factual findings and uphold them unless, taking them in the light most favorable to the prevailing party, they are clearly erroneous." In re Wagner & Guay Permit, 2016 VT 96, ¶ 9, 203 Vt. 71, 153 A.3d 539 (quotation omitted), overruled on other grounds by In re Confluence Behavioral Health, LLC, 2017 VT 112, 206 Vt. 302, 180 A.3d 867. Factual findings are erroneous if there is no credible evidence to support them or if they are "internally inconsistent." Borden v. Hofmann, 2009 VT 30, ¶ 11, 185 Vt. 486, 974 A.2d 1249. "[T]he environmental court determines the credibility of witnesses and weighs the persuasive effect of evidence." In re Champlain Parkway, 2015 VT 105, ¶ 10, 200 Vt. 158, 129 A.3d 670.

I. Criterion 8: Aesthetic Impact Due to Off-Site Truck Noise

¶ 7. First, we address Neighbors' argument that the court erred in concluding that off-site truck noise caused by NEMG's rock-crushing operation complies with Criterion 8. Specifically, Neighbors claim that NEMG's crushing operation generates a significant increase in high-decibel off-site truck traffic and that the court erroneously applied this Court's holding in In re Application of Lathrop Ltd. Partnership I (Lathrop), 2015 VT 49, 199 Vt. 19, 121 A.3d 630, and the Environmental Board's ruling in In re OMYA, Inc. when assessing the project's traffic and noise impacts. No. 9A0107-2-EB, slip op. at 15 (Vt. Env'tl. Bd. May 25, 1999), <https://nrb.vermont.gov/sites/nrb/files/documents/9a0107-2-eb-fco.pdf> [<https://perma.cc/8CRS-PA2C>]).

¶ 8. To obtain an Act 250 permit, Criterion 8 requires an applicant to provide evidence sufficient to enable the court to find that the proposed project "[w]ill not have an undue adverse

effect on the scenic or natural beauty of the area, aesthetics, historic sites or rare and irreplaceable natural areas.” 10 V.S.A. § 6086(a)(8) (emphasis added). We have recognized that truck noise is an aesthetic concern under Criterion 8, and our case law outlines a well-established framework for determining project compliance with the Criterion 8 requirements. See Lathrop, 2015 VT 49, ¶ 74.

¶ 9. Analysis of a project’s aesthetic impacts under Criterion 8 begins with the two-part “Quechee test” formulated by the Environmental Board in In re Quechee Lakes Corp., Nos. 3W0411-EB, 3W0439-EB, slip op. at 19-20 (Vt. Env’tl. Bd. Nov. 4, 1985), <https://nrb.vermont.gov/sites/nrb/files/documents/3w0439-eb-fco.pdf> [<https://perma.cc/2CN6-4FUB>]. “Under the Quechee test, a project violates Criterion 8 if: (1) the proposed project will have an adverse aesthetic impact and (2) that impact will be undue.” Lathrop, 2015 VT 49, ¶ 74 (emphasis added).³

¶ 10. To determine whether a proposed project will have an adverse impact under the first prong of the Quechee test, the reviewer—whether the Environmental Commission or Environmental Division—considers whether “the proposed project [will] be in harmony with its surroundings,”—in other words, “will it ‘fit’ the context within which it will be located?” Quechee

³ The trial court explained that there has been a question about which prong of the Quechee test the “Barre Granite standard” applies to—adverse or undue impact. The Barre Granite standard, developed in In re Barre Granite Quarries, LLC, provides a benchmark for measuring whether noise is adverse under the Quechee test: 70 decibels (dBA) (Lmax) at the property line of a project and 55 dBA (Lmax) outside an area of frequent human use. No. 7C1079 (Revised)-EB, slip op. at 80 (Vt. Env’tl. Bd. Dec. 8, 2000), <https://nrb.vermont.gov/sites/nrb/files/documents/7c1079-rev-eb-fco.pdf> [<https://perma.cc/T85F-YXHX>]. The court adhered to this Court’s and the Environmental Board’s recent precedent, which applied the Barre Granite standard to the “adverse” prong of the Quechee test. Lathrop, 2015 VT 49, ¶ 80; In re Chaves, 2014 VT 5, 195 Vt. 467, 93 A.3d 69, abrogated on other grounds by In re B&M Realty, LLC, 2016 VT 114, 203 Vt. 438, 158 A.3d 754; In re McCullough Crushing, Inc., No. 179-10-10 Vtec, slip op. at 21-22 (Vt. Super. Env’tl. Div. Feb. 16, 2017), https://www.vermontjudiciary.org/sites/default/files/documents/McCullough%20Crushing%2C%20Inc.%203-1-10%20and%20179-10-10%20Vtec%20M%20Alter_0.pdf [<https://perma.cc/X9Z9-Y7GJ>]. In this case, Neighbors challenge the court’s application of the second prong of the Quechee test regarding whether off-site truck noise from the project is undue. We do not address the court’s application of the first prong of the Quechee test in our analysis. However, we note that the court correctly applied the Barre Granite standard to the first “adverse impact” prong of the Quechee test, rather than the second “undue” prong.

Lakes Corp., Nos. 3W0411-EB, 3W0439-EB, slip op. at 18. To that end, the reviewer looks at how the project fits within the context of its area in terms of size, scale, nature of use, and various off-site impacts. Id. If the reviewer determines that a project fits within its aesthetic context under the first prong of the Quechee test, then the project will not have an adverse aesthetic impact and complies with Criterion 8. If the proposed project does pose an adverse impact, then the reviewer must assess whether the adverse impact is undue. Id. at 19.

