3.9 NOISE AND AIR RESOURCES COMMENTS AND RESPONSES

Comment 3.9-1 (Letter #1 Ralph P. Peragine, P.E., Stephan A. Maffia, P.E., Jay Snyder, and Anthony Agresti, TRC Engineers, Inc., March 4, 2009): The text states that noise level measurements at locations 2, 3, and 4 were conducted at the northern edge of the project property, adjacent to the Barr Labs. It also states that the 10:30 p.m. measurements, when traffic noise from local roadways was less, revealed that noise from the Barr Labs facility would be in compliance with the Town of Haverstraw and Rockland County noise ordinance limits for a commercial us (65 dBA). However, since the measured noise level at Location 2 (63.4 dBA) is close to the 65 dBA limit, the applicant should provide information on whether the noise generating sources at the Barr Labs (e.g., air cooled condensers and any other sources) were in normal operation when the noise measurements were conducted. This could be critical to the analysis, since if the sources at Barr Labs were either not operating, or operating at a log lad, then normal operation could increase sound levels at this property line location, and result in an exceedence of the standard. If this information is not available, or not known, then the measurements should be repeated when the source operational status is known.

Response 3.9-1: *It is not known whether the noise generating sources at the Barr Labs were in normal operation when the noise measurements were conducted.*

Measurements were collected along the northern property line to assess existing ambient noise conditions in order to determine the potential impacts of construction noise upon Barr Labs, and to assess the potential impacts of Barr Labs operation upon future residents on the Minisceongo Park project. Since the preparation of the DEIS and the collection of noise measurements at the northern property line, the proposed project has substantially changed. While the DEIS Site Plan included residences along the northern property line, the SEIS Site Plan includes two retail uses in the northern portion of the site. The closest proposed residence to the northern property line shared with Barr Labs is 700 feet. The distance from the closest building (noise source) on the Barr Labs property to the proposed residence (Building 1) is 865 feet and the proposed commercial buildings on the project site will be set in between the Barr Labs building and the proposed residential buildings. Therefore, operational noise from Barr Labs at the northern property line is no longer an issue of concern or potential impact.

Noise levels are reduced (or attenuated) as noise travels over the ground surface from source to receptor. Noise studies typically use the figure of 3.0 dBA reduction per doubling of distance over a hard surface and a 4.5 dBA reduction per doubling of distance over soft ground (*The Noise Guidebook, US Department of Housing and Urban Development, March, 1985*). *Sustained Noise levels of 65 dBA at the property line would be reduced to approximately 51 dBA at the nearest proposed Minisceongo Park residence (Building 1) due to noise loss (attenuation) over the distance of at least 700 feet over pavement. Ambient noise levels from Route 202 and the Palisades Parkway is generally higher than 51 dBA in most locations on the property.*

Finally, it is solely Barr Labs responsibility to monitor and meet Town standards for noise generated by their operations.

Comment 3.9-2 (Letter #1 Ralph P. Peragine, P.E., Stephan A. Maffia, P.E., Jay Snyder, and Anthony Agresti, TRC Engineers, Inc., March 4, 2009): In addition, an editorial correction to the first paragraph under Table 3.9-4 is needed. The sixth sentence should read "is at the ***west*** end of...." The seventh sentence should read "Location #4 is at the ***east*** end ..."

Response 3.9-2: *Comment noted. The first paragraph under Table 3.9-4 within the SEIS document should read:*

"Location #1 is located in the center of the project property, approximately 600 feet from the northern property line, within the Town of Haverstraw. Noise observed during the measurements included: traffic noise from the Palisades State Parkway and Route 202 and distant equipment noise from Barr Labs. Noise monitoring locations #2-4 are located in the northern part of the project parcel, approximately 60 feet south of the property line. Location #2 is at the ***west*** *end of the Barr Laboratory building, Location #3 is centered on the building, and Location #4 is at the* ***east*** *end of the building. Noise observed at these locations included equipment noise from Barr Labs (air cooled condensers) and traffic from Palisades State Parkway."*

Comment 3.9-3 (Letter #1 Ralph P. Peragine, P.E., Stephan A. Maffia, P.E., Jay Snyder, and Anthony Agresti, TRC Engineers, Inc., March 4, 2009): The study discusses traffic related noise increases for only one intersection. This analysis should be expanded to all of the intersections that were evaluated in the traffic study. A simple summary table should be provided that includes the No-Build and Build traffic volumes for the weekday A.M. And P.M. peaks, and the Saturday peaks, along with the logarithmically calculated increase in noise for each intersection.

