LARGE FILING SEPERATOR SHEET

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DESCRIPTION OF DOCUMENT: Application American miericipal Bower

The AMPGS will have annual $\mathrm{SO}_{2}, \mathrm{NO}_{2}, \mathrm{PM}_{10}$ and CO emissions rates that exceed the significant net emissions increase threshold for PSD applicability. As a result, Ohio EPA air quality modeling guidelines require that an air quality impact analysis be performed for each of the air pollutants and each averaging time identified in Table $\qquad$ below.

| Acceptable Air Pollutant Concentration Thresholds and Predicted Impacts from Emissions from the AMPGS |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Pollutant | Averaging Period | $\begin{gathered} \text { NAAQS } \\ \left(: g / \mathbf{m}^{3}\right) \end{gathered}$ | $\begin{gathered} \text { Class II } \\ \text { PSD } \\ \text { Increment } \\ \left(: \mathrm{g} / \mathrm{m}^{3}\right) \\ \hline \end{gathered}$ | Ohio Acceptable Impact ${ }^{(1)}$ ( $: g / \mathrm{m}^{3}$ ) | Maximum Impact from the AMPGS ( $: \mathrm{g} / \mathrm{m}^{3}$ ) |
| Sulfur Dioxide ( $\mathrm{SO}_{2}$ ) | Annual | $80^{(2)}$ | $20^{(2)}$ | $10^{(2)}$ | 1.72 |
|  | 24-hour | $365^{(3)}$ | $91{ }^{(3)}$ | $45.5{ }^{(3)}$ | 15.79 |
|  | 3-hour | 1,300 ${ }^{(3)}$ | $512^{(3)}$ | $256{ }^{(3)}$ | 63.61 |
| Nitrogen Dioxide ( $\mathrm{NO}_{2}$ ) | Annual | $100^{(2)}$ | $25^{(2)}$ | $12.5{ }^{(2)}$ | 0.99 |
| Particulate Matter $<10$ microns ( $\mathrm{PM}_{10}$ ) ${ }^{(4)}$ | Annual | $50^{(2)}$ | $17^{(2)}$ | $8.5{ }^{(2)}$ | 0.73 |
|  | 24-hour | $150{ }^{(5)}$ | $30^{(5)}$ | $15^{(5)}$ | 3.46 |
| Carbon Monoxide (CO) | 8-hour | $10,000^{(3)}$ | $\mathrm{NA}^{(6)}$ | 2,500 ${ }^{(3)}$ (6) | 28.11 |
|  | 1-hour | $40,000^{(3)}$ | $\mathrm{NA}^{(6)}$ | $10,000^{(3)(6)}$ | 66.74 |
| Notes: <br> ${ }^{(1)}$ The Ohio EPA air quality modeling guidelines indicate that any new source application will generally not be authorized to consume more than $50 \%$ of the PSD increment. <br> (2) Concentration not to be exceeded. <br> ${ }^{(3)}$ Concentration not to be exceeded more than once per year. <br> ${ }^{(4)}$ Federal guidelines state that $\mathrm{PM}_{10}$ should be used as a surrogate for $\mathrm{PM}_{2.5}$ until revised federal rules are adopted. <br> ${ }^{(5)}$ The $2^{\text {nd }}$ high 24-hour concentration for $\mathrm{PM}_{10}$ during any one-year period is used to represent the expected concentration. <br> ${ }^{(6)}$ There are no PSD increments for either CO averaging time. Ohio EPA air quality modeling guidelines indicate that any new source application will generally not be authorized to consume more than $25 \%$ of the NAAQS for CO . |  |  |  |  |  |
|  |  |  |  |  |  |

As indicated in the above table, the maximum off-site air quality impact predicted to result from the operation of the AMPGS is far less than each of the relevant acceptable concentration thresholds. The maximum air quality impacts from the operation of the AMPGS for the applicable averaging time for each pollutant are presented in the air quality isopleth maps in Figure G-3A through Figure G-3H.


> Maximum 24-hour Average $\mathrm{SO}_{2}$ Concentration Resulting from the Operation of the AMPGS




Figure 6-3F




## BASE MAP SOURCE

USGS 7.5-minute topographic quadrangle Ccolville, OH-WV (1975, photarevised 1977) Lubeck, WV-OH (1971, photorevised 1972) Portand, OH-WV (1975, pholorevised 1978) Pond Cree, WV-OH (1975, photorevised 1977)

American Municipal Power Generating Station

FIGURE 06-4 BELLEVILLE LOCK AND DAM WATER MONITORING LOCATION
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## APPENDIX 06-1

POWERSPAN DETERMINATION LETTER FROM
US EPA

UNITED STATES ENVIRONMENTAL PROTECTIOM AGENCY
REGION5

77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

JAN 192007
(AE-17J)

Phillip D. Boyle
Powerspan
100 International Drive, Suite 200
Portsmouth, New Hampshire 03801
Dear Mr. Boyle:
The purpose of this letter is to respond to your request for a determination of the applicability of the Standards of Performance for New Sources for Ammonium Sulfate Manufacture ( 40 CFR 60 Subpart PP) for American Municipal Power-Ohio (AMP-Ohio). In your December 14, 2006, letter, you state that Powerspan requests an official determination on behalf of AMP-Ohio. AMP-Ohio is evaluating the implementation of Powerspan's Electro-catalytic Oxidation (ECO) multi-pollutant control technology for its proposed coal-fired power plant in Meigs County, Ohio. AMP-Ohio's Permit-to-Install application included the option to install ammonia-based scrubbing with an associated ammonium sulfate crystallization facility (i.e. fertilizer plant), which would consist of Powerspan's ECO system, or limestone-based scrubbing for SO2 control.

The request is being made in accordance with the applicability and designation of affected facility at $40 \mathrm{CFR} \S 60.420$ which states:

The affected facility to which the provisions of this subpart apply is each ammonium sulfate dryer within an ammonium sulfate manufacturing plant in the caprolactam by-product, synthetic, and coke oven by-product sectors of the ammonium sulfate industry.

The only affected facility definition which may potentially apply to Powerspan's process would be the synthetic by-product sector of the ammonium sulfate industry. Synthetic ammonium sulfate manufacturing plant is defined at 40 CFR § 60.421 as the following:
... any plant which produced ammonium sulfate by direct combination of ammonia and sulfuric acid.

In your December 14, 2006 letter, you state that under your interpretation of 40 CR Subpart PP that you believe the process does not meet the definition of a synthetic ammonium sulfate manufacturing plant. Supporting data provided for the request included a general description of the ECO process and results from the pilot scale testing of ECO at FirstEnergy's R.E. Burger Plant and associated process chemistry.

Based on the supporting information presented by Powerspan and consultation with the U.S. EPA Office of Air Quality Planning and Standards, U.S. EPA has determined that the proposed AMP-Ohio option of installation of an ammonia-based scrubbing system, also known as an ECO system, with associated fertilizer plant located in Meigs County, Ohio, is not subject to the requirements of 40 CFR 60 Subpart PP. The ammonium sulfate produced by the ECO process as described for the proposed AMP-Ohio facility does not meet the definition of synthetic ammonium sulfate manufacturing plant as defined at $40 \mathrm{CFR} \S 60.421$. You state Powerspan is interested in an agency determination which could be applied to AMP-Ohio's potential project and to other future ECO projects as well. At the regional level, U.S. EPA generally provides . determinations that are site-specific. If you have any additional questions, please contact Julie Morris, of my staff, at (312) 886-0863.

Sincerely yours,


Air Enforcement and Compliance Assurance Branch

cc: Christian Feller<br>Office of Air Quality and Planning Standards United States Environmental Protection Agency

4906-13-07
SOCIAL AND ECOLOGICAL DATA

SOCIAL AND ECOLOGICAL DATA

The information presented below is descriptive, and is intended to provide a basis for assessing the benefits and impacts of AMPGS with respect to social and ecological matters such as public health and safety, ecology, land use, community development, cultural and aesthetic qualities, public responsibility, and agricultural district land.

## (A) Health and Safety

## (1) Demographic

The selected site for AMPGS is located along the Ohio River and the Ohio-West Virginia border in southeastern Meigs County, Ohio. The 5-mile radius study area encompassing Ohio includes all of Letart Township, the southeastern part of Sutton Township, and the southwest corner of Lebanon Township. The Village of Racine is approximately 4 miles north of the site. Further the southeastern portion of the 5 -mile radius study area encompasses Jackson County, West Virginia and the western half of the study area includes Mason County, West Virginia. No incorporated areas in West Virginia are located within the 5-mile study area.