¶ 11. Under the second prong of the Quechee test, an adverse impact is undue if:

(1) it violates a clear written community standard intended to preserve the aesthetics or scenic, natural beauty of the area; (2) it offends the sensibilities of the average person; or (3) the applicant has failed to take generally available mitigating steps that a reasonable person would take to improve the harmony of the proposed project with its surroundings.

Lathrop, 2015 VT 49, ¶ 74 (alterations and quotations omitted); see also Quechee Lakes Corp., Nos. 3W0411-EB, 3W0439-EB, slip op. at 19-20. Here, NEMG has the initial burden of producing evidence sufficient for the reviewing body to make affirmative findings that the project complies with Criterion 8, and Neighbors bear the burden of persuasion. In re Times & Seasons LLC, No. 3W0839-2-EB, slip op. at 38 (Vt. Env'tl. Bd. June 2, 1986) <https://nrb.vermont.gov/sites/nrb/files/documents/3w0839-2-fco.pdf> [<https://perma.cc/7EQD-2EWP>]; see also 10 V.S.A. § 6088(b) (explaining “burden shall be on any party opposing the applicant with respect to [Criterion 8] to show an unreasonable or adverse effect”).

¶ 12. When assessing noise impacts under Criterion 8, two noise measurements are relevant to our analysis—L_{max} and Leq(n). L_{max} is the maximum noise level that will occur, irrespective of its duration; simply put, L_{max} measures instantaneous or sudden bursts of noise. Instantaneous noise levels more accurately demonstrate what people are actually hearing as opposed to an average sound reading over any period of time. Because L_{max} measures sound levels only at one very short interval of time, it is generally not accepted for assessing cumulative

noise impacts over longer periods of time. Such cumulative noise impacts are usually measured using Leq(n). Leq(n) is the maximum noise level that will occur as averaged over a period of time, (n). For example, Leq(one-hour), which NEMG's expert used to measure noise emitted by off-site traffic here, measures the weighted sound impact of multiple noise events (trucks passing a given location) over a one-hour period. Lmax and Leq(n) are measured in decibels (dB or dBA). Lathrop, 2015 VT 49, ¶ 77. Both of these measurements were applied to assess the crushing operation's compliance with Criterion 8 in this case.

¶ 13. Here, the court applied the Quechee test to determine whether the crushing operation at issue complied with Criterion 8. In doing so, the court addressed the increase in both the level and frequency of noise due to off-site truck traffic generated by the crushing operation. After reviewing the testimony and exhibits, the court expressly found "that Leq 1-hr information will provide assistance when determining the impacts of truck traffic, considered along with Lmax data, data concerning the frequency of truck trips, neighboring witness testimony, and all other factors." Applying this Court's decision in Lathrop, the court concluded that the noise levels from the off-site truck traffic alone would not result in an adverse aesthetic impact under the first prong of the Quechee test because the noise levels would " 'fit' within the character of the surrounding area, which is . . . currently characterized by industrial uses and the sounds that are associated with industrial uses." Neighbors do not challenge this aspect of the court's conclusion.

¶ 14. However, the court determined that the increase in frequency of noise caused by the project's off-site truck traffic would constitute an adverse aesthetic impact. The court stated that "[w]hile instantaneous Lmax sound levels of new trucks from the Project will be identical to the existing sound levels of trucks currently traveling on the roadways[,] the increase in frequency will be apparent, even when considering the existing industrial character of the surrounding area." In other words, even though the instantaneous noise caused by each of NEMG's passing trucks is the same as the instantaneous noise emitted by pre-existing trucks travelling along the route, the

increase in the number of trucks traversing the route, and their attendant noise emissions, would not “fit” within the context of the area. Therefore, the court found that off-site traffic proposed by the project would have an adverse impact.

¶ 15. Applying the second prong of the Quechee test, the court considered whether the adverse impacts that would be caused by the frequency of off-site truck traffic would be undue. In doing so, the court applied the factors derived from Quechee and outlined in Lathrop and concluded that the off-site truck noise did not violate a clear written community standard, finding that no party offered evidence of such a standard, and that an average person would not be “shocked” by the “slight increase in equivalent Leq 1-hour sound levels,” particularly considering the industrial nature of the area and the limitations on the project’s operational hours. Regarding mitigation, the court concluded that the project’s impacts were sufficiently mitigated by ROA’s business hours, limitations on the number of Saturdays trucks can operate on the roads, and available alternate trucking routes such that “not all Project traffic will be going down the Graniteville Road Truck Route.” It further noted that NEMG reduced the maximum number of trucks per day by one-third in their application (150 trucks initially to 100 trucks with an average of 60 per day per year); no other reasonable mitigation measures were suggested at trial; and the project incorporated all reasonable mitigation measures with respect to noise from off-site trucks. Therefore, the court concluded that with the mitigating conditions in place, the adverse impact from off-site truck noise would not be undue and the project complied with Act 250 Criterion 8.

¶ 16. On appeal, Neighbors argue that the court’s Criterion 8 analysis is flawed because the court incorrectly applied the Lathrop standard by using both Lmax and Leq(one-hour), as opposed to only using Lmax, when assessing noise from NEMG’s off-site truck traffic. We disagree—our holding in Lathrop does not bar the court from considering multiple types of data, including Lmax and Leq(n), when assessing Criterion 8 compliance.