Response 3.9-3: *It was not a requirement of the adopted scope to complete an analysis for noise impacts related to the traffic or the traffic study. One intersection was analyzed to address a SEIS completeness comment although the analysis was not required by the adopted Scope. To review all intersections goes well beyond the requirements of the Scope.*

As stated in the US Department of Transportation Highway Traffic Noise Analysis and Abatement Policy and Guidance, June 1995, "a doubling of the noise source produces only a 3 dB increase in the sound pressure level". Also, as stated in the NYSDOT Environmental Procedures Manual, August 1998, "Impacts occur when the predicted future traffic noise levels approach within one decibel or exceed the Noise Abatement Criteria (NAC) or when the predicted future traffic noise levels substantially exceed the existing levels by ***six or more decibels".*** *Therefore, if the vehicle count does not double the anticipated decibel increase within the intersection will remain less then 3 decibels and will not reach the 6 decibels deemed as a potential impact.*

All intersections were evaluated to determine if the vehicle count doubled. One (1) intersection, Intersection 7, doubled in the amount of traffic during the Saturday Peak time period. All other intersections did not double in vehicle count from No-Build to Build and therefore there is not to be an expected noise impact due to the traffic within those intersections, using the regulations stated above. Below is the logarithmically calculated increase in noise for Intersection 7. As shown in the tables below the decibel increase from existing to Build conditions for Intersection 7 does not exceed 6 decibels, therefore no significant impacts were identified by the Applicant.

Table 3.9-1 Noise Calculations - No Build Condition					
	Existing Total PCE (E PCE)	**Future No Build Total PCE (F PCE)**	**F PCE/ E PCE**	**Log10**	**Log 10 * 10=F NL Increase (dBA)**
Saturday					
Peak					
Intersection 7	4,684	5,040	1.08	0.03	0.32
Total Noise Increase for Saturday Peak Traffic Intersection 7					**0.32**

Notes:
Equation Used - F NL IN = 10 * Log 10 (F PCE/E PCE)
E PCE - Existing Passenger Car Equivalent
F PCE - Future Passenger Car Equivalent
F NL IN - Future Noise Level Increase

Table 3.9-2 Noise Calculations - Build Condition					
	Existing Total PCE (E PCE)	**Future No Build Total PCE (F PCE)**	**F PCE/ E PCE**	**Log10**	**Log 10 * 10=F NL Increase (dBA)**
Saturday					
Peak					
Intersection 7	4,684	10,380	2.22	0.35	3.46
Total Noise Increase for Saturday Peak Traffic Intersection 7					**3.46**

Notes:
Equation Used - F NL IN = 10 * Log 10 (F PCE/E PCE)
E PCE - Existing Passenger Car Equivalent
F PCE - Future Passenger Car Equivalent
F NL IN - Future Noise Level Increase

Table 3.9-3 Noise Calculations - No Build Condition Saturday WITH Patrick Farm					
	Existing Total PCE (E PCE)	**Future No Build Total PCE (F PCE)**	**F PCE/ E PCE**	**Log10**	**Log 10 * 10=F NL Increase (dBA)**
Saturday					
Peak					
Intersection 7	4,684	5,418	1.16	0.06	0.63
Total Noise Increase for Saturday Peak Traffic Intersection 7					**0.63**

Notes:
Equation Used - F NL IN = 10 * Log 10 (F PCE/E PCE)
E PCE - Existing Passenger Car Equivalent
F PCE - Future Passenger Car Equivalent
F NL IN - Future Noise Level Increase

Table 3.9-4 Noise Calculations - Build Condition Saturday WITH Patrick Farm					
	Existing Total PCE (E PCE)	**Future No Build Total PCE (F PCE)**	**F PCE/ E PCE**	**Log10**	**Log 10 * 10=F NL Increase (dBA)**
Saturday Peak					
Intersection 7	4,684	10,380	2.22	0.35	3.46
Total Noise Increase for Saturday Peak Traffic Intersection 7					**3.46**

Notes:
Equation Used - F NL IN = 10 * Log 10 (F PCE/E PCE)
E PCE - Existing Passenger Car Equivalent
F PCE - Future Passenger Car Equivalent
F NL IN - Future Noise Level Increase

Comment 3.9-4 (Letter #1 Ralph P. Peragine, P.E., Stephan A. Maffia, P.E., Jay Snyder, and Anthony Agresti, TRC Engineers, Inc., March 4, 2009): The mitigation section should include a statement that noise from the HVAC units at the proposed commercial buildings at the north end of the site, adjacent to Barr Labs, and any other major sources associated with the Project, will be in compliance with the Rockland County Class B noise ordinance limit of 65 dBA at the property line.