Existing population data (1990 and 2000 census data) and 10-year population projections for the study area are presented in Table 07-1. The data suggests a slight population growth in Meigs County $(23,072$ to 23,687 ) between 2000 and 2010. Slight population growth was also recorded in Lebanon Township (905 to 1,029 ) and Sutton Township $(1,529$ to 1,625 ) between 1990 and 2000. A slight decrease in population was recorded in Letart Township over the same time period (689 to 641); however, the population increased in the Village of Racine (729 to 746). The population also increased in Jackson County $(25,938$ to 28,000$)$ and in Mason County
( 25,178 to 25,957 ), West Virginia.

## (2) Atmospheric Emissions

AMPGS's atmospheric emissions will be established and limited by an air permit to install issued by Ohio EPA. Specifically, atmospheric emissions will be controlled by inherent design, equipment, and fuel source as discussed in response to OAC 4906-13-06. Any potential malfunctions of air emissions control equipment will be managed in compliance with Ohio law and permitting requirements. Accordingly, any potential impact to the population due to failures of pollution control equipment will be minimal due to the permitting and regulatory requirements.

## (3) Noise

A noise survey for the proposed AMPGS was conducted by GAI Consultants in September 2006. The results of the survey and selected portions of the report prepared by GAI are presented below. The complete noise survey report (minus some calibration appendices) is included as Appendix 07-1.

## (a) Construction Noise Levels

Construction noise is usually considered short-term noise, and noise levels often vary depending on the construction phase. Construction noise estimates are based on the noise levels generated by individual pieces of construction equipment and equipment usage factors based on estimated times of operation. Construction noise impact was estimated using the Federal Highway Administration ("FHWA") Roadway Construction Noise Model (RCNM), Version 1.0. This is the FHWA's national screening model for the prediction of construction noise based on a comprehensive database of the noise generated from the operation of a wide variety of types of
construction equipment. The following assumptions were made for the types of significant construction equipment to be used in the construction of the proposed facility:

- Site Preparation and Excavation:
-Five (5) graders, five (5) dozers, five (5) excavators, and five (5) haul trucks
- Pile Driving:
-Typically two (2) to four (4) rigs, with six (6) maximum
- Concrete Pouring:
-Seven (7) concrete mixer trucks, three (3) cranes, and five (5) pick-up trucks
- Steel Erection:
-Five (5) cranes, four (4) flat-bed trucks, two (2) front-end loaders, and four (4) pick-up trucks
- Mechanical Installation:
-Five (5) cranes, four (4) flat-bed trucks, two (2) front-end loaders, and four (4) pick-up trucks
- Clean-up:
- Two (2) cranes, two (2) dozers, two (2) excavators, three (3) flat-bed trucks, and four (4) pick-up trucks

Blasting or dynamiting is not expected to be necessary during construction. The highest potential for adverse noise impact from construction is assumed to occur at the noise sensitive areas ("NSA") located closest to AMPGS, which is NSA Location 9, located approximately 1,500 feet from the center of the proposed AMPGS. This receptor location was used in the noise modeling analysis.

Description of Construction Activities: AMPGS will be constructed on a fast-track basis to minimize the overall duration of the project. Noise produced during construction is expected to be similar to that of other industrial construction projects. The overall construction schedule for the facility will progress through six phases: site preparation and excavation, pile driving, concrete pouring, steel erection, mechanical and electrical installation, and cleanup.

Site Preparation and Excavation: The site preparation phase begins at contractor mobilization at the site, and involves the use of large earthmoving equipment including graders, dozers, excavators and off-road haul trucks. Typical operations include excavating, hauling, and
backfilling at the site. Depending on the amount of earthwork required, this operation would occur 6 days per week, primarily during daylight hours. During this period, the topsoil is removed and rough shaping and grading of the site is performed in preparation of concrete foundations and roadways. Pile driving would begin during this phase. Installation of facilities such as temporary offices, shops, laydown yards, and underground utilities would also occur during this phase.

Pile Placement: It is expected that pile placement or driving for foundations will be necessary. From an economic standpoint the use of drilled augercast piles is preferred. However, due to geotechnical considerations, the use of driven "H"-piles or concrete filled pipe piles may be necessary. The need for, types of, and number of piles required cannot be determined until test piles are driven and detailed designs are completed. For the purpose of this evaluation it is assumed that pile driving will be required over a period of 40 weeks, using two (2) to four (4) rigs. For noise modeling, a worst case of six (6) rigs was assumed. This could be up to six (6) auger drills, or six (6) impact rigs, or any combination of the foregoing.

Concrete Pouring: Concrete foundation work will begin at the completion of pile placement. This work is typically during a single shift daily over a 5 -day workweek. Major equipment on site will be excavators and dump trucks used to dig foundations to allow for the installation of formwork, reinforcing steel (rebar), and the placement of concrete. Large crawler cranes will be used to support the large foundations to set the formwork and rebar. Concrete trucks and concrete pump trucks will be used to place the concrete.

Structure Steel Erection: Steel erection will begin when the concrete foundations are complete. The setting of equipment and piping in structures will begin once the steel is erected. This work is typically during a single shift daily over a 5 -day workweek. Typical equipment are large crawler cranes used to install the steel, piping and equipment, small rubber tired cranes
staging materials for installation, and semi-trailer trucks hauling material from the laydown and storage areas to the process units.

Mechanical and Electrical Installation: The mechanical and electrical installation phase will overlap with the structural steel erection work. This phase involves the installation of piping, valves, instrumentation, electrical equipment, and cables and wires. During this phase, siding is installed on structures. The workforce is at its peak during this phase. Typical equipment are large crawler cranes near the structures and laydown yards, smaller rubber tired cranes for staging materials for installation, and semi-trailer trucks hauling material.

Cleanup: The final phase is the transition from construction to start-up and commissioning of the plant. The contractors are demobilizing and cleaning up the site. Demobilization involves the loading out of construction equipment and trailers. Typical equipment on-site during this phase includes rubber tired cranes supporting the remaining work, as well as loading out equipment and material. Final grading and paving will also be performed during this phase. This phase is completed with the commissioning and initial operations of the facility.

Based on the assumptions discussed above, the potential noise impacts during construction are presented below. These results indicate that significant noise levels from construction activities will be expected at the NSA locations. At the closest NSA (NSA Location 9), the following Leq impacts are expected during each phase of construction:

| Activity | Noise Level |
| :--- | :--- |
| Site Preparation and Excavation | 61.4 dBA |
| Pile Driving | 55.6 dBA (auger drills only) to |
|  | 72.5 dBA (impact pile drivers only |
| Concrete Pouring | 57.2 dBA |
| Steel Erection | 54.4 dBA |


| Mechanical Installation | 54.4 dBA |
| :--- | :--- |
| Clean-up | 55.7 dBA |

Noise associated with construction activities will be intermittent, as equipment is operated only on an as-needed basis. Neighbors in the vicinity may hear the construction noise, but the overall impact will be temporary. It is assumed that construction activity will be completed during the daytime.

High pressure steam will be used during construction to remove dirt and debris from the boilers and equipment before initial facility startup. The steam will be released into a muffling system or vessel to reduce pressure before being released to the atmosphere. This "steam blow" could last several hours or longer and will be loud. However, this process will be scheduled in advance and efforts will be made to inform the surrounding community in advance of the potential for high noise levels for a limited duration.

## (b) Operational Noise Levels

The operational noise impact analysis was developed by modeling the expected sound pressure levels ("SPLs") at the NSAs resulting from each noise generating component of the project and combining these sound levels with the existing background noise levels to estimate the total noise impact of the proposed project at NSAs. The calculated ambient SPL at the nearest measurement location was used as the background or existing sound level. Components of the proposed Base Load Generating Facility identified as "Significant Noise Producing Equipment" are detailed in Table 2 of the noise report in Appendix 07-1.

The estimated average sound level ("Leq") from the operation of the proposed Baseload Generating Facility at each NSA was calculated using the Power Acoustics SPM 9613 (Version
2.0) Noise Modeling Software. Parameters such as noise sources and observers (NSAs) were incorporated into the model. The noise modeling software is based on the ISO Standard for Acoustics - Attenuation of Sound During Propagation Outdoors, Parts 1 (Calculation of the Absorption of Sound by the Atmosphere) and 2 (General Method of Calculation) (ISO 1993 and 1996). The noise modeling software was used to predict the cumulative noise impact from the operation of AMPGS. The model output provided an estimate of the impact at each NSA and a noise contour for the study area. The predicted noise impacts at each NSA were then combined with the existing or ambient background noise level to estimate the noise level expected at each NSA with AMPGS in operation.