¶ 17. When determining whether a project’s noise is unduly adverse, this Court has recognized that it is important to consider “the instantaneous noise from the trucks as they pass,” rather than considering only the average increase in noise (Leq(n)), “because that is what people experience.” Lathrop, 2015 VT 49, ¶ 86 (emphasis omitted) (quoting OMYA, Inc., No. 9A0107-2-EB, slip op. at 15). In OMYA, the Environmental Board found traffic noise along Route 7 in “historic” Brandon Village to be adverse because the hauling trucks at issue in that case emitted peak noises that constituted a significant increase over the existing background noise levels. OMYA, Inc., No. 9A0107-2-EB, slip op. at 1, 15. The OMYA Board recognized that “each additional instance of a truck passing results in an additional instantaneous loud noise, or an additional annoyance that interferes with sleep and conversations.” Id. at 15. In Lathrop, the Court considered whether sand- and gravel-extraction operations on a parcel of land in Bristol complied with Criterion 8, and it reiterated OMYA’s emphasis on the personal experience of additional instantaneous noise. Lathrop held “that the environmental court erred in not making findings on the Lmax instantaneous noise levels emitted by the project traffic and failing to consider the increase in frequency of high-decibel noise events” when determining whether the increase in frequency in high-decibel noise was undue under Criterion 8. Lathrop, 2015 VT 49, ¶ 88. As in OMYA, the Court reasoned that the personal experience of noise must be considered in determining whether traffic noise is undue, and it remanded the issue to the trial court to “assess the evidence with respect to high Lmax events and make findings with respect to the evidence” to “determine whether the frequency and amount of these events and intensity complies with Criterion 8.” Id.

¶ 18. In sum, Lathrop requires reviewers to consider Lmax when determining whether noise complies with Criterion 8. Id. The Court’s concern in that case, and the Board’s concern in OMYA, was ensuring that reviewers accounted for the disruption experienced by people in the area each time a truck passed along a route and did not ignore the negative impacts of such noise

by considering only noise averages measured over time, effectively minimizing the high peaks in instantaneous noise levels. Id. ¶ 86; OMYA, Inc., No. 9A0107-2-EB, slip. op at 15. However, Lathrop did not limit reviewing bodies to considering only Lmax measurements, nor did it prohibit reviewers from considering other corroborating data provided by experts or laypersons that it found credible. Lathrop merely requires that the reviewer “assess the evidence with respect to high Lmax events and make findings with respect to the evidence” to ensure that the frequency and noise from those events is accounted for and complies with Criterion 8. 2015 VT 49, ¶ 88.

¶ 19. Here, the court met that standard. It considered Lmax, as required, in concluding that the project’s noise impacts were adverse but were not undue. First, the court made multiple factual findings regarding Lmax based on expert testimony at trial, which focused on “the effect of noise from off-site truck passes from the Project on houses along the Graniteville Road Truck Route.” Based on testimony from NEMG’s expert Eddie Duncan, the court found that “[t]he maximum sound level, the Lmax, from trucks going to and from the [c]rusher will be the same as the Lmax of the existing trucks from ROA and the approved NEMG hot mix plant which presently use the Graniteville Road Truck Route”—meaning the instant noise from a passing NEMG truck would be the same as the instant noise from other trucks already using the route. Mr. Duncan estimated the Lmax from this instant truck noise to be between 66 and 82 dBA Lmax. He noted that the exact level of Lmax “varies due to setback distances, natural buffers, landscaping, and whether trucks are coasting or accelerating when measured.” The court found that there would be “no change in instantaneous Lmax sound levels due to the additional truck traffic associated with the Project. . . . The only thing that will change with respect to off-site truck noise as a result of the Project is the frequency of those truck passes during ROA business hours.”

¶ 20. After “carefully consider[ing]” Mr. Duncan’s testimony and NEMG’s crushing operation records regarding the number of NEMG’s off-site truck trips, the court determined “Lmax measurements standing alone are only part of the consideration” because when analyzing

the project’s cumulative noise impacts, “Lmax only measures sound levels at one very short interval of time”—the instant that a truck passes. The court found that Lmax levels “must be considered in comparison to the context of the area, which here includes an existing background level of similar trucks and many cars” and therefore the court “elected to analyze noise impacts associated with increasing the number of truck passes using additional sound levels.” The court noted that Neighbors’ expert Les Blomberg⁴ opined that to understand noise impacts associated with increasing the number of off-site truck traffic, the court must consider sound levels across a longer time span, requiring the court to consider an equivalent sound measurement, such as Leq(n). Due to these concerns, the court determined it was helpful to consider the instant sound caused by each passing truck (Lmax) alongside the average sound levels due to truck noise along the route over the course of an hour (Leq(one-hour)), testimony from local residents regarding their

⁴ Neighbors argue that the court erroneously stated that Neighbors’ expert, Mr. Blomberg, gave this testimony and that the court was actually referring to Mr. Duncan’s testimony regarding Leq(n). In his testimony, Mr. Blomberg explained that noise measurements have a range of accuracy and that measurements over a longer time period improve accuracy:

[W]hen you use the standard to measure metrics . . . one thing that the standard says is that you should have a time period long enough that environmental conditions can average out during the measurement. And it is not stated how long that is. In fact, this standard is currently being revised with that very specific question as one of the issues being considered. And so, it is not specified how long that should be.

I do not believe one second is long enough, I think it has to be a longer period. What happens is, if . . . you get shorter periods, you just might likely get a . . . greater error.

(Emphases added.) Mr. Duncan also spent a significant portion of his testimony explaining why and how he applied Lmax and Leq(n) measurements in his modelling, stating that he used Leq(one-hour) because it is the “limit or the metric that’s typically used for traffic noise.” Therefore, regardless of which expert the court intended to reference, the court was correct: Mr. Blomberg spent time in his testimony discussing the importance of having noise measurements taken over a longer span of time, and this testimony is supported by Mr. Duncan’s testimony regarding his use of both Lmax and Leq(one-hour) in his noise modelling.

experience of the increased truck traffic along the route, and the context of the area along Graniteville Road in determining whether the noise from the increase in off-site truck traffic would create an unduly adverse impact.