Response 3.9-4: *Comment noted. All HVAC units and other major noise sources will be in compliance with the Rockland County Class B noise ordinance limit of 65 dBA at the property line. HVAC equipment will be so located to meet this requirement.*

Comment 3.9-5 (Letter #1 Ralph P. Peragine, P.E., Stephan A. Maffia, P.E., Jay Snyder, and Anthony Agresti, TRC Engineers, Inc., March 4, 2009): In the Minisceogongo Park Supplemental Environmental Impact Statement (SEIS), the estimated free flow or carbon monoxide (CO) emission factors were presented as 10.27 grams per mile (g/mi) and 9.70 g/mi for the peak weekday afternoon/evening (PM) and peak Saturday time periods, respectively. These estimated were based on the New York State Department of Transportation's (NYSDOT's) "Vehicle Distribution by NYSDOT Region - NYSDOT Region 8 Table" and "MOBILE6 CO Emission Factor Table" both of which were in the NYSDOT's MOBILE6 CO Emission Factors For Project-Level Microscale Analysis (April 2008).

The applicant shall provide any spreadsheets and applicable pages from the NYSDOT's MOBILE6 CO Emission Factors For Project-Level Microscale Analysis (April 2008) used to calculate the free flow or CO emission factors of 10.27 g/mi and 9.70 g/mi for the peak PM and peak Saturday time periods, respectively. If no spreadsheets were used in the original calculation, sample calculations shall be provided showing how these CO emissions factors were estimated using the data from the NYSDOT's MOBILE6 CO Emission Factors For Project-Level Microscale Analysis (April 2008).

Response 3.9-5: *Below are Tables that show how the CO emission factors of 10.27 g/mi and 9.70 g/mi were determined.*

Table 3.9-5
CO Emission Factor for Peak PM - Intersection 8

Vehicle Type		14/16% Distribution [A]	15.0 mph CO Rate[B]	CO Emission Factor[C]
LDGV	Light-Duty Gasoline Vehicles (Passenger Cars)	0.4989	10.85	5.413
LDGT1	Light-Duty Gasoline Trucks 1	0.075	9.16	0.687
LDGT2	Light-Duty Gasoline Trucks 2	0.2498	9.88	2.68
LDGT3	Light-Duty Gasoline Trucks 3	0.0787	9.49	0.747
LDGT4	Light-Duty Gasoline Trucks 4	0.0363	9.69	0.352
HDGV2B	Class 2B Heavy-Duty Gasoline Vehicles	0.0123	13.23	0.163
HDGV3	Class 3 Heavy-Duty Gasoline Vehicles	0.0049	15.5	0.076
HDGC4	Class 4 Heavy-Duty Gasoline Vehicles	0.0014	15.37	0.022
HDGV5	Class 5 Heavy-Duty Gasoline Vehicles	0.0018	20.91	0.038
HDGV6	Class 6 Heavy-Duty Gasoline Vehicles	0.0006	28.81	0.017
HDGV7	Class 7 Heavy-Duty Gasoline Vehicles	0.0007	32.1	0.022
HDGV8A	Class 8A Heavy-Duty Gasoline Vehicles	0.001	39.64	0.04
LDDV	Light-Duty Diesel Vehicles (Passenger Cars)	0.0008	2.07	0.002
LDDT12	Light-Duty Diesel Trucks 1 & 2	0.0012	0.86	0.001
LDDT34	Light-Duty Diesel Trucks (3 & 4)	0.008	0.98	0.008
HDDV2B	Class 2B Heavy-Duty Diesel Vehicles	0.0022	0.88	0.002
HDDV3	Class 3 Heavy-Duty Diesel Vehicles	0.0016	1.12	0.002
HDDV4	Class 4 Heavy-Duty Diesel Vehicles	0.001	1.48	0.001
HDDV5	Class 5 Heavy-Duty Diesel Vehicles	0.0014	1.41	0.002
HDDV6	Class 6 Heavy-Duty Diesel Vehicles	0.001	1.81	0.002
HDDV7	Class 7 Heavy-Duty Diesel Vehicles	0.0017	2.14	0.004
HDDV8A	Class 8A Heavy-Duty Diesel Vehicles	0.0046	3.52	0.016
HDDV8B	Class 8B Heavy-Duty Diesel Vehicles	0.0048	4.1	0.02
HDGB	Gasoline Buses (School, Transit, and Urban)	0.0008	45.06	0.036
HDDBT	Diesel Transit and Urban Buses	0.0016	8.9	0.014
HDDBS	Diesel School Buses	0.0024	3.14	0.008
MC	Motorcycles (Gasoline)	0.0055	18.96	0.104
		TOTAL CO Emission Factor =		10.265