The estimated Leq from the model was then compared to spreadsheet calculations of the Leq as a method of verification. These calculations were made using simplified ISO 9613 equations to verify the model calculations and identify model errors or anomalies before considering noise mitigation measures to reduce the noise impact at NSA locations exceeding noise impact criteria.

The results of this analysis, presented in Appendix 07-1, Table 3 indicate that the operation of AMPGS is predicted to result in equivalent day-night sound levels ("Ldn") ranging from 45.7 dBA at NSA Location 4 to 54.4 dBA at NSA Location 9. All NSAs are expected to have Ldn values below 55 dBA . Based on the recommended noise impact criteria of no Ldn values no greater than 55 dBA or, if the background Ldn is greater then 55 dBA an increase of no more than 3 dBA over the background Ldn, no NSAs were found to exceed the noise impact criteria. A contour map showing the noise impact from the facility on the surrounding area is provided as Appendix 07-1, Figure 5.

Components of AMPGS identified as "Significant Noise Producing Equipment" are detailed in Appendix 07-1, Table 2. The most significant operating noise sources will be the
turbine generators, boilers, and related equipment. The noise from the turbine and boiler buildings, and water treatment building is assumed to be controlled to $90 \mathrm{dBA}, 85 \mathrm{dBA}$, and 90 dBA , respectively, at the exterior of the buildings. These noise levels should be achievable through the use of a building enclosure and sound absorbing materials, mufflers, lagging and vibration isolation and damping techniques incorporated into the design and construction of AMPGS. Noises from power roof vents, fans and motors, mobile equipment, and coal handling equipment, as indicated in Appendix 07-1, Figure 5, were estimated using assumptions from the Edison Electric Institute ("EEI"), "Electric Power Plant Environmental Noise Guide", 2nd Edition, 1984.

The cooling cell units consist of two banks of 16 individual forced air cooling units. Noise emission from the cooling cells was estimated using performance data from SPX Cooling Technologies and noise emission characteristics provided by the EEI guide. Noise emission estimates for the Main Power and Reserve Auxiliary Transformers were based on the assumption that the equipment will comply with the operating performance guidelines of the National Electrical Manufacturers Association ("NEMA") Standard TR 1-1993 (R2000).The SPM 9613 Noise Modeling Software also takes into account the physical configuration and location of equipment, the elevation of noise sources (such as the two 625 -foot high stacks), and sound emission characteristics. Such characteristics include the direction of noise as well as the octave band frequency of the noise.

The coal crusher and coal transfer house is assumed to be enclosed, providing a noise attenuation of approximately 25 dBA . The estimation of noise generated from unloading coal, urea, and limestone (if that is used) at the Barge Unloading Area was based on the EEI guide, assuming that the clamshell unloading bucket will complete one unloading cycle every 60 seconds. Noise from the boiler relief valve was estimated using the EEI guide, assuming that
there are 12 minutes of steam release per year.
Although noise from river traffic (barge delivery of coal and limestone or urea to the facility) may be noticeable, the potential impact from barge noise will be minimal and generally incorporated into the overall AMPGS operating noise. The potential increase of barge noise above current levels will not be significant. The motor vehicle traffic to AMPGS will be primarily employee traffic, since coal and urea (or limestone) shipments will be by river barge. On-site motor vehicle traffic will be haul trucks for moving fly ash and bottom ash from AMPGS to the on-site solid waste landfill unit in the east portion of the site. The on-site traffic will consist of approximately one haul truck every five minutes operating at a low speed. However, this traffic will be limited to the east area of the site that is the furthest from NSA areas and will have minimal noise impact compared with noise generated from AMPGS's operations.

The switchyard at AMPGS site will be a 345 kV four-breaker ring bus configuration. The switchyard at the transmission line interconnection will be a six-breaker ring bus configuration. The primary noise emitting equipment at each of the switchyards will be the 345 kV circuit breakers. The noise will be of very short duration when the circuit breakers operate. The circuit breakers will operate very infrequently. The other potential source of noise at the switchyards is the possibility of corona noise during rain or high humidity conditions. Corona free hardware will be used in the design of the switchyard buswork to minimize corona noise. Therefore, noise impacts due to the switchyard are not expected to be significant.

Steam from the boilers will need to be vented during initial facility startup, during restarting the facility after maintenance activities, and for emergency high-pressure safety releases. Although noise from the steam vents can be quite loud, it typically only lasts for several minutes and occurs very infrequently (typically a few times per year).

## (c) Location of Sound-Sensitive Areas

AMPGS will be located near the unincorporated town of Letart Falls in Meigs County, Ohio along the Ohio River. There are several small residential areas located to the north, south, and west of the proposed site. GAI conducted a site reconnaissance to identify appropriate site boundary locations and local NSAs for noise measurement, on June 4, 2006. Special consideration was given to nearby residences. The starting point for the noise investigation was the determination of the appropriate analysis area for noise impacts. These include areas that have the potential to be affected by construction or operational noise resulting from the proposed facility.

Nine NSAs, shown in Appendix 07-1, Figure 3, were identified around the proposed site. NSA Location 1 is located to the northeast, NSA Location 2 and Location 3 to the south, NSA Location 4 and Location 5 to the southeast, and NSA Location 6, Location 7, Location 8, and Location 9 to the north of the proposed site. Other NSA locations within 1 mile of the selected site are further from potential noise areas, and therefore, do not need to be considered. Any potential impact detected in West Virginia will be characterized by modeling at NSA locations Location 4 and Location 5.

Background noise monitoring was conducted at locations at or near the plant property boundary at points nearest the noise-sensitive receptors. Locations were selected that had none or minimal obstructions between the noise-sensitive receptor and the proposed plant location. Noise measurement locations are identified in Appendix 07-1, Figure 4.

## (d) Noise Mitigation

Construction Noise: Noise associated with construction activities will be intermittent, as equipment is operated only on an as-needed basis. Neighbors in the vicinity may hear the
construction noise, but the overall impact will be temporary. To minimize noise impact during night-time hours, construction activity on the site will generally be limited to daylight hours.

Operation Noise: Based on the results of this analysis, noise from plant operation is expected to be below 55 dBA at all NSAs. Therefore, additional noise impact mitigation should not be required. This analysis assumed that the plant design will include the construction of sound reducing or absorbing structures or enclosures around noise generating sources when possible, as discussed in the Operational Noise Impact Analysis Results section earlier in this report. This will include the use of mufflers, lagging and vibration isolation and damping techniques incorporated into the design and installation of equipment such as motors, fans, pumps, and discharge vents and stacks, where practical.

Noise emission from the cooling cells will be mitigated using current technology for reducing energy consumption and noise generation. This typically includes features such as oversized towers designed for reduced fan speed or two-speed motors to operate fans at lower speeds when permitted by cooling demand. Noise emission estimates for the Main Power and Reserve Auxiliary Transformers were based on the assumption that the equipment will comply with the operating performance.

## (4) Water

(a) Construction and Operation

Water supply resources in the site vicinity include the Ohio River and the underground unconsolidated aquifer system. Control of water pollution during construction will be managed under an NPDES construction storm water permit and associated storm water pollution prevention plan. An erosion and sediment control plan will be developed prior to construction that will use appropriate runoff diversion and collection devices. Runoff from parts of the site
that are disturbed during construction will be diverted and collected in a sedimentation basin. This basin will be used to hold and treat the runoff, if necessary, prior to any discharge to the Ohio River. Potential impacts to groundwater during construction might include spills of oil or other substances that could infiltrate the soils. Although the quantities of substances on site during construction are not expected to be present in amounts that would represent a significant hazard to surface or groundwater, all contractors will be required to maintain and implement Spill Prevention, Control and Countermeasures ("SPCC") Plans. Similarly, operation of AMPGS will require implementation of an NPDES permit, SPCC plan, and groundwater protection plan. These measures will establish discharge limitations and other safeguards to ensure that any risk to water supplies associated with plant operations is minimized.

## (b) Pollution Control Equipment Failures

Water pollution control equipment will include makeup water clarification, oil/water separators, flow equalization and settling basins, a metals removal system, associated waste solids dewatering systems, and secondary containment structures for oil and chemical storage tanks. The planned system of on-line effluent quality checks, oil/water separators, holding basins, and secondary containment structures will provide multiple safeguards against failure of any of the pollution control equipment. The risk to water supplies from spills or releases associated with such failures is expected to be minimal.