¶ 21. The court made findings regarding each of these factors. The court found that NEMG’s trucking operation would cause an increased frequency of trucks passing at between 66 and 82 dBA Lmax and a “very modest and reasonable increase” in the baseline sound level (a 1-4 dBA change across the course of an hour). The court credited local residents’ testimony regarding the minimal impact of NEMG’s off-site trucking and emphasized the noise context of the area along the trucking route—a well-travelled road in an area that is “already far from pastoral”—in determining that truck noise from the project would “fit” into the context of Graniteville Road and would not shock an average person. Lastly, the court considered NEMG’s efforts to mitigate the noise, which it found reasonable, and noted that Neighbors did not suggest any additional mitigation measures to minimize the adverse noise impacts at trial.

¶ 22. Based on all of these findings, the court concluded that although the increased frequency of off-site truck traffic would have an adverse impact, that adverse impact would not be “undue.” Accordingly, the court’s consideration of Lmax alongside Leq(n) in its multifaceted analysis in this case complies with Lathrop.⁵

¶ 23. Neighbors also assert that “[n]owhere did the court assess the impact each additional passing truck will have on the quality of life in Lower Graniteville and at residences

⁵ Neighbors argue that affirming the court’s Criterion 8 determination in this case will weaken our holding in Lathrop by allowing courts to minimize the harmful impacts of an increase in high frequency noises (Lmax) by emphasizing data regarding sound levels over time (Leq(n)). We acknowledge that if a court made factual findings regarding a dramatic increase in the frequency of instantaneous noise (Lmax) events but ignored those findings in its analysis or solely weighed those findings against equivalent noise levels, such as Leq(n), then the court may reach a holding counter to the spirit of Lathrop. As in Lathrop, such a holding would be subject to challenge. However, in this case, where the court made numerous findings and considered Lmax alongside an array of data, the court’s conclusion that NEMG’s off-site truck noise was not undue comports with Lathrop.

along Graniteville Road,” contrary to Lathrop’s emphasis on the human experience of instantaneous noise. Lathrop, 2015 VT 49, ¶ 86. We disagree. In applying the Quechee test, the court specifically found that NEMG’s off-site trucking noise would be adverse because “the increase in frequency will be apparent, even when considering the existing industrial character of the surrounding area.” The court was considering not only the Lmax measurements, but also the impact of each additional truck on residents in the area. In concluding that the noise would not be undue because it would not shock an average person, the court considered “the actual experience of truck traffic from the Project” and credited testimony from “the two closest neighbors to the [c]rusher, both of whom live along the Graniteville Road Truck Route, [and who] have not experienced off-site trucks relating to the [c]rusher operations to be shocking or unduly intrusive.” Therefore, the court properly considered the experience of local residents when considering whether the adverse noise impacts were undue. That Neighbors would have weighed the testimony differently is not sufficient to undermine the court’s findings. In re McShinsky, 153 Vt. 586, 589-90, 572 A.2d 916, 918-19 (1990) (outlining deferential standard of review this Court applies to trial court’s factual findings).

¶ 24. Neighbors next argue that the increase in truck traffic will exceed the standard set by the Environmental Board in OMYA.⁶ No. 9A0107-2-EB, slip op. Neighbors point out that in

⁶ To demonstrate the increase in truck traffic, Neighbors present several charts in their appellate briefing to capture data presented at trial. Neighbors attempt to use this data, based on number sets which were apparently undisputed during testimony at trial, to calculate “total” percentages of truck-traffic increase. NEMG contends that

[n]o witness ever presented or even viewed the totals Neighbors claim are applicable here. . . . Had Neighbors created and presented the tables in [their] Brief to [NEMG’s expert], he might have agreed, or might have disagreed with the charts or the premise Neighbors create for the charts and the mathematics. . . . Yet here, Neighbors ask this Court to reverse on the basis of charts and mathematics in an exhibit they created solely for this appeal.

OMYA, the Board found the applicant’s proposed truck traffic undue because the percentage of OMYA trucks passing through Brandon Village would increase from 25% of the total truck traffic to 40%, resulting in an 18% increase in overall truck traffic through the Village—an OMYA truck would pass through the Village every two and a half minutes, nearly doubling the existing frequency. *Id.* at 43. Neighbors argue that because the increase in truck traffic here “greatly exceeds” that in OMYA and adversely impacts the Graniteville community, the court erred in concluding the noise impacts were not unduly adverse.

¶ 25. We note that the Board’s holding in OMYA did not establish a bright-line rule regarding when an increase in noise is unduly adverse. Rather, OMYA illustrates that when applying the second prong of the Quechee test to determine whether adverse noise impacts are undue, it is essential to consider the nature and context of the affected area—the total percentage of increase in frequency is useful, but not dispositive, in that inquiry. In OMYA, the Environmental Board applied the second prong of the Quechee test and concluded that the proposed increase in truck traffic would have an unduly adverse impact on the Brandon Village Historic District, in violation of Criterion 8. *Id.* at 1. In analyzing whether the proposed truck noise would shock a reasonable person, the Board was particularly conscientious of the context of the area:

Brandon Village is [a] historic village that also has Route 7 [running] through its center. Brandon Village has a dual nature: it is a quintessential Vermont village and the setting for one of Vermont’s major thoroughfares. Therefore, these two components of Brandon Village must co-exist without either component taking precedence over the other. This means that a certain level of truck

Here, the trial court took evidence from Mr. Duncan and made findings regarding the number of trucks travelling along Graniteville Road. However, the court did not make findings regarding the “total” percentage increase in truck traffic, as Neighbors attempt to do in their charts. Because we consider (and reject) the heart of Neighbors’ argument—that the increase in off-site traffic here violates Criterion 8 because it is greater than the increase in traffic noise the Environmental Board concluded was unduly adverse in OMYA—we do not address the parties’ dispute regarding the data in Neighbors’ charts. See *infra*, ¶¶ 25-26.

traffic is acceptable, but also that there is a level which is unacceptable.