[A] - Information obtained from NYSDOT, Vehicle Distribution by NYSDOT Region, NYSDOT Region 8, April 2008;
[B] - Information obtained from NYSDOT, Mobile6 CO Emission Factor Table, May 2008;
[C] - CO Emission Factors for each type of vehicles determined my multiplying the distribution number by the emission factor number. All factors are totaled to determine the total CO emission factor for the entire intersection.

Table 3.9-6
CO Emission Factor for Peak Saturday- Intersection 8

Vehicle Type		14/16% Distribution [A]	20.0 mph CO Rate[B]	CO Emission Factor[C]
LDGV	Light-Duty Gasoline Vehicles (Passenger Cars)	0.4989	10.38	5.179
LDGT1	Light-Duty Gasoline Trucks 1	0.075	8.78	0.659
LDGT2	Light-Duty Gasoline Trucks 2	0.2498	9.47	2.366
LDGT3	Light-Duty Gasoline Trucks 3	0.0787	9.05	0.712
LDGT4	Light-Duty Gasoline Trucks 4	0.0363	9.25	0.336
HDGV2B	Class 2B Heavy-Duty Gasoline Vehicles	0.0123	9.82	0.121
HDGV3	Class 3 Heavy-Duty Gasoline Vehicles	0.0049	11.51	0.056
HDGC4	Class 4 Heavy-Duty Gasoline Vehicles	0.0014	11.42	0.016
HDGV5	Class 5 Heavy-Duty Gasoline Vehicles	0.0018	15.53	0.028
HDGV6	Class 6 Heavy-Duty Gasoline Vehicles	0.0006	21.4	0.013
HDGV7	Class 7 Heavy-Duty Gasoline Vehicles	0.0007	23.84	0.017
HDGV8A	Class 8A Heavy-Duty Gasoline Vehicles	0.001	29.44	0.029
LDDV	Light-Duty Diesel Vehicles (Passenger Cars)	0.0008	1.74	0.001
LDDT12	Light-Duty Diesel Trucks 1 & 2	0.0012	0.7	0.001
LDDT34	Light-Duty Diesel Trucks (3 & 4)	0.008	0.79	0.006
HDDV2B	Class 2B Heavy-Duty Diesel Vehicles	0.0022	0.66	0.001
HDDV3	Class 3 Heavy-Duty Diesel Vehicles	0.0016	0.84	0.001
HDDV4	Class 4 Heavy-Duty Diesel Vehicles	0.001	1.12	0.001
HDDV5	Class 5 Heavy-Duty Diesel Vehicles	0.0014	1.07	0.001
HDDV6	Class 6 Heavy-Duty Diesel Vehicles	0.001	1.37	0.001
HDDV7	Class 7 Heavy-Duty Diesel Vehicles	0.0017	1.61	0.003
HDDV8A	Class 8A Heavy-Duty Diesel Vehicles	0.0046	2.66	0.012
HDDV8B	Class 8B Heavy-Duty Diesel Vehicles	0.0048	3.1	0.015
HDGB	Gasoline Buses (School, Transit, and Urban)	0.0008	33.46	0.027
HDDBT	Diesel Transit and Urban Buses	0.0016	6.72	0.011
HDDBS	Diesel School Buses	0.0024	2.37	0.006
MC	Motorcycles (Gasoline)	0.0055	15.27	0.084
		TOTAL CO Emission Factor =		9.703

[A] - Information obtained from NYSDOT, Vehicle Distribution by NYSDOT Region, NYSDOT Region 8, April 2008;
[B] - Information obtained from NYSDOT, Mobile6 CO Emission Factor Table, May 2008;
[C] - CO Emission Factors for each type of vehicles determined my multiplying the distribution number by the emission factor number. All factors are totaled to determine the total CO emission factor for the entire intersection.