## (B) Ecological Impact

(1) Site Information

An ecological survey of the site was conducted, by AMP-Ohio's consultant URS. the results of this survey are included as Appendix 07-2. The study area for the ecological survey was based on Board regulations, and focused on a 0.5 -mile radius from the proposed location of

AMPGS. The ecological survey included a field reconnaissance of an area 0.25 -mile from the perimeter of the site, office review of published literature, maps, and aerial photographs, and discussions with state and federal agencies. The field reconnaissance was conducted to document the occurrence of wetlands, streams, vegetation, and wildlife within the study area. The initial field reconnaissance for the site was conducted November 28, 2005 to December 2, 2005. Lists of "major species" for the sites were developed based on literary reviews and field studies. Species listed by state or federal agencies as endangered or threatened were evaluated for their potential occurrence on the sites.

The field studies were supplemented by relevant information obtained from published reference material and from the Ohio Department of Natural Resources ("ODNR") - Division of Natural Areas and Preserves ("DNAP"), ODNR - Division of Wildlife ("DOW"), and U.S. Fish and Wildlife Service ("USFWS"), including communications with personnel from these agencies.

The presence of wetlands was evaluated during the field reconnaissance using criteria established by the U.S. Army Corps of Engineers Manual for Identifying and Delineation of Jurisdictional Wetlands (1987). In addition, URS prepared a functional wetland analysis for each site wetland using the Ohio Rapid Assessment Method (ORAM) version 5.0, 2001, (ORAM v5.0 Manual) qualitative wetland evaluation forms. These forms were used to develop a numbered category for each of the project wetland areas. These categories provide a qualitative measure of the ecological quality and level of function of wetlands. Completion of ORAM forms is required in Ohio as a part of the Section 401 certification process. Also, National Wetland Inventory ("NWI") Maps and the U.S. Department of Agriculture - Natural Resources Conservation Service ("NRCS") soil survey and hydric soils lists for Meigs County, Ohio were reviewed for the proposed site.

The project area was investigated for the presence of perennial, intermittent, and ephemeral stream channels within the property boundaries, and were assessed based upon Ohio EPA Headwater Habitat Evaluation Index ("HHEI") procedures as detailed in Field Evaluation Manual for Ohio's Primary Headwater Habitat Streams, version 1, 2002. The HHEI provides a method for qualitatively assessing streams, in a manner similar to the ORAM forms for wetlands, under the same Section 401 regulatory process.

## (a) Map

Maps at a scale of $1: 24,000$ for the Ohio portion of the project area (5-mile radius from the site perimeter) are presented as Figures 04-1A to 04-1C. Supplemental land use maps for the West Virginia portion of the project area are provided in Appendix 04-1. The maps include: (i) the facility boundary; (ii) undeveloped or abandoned land including woodlots, wetlands, and vacant fields, (iii) National Wetland Inventory ("NWI") wetlands and (iv) ODNR identified records of endangered or threatened species.

## (b) Survey of Vegetation

A qualitative vegetation survey was completed to document the occurrence and relative abundance of the dominant plant species within a 0.25 -mile radius of the selected site. The Wetland Delineation, Stream Assessment, and Threatened and Endangered Species Habitat Survey is included as Appendix 07-2. In the descriptions below, the site boundary is the area within the proposed facility boundary, and the site perimeter is the area between the proposed facility boundary and the 0.25 -mile radius. The entire ecological area extending out to the limits of the site perimeter is within AMPGS site boundary.

The site is approximately 1,000 acres in size and is located to the east of the Village of Letart, West Virginia. The western half of the site consists almost exclusively of agricultural
land. This land is used primarily for the cultivation of tomatoes and soybeans. The eastern half of the site consists of primarily second growth forest, with scattered tracts of land that have reverted to new and old-field conditions. The western boundary of the site is distinguished by the Ohio River. State Route 124 and Hill Road bisect the west and east sides of the site, respectively. East Letart Road runs east along the southern edge of the site for approximately 3,300 feet, prior to veering generally northeast.

The site perimeter generally contains vegetation similar to that described within the site. The western half of the site perimeter consists of riparian woodland adjacent to the Ohio River, agricultural land, new field, screening vegetation adjacent to residences, and fragmented woodlots. With the exception of the northeast extent of the site perimeter, which includes residences, agricultural land, new field, and scattered woodlot, the eastern half is dominated by first and second growth woodlot.

## (c) Terrestrial and Aquatic Animal Life Survey

A pedestrian survey was conducted to identify and record dominant wildlife habitats and wildlife species within the subject site. A list of observed species and species likely to occur within the study area is presented in Table 2 of the Wetland Delineation, Stream Assessment, and Threatened and Endangered Species Habitat Survey, included as Appendix 07-2.

Birds: Birds observed on the site and within a 0.25 -mile radius of the site perimeter included blue jay, American crow, American robin, brown-headed cowbird, Carolina chickadee, house sparrow, Carolina wren, mourning dove, northern cardinal, and tufted titmouse. Other songbirds are anticipated to frequent the site and the surrounding vicinity.

Mammals: White-tailed deer were observed south of Wetland D-6 during the field reconnaissance. Raccoon tracks were noted in the vicinity of Stream BS-13, on the south central
portion of the site. Dead striped skunk and opossum individuals were observed along roadways within the vicinity of the site. In addition, gray, fox, and red squirrels, along with eastern cottontails, and species of vole and mouse are likely to utilize the site and surrounding vicinity.

Amphibians and Reptiles: No amphibian or reptile species were observed during the field reconnaissance. Snakes, lizards, and turtles are likely to occur in the naturally vegetated areas of the site and surrounding vicinity. Amphibians would most likely be restricted to the wetlands, streams, or the Ohio River.

Aquatic Species: Habitats for aquatic species of concern including fish, crustaceans, and mussels were not specifically assessed during this survey. Pedestrian observations conducted on the smaller streams and headwaters did not reveal aquatic species of concern. The site borders the Ohio River, which is known to contain aquatic resources. A description of the aquatic species of concern identified within the range of the site through agency correspondence and a literature review are presented below in response to OAC 4906-13-07 (B)(1)(e). A mussel survey was conducted by EA Engineering in the late summer of 2006, which is provided in Appendix 07-3.

## (d) Summary of Ecological Impact Studies

URS conducted a field survey of the site vicinity from November to December 2005. A summary of anticipated impacts is provided below and more information on the impacted wetlands and streams can be found below in response to OAC 4906-13-07 (B)(2)(a). Detailed results of the field survey can be found in the Wetland Delineation, Stream Assessment, and Threatened and Endangered Habitat Survey and addendum included in Appendix 07-2 of this Application.

No wetlands were observed within the western portion of the site, where AMPGS will be constructed. Based on the field reconnaissance and historic aerial photography, it is likely that no
wetlands have existed since the area was first cleared for agricultural use. No wetlands will be impacted by construction of AMPGS on the terrace area. Of the 2.32 acres of wetland identified within higher elevations on the eastern portion of the site where the proposed landfill will be constructed, 1.01 acre will be impacted by the landfill and associated facilities. No ORAM Category 3 wetlands will be filled as part of the proposed project.

A total of 39,571 linear feet of headwater stream were identified within the entire 1,000 acre site. Using HHEI, it was determined that 11,335 feet of the total are Class III, 14,288 feet are Class II, 4,317 feet are modified Class II, 6,947 feet are Class I, and 2,684 feet are modified Class I. The majority of these headwaters are located within higher elevations on the eastern portion of the site, where the proposed landfill will be constructed. It was determined that 2,195 feet of Class III, 2,590 feet of Class II, 3,038 feet of modified Class II, 2,087 feet of Class I, and 448 feet of modified Class I streams will be impacted by the proposed project.

## (e) Description of Major Species

The undisturbed portions of the site and surrounding vicinity are suitable habitat for several major wildlife species. The following descriptions are of major species observed within, expected to inhabit, or reported to have a range (protected species) that includes the site vicinity.

Commercial Species: The commercially important terrestrial species within the study area consist of those hunted or trapped for fur or other byproducts, including the following:

Muskrat (Ondatra zibethicus): The muskrat is abundant throughout Ohio, and prefers areas near intermittent streams, drainage courses, and farm ponds. It is the most extensively trapped fur-bearer in the State of Ohio. This species is expected to inhabit the site or site vicinity, but was not observed during the field investigation.

Opossum (Didelphis virginiana): The opossum's preferred habitat is farmland, especially
wooded pastures adjacent to woodland streams and ponds. Dead individuals of this species were observed along roadways within the vicinity of the site.

Red fox (Vulpes vulpes): The red fox occurs throughout Ohio, and is most prevalent in areas of maximum interspersion of woodland and agricultural lands. It is likely that this species inhabits the site or site vicinity.

Raccoon (Procyon lotor): The raccoon is abundant and widespread in Ohio, even in many suburban areas. Raccoons are found principally around aquatic and woodland habitats, with occasional forages into croplands. Tracks of this species were noted in the vicinity of Stream BS-13, on the south central portion of the site.