The addition of 170 OMYA truck trips is unacceptable because it will overwhelm, if not extinguish, those elements of Brandon Village which make it a quintessential Vermont village. OMYA's trucks, if running at the additional 170 trips, would impose a shocking and offensive burden on the people who live, work, and visit in Brandon Village.

Id. at 37 (emphases added). In reaching its decision, the Board also noted that no established community standards existed regarding such noise and that there were mitigation options available that had not been considered or exercised, such as other truck routes. Id. at 37-38.

¶ 26. In this case, as in OMYA, the court considered the nature of the area, the impact the increased frequency of trucks would have on nearby residents, and mitigation options when determining whether the noise impacts from off-site trucks were unduly adverse. The project at issue is proposed in an industrial zone, which the court described as “far from pastoral.” NEMG's trucks travel along a designated trucking route, and quarrying operations in the area have been ongoing for over 100 years. The context of the area here is completely different from the context of the area in OMYA—the historic and “quintessential[ly] Vermont village” of Brandon. Id. at 37. Accordingly, it is unsurprising that the number of truck trips that would “shock” an average person is different in this case than in OMYA. Here, the court found that the increased frequency in off-site truck trips due to NEMG's crushing operation would not shock an average person in Graniteville and that there was no clear community standard that would prohibit such noise. Unlike in OMYA, the court found that other roads are used by NEMG's trucks and that NEMG is making efforts to reasonably mitigate the noise impacts. Thus, the court properly applied the second prong of the Quechee test and considered the context of the area when determining whether

the adverse impact from off-site truck traffic would be undue. The Board’s holding in OMYA does not undermine the court’s decision here.⁷

II. Criterion 1: Air Pollution Due to Silica Dust

¶ 27. Next we address Neighbors’ argument that the court erred in concluding NEMG’s rock-crushing operation complied with Criterion 1 relating to air pollution. First, Neighbors claim that several of the court’s Criterion 1 findings are clearly erroneous because they are “unsupported by the evidence, implausible, illogical, and internally inconsistent.” Absent these clearly erroneous findings, Neighbors contend the record contained insufficient evidence for the court to conclude that the operation complies with Criterion 1. Additionally, Neighbors contend that the Environmental Division ignored this Court’s precedent in In re Hinesburg Hannaford by failing to make independent findings regarding the functionality of the wet suppression system, undermining its reliance on the wet suppression system to mitigate the project’s dust impacts. 2017 VT 106, 206 Vt. 118, 179 A.3d 727. Finally, Neighbors argue that even if the findings are sustained, the court applied an erroneous legal standard when assessing whether the crushing operation caused undue air pollution—setting an impermissibly high bar for Neighbors. We disagree for the reasons outlined below.

¶ 28. Act 250 Criterion 1 requires applicants to show that their project will not cause “undue water or air pollution.” 10 V.S.A. § 6086(a)(1). Act 250’s statutory scheme does not define when pollution is “undue.” However, the Environmental Board has determined that “undue” means “that which is more than necessary—exceeding what is appropriate or normal” in

⁷ The court received conflicting testimony regarding the impact of noise from the crushing operation on Graniteville residents. Neighbors point to testimony from residents to demonstrate that the increased frequency of truck noise is unduly disruptive and that the court erred in finding otherwise. However, the court’s finding, which it considered “probative,” that the two neighbors living closest to the crushing operation did not find the increased truck traffic shocking or unduly intrusive is supported by the neighbors’ testimony; we will not reweigh the court’s credibility assessment on appeal. See Lathrop, 2015 VT 49, ¶ 75; McShinsky, 153 Vt. at 589-90, 572 A.2d at 918-19.

the air-pollution context. In re John A. Russell Corp., No. 1R0849-EB, slip op. at 43-44 (Vt. Env'tl. Bd. Jul. 10, 2001), <https://nrb.vermont.gov/sites/nrb/files/documents/1r0849-eb-fco.pdf> [<https://perma.cc/VHE9-T6LB>] (quotation omitted). Whether pollution is “undue” is highly fact specific; it depends on “the nature and amount of the pollution, the character of the surrounding area, whether the pollutant complies with certain standards or recommended levels, and whether effective measures will be taken to reduce the pollution.” In re McLean Enters. Corp., No. 2S1147-1-EB, slip op. at 41 (Vt. Env'tl. Bd. Nov. 24, 2004), <https://nrb.vermont.gov/sites/nrb/files/documents/2s1147-1-EB-fco.pdf> [<https://perma.cc/3FCM-AL52>]. Compliance with government air standards is an important, but nondispositive, factor in this inquiry. In re Hawk Mountain Corp., 149 Vt. 179, 185-86, 542 A.2d 261, 264-65 (1988).

