IN THE CIRCUIT COURT FOR
MONTGOMERY COUNTY, MARYLAND

PETITION OF COSTCO WHOLESALE CORPORATION,	*	
FOR JUDICIAL REVIEW OF THE DECISION OF THE MONTGOMERY COUNTY BOARD OF APPEALS	*	CIVIL ACTION NO. 404629-V (Bair)
IN THE MATTER OF COSTCO WHOLESALE CORPORATION Board of Appeals Case No. S-2863	*	

REPLY MEMORANDUM OF PETITIONER COSTCO WHOLESALE CORPORATION

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INTRODUCTION

The Board's decision is expressly grounded upon the potential impacts in the residential neighborhood and cannot be upheld in the face of the uncontested facts about the lack of impact on the neighborhood. Respondents do not contest that the proposed station will contribute *de minimis* amounts of $PM_{2.5}$ and NO_2 in the residential neighborhood, including at the Stephen Knolls School. Respondents do not contest that the proposed station will not cause additional congestion from traffic or parking in the residential neighborhood. The Respondents run away from these inconvenient truths to shift the grounds of their attack to the Mall property itself.

Even on the Mall property, the station will not cause air quality to violate National Ambient Air Quality Standards ("NAAQS"). The Board did not find there would be a violation. The Respondents' expert was unwilling to testify to anything more than a "distinct possibility" that there would be a violation at the Mall. Respondents do not contest that NAAQS are health-based standards designed to protect the most sensitive populations, and that they have the force of law. Respondents do not contest that Montgomery County has not enacted ambient air standards different from the NAAQS. For these reasons, the NAAQS are preemptive.

The Board did not find incompatibility with the Mall because there was no basis for such a finding. Thus, the station cannot be disallowed on this basis either. For the reasons set forth in Costco's initial memorandum and this reply, the decision of the Board must be reversed.

REBUTTAL STATEMENT OF FACTS

Most of the facts relevant to this appeal are not in dispute. That is particularly true concerning the evidence of the station's miniscule contribution of PM2.5 and NO2 in the adjacent residential neighborhood and especially at the Stephen Knolls School. Unfortunately, Kensington Heights Civic Association's (KHCA) Brief misinterprets the record in a way that suggests a factual dispute, where there is none.[1] Similarly, Respondents' attack on Sullivan's updated model omits their own concessions which support the refined analysis. Finally, the new medical studies provide no reason to depart from the NAAQS, even if it were permissible to do so, and it is not. Costco will again address the record with regard to these matters.

a. The relative contribution of service station exhaust to air quality in the residential neighborhood is trivial.

The service station contribution to total PM2.5 and NO2 in the air of the adjacent residential neighborhood is a very small percentage, generally less than 1% of the total. Mr. David Sullivan was the only expert in the case who quantified the station's potential contribution of PM2.5 and NO2 to various locations in the neighborhood, such as the Stephen Knolls School, the Kenmont Pool, and the close in residences. Dr. Cole, the expert for KHCA and Stop Costco, did not attempt a contribution analysis. Nevertheless, Dr. Cole conceded that the impacts from PM2.5 were not a significant problem off-site and he did not refute Mr. Sullivan's analysis as to the station's percentage contribution of

[1] For brevity, the opposition memoranda of the various respondents will be referred to as the "County's Brief", "KHCA's Brief", etc. Similarly, Costco's initial memorandum will be referred to as "Costco's Initial Brief."

NO_2 in the residential neighborhood. E539. (Tr. 12/5/2013 at 71-73); E595-97. (Tr. 12/6/2013 at 73-78).

Confusion is created by KHCA's misleading citation to exhibits showing the contribution from queuing cars to air quality *at the proposed station* when discussing the relative contribution of the station in the adjacent residential neighborhood, including the Stephen Knolls School. Respondents' briefs demonstrate why these comparisons are misleading. In discussing NAAQS, the Respondents' briefs distinguish between levels of pollutants at "the source" and in "the area." *See* KHCA Brief at 13; County Brief at 14-15. Respondents discuss how rapidly levels of NO_2 and $PM_{2.5}$ decline as one moves away from the source. KHCA Brief at 13. The briefs of KHCA and Stop Costco neglect those important distinctions when talking about potential exposures in the residential neighborhood.

Costco's Initial Brief noted that Dr. Cole conceded that $PM_{2.5}$ from cars using the service station was "not a significant problem" in the residential neighborhood, including at the Stephen Knolls School or the Kenmont Pool. Costco Initial Brief at 10. Nevertheless, KHCA took issue with Costco's citation to evidence showing that the relative contribution of $PM_{2.5}$ from the station at these locations was 0.03%. KHCA Brief at 26. Instead of acknowledging what its expert has already conceded, KHCA engages in an apples-to-oranges comparison to attempt to belittle that evidence. Thus it compares that 0.03% contribution *at the School* to Figure 6 in Ex. 466 (Sullivan's 2014 Report) which shows a contribution of 8.5% *at the station.* E1047. (Ex. 466). Figure 6 shows that the levels of $PM_{2.5}$ quickly decline to 1% over background levels within just a

few feet of the station. Thus, the evidence relied upon by KHCA confirms what experts for both sides testified to – that impacts in the residential neighborhood are not significant.[2]

Costco's Initial Brief showed that the station contribution of NO2 to air in the residential neighborhood was also quite small, amounting to approximately 1% of the NO2 at the Knolls School and the Kenmont Pool. In the backyards of the residences closest to the station, it was approximately 5%, using urban dispersion.[3] Respondents do not directly challenge that evidence. Nevertheless, KHCA responds to Costco's discussion of percentage contribution off-site by citing to contribution analyses for NO2 *at the station* contained in Exhibit 466. KHCA Brief at 25-26. Specifically, KHCA references contributions from the station at peaks shown in the Stage 2 and Stage 3 analyses. All of those peaks are on the Costco property, and like the PM2.5 data, the figures show steep decline in levels of NO2 as one moves into the neighborhood. E1043-44. (Ex. 466).

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[2] The Stop Costco Brief also engages in misleading apples to oranges comparisons. For example, Footnote five contends that the background levels relied upon by Mr. Sullivan in Figure 1 (E1042) "leaves *every day* just slightly below Code Yellow . . . ." (emphasis added) Stop Costco Brief at 15. That is wrong; Figure 1 deals with the rare, one hour maximum projection, not daily averages. As shown in Sullivan's Figure 4, (E1045), annual average background of NO2 is 23 ug/m3, not the 90 ug/m3 used in Figure 1 to describe maximum emissions scenarios. The projected annual average NO2 with the gas station is 29 ug/m3, well below the lower bound of Code Yellow, which is 100 ug/m3. Stop Costco does the same thing in the next sentence that deals with 24 hour PM2.5, even though their contention has always focused on annual average PM2.5, not 24 hour PM2.5.

[3] The experts agree that the Mall is urban for modeling purposes but that the larger neighborhood is rural. There is a transition, however, and Mr. Sullivan testified that more than 50% of air travel to the school, the pool and the closest residences is over paved surfaces, such that urban dispersion is still relevant. That percentage of paved surface is higher as to the close in residences because their property line is only just 118 feet from the station itself. E23. (Op. 19). Therefore, urban dispersion is more applicable to these locations than rural dispersion in terms of determining impacts from the station. The chart at E286 shows contribution from numerous sources, including the gas queue and the ring road. Perhaps as much as 1/3 of the ring road contribution near the close in residences is associated with increased gas station traffic.

Respondents' Briefs rely extensively on EPA's notice of final rulemaking for the NO_2 maximum hourly NAAQS (75 Fed. Reg. 6474 et seq. (Feb. 10, 2010)). E965. (Ex. 424(b)). In that notice, EPA discusses the steep reductions in concentration of NO_2 that occur as one moves away from peak sources -- typically major roadways. E984-85. (Ex. 424(b)). Footnote 12 in the Federal Register Notice says "on-road NO_2 concentrations are about 80% higher on average than concentrations away from the road . . . and . . . monitors within 20 [meters] of roads measure NO_2 concentrations that are, on average across locations, 40% higher than concentrations measured by monitors at least 100 [meters] from the road . . . ." E984-85. (Ex. 424(b)). The various model runs performed by Mr. Sullivan show gradients that reflect the rapid diminution of NO_2 away from the station and other sources.

In arguing against the station, the Respondents repeatedly reference the Stephen Knolls School. Respondents neglect to mention that the school is much closer to Georgia Avenue than it is to the proposed Costco station. This is shown in the maps and photos at Pages 19 and 20 of the Hearing Examiner's Opinion. E23-24. (Op. 19-20). Georgia Avenue carries 50,000 vehicles a day, E273. (Tr. 5/1/2013 at 89), making it the kind of major roadway discussed by EPA in the Federal Register Notice. In view of that fact, it is not surprising that Respondents did not contest the contribution analysis at the hearing. The undisputed evidence in this case establishes that levels of $PM_{2.5}$ and NO_2 in the residential neighborhood will not be materially impacted by the Costco gas station.

b. Respondents' speculation about peak levels of NO2 is unsupported.

Recognizing that the station's contribution of NO2 and PM2.5 in the neighborhood would be very small, Respondents' attacks on Mr. Sullivan's modeling mostly related to background levels and the resulting total levels of NO2 and PM2.5, particularly at the station itself. Thus, they challenged his use of particular monitors to determine background levels, his use of updated background numbers for later analyses, his treatment of diesel exhaust, his decision that separately modeling businesses would improperly duplicate background levels, and his decisions regarding urban and rural dispersion. All these criticisms seek to increase the baseline levels to which the station emissions are added. Similarly, the Board's focus was mostly on projected total levels, not on the amount of the station's contribution in the neighborhood. Paradoxically, if Respondents were correct about total levels, and they are not, the station contribution to those levels would be proportionately smaller!

While there are many answers to Respondents' speculation, the most important is that the Board did not find that NAAQS would be exceeded. As the Board noted, actual monitoring data from around the country, including alongside major highways, made it "unlikely that one-hour NO2 levels will ever get as high as the Opposition fears." E169. (Op. 165). Even Dr. Cole was unwilling to opine that there was a scientific *probability* that the NO2 NAAQS would be exceeded. He was only willing to testify that it was "a distinct *possibility*" that the standard could be exceeded. App. 13. (Tr. 5/29/14 at 102-03). Of course, Dr. Cole's speculation flies in the face of the real world data.

Real world data for NO_2 shows levels much below those of the models. Sullivan's testimony on this subject was uncontroverted. E313. (Tr. 6/17/2013 at 266-67). Thus, at EPA's 411 national monitoring location, the highest maximum reading was only 83% of the NAAQS. App. 7-9. (Tr. 5/22/2014 at 105-10); App. 13. (Tr. 5/29/2014 at 102-3). Similarly, one of the health studies relied upon by Respondents noted that of 5,358 observations in the study (all in the Boston area), not a single one involved an exceedance of the maximum NO_2 NAAQS. RE489. (Ex. 597). For reasons discussed in Costco's Initial Brief, the modeling protocols are extremely conservative and overstate actual emissions relative to real world data. The uncertainties involve the degree of overstatement of predicted emissions. E. 720 (Tr. 5/12/2014 at 200-01).

Respondents' specific attacks on Sullivan's model revisions are also without merit. Thus, they complain that he reduced the background concentrations based on updated monitoring of ambient levels. KHCA Brief at 24 n.7. The Respondents' witnesses agreed that levels of NO_2 and $PM_{2.5}$ in ambient air have been steadily declining for decades and credited EPA with causing this to occur. E827-30. (Ex. 95(c)); E1055-57. (Ex. 466); E601-02. (Tr. 12/6/2013 at 96-98). It was appropriate for Mr. Sullivan to reflect that when performing model runs in later times where the later data was available.

KHCA and Stop Costco belatedly challenged Mr. Sullivan on his choice of monitoring locations used to estimate background levels in Wheaton. They waited years to do so, even though he told them in 2011 what he proposed to use and they did not object. When Dr. Cole finally testified against Mr. Sullivan's choice of monitoring

locations, the Hearing Examiner asked what locations Mr. Sullivan should have selected. Remarkably, Dr. Cole did not know! App. 3-5. (Tr. 5/22/2014 at 47-55). It was only when he resumed the stand seven days later that Dr. Cole had an answer to the Hearing Examiner's question. App. 11. (Tr. 5/29/2014 at 35-37). Not surprisingly, he picked sites in the District of Columbia with high background levels that were not otherwise similar to the vicinity of the Mall. The Board found that Mr. Sullivan's choice of monitoring locations was appropriate. E102-03. (Op. 98-99).

The Respondents also criticized Mr. Sullivan for relying on urban dispersion models close to the station, which show much lower levels of NO2 than do rural dispersion models.[4] Nevertheless, Dr. Cole admitted that the Mall and station area have urban characteristics, not rural characteristics. E588. (Tr. 12/6/2013 at 42-43). The Board found it was appropriate to model the Mall area as urban. E88-84. (Op. 84-85).

The Respondents criticized Mr. Sullivan for not modeling all the sources of emissions near the Mall. Mr. Sullivan explained that protocols require modeling of the new emissions and then using conservative background numbers. Otherwise, there is double counting of emissions. In the interest of conservatism, however, he modeled all of the loading docks at the Mall and materially overestimated diesel truck volume. E648 (Tr. 5/1/2014 at 90-93). The Board found that his choices in this regard were reasonable. E95. (Op. 91).

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[4] The AERMOD model recognizes only two principal dispersion modes, urban and rural. Both experts agreed that the Mall area is urban and the single family residential areas are rural and that there is a hard to define zone in which the change occurs off of the Mall property. E588. (Tr. 12/6/2013 at 42-43); E311-15. (Tr. 6/17/2013 at 258-75). Mr. Sullivan ran both models for the sake of completeness, but relied on different runs depending on what area was the focus of the inquiry.