Striped skunk (Mephitis mephitis): The skunk prefers a semi-open habitat of mixed woods, brush, farmland, open grassland, and small caves in proximity to water. These mammals are common statewide. Dead individuals of this species were observed along roadways within the vicinity of the site.

Long-tailed weasel (Mustela frenata): The long-tailed weasel is found throughout the state of Ohio in areas adjacent to rivers, lakes, streams, or marshes, where they feed on small mammals. This species is expected to inhabit the site or site vicinity, but was not observed during the field investigation.

Recreational Species: Recreational terrestrial species consist of those hunted or fished as game. Recreational species expected to inhabit the site or site vicinity include the following:

Eastern cottontail (Sylvilagus floridanus): The eastern cottontail is Ohio's number one game species. It is abundant in both rural and urban areas and prefers the field borders, brushy areas, and thicket habitats that can be found in the study area. This species is expected to inhabit the site or site vicinity, but was not observed during the field investigation.

Woodchuck (Marmota monax): The woodchuck or groundhog is a common ground
squirrel found throughout Ohio. It prefers sloped areas at the fringe of wooded and open areas. This species is expected to inhabit the site or site vicinity, but was not observed during the field investigation.

Gray, red, and fox squirrels: These tree squirrels occur throughout Ohio. The fox squirrel (Sciurus niger) is primarily an inhabitant of small, typically isolated woodlots. The gray squirrel (Sciurus carolinensis) and red squirrel (Tamiasurius hudsonicus) prefer more extensive woodland areas. Gray squirrels were observed at the site during the field reconnaissance. The red and fox squirrel are expected to inhabit woodlots within the site and surrounding vicinity, but were not observed.

White-tailed deer (Odocoileus virginianus): White-tailed deer occur throughout Ohio. Deer prefer wooded areas with occasional foraging into croplands. White-tailed deer were observed south of Wetland D-6 during the field reconnaissance.

Protected Species: Correspondence with the ODNR-DNAP and USFWS, and review of published information indicated that the study area is within the range of certain animal species that are federal and/or state listed threatened or endangered species, or of high interest. A discussion of each state and federally listed species will be presented below. None of these species were identified during the November and December 2005 field investigation.

Protected Plants: Three records of plant species of concern were identified within 5 miles of the project study area and include the mud-plantain (Heteranthera reniformis), the common prickly pear (Opuntia humifisa), and the smooth buttonweed (Spermacoce glabra).

Mud-plantain (Heteranthera reniformis): This perennial aquatic herb is known to occur submersed or floating in ponds, ditches or rivers, or creeping along muddy river margins. The potential hazard to this species of concern is generally limited to impacts or disturbances to the aquatic habitat. Low to moderate quality habitat for this species of concern was noted in the
mixed palustrine emergent/open water (PEM/POW) wetland, identified as $\mathrm{W}-6$, and along the right descending bank of Ohio River. This plant species of concern was not identified during the November and December field investigation.

Common Prickly Pear (Opuntia humifusa): This hardy cactus with oblong, flattened pads was previously recorded in the southwestem portion of the study area, in the vicinity of the Letart Falls cemetery. This species of concern prefers areas of full sun on well-drained soils, such as sandy fields and hillsides. The primary hazard to this species of concem is overgrowth by woody species as a consequence of succession. Low to moderate quality habitat was observed in the sandy and sandy loam fields and field borders on the western and southwestern portion of the study area. This plant species of concern was not identified during the November and December field investigation.

Smooth Buttonbush (Spermacoce glabra): This perennial herb is most commonly found on the muddy shores and low banks of the Ohio River, but is also found in swamps and wet woods. Low quality habitat for this species of concern was identified along the right descending bank of the Ohio River. Appropriate habitat for this species of concern does not generally exist on the eastern portion of the study area as a consequence of either, 1) changes in site headwater stream flow conditions as a consequence of weather events or 2 ) overshading by second growth and mature woody vegetation throughout much of the central and eastern portion of the study area. This plant was not identified during the November and December 2005 field investigation.

Protected Animals: ODNR-DNAP reported 8 records of rare or endangered animal species within 5 miles of the study area. The USFWS literature review indicated that the proposed project is located within the range of the federally endangered Indiana bat (Myotis sodalis) and three federally endangered species of mussels. None of these animal species of concern were observed during field investigation.

Aquatic Species: Habitats for aquatic species of concern including fish, crustaceans, and mussels were not specifically assessed during this survey. ODNR-DNAP reported records of one threatened mussel species and three fish species of concern within 5 miles of the project study area. These species include the Threehorn Wartyback mussel (Obliquaria reflexa), the Channel Darter (Percina copelandi), the Goldeye (Hiodon alosoides), and the Speckled Chub (Macrhybopsis aestivalis). In addition, URS also conducted a literature review of available USFWS resources regarding species of concern in the project vicinity. The USFWS identified the study site to be in the historic range of three state and federally endangered species of mussels. These species include the pink mucket pearly mussel (Lampsilis orbiculata), the fanshell mussel (Cyprogenia stegaria), and the sheepnose mussel (Plethobasus cyphyus).

Mussel Survey: Based on the preliminary species information provided through USFWS and ODNR contacts, EA Engineering conducted a survey for threatened and endangered mussel species in the Ohio River in the area where dredging and construction is planned for the barge dock and associated facilities. No federally listed threatened or endangered species were collected during the survey within the 1,200 meter project footprint or the additional 200 meters of upstream and downstream buffer transects (USFWS 2004). No mussel concentrations [as defined by ORVEMS (2004) as 0.5 mussels $/ \mathrm{m}^{2}$ ] were identified during the survey, and therefore, did not require additional transects. A total of six live mussels were collected during the survey comprising five species. Two species, Obliquaria reflexa and Lasmigona complanata, collected during the survey are considered rare by the West Virginia Natural Heritage ("WVNH"). Both species are categorized as S2 by the state of West Virginia, which is considered "very rare and imperiled". However, on a global ranking, both species are categorized as G5, which is considered "very common and demonstrably secure, though rare in parts of its range". Obliquaria reflexa and L. complanata have been reported throughout the Ohio River, and a 10-
year monitoring effort conducted just 30 river miles upstream of AMPGS site indicates that both species were collected annually from 1993-2004 (EA 2005). While total abundance for $L$. complanata was somewhat low ( $\mathrm{n}=290$ ) during the 10 -year monitoring program, O. reflexa had the second highest abundance ( $\mathrm{N}>5,700$ ) of all species collected at this site, second only to Amblema plicata.

In the present survey, no single species dominated the small collection, and all but one species, A. plicata, had only one individual collected. No relic shells or fresh dead shells were collected during the survey either. Few exotic species were identified, two Asian clams (Corbicula fluminea) were collected at Transect 1 and no zebra mussels (Dreissena polymorpha) were collected throughout the survey footprint. Age estimates of live specimens were all greater than three years of age and ranged from 5-12 years. Shell quality for all species was considered good with very little erosion of the periostracum layer.

Eastern Spadefoot Toad (Scaphiopus holbrooki): The Eastern Spadefoot Toad, the only toad identified on Ohio's endangered species list, was previously recorded by ODNR beyond and north of the project study area, as illustrated on Figure 3A in the Wetland Delineation, Stream Assessment, and Threatened and Endangered Species Report presented in Appendix 07-2. This amphibian typically occurs in brush-covered, forested, and/or cultivated areas that consist of loose sediments, such as gravel, sand, and sandy loam. With the exception of emerging from the soil to eat or possibly reproduce, the Eastern Spadefoot Toad generally remains burrowed underground. According to the ODNR Division of Wildlife, only three distinct populations are known to exist in Ohio, one in the Washington-Morgan County area, and the remaining two in Lawrence and Athens Counties.

While the ODNR Division of Wildlife has a record of this species in Meigs County on the property adjacent to the north of AMPGS site, URS did not identify this species during its
ecological survey and investigation. The ODNR record is based on information provided by Professor Scott Moody from Ohio University who identified a potential location for this species in Meigs County, in May 2003. For due diligence purposes, AMP-Ohio's representatives consulted with Dr. Moody in this regard. Dr. Moody conducted a site visit in 2006 at the request of AMP-Ohio. Dr. Moody indicated that he heard Eastern Spadefoot calls in the site vicinity, but did not observe the toad's tadpoles in water samples he collected from water bodies on site. At the request of AMP-Ohio a subsequent walk over survey was performed by Mr. Jeff Davis, an ODNR approved surveyor of the Eastern Spadefoot toad. Mr. Davis visited the AMPGS site in April 2007 and identified potential habitat, however, did not observe individuals or presence of tadpoles. AMP-Ohio is working with Mr. Davis to identify potential set aside locations on site or on adjacent properties for this species.