¶ 29. Applicants for an Act 250 permit bear the burden of showing that they satisfy Criterion 1 of Act 250. 10 V.S.A. § 6088(a). Section 6086(d) and Act 250 Rule 19 provide that specific ANR permits create presumptions of compliance with certain Act 250 Criteria. Relevant here, Act 250 Rule 19(E)(2)(a) provides that an air pollution control permit issued by ANR creates a presumption that no undue air pollution will result from a project, pursuant to Criterion 1. Act 250 Rules, Rule 19(E)(2)(a), Code of Vt. Rules 12 004 060 [hereinafter Act 250 Rules], <https://nrb.vermont.gov/sites/nrb/files/documents/2015%20Adopted%20Rules.pdf> [<https://perma.cc/LW2D-96KZ>].⁸ The issuance of such a permit creates a presumption that the applied-for project “is not detrimental to the public health and welfare with respect to” the specific requirements for which it is accepted. Act 250 Rule 19(F). This presumption is rebuttable. Id.; see also Hawk Mountain Corp., 149 Vt. at 182, 185-86, 542 A.2d at 263, 265 (outlining and

⁸ Rule 19(E) states that “[i]n the event a subdivision or development is also subject to standards of or requires one or more permits, approvals or certifications from another state agency, such permits, approvals or certifications of compliance . . . will create the following presumptions.” Act 250 Rule 19(E). The list includes a presumption “[t]hat no undue air pollution will result” if a project has received an “Air Pollution Control Permit [from] Agency of Natural Resources, under 10 V.S.A. § 556 and rules adopted thereunder.” Act 250 Rule 19(E)(2)(a).

applying rebuttable-presumption framework). To rebut the presumption, opponents must introduce admissible evidence that “allows a rational inference to be drawn” that the development will likely cause undue pollution. Hawk Mountain Corp., 149 Vt. at 185-86, 542 A.2d at 265. Once the presumption is rebutted, “the applicant shall have the burden of proof under the relevant criteria and the permit . . . shall serve only as evidence of compliance.” Act 250 Rule 19(F).

¶ 30. We first address Neighbors’ challenges to the court’s factual findings, all of which fail, particularly considering the deferential standard of review we apply to the court’s factual findings. Korrow Real Estate, 2018 VT 39, ¶ 17 (explaining this Court reviews environmental court’s factual findings for clear error). Neighbors specifically take issue with the court’s findings, which relied heavily on NEMG’s expert’s opinion, that the Environmental Protection Agency (EPA) AP-42 factors are reliable for use in permitting and compliance, that the crushing operation’s silica emissions are “well within” regulatory standards, and that the photos and videos submitted by neighbors are of limited utility.

¶ 31. First, Neighbors assert that the court erroneously relied on NEMG’s AERMOD modeling because NEMG’s expert, John Hinkley, used the EPA’s AP-42 data set in creating the projections. We disagree. The court made the following findings regarding AERMOD modeling and AP-42. AERMOD modeling is the EPA’s preferred air-quality-modeling method, and it is produced using specialized modeling software. The EPA also utilizes a method called AP-42 to calculate air emissions likely to be generated from particular industrial sources. The AP-42 method compiles “air pollution emissions factors,” which are “representative value[s] that attempt[] to relate the quantity of a pollutant released to the atmosphere with an activity associated with the release of that pollutant,” to “[estimate] emissions from various sources of air pollution.” The court recognized that “[d]ifferent data are adjudged by EPA in AP-42 to be of better or lesser quality” and that “[g]enerally, those factors based on a larger number of observations and more reliable tests are assigned higher ratings, whereas factors based on fewer observations or that are

extrapolated from other factors are typically rated lower.” The EPA cautions that AP-42 is not as accurate as a direct measurement for emissions. The EPA’s introduction to AP-42 states that the “[u]se of these factors as source-specific permit limits and/or as emission regulation compliance determinations is not recommended by the EPA.” Neighbors use this statement to challenge Mr. Hinkley’s use of AP-42 in creating his AERMOD model.

¶ 32. We conclude that Mr. Hinkley’s use of the AP-42 data did not undermine the court’s reliance on his AERMOD modeling. The EPA’s introduction to AP-42 states that “[e]mission factors in AP-42 are neither EPA-recommended emission limits . . . nor standards.” (Emphasis omitted.) However, the EPA does not disapprove of the use of AP-42 in permitting or compliance generally. The EPA recognizes that “[e]mission estimates are important for developing emission control strategies, determining applicability of permitting and control programs, [and] ascertaining the effects of sources and appropriate mitigation strategies” and that emission factors, such as AP-42, “are frequently the best or only method available for estimating emissions, in spite of their limitations.” Even if the EPA does not specifically recommend the use of AP-42 for these proceedings, nothing in EPA’s guidance prohibits or discourages the use of these measurements either. Thus, Mr. Hinkley’s use of these measurements in creating the AERMOD modeling at issue is not internally inconsistent with the EPA’s guidance on AP-42 emission factors. The court’s findings regarding AP-42 and AERMOD modeling rest entirely on the fact that NEMG’s expert testified regarding their validity. These findings were amply supported by the evidence at trial, and the court’s reliance on the modelling was not in error.⁹

⁹ The court heard extensive testimony from Mr. Hinkley regarding the reliability of AP-42 to support its conclusions. Mr. Hinkley testified that he relied on AP-42 data information in creating his AERMOD model. He explained that certain aspects of the data that he relied upon had “Poor” ratings, although the final rating of the quality of such data was “Average.” After reviewing the data and the reliability ratings, Mr. Hinkley concluded that the AP-42 factors were sufficiently reliable to use in his model. He explained that the factor’s rating was lower because the facilities used to generate the model “do not represent a random sample of the industry” and “[t]here may be evidence of variability within the source population.” In other words, the data