Finally, Respondents and the Board criticize Mr. Sullivan for refining his approach to emissions of NO2 from vehicles using the station when estimating air quality at the station. The EPA models for emissions from vehicles were in the process of change at the time Mr. Sullivan was doing his work. EPA's model assumed, in the interest of conservatism, that 100% of NOx in exhaust was in the form of NO2. Both experts agreed that assumption vastly overstated the amount of NO2 in car exhaust. E480-81. (Tr. 9/20/2013 at 41-42); App. 10. (Tr. 5/22/2014 at 166). Mr. Sullivan refined the model to reflect real world data about the components of exhaust, and assumed that only 25% of the NOX was NO2. Dr. Cole testified that the literature showed that *up to* 30% of the NOX was NO2. Thus, even though the Board was critical of the refinement, the experts essentially agreed on what the literature showed.

The changing of the assumed ratio of NOX to NO2 relates only to levels of NO2 in the queue, because there is further mixing and conversion with distance that is already factored into the models. Application of EPA's conservative 100% assumption would overstate close in NO2 contributions from queuing vehicles by a factor of 4, thereby materially overstating the on-site maximum.

Mr. Sullivan testified that the highest level of NO2 that he would project based on modelling would be 121 ug/m3, well under the NAAQS limit of 190 ug/m3. That result is for the station itself. E1032. (Ex. 466). Dr. Cole did no modelling whatsoever. Instead, he preferred to apply Mr. Sullivan's earlier model using rural dispersion, even though the mall is urban, adding in old high background levels, and without any of the

later refinements. Based on Cole's own concessions, that model run does not represent reality. Accordingly, the only opinion that can be credited, is that of Mr. Sullivan.

c. The health impacts evidence provides no basis for departing from the NAAQS.

The Respondents argue that compliance with NAAQS is not sufficiently protective of health. They acknowledge, as they must, that EPA engages a panel of medical experts to perform a detailed review of the medical literature in order to establish NAAQS at a level that is protective of health. Respondents do not argue that EPA does a poor job in that regard. Indeed, the Respondents rely on the very studies reviewed by EPA and EPA's statements about them.

Respondents and Costco agree that there are some studies that were too late to be included in the rule-makings that resulted in the current levels that have the force of law. That will always be the case. Respondents would have the Court speculate that these studies should or will result in lowering the NAAQS in the future. Even if that were the case, that does not change the facts that (1) the projected contribution of the station to the residential neighborhood is so small as to be immaterial, (2) the projections show compliance with the existing standard, and (3) there is no reason to believe that the station would cause violation of a more stringent standard if one were ultimately promulgated.

In view of these facts, there is no reason to engage in detailed examination of the exhibits and related testimony cited at pages 5 to 15 of Stop Costco's Brief. Most of the references relied upon by Stop Costco are not medical studies. Thus it cites to an economics journal (the E-Z Pass article that is Ex. 443), a CBS Evening News blurb (Ex.

441) and numerous EPA documents (Exs. 440, 447) that reference studies of various ages, most of which were considered by EPA in establishing the existing NAAQS promulgated in 2010 for NO_2 and 2012 for $PM_{2.5}$.

Of the numerous references, only four are medical studies published after the cut-offs for consideration as to the existing standards for NO_2 or $PM_{2.5}$. Two of the four are just updates of studies previously considered by EPA. (Exs. 442 and 449). None of the four is primarily focused on NO_2. Rather, they look at a variety of air parameters and note that it is difficult to attribute causation to any one pollutant. The findings of the new studies are within the range of findings considered by the EPA when setting the existing levels.

The study that Stop Costco particularly likes, describing it as "one of the simplest, and yet perhaps most significant studies of all", (Ex. 597), is remarkable mostly for what it did not find. The study measured lung capacity after "code yellow" days and found a minute ($1/1000^{th}$) decrease in lung capacity compared to lung capacity on "good" days.[5] The study found that "the magnitude of the average difference . . . is small and unlikely to be clinically perceptible to the average individual." RE490. (Ex. 597). Moreover, the study concluded "[u]nexpectedly, we did not find that associations between air pollutant exposures and lung function were stronger in participants with asthma and COPD . . . ." RE492. (Ex. 597). Not surprisingly, the science is complex and the job of determining

[5] The differences are approximately 0.1% of capacity. The study claimed 30.6 milliliter, or 0.03 liters, loss in forced expiratory volume in 1 second (FEV1) for NO_2 compared to normal FEV1 of 3.1 liters. RE488. (Ex. 597).

how to interpret this evidence and set binding standards is best left to the experts charged by law with doing so.

The Respondents' Briefs discuss the fact that EPA's approach to the maximum hourly standard for NO2 was to set a level that applies everywhere, which effectively limits concentrations at the source. Where Respondents' analysis fails is in leaping to the conclusion that lower levels apply away from the source. Their own expert, Dr. Cole, agreed that the standard applies everywhere; whether at the source or away from the source. App. 6. (Tr. 5/22/14 at 70-73); App. 13-14. (Tr. 5/29/14 at 103-08).

EPA looked at studies that showed health effects below 100 ppb (190 ug/m3) but concluded that they were not as strong as the studies that showed impacts in the range of 100 ppb and above. E992. (Ex. 424(b)). EPA concluded that the standard of 100ppb (190 ug/m3) would limit area-wide concentrations to well below 85 ppb (160 ug/m3) which was "the lowest 98^{th} percentile concentration in the 5 studies principally credited by EPA, but it did not create a lower regulatory level. It did not adopt the approach of Drs. Breysse and Jison. Therefore, EPA adopted the current standard taking into consideration precisely the arguments now being made by Respondents. It did so only five years ago in the case of NO2 and only three years ago in the case of PM2.5. These studies provide no basis for setting aside the NAAQS, even if the Board were permitted to do so, and it is not.

ARGUMENT

A. Maryland's adoption of the NAAQS standards preempts the Board from denying the special exception based on fears about air quality that complies with NAAQS health-based standards.

Respondents contend both that Costco's preemption argument is not reviewable by this Court and that the NAAQS are not preemptive. Neither contention has merit.

1. The Board's decision to disregard the state-mandated NAAQS constitutes reversible error that is properly before this court for judicial review.

The preemption issue was properly preserved for judicial review. Costco consistently argued that the NAAQS have the force of law and that the Board lacked authority to apply an alternative ambient air quality standard.

a. Costco argued before the Board that the NAAQS preempt the Board's authority to apply an alternative ambient air quality standard.

In closing argument before the Hearing Examiner, counsel for Costco argued that acceptance of the NAAQS by Maryland and Montgomery County precluded the Board from departing from those standards:

> These are the standards that must be applied. And why is that? Well, Maryland has the opportunity to apply different standards, higher standards if it so chooses. It has not done so. It has affirmatively decided to apply the EPA standards. Similarly, Montgomery County has not imposed any higher standard or any higher threshold than it would impose on the gas station. So, in the absence of any viable alternative standard, you have to measure the emissions by the [objective] standard.[6] To apply subjective, a discretionary standard, would be arbitrary and would not be supported by the record.
>
> ...

[6] The transcript says "subjective" standard but it is clear from the context that Costco counsel was arguing that the NAAQS is an "objective" standard.

> If we comply with the [NAAQS] standards, then we have met our burden that there are not adverse health effects. And, these are standards that are applied routinely by the federal courts. They've not been overturned. They have force of law. Nothing else that's been discussed in this case has force of law.
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> App. 15-16. (Tr. 9/19/2014 at 24-26).

These are the same arguments Costco set forth in its Initial Brief, *i.e.*, (1) in the absence of legislative action by the County, the NAAQS have the force of law and are preemptive, and (2) it would be arbitrary and capricious for the Board to ignore those standards.

Additionally, the Hearing Examiner fully understood that the NAAQS have the force of law and that it was beyond his authority to set an alternative ambient air quality standard. Key excerpts follow:

- Compare the World Health Organization, WHO standards, with the EPA standards for me ... in this connection, what gives me the authority to establish a standard different from the EPA standards .... App. 1. (Tr. 4/26/2013 at 36).

- We should not be in a position of creating our own standards to evaluate this. So we have to look at some objective source scientifically establishing this kind of standard. The logical place is the EPA standards. It is a little unfair to any applicant to have standards that are so loosey goosey that they're not written by the EPA. E614. (Tr. 1/10/14 at 244).

- I think you want me to – I think that part of the thrust of what you said is to ask me to create a standard that the experts who, generally speaking, govern these standards haven't yet come up with, and I'm unwilling to march into that territory because I think it is not within my jurisdiction, nor is it wise to do it. E613. (Tr. 1/10/2014 at 217).

- I fear that you are asking me to create a scenario that is impossible for any of the parties that are regulated to ever meet. So that's, that's the problem with – there has to be some level of

> predictability in a standard that's set up, and you're asking me to evaluate all the science and create my own standard that the EPA hasn't even been able to come up with yet....That would not be an appropriate function for me. E619. (Tr. 2/10/14 at 214-215).

Thus, the Board declined to apply NAAQS in the face of Costco's argument that it must do so and the Board's own doubts that it had the legal authority to depart from the standards.

Singletary v. Maryland State Dept. of Public Safety and Correctional, 87 Md. App. 408 (1991), shows why the point is preserved. In *Singletary*, a state correctional officer appealed his dismissal for refusal to submit to a urinalysis. In his petition for judicial review, the correctional officer argued that the Department's order to submit to a urinalysis was unlawful because the Department failed to provide notice, as required, of the COMAR regulations for drug testing. *Id.* at 411. The Department contended that the officer failed to preserve the issue of the lawfulness of the order because he did not raise it sufficiently at the agency hearing. *Id.* at 412. The Court of Special Appeals disagreed with the Department, finding that the issue of notice of the COMAR regulations was raised by the Hearing Officer during testimony at the administrative hearing. *Id.* at 413. For example:

> [Hearing Officer]: Officer Singletary, at the time of the incident were you familiar with the COMAR regulation regarding drug testing?
> [Appellant]: I did not get into this until after it happened. I did some research on my own and got copies of this here ...

Id. at 415. The court noted that "[g]iven that much of [the officer's] testimony was elicited by the hearing officer, it would be incongruous to hold that the hearing officer was not aware that notification of appellant was an issue." *Id.* Consequently, the court

held that the officer's challenge to the lawfulness of the order to submit was preserved for judicial review. *Id.* The present case is similar in relevant respects, for here the record before the Board shows that the Hearing Examiner's decision on the special exception turned on accepting a standard for assessing the health effects of the gas station and that Petitioner asserted that the NAAQS precluded the Board's authority to apply any alternative ambient air quality standard.

The Respondents' arguments against preservation fail to address Costco's legal arguments in the record and the Board's statements below about whether the NAAQS control.[7] Instead, Stop Costco argues that the record lacks *evidence* that the Maryland General Assembly has preempted the Board's authority to depart from those standards. Stop Costco Brief at 21. This, of course is a question of *law*, not fact, and evidence in the record is not required.[8] Accordingly, the Board's erroneous decision to depart from the state-mandated NAAQS is preserved for this Court's review.

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[7] While not cited by Respondents, the general standard for preservation of issues for judicial review was set forth in *Cicala v. Disability Review Bd. For Prince George's County*, 288 Md. 254, 261-62 (1980):

> A party who knows or should have known that an administrative agency has committed an error and who, despite an opportunity to do so, fails to object *in any way or at any time* during the course of the administrative proceeding, may not raise an objection for the first time in a judicial review proceeding. (emphasis added).

[8] The preemption issue here is distinguishable from issues raised in other cases that required further factual development. For example, in *Halici v. City of Gaithersburg*, a property owner appealed a final decision by the City Historic District Commission denying a work permit application. 180 Md. App. 238 (2008). On appeal, the property owner challenged the qualifications of one of the Commission's members under Article 66B, section 8.03(a)(2)(ii). *Id.* at 247. The Court of Special Appeals held that the qualifications issue was not preserved for review, explaining that the issue was a mixed question of law and fact that would require detailed factual exploration into evidence that was not before the Commission at the time of its decision. *Id.* at 253-54 ("[Appellant] may not circumvent the administrative process by keeping mum before the agency about an issue requiring factual development.").

b. Additionally, the Board committed reviewable legal error by expressly rejecting the NAAQS in its final decision on the special exception.

Aside from the fact that Costco argued that the NAAQS controlled, this Court is authorized to review *all* of the Board's legal conclusions. This is true even when those conclusions were unchallenged at the agency level, unlike what occurred in this case. *Insurance Commissioner of the State of Maryland v. Equitable Life Assurance Society of the United States*, 339 Md. 596 (1995), is an important case in this regard. In *Equitable Life*, a life insurer sought judicial review of the Maryland Insurance Commissioner's order directing the insurer to cease its practice of setting life insurance rates using gender based mortality tables. Specifically, the insurer sought judicial review of the Commissioner's determination that various provisions of the Maryland Code which authorize differential insurance rates and underwriting based on gender if actuarially justified, are unenforceable in light of Article 46 of the Maryland Declaration of Rights (the Equal Rights Amendment). The Court of Appeals observed that "[t]he principal issue dealt with by the Insurance Commissioner, the other parties, and the circuit court has been whether three Code sections violate Article 46 of the Maryland Declaration of Rights." *Id.* at 625. The Court further noted that "[t]hroughout this case, the only mention of any possibility that one Code section is inapplicable to Equitable's life insurance rates is a footnote in the Insurance Commissioner's reply brief filed in this Court," *Id.* at 631-32. Although never raised by any party prior to appellate review, the Court examined the scope of that section along with the other two, and found those provisions to be inapplicable to Equitable's gender based life insurance rates and to the

instant controversy. *Id.* at 625-35. The Court accordingly vacated the Insurance Commissioner's order in its entirety and remanded the case for further consideration by the Commissioner. *Id.* at 635.