Indiana Bat (Myotis sodalis): The Indiana bat is considered to be an endangered species by the Federal government and the State of Ohio. This species is a possible inhabitant of Meigs County. The Indiana bat is a migratory species, wintering in a few limestone cave hibernacula principally located in Indiana, Kentucky and Missouri. Summer roosting and foraging areas are typically farther north in the glaciated regions of Indiana, Ilinois, and Ohio. Males and gravid females may arrive in northern regions in April and remain until October. The bat typically roosts under the exfoliating (loose) bark of live or dead trees of various rough-barked tree species. The 8 - to 10 -inch size classes of several species of hickory (Carya spp.), oak (Quercus spp.), ash (Fraxinus spp.), and elm (Ulmus spp.) are utilized in live form as roost trees. These tree species and many others may be used when dead, if there are adequately sized patches of loosely adhering bark or open cavities.

The structural configuration of forest stands favored for roosting includes: (1) a mixture of favored loose-barked trees with 60 to 80 percent canopy closure and (2) a low density sub-
canopy (less than 30 percent between about 6 feet high and the base canopy). The vegetation throughout much of the wooded portion of the eastern half of the project area consists of mature, second growth tree species. In particular, the wooded portions along streams BS-13, BS-14, and BS-15 likely provides high quality habitat for the Indiana bat. This general area contains many oaks (Quercus spp.) and elms (Ulmus spp.) of an appropriate class size along with exfoliating American sycamore (Plantanus occidentalis) and black cherry (Prunus serotina) individuals. Additional Indiana bat habitat advantages in this area include snags, numerous tree cavities or hollow portions of tree boles and limbs, a generally open subcanopy, and close proximity to several mapped streams.

The wooded area in the vicinity of streams S-4 and S-5 along with the wooded area in the extreme southeast portion of the site provides moderate to high quality Indiana bat habitat. Similar to the potential Indiana bat habitat discussed above, these two areas contain oaks (Quercus spp.) of an appropriate class size along with exfoliating black cherry (Prunus serotina) and American sycamore (Plantanus occidentalis) individuals. Proximity to water in the form of nearby wetland areas, stream channels, and backwater areas and a relative lack of understory growth throughout indicate excellent foraging potential for the Indiana bat.

The wooded portions along stream DS-2-10 are likely to provide low to moderate quality habitat for the Indiana bat. This portion of the study area contains many exfoliating hickory (Carya spp.) individuals that may be potentially used for roosting. This area also contains some tree cavities as well as a relatively open subcanopy along the reach of stream DS-2-10. This mammal was not identified during the November and December field investigation (specific Indiana bat surveys were not performed during that investigation). An Indiana bat survey plan has been approved by USFWS and fieldwork will begin in spring 2007. The survey plan and response letter is included in Appendix 07-2.

Cobblestone Tiger Beetle (Cicindela marginipennis): ODNR-DNAP reported previous records of this arthropod within a 5 -mile radius of the project study area. This rare beetle is typically restricted to cobblestone islands and deltas in large rivers. Suitable habitat for this species of concern was not observed within the immediate project area. This insect was not identified during the November and December field investigation.

## (2) Construction

(a) Estimation of Impact of Construction on Undeveloped Areas

Impact of construction of AMPGS is expected to be minimal, as the plant area has already been disturbed by agricultural activities. No jurisdictional wetlands or critical habitat for species of concern were identified on the portion of the site where AMPGS will be constructed. The landfill area will impact 1.01 acres of wetlands, 10,359 linear feet of streams, and 79 acres of forest.

Wetlands: A wetland survey of the site vicinity was conducted from November to December 2005. Information on the impacted wetlands is provided below. Detailed results of the field survey, including location, can be found in the Wetland Delineation, Stream Assessment, and Threatened and Endangered Habitat Survey and addendum included as Appendix 07-2. No wetlands are anticipated to be impacted by the construction of AMPGS on the western portion of the site. Of the 2.3 acres of wetland identified on the site, 1.01 acres are anticipated to be impacted by the proposed landfill and associated facilities. The 1.01 acre is a combination of 0.21 acre Category 1 and 0.8 acre Category 2 wetlands. No ORAM Category 3 wetlands will be filled as part of the proposed project. Three category 1 (wetlands $\mathrm{c}-4, \mathrm{~d}-7$, and $\mathrm{d}-3$ ) and nine category 2 (wetlands $\mathrm{c}-2, \mathrm{c}-3, \mathrm{~d}-1, \mathrm{~d}-2, \mathrm{~d}-4, \mathrm{~d}-5, \mathrm{~d}-6, \mathrm{bm}-\mathrm{w} 3$, and $\mathrm{bm}-\mathrm{w} 5$ ) wetlands were identified within the landfill site. Descriptions of these wetlands are as follows:

Wetland BM-W3: This 0.18-acre palustrine emergent fringe wetland (PEM) was identified along the perimeter of the pond located east of Township Highway 96 and northeast of Stream BM-S4. The ORAM score for this wetland was $39 / 100$, which is indicative of a Category 2, or moderate quality wetland. A portion of this wetland will be filled ( 0.12 acres).

Wetland BM-W5: This 0.27-acre palustrine emergent wetland (PEM) was identified east of Township Highway 96, at the headwater of Stream BM-S13. The ORAM score for this wetland was $38 / 100$, which is indicative of a Category 2 , or moderate quality wetland. This wetland will be filled.

Wetland C-2: This 0.04-acre palustrine emergent wetland (PEM) was identified west of Township Highway 96, at the headwater of Stream CS-5-2. The ORAM score for this wetland was $37 / 100$, which is indicative of a Category 2 , or moderate quality wetland. This wetland will be filled.

Wetland C -3: This 0.01 -acre palustrine emergent wetland (PEM) was identified west of Township Highway 96 and north of Wetland C3. The ORAM score for this wetland was $32.5 / 100$, which is indicative of a Category 2 , or low to moderate quality wetland. This wetland will be filled.

Wetland C-4: This 0.02-acre palustrine emergent wetland (PEM) was identified adjacent to the west of Township Highway 96 and east of Wetland C3. The ORAM score for this wetland was $23 / 100$, which is indicative of a Category 1 , or low quality wetland. This wetland will be filled.

Wetland D-1: This 0.03 -acre palustrine emergent wetland (PEM) was identified slightly northwest of Wetland D-2. The ORAM score for this wetland was $39.5 / 100$, which is indicative of a Category 2 , or moderate quality wetland. This wetland will be filled.

Wetland D-2: This 0.15 -acre palustrine emergent wetland (PEM) was identified
northwest of Stream DS-1-11 and west of Township Highway 96. The ORAM score for this wetland was $38 / 100$, which is indicative of a Category 2 , or moderate quality wetland. This wetland will be filled.

Wetland D-3: This 0.11-acre palustrine emergent wetland with a forested component (PEM/PFO) was identified immediately south of Stream DS-1-11. The ORAM score for this wetland was $27 / 100$, which is indicative of a Category 1 , or moderate quality wetland.

Wetland D-4: This 0.07-acre palustrine emergent/forested wetland (PEM/PFO) was identified southeast of Wetland D-3. The ORAM score for this wetland was $44 / 100$, which is indicative of a Category 2, or moderate quality wetland.

Wetland D-5: This 0.02-acre palustrine emergent wetland (PEM) was identified immediately west of Stream DS-2-5. The ORAM score for this wetland was $37 / 100$, which is indicative of a Category 2 , or moderate quality wetland.

Wetland D-6: This 0.09 -acre palustrine open water/emergent wetland (POW/PEM) was identified southeast of Stream DS-4. The ORAM score for this wetland was $32 / 100$, which is indicative of a Category 2 , or moderate quality wetland.

Wetland D-7: This 0.08 -acre palustrine emergent wetland (PEM) was identified south of wetland C-2. The ORAM score for this wetland was $28 / 100$, which is indicative of a Category 1 , or low quality wetland.

Surface waters: Surface water features at the proposed landfill site including ponds, perennial, intermittent, and ephemeral streams, and ditches were examined in the field survey. A summary of the streams that will be impacted by the proposed landfill and associated facilities is provided below. Detailed results of the field survey, including location, can be found in the Wetland Delineation, Stream Assessment, and Threatened and Endangered Habitat Survey and addendum included as Appendix 07-1.

Of the 39,571 linear feet of headwater stream identified, 10,359 linear feet will be impacted by the landfill and associated facilities. The categories impacted are 2,195 linear feet of class III, 2,590 feet of class II, 3,038 feet of modified class II, 2,087 feet of class I and 448 linear feet of modified class I. In accordance to the Clean Water Act 404 and 401 permitting regulations, individual permits with mitigation planning will be required to construct the landfill and other facilities at the proposed site.