¶ 33. We similarly reject Neighbors’ argument asking us to discredit the trial court’s finding that the project was “well within” the margins for safe silica-dust projections. The trial court credited Mr. Hinkley’s testimony explaining how he created the AERMOD model, including his testimony regarding the functionality of the wet suppression system. In his testimony, Mr. Hinkley acknowledged that although there is no set standard for measuring silica dust, his modeling demonstrated that the wet suppression system required by NEMG’s air-pollution permit would successfully remove 89% of silica dust and that only 5.5% of all respirable dust that would be emitted from the project would be emitted into the ambient air. He testified that he tested a range of projections and even under the “worst-case” scenarios, including crystalline silica modeling results based on the past five years of the crushing operation, no undue air pollution would occur. Based on this modeling, Mr. Hinkley concluded that silica emissions would not pose a health hazard. Mr. Hinkley’s projections, along with other evidence such as Method 9 opacity testing performed at the site, support the court’s finding that the crushing operation functioning in compliance with its permit would remain within the requirements for safe silica-dust production. Neighbors fail to demonstrate clear error.¹⁰

were given a lower rating because the AP-42 factors here were based on a smaller pool of data, not because the data were unreliable. After reviewing the source of these ratings, Mr. Hinkley expressed his confidence in the AP-42 factors. He explained that the AP-42 factors have a “forty-plus year track record of being used” and that “if the data were unreliable, EPA would say so, rather than including the data in AP-42 as guidance.” He further noted that if the data were not reliable, then EPA facilities would be “flunking Method 9 tests” and the EPA would have stopped using AP-42 because it “would leave their facilities vulnerable.” The court stated that it found “Mr. Hinkley’s explanation of AP-42 and modeling helpful, reasonable, credible, and based on science that guides air pollution professionals.”

¹⁰ Neighbors also argue that Mr. Hinkley should have factored in a margin of error when creating his projections. However, Mr. Hinkley testified that his projections were based on the average results derived from a range of testing projections. Thus, Mr. Hinkley was already accounting for a margin of error by using an array of data points for his modelling. Other than pointing out that “Mr. Hinkley himself acknowledged that a margin of error is prudent when approaching a regulatory threshold”—which he did by varying his modelling scenarios—Neighbors point to no authority requiring the court to take evidence and make findings regarding a margin of error in Mr. Hinkley’s modelling. It was not necessary for the court to require Mr.

¶ 34. Next, we address Neighbors’ argument that the court’s Criterion 1 determination must be reversed and remanded because as in Hinesburg Hannaford, 2017 VT 106, the court here failed to make findings regarding the functionality of the wet suppression system and simply relied on NEMG’s expectation that the wet suppression system would work. However, Hannaford’s expert merely offered “conclusory assertion[s]” that the relocated stormwater swale was designed to meet the applicable ANR standards. Id. ¶ 51. In doing so, the expert “acknowledged the governing standards” but failed to either offer any evidence regarding the functionality of the proposed project modifications or address the uncontradicted evidence of site-specific harms presented by the neighbors’ expert. Id. In concluding the Hinesburg Hannaford project complied with Criterion 1, the trial court made no findings or conclusions regarding the uncontradicted testimony, “summarily” stating that the stormwater swale would comply with the applicable standards. This Court reversed and remanded on the issue of Criterion 1 compliance, stating:

In short, in the face of specific unchallenged evidence that the system would not work as intended, the court relied upon Hannaford’s conclusory representations that the system was designed according to governing standards, without making any findings or conclusions regarding the contrary evidence, and without any testimony addressing the likely effectiveness of the system. That was error.

Id. ¶ 52.

¶ 35. The situation here is not akin to the situation in Hinesburg Hannaford. Here, the court had sufficient evidence based on Mr. Hinkley’s modeling and projections to credit that wet suppression would reduce dust in the air and the remaining dust’s impact would not be undue—multiple opacity tests were conducted, Mr. Hinkley personally observed the site conditions in preparing his modeling (including during the test conditions where all NEMG equipment components were operated simultaneously), and the AERMOD modeling indicated that the wet

Hinkley to account for additional margins of error to credit his modelling and conclude the project would not have undue harms.

suppression system would be highly effective in eliminating dust. Mr. Hinkley's testimony yields significantly more depth than the "conclusory representations" acknowledging government standards provided by Hannaford's expert in that case. Additionally, this is not a case where the court credited one expert's generalized testimony in the face of uncontroverted site-specific evidence to the contrary. The court here heard opposing testimony from Neighbors' expert, stating that wet suppression systems were ineffective, as well as conflicting testimony from neighbors regarding whether the dust from NEMG's crushing operation impeded their use and enjoyment of their property. Thus, this case differs from Hinesburg Hannaford, and we see no reason to discount the court's determination regarding the project's Criterion 1 compliance.

¶ 36. Finally, Neighbors ask us to reject (1) the trial court's findings regarding Neighbors' photo and video evidence and (2) the weight the court gave to that evidence. The court found Neighbors' photos and videos to be unrepresentative and "of limited utility" due to the highly variable nature of the environment and difficulty in attributing dust and percentages of dust to one source or another. It found that some photos were taken when the project was not operating and that it was not possible to distinguish the source of visible airborne dust. The court also noted that "[t]he photos and videos are snapshots in time, or brief moments on video" and that "[m]any of them are modified by magnification, and therefore difficult to put into perspective," making them unreliable. For these reasons, the court could "not conclude that these visual representations are a realistic depiction of the Project operation as it has existed or as it may exist in the future."