Equitable Life illustrates the well-settled rule that a reviewing court may only affirm an agency decision based upon the propriety of the grounds actually stated by the agency. *See, e.g., Ak's Daks Communications, Inc. v. Maryland Securities Division*, 138 Md. App. 314, 325 (2001) ("In ascertaining the propriety of an agency's legal conclusions, we must consider whether the agency recognized and applied the correct principles of law governing the case. Our review is limited to the conclusions of law actually made by the agency, and we will affirm the agency's decision only if it is sustainable on the grounds given.") (internal citations omitted); *e.g., United Parcel Service, Inc. v. People's Counsel for Baltimore County, Maryland*, 336 Md. 569, 577 (1994) ("in judicial review of agency action the court may not uphold the agency order unless it is sustainable on the agency's findings and for the reasons stated by the agency") (internal citations omitted).

Here, by rejecting the NAAQS, the Board failed to apply the correct principles of law governing this case and invaded the province of MDE. This Court is authorized to review, and remedy, the Board's erroneous decision to disregard the state-mandated NAAQS. *See Equitable Life*, 339 Md. at 635; *also, e.g., State Board of Dental Examiners v. Tabb*, 199 Md. App. 352, 373 (2011) (in reviewing for legal error, "it is always within our prerogative to determine whether an agency's conclusions of law are correct, and to remedy them if wrong") (internal citations omitted). Further, because the

Board's final action is not sustainable based upon the grounds given by the Board, the Board's denial of Petitioner's request for special exception must be reversed. See also, Maryland Rule 8-131(a).

2. Maryland's adoption of the NAAQS standards preempts the Board from denying the special exception based on fears about air quality that complies with NAAQS health-based standards.

As Costco explained in its initial brief, Maryland's adoption of the NAAQS preempted the decision of the Board to disregard the NAAQS. Both the preemption by implication and the preemption by conflict doctrines dictate this conclusion. In contending to the contrary, Respondents fail to come to grips with settled Maryland law on preemption.

a. The Board's decision is preempted by implication.

In assessing preemption by implication, the comprehensiveness with which the legislature has spoken is the primary factor. *Altadis U.S.A. v. Prince George's County, Maryland*, 431 Md. 307, 311-12 (2013): *Allied Vending, Inc. v. Bowie*, 332 Md. 279, 299 (1993). Respondents' main argument against preemption, set forth by the County, is that the State's control over air regulation is not sufficiently comprehensive to preempt by implication the actions of the Board. County Brief at 31-32. In this regard, the County contends: "A quick review of Title 2 of the Environment Article, Md. Ann. Code ('Ambient Air Quality Control') reveals that the State law is not as comprehensive as the laws in the *Allied Vending* and *Skipper* cases cited by Costco, and that not only does it not expressly preclude local legislation, it actually makes specific reference to local zoning authority." *Id.* This contention is ill-founded on two levels.

First, it is not accurate that Title 2 of the Environment Article is less comprehensive than the statutes at issue in *Allied Vending v. City of Bowie*, 332 Md. 279 (1993) and *Talbot County v. Skipper,* 329 Md. 481 (1993). Section 2-103(b) of the Environment Article, entitled "Powers and Duties of the Department [of the Environment]" states:

> (b) *Duties.* – In addition to the duties set forth elsewhere in this title, the Department:
>
> (1) Has jurisdiction over emissions into the air and ambient air quality in this State;
>
> (2) Is responsible for monitoring ambient air quality in this State;
>
> (3) Shall coordinate all State agency programs on ambient air quality control.

A more all-encompassing charge with regard to ambient air quality than Section 2-103(b) would be difficult to articulate. Section 2-103(b) is at least equal in comprehensiveness to, if not more comprehensive than, the analogous statutes in *Allied Vending* (which did not set forth any general allocation of responsibility for cigarette business licensing but only specific statutes regarding the details of such licenses, *see* 332 Md. at 288-91) and *Skipper* (citing, e.g., Section 9–230 of the Environment Article, which directs the Department of the Environment to adopt regulations governing utilization of sewage sludge and requires Department of Agriculture approval of certain regulations, *see* 329 Md. at 489). Moreover, the Department of the Environment's enforcement of ambient air quality standards under the authority of Section 2-103(b) has been particularized in detailed COMAR regulations analogous to the COMAR cigarette licensing regulations

examined and considered relevant in *Allied Vending*. The COMAR regulations adopt EPA regulations and the EPA rule-making documents comprise hundreds of pages of the record of this case.

Air regulation in Maryland is comprehensive, and the setting of ambient air quality standards is but one part, albeit an important part, of that regulatory scheme. The COMAR provisions relating to air pollution and air quality occupy roughly 500 pages. *See* COMAR 26.11. They in turn reference the Code of Federal Regulations and frequently adopt those regulations by reference. There are sixteen CFR volumes pertaining to air pollution and air quality regulation under the Clean Air Act, and together they contain approximately 14,000 pages. *See* 40 C.F.R. parts 50-98.

Respondents' contention that *Ad + Soil, Inc. v. County Commissioners of Queen Anne's County,* 307 Md. 307 (1986), in which the Court of Appeals found no preemption, is more apposite than *Allied Vending* and *Skipper* is not supported by a close examination of *Ad + Soil*. *Ad + Soil* involved the question of preemption under the State's sewage treatment statutes. In developing its argument, the County asserts that Sections 9-502(c), 9-212(a)(4), and 9-313(b)(4) of the sewage treatment subtitle are similar to Sections 2-104, 2-301(b), and 2-404(b) of the State's ambient air quality statute; that the Court of Appeals in *Ad + Soil* discussed Sections 9-502(c) and the other sections mentioned; that the Court in *Ad + Soil* found no preemption; and that, therefore, no preemption should be found under the Ambient Air Quality statute. County Brief at 32 and n.12. Costco does not concede that Section 9-502(c) and the other mentioned sections are analogous to the air quality sections but, in any event, Section 9-502(c) and the other sections were

part of the Environment Article's sewage treatment subtitle when the Court of Appeals, seven years after *Ad + Soil*, changed course in its *Skipper* decision and held that the sewage treatment statute was preemptive of a county ordinance. The reality is that *Skipper* greatly limited any precedential force of the *Ad + Soil* decision on which Respondents rely.

The second respect in which Respondents' arguments against preemption by implication are ill-founded involves their assertion that because Title 2 "makes specific reference to local zoning authority" preemption is not appropriate. The truth is the precise opposite. Title 2's specific reference to local authority with regard to ambient air quality – i.e., Section 2-104 – confirms that preemption is required. In numerous cases, including most recently in *Altadis*, Maryland's appellate courts have held that where a comprehensive statute carves out specific exceptions for local authority, preemption is confirmed except as to that carved out authority. *See Altadis*, 431 Md. at 317; *Skipper*, 329 Md. at 489; *East Star LLC v. County Commissioners of Queen Anne's County, Maryland,* 203 Md. App. 477, 492 (2012). In this case, as noted in Costco's initial memorandum, Section 2-104 permits a political subdivision to adopt more stringent standards than the NAAQS standards adopted by the MDE, but only through "ordinance, rule, or regulation" – in other words, legislatively. The Board's rejection of NAAQS standards, by contrast, is *ad hoc*, one-of-a-kind, arbitrary, and lacking in the fair notice and equal protection that legislative action affords. In sum, preemption applies except to the narrow extent that Section 2-104 carves out an exception (for local legislative

actions), and the fact that the legislature deemed it necessary to expressly specify this exception corroborates the general preemptive force of the State's air quality statutes.

Maryland law recognizes that several secondary factors, in addition to the primary factor of comprehensiveness, may be relevant to preemption analysis in a given case. *E.g.*. *Allied Vending*, 332 Md. at 299-300. Although Respondents contend that these secondary factors weigh against preemption, these factors actually weigh heavily on the other side of the scales. The County argues that there has been a zoning ordinance in Montgomery County since at least 1960, predating Maryland's adoption of the NAAQS, that required that special use exceptions "not affect adversely the health and safety of residents and workers in the area." County Brief at 32-33. The preemption issue in this case, however, focuses on the Board's specific rejection of NAAQS standards, not a general statement in a county ordinance, and the State's adoption of the NAAQS standards long preceded the Board's action. The County also contends that no confusion would result from the two-tiered regulatory approach that would follow from validating the Board's action. In reality, a three-tiered regulatory approach would be the result: there would be State regulation, local legislative regulation in accordance with Section 2-104, and regulation via *ad-hoc* rulings by the Board. This is a formula for confusion, contradictory guidance, arbitrary action, and unnecessary litigation, precisely the unwanted effects that preemption doctrine seeks to prevent.

b. The Board's decision is preempted by conflict.

The Board's rejection of NAAQS standards is also preempted by conflict. As noted in Costco's initial memorandum, a local law is preempted by conflict when it

prohibits an activity which state law permits or permits an activity that state law prohibits. *East Star*, 203 Md. App. at 493. The conflict in this case occurs both at the level of process and the level of result.

There is conflict at the level of process because, as noted, Section 2-104 permits a political subdivision to adopt more stringent standards than the NAAQS standards adopted by the MDE, but only legislatively, through "ordinance, rule, or regulation." The Board's rejection of NAAQS standards, by contrast, permits non-legislative, standardless, *ad hoc* deviations from NAAQS standards. The courts in *East Star* and *Perdue Farms v. Hadder*, 109 Md. App. 582 (1996), found preemption by conflict on similar facts. *East Star*, 203 Md. App. at 493-94; *Hadder*, 109 Md. App. at 590-91. Respondents do not address this manifest conflict in their memoranda.

There is also conflict at the level of result. In this regard, the County contends that because the NAAQS regulate air quality and the Zoning Ordinance regulates land use, there is no conflict. County Brief at 34-35. Such a contention is formalistic and ignores reality. Whether put forward in the name of regulating air quality or in the name of a ruling on zoning, the Board's decision to set aside health-based NAAQS is a ruling on ambient air quality. Accordingly, the Board's decision improperly invaded MDE's jurisdiction and area of expertise, conflicted with State law, and was preempted as a matter of law.

B. The Board's finding of the potential of adverse health effects is arbitrary and capricious and not supported by substantial evidence.

The Board's decision to deny the special exception due to adverse health effects is arbitrary and capricious for multiple reasons. First, the undisputed evidence showed that

the station's contribution of NO2 and PM2.5 is *de minimis*. Second, air quality will comply with NAAQS. Third, the Board was required to apply a standard – specifically the NAAQS – but it applied none. Where there exist legally mandated, objective standards, it was error for the Board to ignore them.

The briefs make clear that the contribution of PM2.5 and NO2 from cars using the proposed station will be very small relative to existing levels in the neighborhood, generally less than 1% of existing levels.[9] This is particularly true at the Stephen Knolls School upon which the Board and the Respondents base most of their case on undue risk. *See* County Brief at 9-12, 27-29; Stop Costco Brief at 28, 33-34; KHCA Brief at 16-18, 20. Therefore, denial of the special exception based on these emissions is equivalent to saying that any increase in emissions is grounds for denial. Of course, PM2.5 and NO2 will be generated by any new development that increases traffic and it is hard to imagine any new use at the Mall or elsewhere in the neighborhood that would not. The Mall is allowed to add 300,000 square feet of retail as of right. Accordingly, it was arbitrary and capricious for the Board to deny the special exception based on air emissions.

Recognizing that the Board did not find that NAAQS would be exceeded, the Respondents devote many pages of their briefs to contending that NAAQS may be lowered in the future. Even if one were to accept Respondents' speculation in that regard, the existing NAAQS govern now. Moreover, Respondents do not fault EPA's process in establishing NAAQS nor do they contest that the NAAQS at issue were set in

[9] The contribution of PM2.5 from cars using the proposed station will always be less than 1% of existing levels in the neighborhood, including at the Stephen Knolls School and Kenmont Pool. E835. (Ex. 95(c)). The same is true with respect to NO2, except that at the residences closest to the station, the station's contribution of NO2 could be as much as 5% of existing levels, using urban dispersion coefficients. E876. (Ex. 255(a)).

2010 (NO_2 hourly maximum) and 2012 ($PM_{2.5}$). These are recently revised standards based on modern science; they are *not* decades old standards that have been ignored by EPA. Even if they were not controlling in this case as a matter of law, which they are, it would be arbitrary and capricious to depart from the standards. *See Exxon Mobil Corp v Albright*, 433 Md. 303 (2013) *and* Costco Initial Brief at 25.

The Respondents also argue that the Board's obligation to protect against adverse health effects permits the Board to ignore the NAAQS. This argument would have more force if the Respondents were talking about health effects of a substance that is not already subject to a controlling standard. Here, there is a controlling standard for NO_2 and $PM_{2.5}$. While the Board and the Respondents deny that the standard is controlling, they do not contest relevance.

For all the reasons stated before, the Board was not permitted to depart from the NAAQS. Even the Hearing Examiner repeatedly articulated that he must apply some standard. Costco's expert testified that the parties were entitled to know the rules – you cannot be convicted of speeding if there is no speed limit. Costco argued that the NAAQS controlled. Nevertheless, the Board ultimately engaged in *ad hoc*, "I know it when I see it" jurisprudence and found the potential that emissions would be excessive without regard to any standard.

The Respondents cite to various studies for their contention that NAAQS are not sufficiently protective. As the Hearing Examiner repeatedly recognized, that is not the function of zoning. EPA and MDE employ panels of scientists and physicians to weigh the conflicting evidence and make those determinations. The evidence relied upon by the

Respondents was part of that process, although some of it only came into the process after the rule-making.