Surface drainages in the project area discharge to the Ohio River located adjacent to the west of the site. Surface waters at the site were scored using the OEPA HHEI methodology. For the headwater streams that will be impacted by the landfill, HHEI scores ranged from 12 to 81 .

Forests: The western portion of the site where the power plant will be constructed is primarily agricultural and old field. No woodlot is expected to be cleared for the power plant portion of the project area. There are approximately 400 acres of forest located within the eastern portion of the project area. Construction of the landfill and associated facilities will require clearing about 79 acres of this woodlot. Additional small areas of forest may be cleared for access to the landfill. Fortunately much of the proposed landfill area is already cleared and the clearing required will not fragment the remaining forest significantly.

## (b) Estimation of Impact of Construction on Major Species

Construction activities are not expected to significantly impact these species on site. The site vicinity may be used by commercial and recreational species such as the opossum, deer, eastern cottontail, and woodchuck primarily for foraging purposes and protective cover. These species are likely to inhabit the site. The construction of AMPGS will not significantly impact these recreational species, as suitable habitat is present in surrounding areas within 0.25 mile of the site. No protected plant species were identified on site or in the site vicinity. Construction is
not anticipated to impact any protected species.

## (c) Mitigation Procedures to Minimize Impacts Due to Construction

Construction Erosion Control: A detailed soil erosion and sediment control plan will be developed prior to starting construction. Off-site siltation will be mitigated through a combination of a sedimentation control pond, strategically placed silt fences, and straw bales staked in place. After construction completion and final grading, disturbed areas will be revegetated with grass by hydro-seeding. The nearly level topography on the western portion of the site will further minimize off-site sedimentation and erosion impacts. The Landfill PTI describes the drainage ditches and sediment retention basins proposed for the Landfill area.

Dust and Particulate Control Planning: During earthmoving, dust may be generated from dry, exposed soils. Water sprays or other dust suppression techniques or materials will be used as necessary on construction roads and active earthwork areas to minimize the potential for dust generation and the consequent impacts.

Re-vegetation: Re-vegetation will be conducted in compliance with the storm water pollution prevention plan developed for the project as part of the NPDES construction storm water permit. Additional landscaping may be conducted after completion of the project.

## (3) Operation

## (a) Estimation of Impact of Operation on Undeveloped Areas

Impacts on undeveloped areas are expected to be confined to the construction phase of the project, as described above. The only undeveloped area surrounding the project during operation will be the area surrounding the landfill. Other than truck and equipment noise, there should be no impact on this area due to landfill operations. The landfill is expected to have a minimal influence on surrounding forest and wetland resources.

## (b) Estimation of Impact of Operation on Major Species

During operation at the site, undeveloped or otherwise vacant areas will retain habitat potentially suitable for some of the major species as defined by Board regulations. As the proposed site is within a large expanse of agricultural land, any additional sound levels coupled with vehicular traffic and human presence are not anticipated to pose a significant impact on major species in the site vicinity.

## (C) Economics, Land Use and Community Development

(1) Land Use
(a) Land Use Map

Land use maps for the Ohio portion of the 5-mile radius at 1:24,000-scale are provided as Figures $04-1 \mathrm{~A}$ to $04-1 \mathrm{C}$. The southeastern and western portions of the 5 -mile radius circle surrounding the site are located in West Virginia. Supplemental land use maps are included as Figures 1 through 4 in Appendix 04-1. Indicated land uses include the following: residential; industrial/commercial; forest and woodland; institutional; water and wetlands; and, recreational. The land use maps were developed from 7.5-minute USGS topographic maps, aerial photography from the mid 1990's through to 2005, and information obtained during a field survey of the areas. (b) Land Use Impacts Within 1 Mile Radius of Plant

Land use on the site will change from commercial farming to electric generation. No land uses outside the boundary of the site including those areas within 1 mile of the project will change as a result of the facility.

## (c) Structures That Will Be Removed or Relocated

Several residential structures (approximately 6) in the proposed landfill area will be
removed for landfill development. There are no current plans for relocating any of the other permanent structures.

## (d) Formally Adopted Plans For Future Use of Site and Surrounding Lands

There are no current plans relating to the future use of the selected site and lands.
(e) Applicant's Plans for Concurrent or Secondary Uses of the Site

Other than the matters discussed herein, AMP-Ohio currently has no plans relating to the concurrent or secondary uses of the selected site.

## (2) Economics

(a) Construction and Operation Payroll

The total value for construction labor payroll estimated to render AMPGS operational exceeds approximately $\$ 560$ million, based on labor costs in 2005 . The estimated annual operations labor costs are approximately $\$ 10$ million, again based on labor costs in 2005. These figures do not include the benefits of the indirect employment related to constructing and operating AMPGS.

## (b) Construction and Operation Employment

AMP-Ohio estimates that construction period employment may peak at 1600 workers, but generally expects to engage $800-1000$ professional and skilled workers. AMPGS will directly employ approximately 150 or more workers once it is operational, and it is anticipated that an additional 16 workers will be required if the fertilizer operation associated with the Powerspan ammonia based FGD system is used. These figures do not include the ancillary benefits of the indirect employment related to constructing and operating, as applicable, AMPGS.

## (c) Local Tax Revenues

State and local tax revenues associated with AMPGS are yet to be determined, as tax abatement agreements are yet be negotiated. Nevertheless, net tax increases will likely be substantial, exceeding one million dollars every year.

## (d) Economic Impact on Local Commercial and Industrial Activities

Construction of AMPGS will have a positive effect on local commercial and industrial activities, both directly and indirectly. The local area will benefit from direct purchases related to construction activities and indirect purchases. Major equipment for the facility will be purchased from outside the local area. However, it is anticipated that the local commercial and industrial businesses will benefit from direct purchases that will include some construction materials such as concrete and aggregate for equipment foundations, and general supplies that will be purchased from local vendors. The same businesses will also benefit indirectly from the expenditures of construction and other personnel related to the project for locally supplied goods and services.

## (3) Public Services and Facilities

AMPGS is not expected to have significant growth-inducing effects on the surrounding locales. Therefore, no significant impact on local public services and facilities is expected. Workers will commute to the work site on a daily basis. Any hiring of non-resident workers would occur only when local residents with the required skills were not available. It is expected that these workers would commute or stay in regional transient housing or motels and not require new housing, and would not bring families that might require family healthcare or additional school facilities. The principal impact on public services in the site locale would be increases in traffic on routes leading to the site due to deliveries of equipment and materials during
construction.

## (4) Impact on Regional Development

## (a) Regional Development Effects

AMPGS will have a positive impact on regional development, because it will increase the flow of investment and payrolls in the local economy. The construction and related costs of AMPGS is expected to approach $\$ 2.3$ billion and will bring an estimated peak of approximately 1,600 trade jobs to the region. Once completed, AMPGS will employ approximately 150 people or more to operate the facility, and an additional 16 workers for the fertilizer operation, if the Powerspan ammonia-based system is utilized. It is also projected that AMPGS will annually bring more than $\$ 20$-million into the area economy.

Regional human and economic resources are abundant and mobile, therefore no scarcities in labor or materials and equipment are likely. Accordingly, any requirement for permanent nonregional resources is likely to be negligible. Additional housing and other services, such as education, public health, and public safety, are unlikely to be required, because the labor force for the project is already in residence or would commute. With the limited potential exception of minor expansion for turning lanes near AMPGS Project entrance, transportation facilities will not require expansion as a result of the project, because the impacts of construction will be transitory. Some bridges may require reinforcement prior to transport of heavy equipment. Commuting by the operations personnel is not expected to have a significant impact on local roads.

## Regional Plan Compatibility

No published regional plans were identified.

## (D) Cultural Impact

Natural and Ethical Environmental Solutions ("N\&E") conducted a Phase I Cultural

Resources Survey of the site. Prior to the survey, N\&E, URS, S\&L and AMP-Ohio met with David Snyder of OHPO to discuss the proposed scope of the projects. Based on this meeting and a review of the site geomorphology it was suggested that the work be divided into two main efforts. First, fieldwork was conducted on the lower terrace area, considered to be the most likely to yield cultural resources. Once complete, the results would be submitted to OHPO for review, while the remainder of the site (i.e. the upland landfill area) was surveyed. A summary of the results obtained to date and selected sections of the cultural resources report are presented in Appendix 07-4. Generally, it appears that, while cultural resources were found on the site, they are confined to the plow zone and either can be avoided or will be further investigated in proposed Phase II work. The results of these surveys have been discussed with OHPO and their concurrence letter in included in Appendix 07-4.