¶ 37. Neighbors claim the court erred in disregarding the photos and videos because (1) evidence at trial regarding the percentage of dust emitted from the crusher contradicted the court's finding that it could not determine where the dust in the photos originated, and (2) Neighbors do not credit testimony from residents that the dust in the photos and videos was

produced by ROA, not NEMG, or that the crusher was not operational when the photos and videos were taken.¹¹

¶ 38. The weight assigned to a witness's evidence is for the trier of fact, here the trial court. McShinsky, 153 Vt. at 589-90, 572 A.2d at 918-19. We will only reject the court's findings if they are unsupported by the evidence. Id. Here, the evidence demonstrates the crushing operation is responsible for dust emissions, but there is no evidence beyond general estimates regarding the percentage of dust emitted by the crusher, as opposed to ROA or other sources, to support Neighbors' assertion that the dust in the photos and videos was directly caused by NEMG's crushing operation. While some witnesses testified that the dust negatively impacted their home life, other witnesses testified that the dust was not an issue. One witness testified that the noises in the videos were not from NEMG or ROA machinery, and therefore the court found that the dust in the video could not have come from NEMG's crusher. The witness also testified that the dust in the photos likely came from the ROA tract, but he could not tell whether the dust came from ROA or NEMG's crushing operation. Based on this conflicting testimony and the state of the images and videos, the court determined that "it is not possible to distinguish the source of visible airborne dust [in the photos and videos]." Whether Neighbors would interpret the evidence and reach a different finding is irrelevant—the court's finding that the photos and videos were of little

¹¹ Additionally, Neighbors claim that it was inappropriate for the court to credit the Method 9 visual-opacity tests yet reject Neighbors' photo and video evidence because both depict "snapshots in time." Method 9 testing is required by the EPA for testing the level of visual emissions of particulate matter. See 40 CFR § 60.11(b) ("Compliance with opacity standards . . . shall be determined by conducting observations in accordance with Method 9."). The court found Method 9 testing to be "the best and generally accepted test of whether particulate matter is being emitted" by a project and heard extensive testimony from Mr. Hinkley regarding Method 9 testing. He explained the process of conducting the tests, which are performed over thirty-minute periods and require careful positioning, and their reliability. He stated: "Method 9 is . . . viewed as a reliable test. . . . [I]t is the requirement for the entire country, and it has been applied time and time again with crushing and other narrow processing operations throughout Vermont." To the extent that there are similarities between these two forms of evidence because both are "snapshot[s] in time," those similarities are insufficient to undermine the court's finding that Neighbors' photos and videos were of "limited value."

aid is supported by the contradictory testimony in the record below. Thus, Neighbors' argument that the photos and videos "speak for themselves" fails, and we defer to the court's determination that the photos and videos were not credible sources for quantifying the dust's impact.

¶ 39. Because we conclude that the court's factual findings challenged by Neighbors were not in error, we reject Neighbors' argument that the court's Criterion 1 conclusion was unsupported by these findings.

¶ 40. Finally, we address Neighbors' argument that the court applied an incorrect legal standard when assessing undue air pollution under Criterion 1. Neighbors point to case law from the Environmental Board considering whether dust causes an unduly adverse impact. See, e.g., In re Upper Valley Reg'l Landfill, No. 3R0609-EB, slip op. (Vt. Env'tl. Bd. Nov. 12, 1991), <https://nrb.vermont.gov/sites/nrb/files/documents/3r0609-eb-fco-rev.pdf> [<https://perma.cc/8NLP-YNPF>]; In re N. Country Dairy Supply, Inc., No. 1R0898-EB, slip op. (Vt. Env'tl. Bd. Nov. 16, 2004), <https://nrb.vermont.gov/documents/1r0898fco> [<https://perma.cc/92CT-RL2F>]. Neighbors argue that the court here ignored the experience-based analyses emphasized in these prior cases, instead imposing an "erroneously high bar" for Neighbors to demonstrate undue air pollution. In support of this argument, Neighbors claim the court placed significant weight on the Project's regulatory compliance and minimized the "real impacts to Neighbors"; dismissed the impacts from the crushing operation as no different from those already existing on the ROA site; and considered whether the dust impacts to neighboring residents are "unduly onerous or problematic, a standard not recognized by Criterion 1."

¶ 41. We disagree with Neighbors. The court heard testimony from various residents in the area regarding the impacts the crushing operation and dust had on their experience residing in the area, and two neighbors testified that they had not noticed a difference. The court weighed this against the testimony, photos, and videos from other residents who felt that dust from the crusher impeded their ability to use and enjoy their property. Considering the evidence, the court found

the testimony from residents who stated that the crusher did not meaningfully or harmfully impact their experience to be credible. Additionally, the court’s analysis accounted for many of the key factors highlighted in the cases cited by Neighbors by considering: steps NEMG took to reduce dust, including wet suppression, continued opacity testing, and maintaining a water truck on site;¹² whether the dust was within ranges deemed “appropriate” by experts in the field; and local residents’ testimony regarding their personal experiences with the dust. Notably, though Neighbors argue the court was inappropriately focused on compliance with regulations, the court did not rely solely on the fact that the project received an ANR permit in determining whether the dust was undue; it conducted the full burden-shifting analysis as required. See supra, ¶ 13.

¶ 42. In sum, the court committed no error in concluding that NEMG’s rock-crushing operation complied with Act 250 Criterion 1 and Criterion 8.

Affirmed.

FOR THE COURT:

Associate Justice

¹² The court found that the permit also includes the following mitigation measures as dust control at the project: use of wet suppression at all aggregate-transfer points in the crusher mechanism; the paving of the first 500 feet of the project access road; the continued use of a sweeper on the project road to remove excess dirt and mud as needed; the continued use of an automatic sprinkler system to keep the paved section of the access road watered down during dry periods; Method 9 opacity testing of the crusher to ensure that problematic quantities of dust are not being produced; and the use of a water truck to control dust on adjacent haul roads.