As the Hearing Examiner observed at the Hearing, the Respondents' position in this appeal is that PM2.5 and NO2 are dangerous at low levels. Of course, EPA rejected that view and the Hearing Examiner denied his own jurisdiction or training to second-guess that decision. E613. (Tr. 1/10/2014 at 217); E619. (Tr. 2/10/14 at 214-215).

C. The Board's finding of incompatibility is based on its erroneous findings of potential adverse health effects and fails for the same reasons.

Costco noted in the Initial Brief that the Board's finding of incompatibility was based on air emissions and that congestion and physical activity were cited as causes of those emissions. Costco Initial Brief at 27-28. Specifically, the Board found that the proposed station would be incompatible with "*the adjacent residential neighborhood to the south, southwest and southeast of the subject site*" due to potential adverse health impacts combined with traffic congestion, parking congestion and physical activity. E210-11. (Op. 206-07). The Initial Brief showed that there was no evidence of congestion and physical activity in the residential neighborhood. Costco Initial Brief at 30-32.

Thus, any claimed incompatibility from traffic and parking congestion and physical activity must relate to car exhaust. The Respondents' Briefs confirm this. None of the briefs discusses traffic, parking or physical activity in the residential neighborhood. The Stop Costco Brief, at page one, analyzes the compatibility issue as relating to the risk of adverse health effects caused by congestion and idling cars:

> That congestion and idling would produce numerous airborne pollutants that would constitute a serious adverse risk to the health of nearby neighborhood residents, visitors, and workers at the Westfield Mall. As such, the proposed station would fail the test of compatibility of its operations with the surrounding neighborhood; . . ..

Thus, the Board's finding of incompatibility is redundant of and based upon its finding of adverse health effects and fails for the same reasons.

D. To the extent the Board's incompatibility finding may be based on anything other than exhaust from automobiles, it is not supported by substantial evidence and is inconsistent with specific factual findings made by the Board.

Since the Respondents cannot show congestion or physical incompatibility in the residential neighborhood they retreat to the boundaries of the Mall. This attempt fails for several reasons. Most critically, it ignores the basis for the Board's finding of incompatibility, which is expressly based on incompatibility with the residential neighborhood, and especially the Stephen Knolls School. E209-11. (Op. 205-07). Read as a whole the Board's opinion cites traffic congestion and physical activity on the mall property as contributing factors to air pollution in the residential neighborhood.

Second, as detailed at pages 29-30 of the Costco Initial Brief, the Board's specific findings show compatibility of the proposed station with the Mall property. To highlight a few of the specific findings that demonstrate compatibility with the Mall:

- The use is consistent with the Wheaton Central Business District and Vicinity Sector plan, E253. (Op. 249);
- The proposed use will not cause objectionable noise, vibrations, odors, dust, illumination or glare, E255. (Op. 251);
- The proposed use will not alter the nature of the area, E255. (Op. 251);

- There is a currently valid determination of adequate public facilities for the whole of Wheaton Plaza, and the Board is not empowered to make a contrary determination, E256. (Op. 252);

- The proposed use would not reduce the safety of vehicular or pedestrian traffic, E257. (Op. 253);

- The proposed use will not cause a nuisance because of noise, odors, or physical activity, E257. (Op. 253);

- The proposed use would not adversely affect logical development of the neighborhood, E258. (Op. 254);

- The proposal is in compliance with parking space requirements, E261-62. (Op. 257-258).

The owners of the Mall testified in favor of the proposed station and no businesses in the Mall testified against the station. Compatibility with the Mall is not in doubt.

Third, contrary to the arguments of the County and KHCA, congestion impacts will occur with any development of the Mall, which is allowed to expand substantially. Increased traffic counts for the station are within those already approved for the Mall in 1999. Surrounding traffic on Georgia Avenue, University Boulevard and Veirs Mill Road dwarfs any contribution by the Costco station. In addition, approximately 50% of the anticipated gas station customers are already coming to the Mall. App. 2. (Tr. 5/1/2013 at 128-29). Finally, County Technical Staff, which is charged with examining traffic conditions, determined the increased traffic to be compatible with the site.

The Respondents' speculative concerns about traffic and parking impacts are analogous to those addressed in *Mossburg v. Montgomery County*, 107 Md.App. 1, (1995), and *Anderson v. Sawyer*, 23 Md.App. 612, 617 (1974), discussed in the Costco

Initial Brief. As in those cases, the evidence fails to establish a basis to deny this station at this location.

For the reasons outlined, the Board's findings of incompatibility in this case based on traffic congestion, parking congestion and physical activity are ultimately related to air emissions and must be rejected for the same reasons as the Board's findings of potential adverse health effects. To the extent that the Board's incompatibility decision is read more broadly, it is not supported by substantial evidence and should be reversed on that basis.

CONCLUSION

For all the reasons stated herein, the decision of the Board should be reversed and the case remanded with instructions to allow the Special Exception.

Respectfully submitted,

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APPENDIX

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MR. GOECKE: Jison.
MR. GROSSMAN: Jison?
MS. ADELMAN: Jison.
MR. GROSSMAN: H, oh, it's -- okay. Dr. Jison suggests, states in her March 29, 2013 letter to me, that's Exhibit 96(d), last page, quote,

"While central site regional and local area average ambient air pollution and particulate matter levels may be within recommended EPA limits, scientific studies have shown that personal micro-environmental exposures to pollutants are likely to be higher and can exceed EPA limits due to special circumstances affecting individuals and their specific local environments. Such circumstances include personal exposures to pollution, point sources such as standing traffic while waiting for a bus, living near a regional fuel depot, visiting your asthma doctor's office, which is located near a regional fuel depot or walking past a regional fuel depot during your daily commute or shopping trip,"

unquote.

Similarly, Karen Cordry's fascinating piece summarizing the travails of the EPA in formulating its regulations in this area, that's Exhibit 96(b), concludes

that there are no safe levels of some of these pollutants. My question for the opposition, my questions for the opposition are assuming that Dr. Jison and Ms. Cordry are correct in their factual statements about the risk factors for lung disorders from gas stations, roadway traffic, et cetera, despite overall compliance with the EPA standards, A, doesn't their analysis apply as well to all gas stations, roadways and the like, making all gas stations inherently health hazards and for that matter intersections? B, since the Council has said I cannot eliminate gas stations in general based on their inherent effects, what remedy can I lawfully recommend?

C, will stage one and two controls applicant will employ, plus the arid permeated control system, and the intervening green wall and forest sufficiently minimize these micro-environmental exposures in the residential areas? And, D, what if, if all the other conditions are met, what if I recommended a condition requiring testing by the applicant in the adjacent southern and western residential areas every six months or some other period to ensure compliance with EPA standards on a more micro level?

The reports filed with the Board, the Board of Appeals in the neighborhood and the Board became jurisdiction to limit the levels of daily sales and number of queuing cars as necessary to ensure compliance with EPA

standards. Question 15(a), I would like Dr. Jison and Dr., is it Braysee -- how do you pronounce that?

MS. ADELMAN: Braysee.

MR. GROSSMAN: Braysee, okay, to compare the World Health Organization, WHO standards, with the EPA standards for me. 15(b), in this connection, what gives me the authority to establish a standard different from the EPA standards and different from what the Council established in setting up its 300-foot setback from some uses, but not all. 16, the opposition should have a witness explain what the evidence is that the proposed special exception will adversely affect forest conservation and water quality given technical staff's opinion that it will not.

17, applicant should have a witness respond to the allegations in Karen Cordry's piece on need. That's Exhibit 88(h), page 8, that Costco stations are unique in that they, quote, utilize extensive queuing and idling, unquote, as part of their operations.

Question 18, on the question of neighborhood need, Zoning Ordinance 59 G-1.24 requires a finding, quote, that a need exists for the proposed use to serve the population in the general neighborhood considering the present availability of identical or similar uses to, it doesn't say in, that neighborhood, unquote. I asked the applicant to respond to these specific points. A, doesn't that language

limit the demand to be studied to only those who are part of the population in the neighborhood as we define it, either as you define it as per essentially co-extensive with the mall or as the technical staff defined it as the mall and a little beyond to the south and west, not the market area within a radius of seven miles.

And, B, if that is correct, isn't it also true that the market area, e.g., the 7-mile radius, may be used to determine supply, but not demand. Ms. Cordry raised this point in her Planning Board testimony and other submissions, Exhibits 88(i), (j) and (l), as did Ms. Rosenfeld in her legal analysis, Exhibit 88(s). And Mr. Duckett, and Ms. Duckett, I'm sorry, in Kensington Civic Association submission, Exhibit 82.

C, how does the applicant justify going outside the general neighborhood to determine demand given that language? D, if the general neighborhood is not co-extensive with the market supply area, how does applicant's submission, Exhibit 14, allow me to determine that there is a need in the general neighborhood? E, do you disagree with the argument raised, and this is addressed to applicant again, do you disagree with the argument raised by Ms. Rosenfeld in Exhibit 88(s) that the legal standard was changed by the Council's action in the 2002 Ordinance No. 14-47, Zoning Text Amendment No. 01-10, striking the words,

What I'm saying is if someone is living, and I'm again referring to Exhibit 102, if someone is living east of Georgia Avenue and they're going to work in Silver Spring down south, I do not see them coming into the mall, going around the ring road and coming back out and going down. And that's the same case for the southern residential elements of BB&T Bank. That is -- and I know you understand this because you're a scientist, that's really so micro that I have to know it's in the person's mind to know that, yes, I'm on my to work in Silver Spring, I'm going to swing through here, stop at Target, get whatever and then go back out. I did not -- it's too micro for what we did.

Q Thank you. And I understand you testified, would you agree that some patrons, potential patrons, for example, of a store live, as you describe it, upper-right, but work, for example, at let's say NIH, over there to the lower-left, all right?

A Well, all right.

Q When in fact --

A Yes.

Q -- you have to go through the mall?

A Sure. They, you know, there was, and stop and buy something on their way?

Q Sure. Exactly. Exactly.

A I won't dispute that that could happen.

Q Okay. And we have no numbers from the projections about that?

A Correct, because I do not know which of those persons would have to do that.

Q But in general when we make this kind of projection, we must make some assumptions, yes?

A I made what I felt were reasonable assumptions for the level of analysis that we're doing and had staff at the Planning Commission validate those assumptions. Your assumption could be different and, yes, someone, some people from the east side of Georgia Avenue, they certainly are left to stop in and go to Costco. I would, the Costco numbers already include that. Somebody is coming off the road going to Costco and going to buy gas, whatever.

Q I'm just saying --

A I did not add additional store-related trips because of the background development.

Q Understood. Now I'd like to move on to the projected traveling due to the proposed gas station.

A Yes, sir.

Q And then -- I think I saw a page, excuse me. I'm not crazy enough to do this again. I want to find a better way of organizing pieces of paper. Going to your page 22, trip generation for proposed Wheaton Costco gas station.

A Yes, sir.

Q First of all, you show that table in the footnotes that you've assumed a 30 percent rate for trips in the p.m. peak hours based on empirical data but that the -- you found the range more likely to be 52 percent based on our observations and we're using that conservative number, is that correct?

A Yes, sir.

Q Can you tell me more precisely where the 30 percent number came from and where the 52 percent number came from?

A Sure. The 30 percent number was a number that I decided upon as being one that I would use for this study. The other data is included, I'm looking for it in the report. There were -- there it is. In Appendix A, beginning as an example on page 6, there's a response from the Pennsylvania DOT. They did a very detailed analysis and they looked at pass by rates.

Q Okay.

A Then --

Q I'm now looking at your footnote to your table, is that correct?

A Yes.

Q Excuse me, the existing footnote 2?

A Basic foot note 2, there's a Penn DOT letter that talks about the net for pass by.

Q Okay.

A The information on the 30 percent where I'm saying it's, it was Costco's, and I'll find that, Costco had a study done by another consultant indicating that 51 percent of the gas trips come from store customers at the same time and so --

Q Uh-huh.

A -- that's what the 51 percent is based upon.

Q Uh-huh.

A The study that was done by Costco.

Q Okay. Those -- am I correct or incorrect in assuming that the methods of projected pass by will differ from jurisdiction to jurisdiction or is this something that's nationwide?

A Go to, go to Appendix A, page 44.

Q Okay.

A And you'll see the average of the gasoline trips, the internal capture, studies that were done in Florida, Beltsville, Glen Burnie, Manassas, Leesburg and Connecticut, so studies along the east coast showing the average that the internal capture was 52 percent.

Q Okay.

MR. GROSSMAN: But I think he asked you what is the definition of pass-by was?

THE WITNESS: No, we were talking about internal

pairing that in my judgment, Mr. Sullivan has not come near to meeting those criteria. The, there are a couple of issues embedded in this. One is, is a site on the other side of Washington metropolitan area, some 12 miles distance --

MR. GROSSMAN: You're talking about Arlington as a model?

THE WITNESS: Arlington site. Is it representative? And further, is it representative on an hour-by-hour basis? That's a pretty hard burden of proof. Secondly, it, this clearly talks about, looking at isolated cases, an isolated case might be a power plant in the middle of a prairie. This is not a power plant in the middle of a prairie. This is a major new source in a, an area that varies from suburban to urban with many sources. And not all of those sources are included in the modeling grid. They're not modeled and may have an impact.

Now there's another, another point -- well, ask another question.

BY MS. ROSENFELD:

Q We were talking about uncertainties. Do meteorological factors also count as an uncertainty, in your opinion?

A Well, let me build on this. Yes, meteorological, you have to ensure that the meteorology is representative of

the site. And modeling guidances, I don't have an argument with Mr. Sullivan's picking National Airport. Notice I didn't say Reagan National.

MR. GROSSMAN: Well, you don't know what you're talking about.

THE WITNESS: It's my birthday. I get a bye. So, okay, so he chooses Washington, but he's getting his background data for NO2 from Arlington. He's getting his ozone data from Rockville and sometimes from Beltsville, all right? And he's looking at emissions and modeling the conditions in Wheaton. So you're trying to -- I'm not saying that you can't do something like that. What I am saying is that the level of uncertainty that that creates, how do you, particularly on an hour-by-hour match-up is a lot to expect that you're coming near to accurate.

MR. GROSSMAN: Well, since you've touched on the choice of monitoring sites, do you have an opinion as to which would be the most representative monitoring site to choose?

THE WITNESS: Well, my criteria would be to pick sites that are closer, number one, like on the same side of the Metro area. Number two, that when you look at them, let's say from Google, Google Earth viewpoint, that they're not terribly different or look about the same mix of urban, suburban parkland, et cetera. That as the Wheaton,

Westfield Wheaton site.

MR. GROSSMAN: So that's, that, you call that most representative, in other words?

THE WITNESS: I would, yes. You're attempting to bring something in that, monitors that are representative.

MR. GROSSMAN: Is it more important to be representative than to be closer?

THE WITNESS: I believe that the two are related, particularly when you're looking at something that's 12 miles away that's affected very different, differently than an urban area. That that raises some questions. Also, it's not, the concentrations there are not the highest.

MR. GROSSMAN: Well, isn't that, isn't that question whether it's an urban area or not, isn't that subsumed in the question of what's representative? Because my, my question is what difference does it make if it's, if it's closer, but it's less representative, including all those factors, then it's less ideal as a choice of a monitor location, isn't it?

THE WITNESS: Well, okay.

MR. GROSSMAN: It's not really a question of closer, it's a question of representative, isn't it?

THE WITNESS: But my point –

MR. GROSSMAN: And the next question is going to be --

THE WITNESS: Yes.

MR. GROSSMAN: -- what would you select as most representative?

THE WITNESS: Okay.

MR. GROSSMAN: So that's, so there's no secret here, I'm just trying to get your opinion --

THE WITNESS: Right.

MR. GROSSMAN: -- as to what would be, since we have a limited choice, we have monitoring locations --

THE WITNESS: Right.

MR. GROSSMAN: -- that are specific for background --

THE WITNESS: That's right.

MR. GROSSMAN: -- specific locations. They don't move them around so that the modeler can select it. He has to choose a location for the background monitors. So I'm asking you isn't the true criteria the most representative situation?

THE WITNESS: Yes, I would agree with you with the qualification in two points. One is that when you're looking at a large metropolitan area and you choose a site that's on the opposite end of that area and you look at the effect of different wind directions, the sources that affect that site, the urban source will have an effect.

MR. GROSSMAN: Right, but that would make them

less representative.
THE WITNESS: Yes.
MR. GROSSMAN: And still --
THE WITNESS: Yes. Yes.
MR. GROSSMAN: -- ultimately the question --
THE WITNESS: Yes.
MR. GROSSMAN: The question ultimately --
THE WITNESS: Yes.
MR. GROSSMAN: -- isn't that the sole, the real sole criteria --
THE WITNESS: Yes.
MR. GROSSMAN: -- is the most representative?
THE WITNESS: Yes. And I just want to add one more thing --
MR. GROSSMAN: Yes.
THE WITNESS: -- which is even more critical when you're attempting to do an hour-by-hour match because source relationships change on an hour-by-hour basis. So if you have a different alignment of sources, using that hour-by-hour method relative to the monitoring site, okay. You're, if you don't have a site that's representative and that has a very different array of sources that are affected under different wind conditions, you're going to be off the mark. That's why --
MR. GROSSMAN: Now you're dealing with another

question. You're dealing with the uncertainty question. I'm just trying to get to what you would select as, first of all, what is the criteria you use and, secondly, what you would have selected as the appropriate, most representative monitoring site for this modeling.
THE WITNESS: Let me see if I can answer your, in your terms.
MR. GROSSMAN: Because we've critiqued what Mr. Sullivan chose here by the fact that at least for part of it he chose Arlington, but I'm trying to get what you are --
THE WITNESS: All right. Let me get to it. Okay. So my criteria in terms of representativeness would be something that's on the same side of the Washington metropolitan area and other urbanized areas. The second criteria would be what I said about the geography being similar. Now I took a look at the, I believe that's, there's an exhibit of the different monitoring sites.
MS. ROSENFELD: And, Mr. Grossman, if I may interrupt, I'd like to hand that out. It's Exhibit 583.
MR. GROSSMAN: Okay.
MS. ROSENFELD: Everybody has been provided with this.
MR. GROSSMAN: Yes.
MS. ROSENFELD: And this, this one adds one monitor which was discussed by Mr. Sullivan. It adds the

Richmond monitor. But aside from that, this is the same exhibit, 583.
BY MS. ROSENFELD:
Q And, Dr. Cole, perhaps in reviewing this exhibit, it will help you more clearly answer.
MR. GROSSMAN: You don't like me? You don't want to give me a copy?
MS. ROSENFELD: Let me see if I have one more.
MR. GROSSMAN: That's all right. That's okay. You keep it. It's more important that you have it. I've seen it. I saw it when you filed it. So I can always pull it out of the file here. If you have an extra, that's nice. Thank you.
MS. ROSENFELD: That's a loan.
MR. SILVERMAN: That's a loan, right.
MR. GROSSMAN: Not a keeper, huh? But let's get back to the question I asked you. You don't, I don't think you need to reference 583, Exhibit 583 to answer my question. You reviewed the various, I presume because you critiqued Mr. Sullivan about it, you reviewed the various monitoring sites that are available for background information, is that correct?
THE WITNESS: Yes.
MR. GROSSMAN: Okay. So of those that you've reviewed, which monitoring site do you choose as the most

representative of the situation at the subject site if you've made such a choice?
THE WITNESS: Well, I, I have to say I like the VanBuren D.C. monitor. There was a problem with it. It's only got one year of data. So that, in my opinion, would be --
MR. GROSSMAN: So if it's only got one year of data, would that be insufficient for modeling purposes?
THE WITNESS: Yes.
MR. GROSSMAN: Okay.
THE WITNESS: So --
MR. GROSSMAN: Let's --
THE WITNESS: So we have to eliminate that.
MR. GROSSMAN: So which modeling site would you have recommended be chosen as the most representative for this modeling purpose? Well, I didn't mean to put you on the spot in making that selection now. You did not, you have not previously made a determination in your own mind as to which --
THE WITNESS: Okay. There are a number --
MR. GROSSMAN: -- modeling --
THE WITNESS: -- I'm going to put it this way --
MR. GROSSMAN: Well, let me finish the question, okay? Have you previously made a determination of which of the modeling sites that are available and have useful data

for this purpose for modeling should have been selected as the most representative site for this model? Have you made that selection previously in your own mind?

THE WITNESS: I like the area of the northern part of Washington.

MR. GROSSMAN: Do you have a particular monitoring site?

THE WITNESS: But I don't have a particular -- there are a couple there I would have to go back and, and look in greater detail.

MR. GROSSMAN: Okay.

THE WITNESS: So I don't have the answer you want and there were a number of choices that Mr. Sullivan had. He could have done a sensitivity analysis or something or done some averaging and made choices, but he didn't do that. And I'm not sure his choices, which have lower concentrations than some of the other choices, whether he's defended that as being representative and, frankly, I'm not the applicant here.

MR. GROSSMAN: No, that's not -- I'm not, I know you're not the applicant, but I --

THE WITNESS: I don't think that he has defended his choice of site.

MR. GROSSMAN: I understand that. I understand that, but I'm just taking you at what you just said. You

haven't made a selection of a site that you think is better, you just feel that he hasn't sufficiently justified the one he's chosen.

THE WITNESS: Thank you.

MR. GROSSMAN: I understand. Yes. Okay.

BY MS. ROSENFELD:

Q Dr. Cole, I'd like to turn to Mr. Sullivan's stage 3 analysis. And would it help for you to have your slides for that discussion?

A I'm not sure we --

Q Or you can let me know when we --

A I'm not sure we need the slides for --

Q Okay.

A -- to talk about. I mean there are some issues, yes, that will come up later, but I think --

Q Okay. Let me know --

A -- let's just --

Q -- when we're ready for them.

A Yeah.

Q Can -- do you have concerns about Mr. Sullivan's stage 3 analysis?

A I do.

Q And could you discuss them in greater detail, please?

A Well, number one, it's not a method that's

described in the guidance, March 2011, or June 2010. Number two, it, it presumes, it picks arbitrarily NO2 to NOX ratios without justification. And we're dealing with a particular site with particular backgrounds, with a particular sources and to come in and try to assign specific NO2 to NOX ratios based on location just to me is not scientific, not scientifically valid. And it doesn't allow the ozone limiting method. It's not, Mr. Sullivan has acknowledged it's not the ozone limiting method.

MR. GROSSMAN: Excuse me. Can I ask everybody to turn off their cell phones? I realize I have the advantage of taking mine out of my pocket and leaving it in the drawer and you don't, but you can turn them off. Of course, I forgot mine the other night here and I realized how insecure we all feel now without a cell phone with us. But, in any event, you can turn them off. So I'd ask you to do that. Thank you.

THE WITNESS: I have to tell you that I have a new smart phone that I got a few days ago. I feel less secure. I finally figured out how to make a call. There's so many apps --

MR. GROSSMAN: The question is is it smart enough to turn itself off when it comes into my hearing room? All right.

THE WITNESS: I would have no idea.

MR. GROSSMAN: I understand. I just moved into that, that, the 21st century myself, basically, so --

THE WITNESS: Okay. So, can you repeat your question?

MS. ROSENFELD: Yes.

BY MS. ROSENFELD:

Q You were, you were discussing concerns that you had with Mr. Sullivan's stage 3 analysis?

A Right.

Q And I think your last statement was that it doesn't allow for the ozone limiting method?

A It, it assigns, my basic problem with it is it's not in the guidance and it assigns arbitrarily specific NO2 to NOX ratios based on an arbitrary division of the world and to the close end and further out zones. I just -- nature doesn't have strict, box-like lines, particularly the air flows from one place to another. So I, and I don't -- if he's, he mentioned some places where he presumably gets this data from. They may or may not apply to the site. There are other sources of data in the literature that show much higher ratios than .5. So to me it's a very arbitrary choice. He calls it more refined and it, it's his, clearly his least conservative choice and it gets the lowest concentrations and without a whole lot of technical justification in my viewpoint.

MR. GROSSMAN: Ms. Harris or Mr. Goecke, do you recall --
MS. HARRIS: I don't think it was.
MR. GOECKE: I can't recall.
MR. GROSSMAN: I don't think, I think it was just referenced by Mr. Sullivan.
MS. ROSENFELD: I think it was discussed, but not entered.
MR. GROSSMAN: All right. Do you want it?
MS. ROSENFELD: Yes, please.
MR. GROSSMAN: Okay. So if I can find the exhibit list, then we'll --
MS. ROSENFELD: And it's almost noon and this is our first new exhibit.
MR. GROSSMAN: Wow. Of course, you've, you've passed 600 now, so I'm not sure it can be allowed. There's got to be some, some limit on, on exhibits. All right. So this will be 602 and that is the December 2011 final, well, I guess it's called summary of results from near road NO2 monitoring pilot study, and I guess it's prepared by STI, that's Sonoma Technology, Inc., for the EPA.
(Exhibit No. 602 was marked for identification.)
MR. GROSSMAN: While we're, since you, you -- it mentions the near road NO2 monitoring. Can you give some

testimony about how to interpret EPA standards for, let's say NO2 one-hour standards. And let's say the standard is 100 parts per billion. There's been a suggestion made that that's for near road and the actual standard is below that when you go further off the road. Do you subscribe to that interpretation of the EPA regulations?
THE WITNESS: Not being an attorney --
MR. GROSSMAN: I'm asking you for the way in which it's to be interpreted by the EPA, not as an attorney.
THE WITNESS: Let me try and answer this way, that is you believe that the traffic may not be, may create high concentrations near the roadway. Then you might have some homes that are maybe 100 or meters away.
MR. GROSSMAN: Okay.
THE WITNESS: So I have seen language in various documents that acknowledges that concentrations within, away from the road may be lower, but that the standard based on maximum concentrations is set higher as -- you know, I was afraid you would ask that question.
MR. GROSSMAN: Oh, well, I didn't know I inspired to, but --
THE WITNESS: I, it's a very hard -- I haven't seen that in the guidance, let me put it to you that way. I have, I know it's, there have been a lot of reports like CASAC reports and whatnot that have discussed this issue.

So I think in this particular case what we're looking at is the maximum concentrations associated with this particular source added to background anywhere in the neighborhood and that's, that, I think, is the criteria which my review of all of this is based on that. Without getting into that, I think it almost, it's almost an issue that is a health-related issue because, you know, if you have this level here, what, what level is in a micro-environment of a person breathing, sensitive populations. I can't really --
MR. GROSSMAN: What I'm trying to get at, in, and the EPA applies its NAAQS standards, if it has a standard of 100 parts per billion for a particular pollutant, does it apply that across the board or does it have some sort of metric where it lowers it in applying it further away from the road?
THE WITNESS: I'm going to answer in the context of this particular case.
MR. GROSSMAN: Well, just so, first of all, let's get it in general, how it applies. You've worked for the EPA. How does it apply it? How do they apply their standards?
THE WITNESS: Generally, anywhere where there's an exceedence, there's an exceedence.
MR. GROSSMAN: An exceedence of the specific standard, not of some graded level below that?

THE WITNESS: I haven't seen that.
MR. GROSSMAN: Okay.
THE WITNESS: So in a particular case, you're doing a modeling study, combining it with background, and if at anywhere, in this case in the neighborhood, those values are exceeded, that's a problem.
MR. GROSSMAN: Well, but the values being exceeded you're talking about are the actual NAAQS standards?
THE WITNESS: That's what I'm --
MR. GROSSMAN: Okay. All right. Thank you. Go ahead.
BY MS. ROSENFELD:
Q Dr. Cole, we were talking about the stage 3 analysis and the cap in particular of the .5, I believe, outside of the, outside of the tailpipe box. And you testified you didn't think that that .5 was justified. And do you have --
A Well, let me --
Q -- do you have studies or information that would support your conclusion?
A Let me start first with the 40 meter zone and that's where I reference the, the Sonoma Technology report which we just gave the reference for. And Table 33 and Figure B9 shows much higher concentrations within 40 meters of the road.

you're going to invoke a method and a document that endorses a certain method, there's a responsibility to report the caveat. And there's a very strong caveat here they say we don't approve of that.

BY MS. ROSENFELD:

Q Okay. Just very briefly. How do power plant plumes and tailpipe emissions affect ground level receptors differently?

MR. GROSSMAN: I think he's already testified to that and showed pictures of it and testified about --

THE WITNESS: I have one more picture that I didn't show.

MR. GROSSMAN: Okay. I mean I think we've had a lot of pluming evidence here. I think I understand this point.

MR. SILVERMAN: A plethora of plumes.

THE WITNESS: Where are those slides? Right here. Let's see. Okay. I don't know why, but it's a plume that contrasts a power plant.

MR. GROSSMAN: Which page? Which side?

THE WITNESS: Michele?

MS. ADELMAN: 11.

MS. ROSENFELD: I do not have a copy of the slides any longer.

MR. GROSSMAN: You've already referenced 11.

MS. ROSENFELD: 13.

MR. GROSSMAN: Okay. Okay.

THE WITNESS: So I'm, I'm trying to show here two things. One is the dispersion that's, that's affected by so close to the surface compared to the power plant. And, secondly, that the, without getting into health effects, we know that there are people who pass in close proximity to these plumes.

MR. GROSSMAN: Okay.

MS. ROSENFELD: I'm looking for copies of the exhibit that Mr. Goecke handed out before that hearing. It had a bunch of dots on it. I seemed to have misplaced my stack.

MR. GROSSMAN: A bunch of dots exhibit?

MS. ROSENFELD: A bunch of dots exhibit, yes, that. Do you remember what number that is? Did you take one?

MR. GROSSMAN: This is the nationwide monitoring inventory?

THE WITNESS: 593, it says.

MS. ROSENFELD: Yes, Exhibit No. 593.

MR. GROSSMAN: Hold on. I've go to go through my pages here to get down to it. I'm sure I have a copy in here somewhere.

(Discussion off the record.)

MR. GROSSMAN: All right. Well --

BY MS. ROSENFELD:

Q I believe this exhibit was entered into the record to suggest that the highest NO2 levels don't exceed EPA standards. And my question for you is how do you read this document? And if that's the conclusion that you draw, do you agree with it?

MR. GROSSMAN: What's the exhibit number on it again?

MS. ROSENFELD: 593.

MR. GOECKE: 593.

MR. GROSSMAN: 593? Okay.

THE WITNESS: Okay. So what Mr. Sullivan has shown is the distribution of points which represent 411 reporting sites, monitors for one hour NO2 and he's, he's looking here only at the 98th percentile monitor values. So this -- it's not all of the readings, but it does relate, as Mr. Sullivan states, to the standard because the standard is based on one hour, 98th percentile.

MR. GROSSMAN: Right.

THE WITNESS: So fair enough. He shows two things on this diagram that, all of these points are below the 100 level standard and, secondly, that his modeling stage 1, 2, and 3 are sort of in line with the upper end of, of these concentrations. That's what this shows. Now in my --

MR. GROSSMAN: However, you referred to 100, the standard --

THE WITNESS: I'm sorry.

MR. GROSSMAN: -- 100 parts per billion?

THE WITNESS: Yes, I'm sorry. That's 100, approximately 190 micrograms per cubic meter. This is in parts per billion, so --

MR. GROSSMAN: Right.

THE WITNESS: -- the standard is 100.

MR. GROSSMAN: NO2 one hour?

THE WITNESS: Yes. So here's the problem I have with this NO2 is it's several, one is that we've, the opponents have presented a great deal of testimony about, A, the level of traffic and, B, the level of congestion in and around the gas station, which includes idling cars, queues, the ring road, back-ups at certain peak hours and in my judgment this is a unique site that may not be reflected in the distribution of monitors shown here in this exhibit.

MR. GROSSMAN: Well, what Mr. Sullivan testified to, if I recall, in his rebuttal testimony was that some of these monitors are right next to a super highways, or at least one of them, as I recall. Are you suggesting that what you'd characterize as a unique situation here might have a higher --

THE WITNESS: Yeah.

MR. GROSSMAN: -- NO2 one-hour reading than adjacent to a super highway?
THE WITNESS: Well, first of all, most of these sites, I have to say that the overwhelming majority of these sites are not near roadways and that's a whole other issue because EPA as part of its standard recognized this problem and has required the addition of hundreds of monitoring sites to better reflect roadway concentrations.
MR. GROSSMAN: I understand, but I'm just saying if we look at the very highest monitoring sites reported on this, on this exhibit nationwide for NO2 one hour, 98th percentile values, what he's saying is that they're lower than his projection in stage, stages 1 and 2 --
THE WITNESS: Uh-huh.
MR. GROSSMAN: -- and some of them a little higher than a stage 3. But in any event, I think that's his point. Are you suggesting that this particular area that is a subject would produce greater one hour NO2 readings than a, he suggested, a congested super highway?
THE WITNESS: Well, I'm not sure this data represents a large number of congested highways.
MR. GROSSMAN: Well, it doesn't have to be a large number. If none of them, if even one of them is next to a congested super highway and still has a lower reading, I think that was the point he was making. I'm not adopting it

or rejecting it. I'm just asking you is that your opinion that this subject site could produce or is, I don't know what to say, could produce or is likely to produce one hour NO2 readings above that which is registered in, right next to a congested super highway? That's the question. Because a lot of these, I mean he's just saying, he's saying he has a lot of readings here, a lot of monitors, but the ones that are, I guess are the most directly of concern here would be the highest readings that anybody has taken in any monitor nationwide, assuming that he has accurately included all of the, the individual monitoring stations in the United States.
THE WITNESS: So the point I would make is that in order to demonstrate the validity of this kind of analysis and its applicability to the particular site, you would have to show that some of these sites are, in fact, in the area of a mega gas station with queues, with ring roads, with congestion, with back-ups, considering the non-linear or synergistic effect of increased traffic and lowering of vehicle speeds. Also, there's another unique factor about this that really hasn't been addressed which is that this particular site has a building to the north, a building to the east, and a proposed wall to the south. Now, what impact do those features have on wind speed, on circulation?
MR. GROSSMAN: Well, I think we have to go back to

that.
THE WITNESS: What I'm saying is, well, I'm going back to your point --
MR. GROSSMAN: April and May he did do a terrain analysis that's in there.
THE WITNESS: That was a totally different issue.
MR. GROSSMAN: Okay.
THE WITNESS: Totally different issue.
MR. GROSSMAN: He was asked specifically --
THE WITNESS: He has not considered --
MR. GROSSMAN: -- about, he was asked, let me finish, he was asked specifically about the effect of the wall and so on. So he was asked questions that pertained to that. So I don't think that it --
THE WITNESS: Yes, and he couldn't provide an answer.
MR. GROSSMAN: No, but I don't think we can, well, you can argue one or the other.
THE WITNESS: He didn't because, well, you want to discuss this? Hold on.
MR. GROSSMAN: Okay.
THE WITNESS: I'm sorry.
MR. GROSSMAN: You can argue with what he said, but, but he provided an analysis of air turbulence and terrain analysis on the site. One can argue, and you can

argue about it, and you can testify about it. All I'm saying is that it's -- I don't think you can say accurately it hasn't been addressed, but I take it from your answer, you didn't directly say this, but you tell me if I'm correctly giving your answer to my question. And your answer, if I understand you correctly is, yes, this subject site with all of its peculiarities could result in an NO2 one hour reading above what is being, has been monitored adjacent to a congested super highway, that's what you're answering? And if I got you wrong, you tell me, but I'm trying to --
THE WITNESS: Yes.
MR. GROSSMAN: -- because that's my question and you didn't answer my question directly, but I'm trying to --
THE WITNESS: But --
MR. GROSSMAN: -- trying to reach a bottom line from what you've said.
THE WITNESS: There's a premise, I think, in your question and that premise in my opinion is that, in fact, there's a representative number of those particular situations in this data.
MR. GROSSMAN: I'm just going by what Mr. Sullivan testified, that at least one of those monitors, and maybe more of them, but at least one of those monitors is next to a congested super highway and I suspect there may be more

than one, but if that's the case, if we take that as the case, are you still saying that the proposed gas station at the subject site could result in one hour NO2 use exceeding that level?

THE WITNESS: Yes, I think it could.

MR. GROSSMAN: Okay. That was hard, harder than it needed to be. Okay.

BY MS. ROSENFELD:

Q Did you review the terrain analysis that Mr. Sullivan provided earlier in this case?

A You're talking about the slope analysis?

Q Correct.

A Yes, I did.

Q And do you remember if that slope analysis included the effect of a wall?

A We talked about that. I suggested that they use cow puff, which he did, however, one of the problems was that he, which is acknowledged in one of his reports, I can't remember which, that the mesh or the grid size for the cow puff was a 40 meter grid and he said that was too coarse to see the effect of the wall. He, I, I do not recall any presentation of data in any of these reports which specifically focused on the impact of the wall or I might add to that of the buildings to the north and the east. So it's a complicated situation because he's got like a

northeast wind with some of his maximum concentrations and that would be an air flow that passes over buildings and then may come down or may ride over the building, depending upon the stability, the stratification. But we don't see that addressed.

Now I, I recognize that that's a hard thing to do in modeling and there are different ways to do it, but to me that speaks to the need for conservatism and it speaks to the, to the need to if you're going to show a diagram like this and you're going to use it as evidence for this particular site, I believe that to be valid you would have to compare apples with apples. You would have to say, okay, here's a similar site, we have the monitoring and here's what it shows. Now --

MR. GROSSMAN: You determined a diagram like this? You're referring, when you said that, to Exhibit 593?

THE WITNESS: Yes.

MR. GROSSMAN: Okay.

THE WITNESS: So now let me add something to this. It's very clear from the record, from EPA's discussion both in the standard and in technical documents related to the standard that they're requiring additional sites. And the reason for that is they felt that these, these values that they were getting reflected more of a generalized condition. And part of that, you know, is because the concern has

really been about ozone for decades and less so with NO2. So when you collate these, when you co-locate sites, you may go to places where there are ozone monitors and, in fact, it's important to have the two together, but those ozone monitors are generally aimed at looking at regional concentrations of ozone because ozone doesn't vary as much in the region, as much as NO2 does. NO2 has very sharp gradiance, and that's why it's necessary, in EPA's and my estimation that you have more of these sites near highly trafficked areas. And those sites are just being installed now and they are not reflected in this data. This is 2013. So --

MR. GROSSMAN: Mr. Brann, would you check our thermostat again please? And whatever it is, please lower it. Thank you.

BY MS. ROSENFELD:

Q So do you have an opinion as to whether or not data from those new monitors might reflect different levels, different concentrations of NO2?

A I can't, I'm having, because of the ventilation --

Q Do you, do you have an opinion as to whether or not when the new data from the new near road monitors comes in, whether it might affect the level, the concentrations of NO2 that we see here on Exhibit 593?

MR. GROSSMAN: I'm going to stop you on that,

because now you're asking him to speculate on something. I have no problem with a hypothetical to an expert based on facts that are in evidence or you're going to put in evidence, but when you're asking him do I have the same idea of whether they're going to do one thing or another when they come in, I think that's problematic as a question.

MR. SILVERMAN: There's evidence in the record.

MR. GROSSMAN: Pardon?

MR. SILVERMAN: There's evidence in the record that's suggestive of allowing an informed person to make a judgment.

MR. GROSSMAN: There's evidence in the record that would make an informed person to make a judgment on what?

MR. SILVERMAN: On, on what, what the levels would be when the monitoring system is in place.

MR. GROSSMAN: I think that's --

THE WITNESS: I'll stick to what I said.

MR. GROSSMAN: With the body of evidence that we have here, I really try to avoid speculation. It's just not necessary.

THE WITNESS: I can give you one non-speculative --

MR. GROSSMAN: Well, go ahead, non-speculative.

THE WITNESS: Right. That what I did when I saw this was I --

in a different way by looking at individual plumes and their reaction, it may have lowered the NO2 to NOX ratio because of competition for the ozone. But, remember, when you change one aspect of modeling, you change other aspects as well. So I haven't seen a tailpipe-by-tailpipe analysis that would reflect the total NOX concentration to which the ozone is titrating into.

So you can't parse out one variable without looking at its total impact on other variables. And I, you know, to me this is speculative.

Q Okay. I'm not sure that you understand my question, but, but it sounds like we agree that there are competing sources for ozone under Mr. Sullivan's analysis?

A That would be correct.

Q Okay. What is your understanding of the ratio of NO2 to NOX coming out of the tailpipe of a car?

A Okay. Mr. Sullivan has used .25. There are values in the literature, some of which he has put into the record that show somewhat higher values, for example, going up to .3.

Q And what literature is that?

A That would be in the Norwegian tunnel studies, I believe.

Q Is that the Lerner and Lindquist report you're referring to?

A Yeah.

Q But it's your understanding that that report showed a .3 ratio?

A That was the, that was the high end of the scale.

Q Uh-huh. Okay. If I could, Dr. Cole, I'd like to show you a copy of the Lerner and Lindquist report, I'm not sure this is in the record, but it has been cited. This is, and the name of the document is NO2 to NOX ratio and emissions from gasoline powered cars, high NO2 percentage and idle engine measurements. It was printed in, it's atmospheric environment, perhaps you can tell me if you recognize this?

MR. GROSSMAN: You trailed off. It was printed in?

MR. GOECKE: I couldn't read the, on the printed copy, but in the upper left-hand corner, I don't know if you can recognize that?

THE WITNESS: Sometimes it printed --

MR. GOECKE: I think it's Atmospheric Environment, but --

THE WITNESS: That sounds right.

MR. GOECKE: -- perhaps you can tell us since it's more familiar?

THE WITNESS: Yes, Atmospheric Environment, Volume 17.

BY MR. GOECKE:

Q Okay. And that's --

A So --

Q -- direct your attention to --

A Yes.

Q -- may I?

A Yes.

Q Thank you. This is page 1397 and Table 2 shows the results of denominator measurements. And if you look at the final column, it shows that the high level of the ratio is around 25 percent, doesn't it?

A Well, it also shows other situations where the number goes up to a high of 32.5.

Q Correct, if I --

A That was, that was Table 1. Table 1, I was clear when I said that there was upper bound information that was higher than .25. And this occurred during idling.

Q So most of the results are lower than .3?

A That's a fair statement. However, I would like to put forth that these studies were done under very cold conditions, minus 6 centigrade, which I believe is about seven degree Fahrenheit, minus 14.5, well below freezing. 17.5 is minus one Fahrenheit.

Q That's for tailpipe emissions?

A These, I believe, are the outdoor temperatures.

You wouldn't have a tailpipe emission below freezing.

MR. GROSSMAN: Sometimes in my car.

THE WITNESS: So I'm saying that I'm not sure that these conditions apply, minus 17 degrees Fahrenheit, I'm not sure that's representative of -- we talked about representativeness from a climatic standpoint. These are all winter situations with very cold temperatures relative to winter temperatures in Wheaton.

MR. GROSSMAN: Thank God. Minus 17, that's Scandinavian, no? Then, again, they get to see the Aurora Borealis.

THE WITNESS: Time out. I need time out. I don't know --

MR. SILVERMAN: I'm taking notes for her.

MR. GROSSMAN: Oh, you're taking --

MR. GOECKE: We can take a break now. Now is actually a good time.

MR. GROSSMAN: Is Ms. Rosenfeld coming back or did she have to leave?

MR. SILVERMAN: I, I would hope she's coming back.

MR. GROSSMAN: Okay. So let's take, let's take a five minute break.

(Whereupon, at 4:07 p.m., a brief recess was taken.)

MR. GROSSMAN: When you said that there were other

I am not charged with making legislative decisions regarding things that affect the world, in general. I have a narrow scope, to deal with the potential adverse effects on the site, the immediate neighbors, and the general neighbor. That's the limited scope. So I don't think -- we have plenty here to keep us busy and to evaluate without trying to evaluate the issue of global warming or climate change, whatever you want to call it.

MS. CORDRY: We will respectfully dissent from that, and I expect --

MR. GROSSMAN: Right.

MS. CORDRY: -- we will still make the argument to you, but we will not pursue it any further on the record today.

MR. GROSSMAN: All right. Very good. Okay. Then I think we've finished our preliminary matters and we are turning to the resumption of the cross-examination of Dr. Cole and his surrebuttal.

MR. COLE: Mr. Grossman --

MR. GROSSMAN: And you are still under oath, Dr. Cole.

(Witness previously sworn.)

THE WITNESS: Yes, and if I can indulge you for a second, you asked a question last time that I didn't have a precise answer to.

MR. GROSSMAN: All right.

THE WITNESS: With your permission, I would like to come back to it, which was with regard to the choice of a monitoring site for background NO2 concentrations.

MR. GROSSMAN: Yes.

THE WITNESS: And I have a couple of slides here which, which I will refer to.

MR. GROSSMAN: Slides that were previously submitted, you mean?

THE WITNESS: No, but they're from data that was previously submitted.

MR. GROSSMAN: Well, why don't you just -- before you get into slides --

THE WITNESS: Okay.

MR. GROSSMAN: -- just tell me what you're, what you're adding to your answer.

THE WITNESS: All right. I've, I put together a set of criteria and said to myself, if I were going to choose a representative site --

MR. GROSSMAN: Right.

THE WITNESS: -- that had some conservancy based into it, which is what the applicants claim to have done, I would have the following criteria. Number one is that it should have a continuing, continuous record for a number of years. Number two is that you would have both ozone and,

ozone and NO2 monitored at the same site -- let me just consult my list -- that you would have, that you would have at least suburban density so that it's representative of the level of traffic; and, finally, that my preference would be to choose something that was as close to the site, in other words, to the mall, as possible, and that was also in the same basic relationship of the site to the metropolitan area.

Now, when I looked at those criteria, only, really only two stations had stood out, and those were the two District of Columbia sites. One was 34th Street Northeast, and the second was, the second was First Street Northwest. The, those sites meet all the criteria, and they are consistently about 10 parts per billion higher than the Arlington monitor, which is located a great distance from the site. So of those two I picked the closest, which has slightly lower values but it is the closest site to the mall, which would be the First Street Northwest. It's located to the north of the metropolitan area.

MR. GROSSMAN: All right. So as I recall your testimony the last time, you had stated the criteria but you had not selected a site.

THE WITNESS: Okay.

MR. GROSSMAN: That's my recollection of it, and now what you're doing is saying you've now looked it over

and the site you would have chosen -- and I presume you mean for NO2 one-hour background, is that correct?

THE WITNESS: That is correct.

MR. GROSSMAN: Okay. The site you would have chosen, a monitoring site, to get the background data would have been the First Street Northwest, D.C., site?

THE WITNESS: Correct.

MR. GROSSMAN: Okay. And was there a discussion of which site would be chosen when you were discussing the protocol with Mr. Sullivan?

THE WITNESS: At the time, we were mainly focused on PM2.5, and if you look at the protocol, it has some discussion of the Rockville and Beltsville monitors, which do monitor PM2.5. I thought that was, those were close, fairly close to the site. I had some questions about whether they were representative, which I have expressed in previous submittals to you about the fact that these, that there was more sort of rural area and less traffic at those two sites. That would certainly -- that's in the record.

MR. GROSSMAN: Are you saying you didn't have any discussion regarding NO2 monitoring in terms of the protocol?

THE WITNESS: I don't recall any discussion of NO2 monitoring or of the, particularly of your Arlington site. It is mentioned in the protocol, but I don't recall

discussing that.
MR. GROSSMAN: All right. And until you came to testify today about it, you had not selected the First Street Northwest, D.C., site as the most appropriate for the background monitoring for NO2?
THE WITNESS: Right. I had expressed a preference for those D.C. sites to the north of most of the metropolitan area, and in deference to your question, I selected one of those as what I thought was the best, the most representative, the most accurate.
MR. GROSSMAN: No, I mean, prior to today. You talked about --
THE WITNESS: Right.
MR. GROSSMAN: -- Beltsville and Rockville. Was there a discussion -- was there a recommendation or had you reached this conclusion prior to today regarding an appropriate monitoring site?
THE WITNESS: Not for NO2.
MR. GROSSMAN: Okay. All right. Thank you. All right. Do you want to resume your cross-examination, Mr. Goecke?
MR. GOECKE: I do, but before we get into it, I think there's one more preliminary matter. You had raised a question last time about the additive nature, about the ratio that Mr. Sullivan had applied in and around the gas

queue area as in terms of how that combined with background, and I think, I think you have a misunderstanding of how he had done that, and if we could, I'd just like to have Mr. Sullivan correct that for the record.
MR. GROSSMAN: I'm not sure what, what you're referring to. Do you have a transcript?
MR. GOECKE: We don't. The transcript is not available yet --
MR. GROSSMAN: Not out yet.
MR. GOECKE: -- so unfortunately I don't, but it was -- he can speak to it more intelligently than I can, obviously -- but the issue itself was when you were asking Dr. Cole, well, if he used the .25 ratio coming out of the tailpipe --
MR. GROSSMAN: Yes.
MR. GOECKE: -- and then added it to a .5 background, that would get to a .75 of NO2 to NOx ratio. And Dr. Cole at the time, I believe, was advocating for a .8, and I think your point was, well, isn't it essentially the same thing anyway.
MR. GROSSMAN: Yes. Well, that's --
MR. GOECKE: Right.
MR. GROSSMAN: -- for Dr. Cole to answer.
MR. SILVERMAN: Right.
MR. GROSSMAN: If I'm incorrect, I mean, Dr. Cole

can straighten me out --
MR. GOECKE: Right.
MR. GROSSMAN: -- on it.
MR. GOECKE: Right. Okay.
MR. GROSSMAN: I don't think it's really a Mr. Sullivan question.
MR. GOECKE: Okay.
MR. GROSSMAN: Okay.
SURREBUTTAL CROSS-EXAMINATION (Resumed)
BY MR. GOECKE:
Q And so, Dr. Cole, just touching upon the monitoring locations that you mentioned a moment ago, so you have no recollection of discussing NO2 monitoring sites in your protocol discussions with Mr. Sullivan?
A That's my recollection.
Q Your recollection is that you have no recollection?
A No. My recollection is we did not -- we discussed monitoring sites in general. The issue of specifically NO2 in Arlington, in my recollection, did not come up.
Q And that's because you were more concerned about PM2.5 at that point and not NO2?
A That's my recollection.
MR. GROSSMAN: Forgetting about Arlington for a second, did you discuss in the protocol discussions a site

to use as a monitoring site for NO2?
THE WITNESS: I don't remember that.
MR. GROSSMAN: Okay.
THE WITNESS: I do not recall any such discussion. You'll remember that that was at a time when -- well, I'll leave it at that.
MR. GROSSMAN: Okay.
BY MR. GOECKE:
Q But you saw the draft protocol report that identified Arlington as the monitoring location that was going to be used for NO2 background levels, correct?
A I believe it was in there.
Q And you never objected to Mr. Sullivan using that location until today?
A Well, the answer to that is, at that point, it was my impression that NO2 was not going to be a hot-button issue because the numbers that I had seen were low relative to the standard. That all changed, of course, when the --
Q Okay. Well, one thing at a time. You still didn't answer --
MR. GROSSMAN: Well, don't cut him, don't cut him off.
MR. SILVERMAN: Let him finish the answer.
MR. GROSSMAN: That all changed, yes. Go ahead.
THE WITNESS: Thank you. That changed, of course,

MR. GROSSMAN: I'm not sure what it is off the top of my head.
MR. GOECKE: The 2013 --
MR. GROSSMAN: Oh, okay. Yes.
MR. GOECKE: Do you guys need copies?
MS. ROSENFELD: Yes, please.
BY MR. GOECKE:
Q So it's your testimony, Dr. Cole, that you say you stand by today that the gas station is likely to exceed the EPA National Ambient Air Quality Standard for one-hour NO2 concentrations, correct?
A I said it was a distinct possibility.
Q And when did you form this conclusion?
A When did I form that conclusion?
Q Yes.
A By looking at successive -- particularly by looking at those reports that were done following the correction of the conversion error that was made in converting ppb to -- ppb to micrograms per cubic meter.
Q Yes.
A So that would have been looking at the evidence that came in in the August report and then looking at further evidence in the February rebuttal report.
Q Looking at the information included on Exhibit 593, are you familiar with the data shown here? In other

words, have you looked at the EPA website, showing this information?
A Yes, I have.
Q And did you look at that before you reached your conclusion that the gas station is likely to exceed the one-hour NO2 standard?
MR. GROSSMAN: He said distinct possibility. He didn't say likely.
BY MR. GOECKE:
Q A distinct possibility.
A I'm sorry. Could you repeat your question --
Q Sure.
A -- your first question?
Q Sure. In terms of your conclusion that the gas station has a distinct possibility of exceeding the one-hour NO2 standards, when you made that determination, had you reviewed the EPA data from the monitoring sites throughout the country?
A I don't recall the exact sequence, but I will say that nothing in this data precludes my statement.
Q Had you reviewed --
A In my opinion, the applicant has not shown that the gas station, if built, would not, would not cause or contribute a violation of the one-hour NO2 standard.
MR. GROSSMAN: And when you talk about a violation

of it, you're actually talking about the 100-parts-per-billion standard, not the, we'll call it the Breysse/Cordry opinion that, that the EPA standard is actually, area-wide standard, is actually 50 to 85 parts per billion for NO2 one-hour? You're talking about the actual NAAQS written-out 100-parts-per-billion standard, is that correct?
THE WITNESS: I'm talking about the standard and the language in the various guidance which repeatedly uses the term that an applicant must demonstrate that a proposed facility will not cause --
MR. GROSSMAN: I'm just addressing the number.
THE WITNESS: -- or contribute to the exceedance of a standard.
MR. GROSSMAN: Right, but I'm just -- my question just addresses, which are you referring to as the standard, because Dr. Breysse and Ms. Cordry have put forward a postulate that you did not accept the last time, that the EPA area-wide standard for NO2 one-hour is somewhere between 50 and 85 parts per billion, even though the actual NAAQS written-out standard is 100 parts per billion, but you did not accept that --
THE WITNESS: No, I --
MR. GROSSMAN: -- so I just want to make sure I understand which you're saying will be exceeded or may be exceeded.

MS. ROSENFELD: Mr. Grossman --
THE WITNESS: I am not an attorney.
MR. GROSSMAN: Yes.
MS. ROSENFELD: Yes. If I may, I think he said he didn't have an opinion on that. I don't think he said he didn't accept it.
MR. GROSSMAN: No. I think he -- I don't agree with that. That's not my recollection, but let's find out now. He said, if I recall, he said he was afraid he was going to be asked that question and he did not accept that as a, as the standard.
MS. ROSENFELD: Okay.
MR. GROSSMAN: That's my recollection.
THE WITNESS: All right. I am going to state for the record that I believe that is a legal question that I feel is -- what I, what I testified to and what I'll testify to clarify now is that when I look at these documents, what I'm looking for is whether or not any of the receptors that are modeled, or that, that it's likely that the air quality will exceed --
MR. GROSSMAN: What?
THE WITNESS: -- 100 parts per billion.
MR. GROSSMAN: Right. That was my question. Okay.
THE WITNESS: Okay. That is what I'm looking at.

The other question is beyond, I'm going to just say, it's beyond my expertise.
MR. GROSSMAN: Okay.
THE WITNESS: I think, I'm just -- you got a proposed gas station. You got methods being used.
MR. GROSSMAN: Well, when you say beyond your expertise, I'm not asking you --
THE WITNESS: Because it's a legal --
MR. GROSSMAN: -- I'm not asking you for health impacts. I'm just asking for the way that, based on your expertise, would the EPA, how it applies its standards. And if I understood your testimony, you considered the EPA standard for one-hour NO2 to be the 100-parts-per-billion standard, is that correct?
THE WITNESS: For the purposes of this analysis. Now, others may argue --
MR. GROSSMAN: I'm asking you what your opinion is.
THE WITNESS: All right. What I'm saying is that I'm doing the analysis, looking for the potential for exceedances of 100 parts per billion.
MR. GROSSMAN: Right. Okay.
THE WITNESS: Now, it could be -- I'm going to qualify this a little bit to say that it's possible that if one place is 100, that doesn't exclude the possibility of

health effects occurring at lower levels.
MR. GROSSMAN: Well, you're not an expert in health effects.
THE WITNESS: I know.
MR. GROSSMAN: So I'm not asking you that question. I didn't ask you that question. See, you didn't have to -- you don't have to add that qualifier. I'm just asking you what you're applying -- what's your understanding of the way EPA applies its standards. That's all I'm asking you about, because that's your area of expertise.
THE WITNESS: Correct. My area of expertise is to look at the modeling, to look at the meteorology, to look at the emissions --
MR. GROSSMAN: Right.
THE WITNESS: -- to look at the way the modeling is done, all of the assumptions, to look at the guidance and see if it's done according to the guidance, and to say, well, either yea or nay, you didn't follow the guidance, you did follow the guidance. And I said there's a distinct possibility that somewhere, that this gas station either causes or contributes to the exceedance of 100 parts per billion, period. That's it.
MR. GROSSMAN: And I'm asking you, is that the way the EPA applies its standards? They look at the -- in your expert opinion, are they looking at the 100-parts-per-

billion as the standard here --
THE WITNESS: This is --
MR. GROSSMAN: -- for NO2 one-hour?
THE WITNESS: In my opinion, when they do these -- when they look at applications, they're looking at 100 parts per billion.
MR. GROSSMAN: Okay. All right. And to ease your mind, Opposition, I'm not saying that I think that that's absolutely the standard that applies in this case --
MS. CORDRY: Well --
MR. GROSSMAN: -- I am saying I want to understand what this witness is saying about what I'll call the Breysse/Cordry doctrine here --
MS. CORDRY: I am --
MR. GROSSMAN: -- which I understand, it's your statement based on the EPA administrator's statement in -- I recall the testimony very well.
MS. CORDRY: I understand. I understand.
MR. GROSSMAN: I understand. So don't, you don't have to get all --
MS. CORDRY: Our position has always been it's the peak anywhere in the area, whether the gas station is the peak or not. So --
MR. GROSSMAN: I understand. Believe me, I remember the testimony quite well, and I just want to make

sure I understand this witness's position on it, and I understand that now also. Go ahead.
MR. GOECKE: Thank you.
BY MR. GOECKE:
Q And, Dr. Cole, your opinion that --
A I want to -- wait. Before -- excuse me.
MR. GROSSMAN: There's no question pending now. We've had enough on that.
BY MR. GOECKE:
Q Your opinion that there is a distinct possibility of exceedances is not based on any actual modeling that you conducted, correct?
A Correct.
Q And Mr. Sullivan provided you with the input data that he relied on in his AERMOD analysis, correct?
A Correct.
Q And he also provided you with the AERMOD software, correct?
A The AERMOD software?
Q Yes.
A The AERMOD software?
Q Yes.
A I'm not sure. I didn't see that, but it's readily available, whether he had --
Q You weren't aware that it was provided to you in

they're totally separate. They're physically isolated. We have the sloped forested buffer physically separating the mall property from the residential community. COSTCO has agreed to install the green screen wall further segregating the two uses. People in the residential community will not be able to see the gas station, they won't be able to hear it, they won't be able to feel it, it will be imperceptible to the senses. Unless they know it's there, or they've seen it for themselves, they're not going to know it's there. It's not going to have any effect on their daily lives.

And there's been testimony that the conditions at the mall have changed most recently. And, it's true, the mall is probably less vibrant and less robust before the COSTCO warehouse gas station opened. But that doesn't change the fact that it's still a regional mall.

MR. GROSSMAN: You mean before the COSTCO warehouse opened.

MR. GOECKE: I'm sorry, I misspoke. Yeah, the COSTCO warehouse is what I meant to say. So, since the warehouse has opened we've heard testimony from folks in the community that it's much noisier. There's idling trucks in the morning, perhaps, and they can hear other things. But again, it's important to distinguish what's happening at the warehouse from what COSTCO's obligation is with the gas station. And, conditions which exist there now are not the

responsibility of the gas station, and frankly, are outside the analysis for the special exception itself. The bottom line is that despite these changes recently, the mall and the residential community have coexisted. They've always coexisted, they continue to coexist, and the gas station is not going to change that. It will be harmonious with both the commercial nature of the mall itself, and the residential community.

So, the one exception -- well, I know the opposition takes a lot of exception to those points, but the one that I want to address now is emissions. Because emissions are something that you can't detect with the senses. You could be exposed to emissions and not realize that you're being exposed to them. So COSTCO has the burden to show that the emissions are not going to cause any adverse health effects, or any adverse impact on the environment. Well, how do we do that? The code doesn't tell us how. So, COSTCO went, we believe, above and beyond what it was required to do, and held itself to federal law standards. The EPA, national ambient air quality standards. And we believe strongly that this is the appropriate standard to apply here. Why is that? The Clean Air Act, federal law, requires the EPA to set standards that are protective of the public health. And, not just the general public. Sensitive populations.

The United States District Court for the District of Columbia, as far back as 1980, analyzed the legislative history of the Clean Air Act and, as we quoted in our brief, from the Lead Industries Association versus EPA case, the District Court said the goal of the air quality standards must be to ensure that the public is protected from adverse health effects. The same standard we have in this code, protect them from adverse health effects. That's why these standards are designed. It goes on, the Center report explains that the administrator, the EPA administrator, is to set standards which ensure that there is a absence of adverse effect.

So there we have it again. And, it goes on to talk about, it's not just for known dangers, it's for unknown dangers. The standards must allow, and I'm quoting, must allow for an adequate margin of safety to protect against effects which have not yet been uncovered by research, and effects whose medical significance is a matter of disagreement. So, there's a margin of safety baked into these standards because the law recognizes that there's always going to be dispute. You're never going to have total accord in the medical or scientific community. And that resonates here. We don't have total accord between the experts in this case. But the standards have already taken that into account. They've already heard from some of the

top minds in their field, from activist groups, from government, from academia, from industry stakeholders, all of these people have participated in a very robust panel, and a robust process. And, the EPA took all of that information and it came up with its standards. It took the most up-to-date information available, and it updates these standards every five years as required by law.

It goes beyond appropriate. These are the standards that must be applied. And why is that? Well, Maryland has the opportunity to apply different standards, higher standards if it so chooses. It has none done so. It has affirmatively decided to apply the EPA standards. Similarly, Montgomery County has not imposed any higher standard or any higher threshold that it would impose on the gas station. So, in the absence of any viable alternative, you have to measure the emissions by the subjective standard. To apply subjective, a discretionary standard, we believe would be arbitrary and would not be supported by the record.

MR. GROSSMAN: Let me ask you this. You argue that in your brief as well, it's a big point you've made, and a point you've made here, is the standard here the National Ambient Air Quality Standards, or is the standard here what it said in the zoning ordinance that a burden of showing that it won't adversely affect health in the

community, and would the National Ambient Air Quality Standards as a measuring tool?

MR. GOECKE: Well, the code requires us to show that -- we have the burden of showing no adverse health effects. But, it provides no measuring tool. So, how do you make that determination without applying some tool? And so in the absence of the code providing it, the EPA is the standard that should be the measuring tool.

MR. GROSSMAN: But, it's the measuring tool, it's not the standard. I mean, I think we've used it somewhat interchangeably, and you quote me a number of times as asking the opposition well what standard do I apply if it's not these NAAQS standards, but maybe we've been using that term a little loosely, and really, aren't we talking when we talk about the NAAQS standards we're talking about those as a measuring device for the standard here, which is what the zoning ordinance --

MR. GOECKE: Well, I think, I'm not sure if I completely understand, but I think the measuring device, and I'll get to this in a moment, is the modeling. The modeling measures what the anticipated emissions will be. The standards -- I mean, the purpose of an act is to say at this level there will be no adverse health effects. That's the same thing that the code asks. So, that's what we should be measured against, whether or not we violate the standards.

If we comply with the standards, then we have met our burden that there are no adverse health effects. And, these are standards that are applied routinely by the federal courts. They've not been overturned. They have the force of law. Nothing else that's been discussed in this case has the force of law.

MR. GROSSMAN: Well, there was testimony here from opposition expert Dr. Breysse, and echoed by Ms. Cordry, that suggests that the standards, the NAAQS standards themselves, actually provide a lower numerical standard for one hour nitrogen dioxide when you're away from the actual source. And, and they cite a final rule establishing the NAAQS standards for nitrogen dioxide February 9, 2010, Part III, pages 6479 to 6494. That's Exhibit 424B in our record.

Now, I recognize, of course, that the opposition's own modeling expert, Dr. Cole, said that the EPA does not apply a lower measure when it reviews a permitting application, sort of a bright line, in its standards and, I also recognize, of course, that your health expert, Dr. Chase, testified that there won't be health effects even at some lower measurements. But, don't I have to take into account the language in the final rule on NO2, from the EPA. And, let me quote one statement made by the administrator, the administrator concluded that these studies support for a one hour standard that limits the 99 percentile of

distribution of one hour daily maximum NO2 concentrations to below 90 parts per billion.

The actual formal standard is a hundred parts per billion for one hour NO2 in the EPA NAAQS standards that we're talking about. That corresponds, and I'm continuing the quote to a 98th percentile concentration of 85 parts per billion, and that limiting area wide concentrations to considerably below 90 parts per billion would be appropriate in order to provide an adequate margin of safety. The administrator noted that based on available information about the NO2 concentration gradient around roads, a standard level at or somewhat below 100 parts per billion set in conjunction with the proposed approach would be expected to accomplish this.

Specifically, she noted that given available information regarding NO2 concentration gradients around roads -- then there's a parenthetical expression, which I'll omit -- a standard level at or below 100 parts per billion with either 99th or 98th percentile formed would be expected to limit peak area wide NO2 concentrations to approximately 75 parts per billion or below. So, I'm not saying that sets the standard. I'm saying, don't I have to consider that evidence along with your evidence in determining whether or not the applicant here has met its burden of proving that there will not be adverse health effects?

MR. GOECKE: I think it's fair for you to consider all evidence that's in the record. But, even if you consider that evidence, and even if you decide that you're going to apply a more strict standard than what the EPA applies in issuing permits, what the federal courts apply in administering the Clean Air Act, the evidence shows that COSTCO is far below even those standards. And, Mr. Sullivan's stage 3 analysis show that 63 percent of the standards, so 63, 64 parts per billion. So, even -- and that's still, as he testified, conservatively modeled. And I realize that it's not as conservative as when he began, but there are still numerous conservative assumptions that he testified to at length, and explained in detail in his reports, showing how he got to the number that he got, and he still's far below even the levels that EPA administrator expresses concern about in the passage that you just quoted.

MR. GROSSMAN: Okay.

MR. GOECKE: And, if I can turn to that quickly, what are we talking about. There's a lot of emissions that are common at gas stations. I mean, but ultimately what the avidence shows is there's a dispute really about two emissions. PM2.5 on the annual standard and the one hour NO2 standard from the EPA next. This is an excerpt, this is page 37 of the PowerPoint presentation that Mr. Sullivan testified about last summer, Exhibit 95C, and this shows

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that on this 29th day of October, 2015, copies of the foregoing Reply Memorandum of Petitioner Costco Wholesale Corporation were mailed, first-class postage prepaid, and emailed, to:

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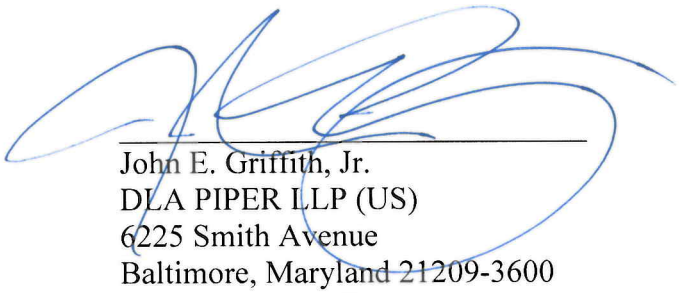

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