## (1) Registered Landmarks of Cultural Significance

Registered Landmarks of Cultural Significance are included in mapping in the Phase I Cultural Resources survey included in Appendix 07-4.

## (2) Impacts to Registered Landmarks

It is anticipated that no registered landmarks will be impacted. AMP-Ohio is coordinating cultural resources work with OHPO.

## (3) Considered Landmarks

Considered landmarks are discussed in paragraphs one and two of this section.
(4) Recreational Areas

No recreational areas were identified within 1 mile of the proposed facility.
(5) Impact of Recreational Areas within 1 Mile of Site

The Ohio River Lock \& Dam Wildlife Area is located within one mile of the proposed facility. No impacts are anticipated to this area.

## Visual Impacts

An artist's rendering of the plant has been included in this application as Figure 04-4. AMP-Ohio will make reasonable efforts to minimize adverse visual impacts relating to AMPGS, such as by installing fencing, and landscaping.

## (E) Public Responsibility

## (1) Public Interaction

Since the announcement of Meigs County as the selected site for AMPGS facility, AMPOhio has been diligent in keeping open lines of communication with local officials and the general public. Regular meetings have been held with federal, state and local elected and appointed officials. AMP-Ohio representatives have also attended local meetings and have regularly corresponded as developments have dictated. Membership in the local chamber of commerce has allowed the organization to stay in touch with the business community and provide updates on the project. AMP-Ohio opened an office in Pomeroy, Ohio that is regularly staffed and is a point of contact with local residents.

AMP-Ohio has held, and will hold, public meetings as required during the siting process, and will follow all required protocols for these meetings as prescribed. Throughout the siting and construction phases, AMP-Ohio will continue these efforts to keep the public informed on developments. The organization has a director of communications assigned the responsibility of working with the news media and coordinating other public education efforts and requests for information. In addition to posting information about the project at the AMP-Ohio office in Pomeroy, AMP-Ohio has agreed to post information and updates at the Village Hall in Racine, which is the closest incorporated municipality to the proposed plant site. While final plans for staffing AMPGS once it is operational have not been made, it is certain that an individual will be
responsible for coordinating public requests for information and comments about the facility. Finally, it should be noted that AMP-Ohio has a web site, www.amp-ohio.org, on which it will post regular updates and news from the project.

## (2) Insurance

AMP-Ohio presently expects to carry the following types of insurance with commercially reasonable limits and deductibles during the project's construction:

1. workers compensation as required by applicable law
2. employers liability insurance
3. commercial general liability insurance
4. business automobile liability insurance
5. pollution liability insurance
6. property insurance including "builder's risk" insurance
7. project specific insurance covering errors and omissions on all professional design services on the project

AMP-Ohio presently expects to require its design professionals and contractors and their respective sub-consultants and subcontractors to carry the following types of insurance with commercially reasonable limits and deductibles during the project's construction:

1. workers compensation as required by applicable law
2. commercial general liability insurance
3. employers liability insurance
4. business automobile liability insurance
5. pollution liability insurance
6. professional liability insurance

## (F) Agricultural District Impact

## (1) Agricultural Land

All of the land for the project is general agricultural land. According to the Meigs County Auditor, the site is not registered agricultural district land. Based upon available information, this project is expected to have no effect on agricultural district land in the area.

## (2) Agricultural Impacts

(a) Impacts of Construction, Operation, and Maintenance
(i) Impacts to Field Operations: Agricultural field operations will no longer be performed on site.
(ii) Impacts to Irrigation: Irrigation will no longer be applicable on site.
(iii) Impacts to Field Drainage Systems: Agricultural field drainage will no longer be applicable for the site.
(b) Mitigation

AMP-Ohio has no plan to mitigate onsite agricultural impacts, inasmuch the land will be altered to fit the demands of AMPGS power plant.

## (3) Impacts to Agricultural Viability

See response to OAC 4906-13-07(F)(2) above.

TABLE 07-1
EXISTING AND PROJECTED POPULATIONS

| Government Unit | 1990 Census | 2000 Census | 2010 Projections |
| :--- | :---: | :---: | :---: |
| Meigs County, Ohio | 22,987 | 23,072 | 23,687 |
| Lebanon Township | 905 | 1,029 | Not Available |
| Letart Township | 689 | 641 | Not Available |
| Sutton Township (Unincorporated) | 1,529 | 1,625 | Not Available |
| Village of Racine | 729 | 746 | Not Available |
| Jackson County, West Virginia | 25,938 | 28,000 | 28,115 |
| Mason County, West Virginia | 25,178 | 25,957 | Not Available |

Sources: Office of Strategic Research, Ohio Department of Development Ohio County Profiles. (2000). U.S. Census Bureau. www.factiinder.census.gov.

## APPENDIX 07-1

NOISE SURVEY

# Noise Impact Analysis 

# Proposed Baseload Generating Facility American Municipal Power - Ohio, Inc. Meigs County, Ohio 

## GAI Project Number: C060340.00

March 2007

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## Noise Impact Analysis - Proposed Baseload Generating Facility - Meigs County, Ohio

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## SUMMARY

GAI Consultants, Inc. (GAI) completed a Noise Impact Analysis for the proposed Baseload Generating Facility to be constructed at the American Municipal Power - Ohio, Inc. (AMP-Ohio) site located near the town of Letart Falls in Meigs County, Ohio. The scope of work for this study included an ambient or existing noise survey and an evaluation of the impact of the proposed Baseload Generating Facility.
A site reconnaissance visit was conducted on June 4, 2006 to identify appropriate local area ambient sound level measurement locations. Noise measuremenis were taken starting on the night of June 4, 2006 and concluding on June 6, 2006 to collect data representative of background conditions in the vicinity of the proposed plant location. There are currently no generating facility operations at the AMP-Ohio site.
No numerical noise requirements applicable to the AMP-Ohio site have been identified. However, based on a review of good practice guidelines and noise standards established by Federal agencies, a general recommendation for the consideration of potential noise impact from a proposed project would be an equivalent day-night sound level ( $\mathrm{L}_{\mathrm{dn}}$ ) of no greater than 55 dBA , or if the background $\mathrm{L}_{\mathrm{dn}}$ is greater then 55 dBA , an increase of no greater than 3 dBA over the background $L_{\text {dn }}$. The $L_{\text {dn }}$ is a measure of noise levels over a $\mathbf{2 4}$-hour, day-night period.
Existing ambient $L_{d n}$ sound levels near noise sensitive areas (NSAs) around the AMP-Ohio site are below 55 dBA ranging from 43.4 dBA to 51.9 dBA . Operation of the proposed Baseload Generating Facility at the AMP-Ohio site is predicted to result in $\mathrm{L}_{\text {dn }}$ noise levels below 55 dBA , ranging from approximately 45.7 dBA to 54.4 dBA depending upon the NSA location. This analysis was completed using conservative assumptions and may overestimate the impacts that will actually occur during operation of the facility.
Noise associated with construction actlvities will be intermittent, as equipment is operated only on an as-needed basis. Neighbors in the vicinity may hear the construction noise, but the overall impact will be temporary. It is expected that construction activity will be completed primarily during day-time periods.

## AMBIENT NOISE STANDARDS AND GUIDELINES

## Federal, State, and Local Requirements

No numerical nolse requirements applicable to the AMP-Ohio site have been identfied. However, the noise regulations of various government agencies were reviewed to identify generally accepted noise standards.
At the Federal level, the U.S. Environmental Protection Agency (EPA) has in the past developed requirements for noise levels based on potential human health impacts for community noise, but it does not currently regulate general environmental noise. However, environmental noise from mobile sources, such as highways, airports, and railroads, is regulated at the Federal level by U.S. Department of Transportation (DOT). The Federal Highway Administration (FHWA) sets forth guidelines for acceptable noise levels for federally funded highway projects. The Federal Aviation Administration (FAA) regulates noise from airport expansion projects, and the Federal Transit Administration (FTA) regulates noise from rail \& transit projects. With the exception of hydropower projects, the Federal Energy Regulatory Commission (FERC), has no jurisdiction over the construction or maintenance of
power generating plants or transmission lines as this responsibility resides within each State's Public Utility Commission (PUC), as applicable.

On projects regulated by FERC, noise control conditions typically require that noise attributable to the project not exceed an equivalent day-night sound ( $L_{\text {da }}$ ) of 55 dBA at any nearby NSA.

The Department of Housing and Urban Development (HUD) has established acceptable noise guidelines. The acceptable exterior noise standard established by HUD is an equivalent daynight sound ( $L_{\text {dn }}$ ) not exceeding 65 dBA .
The FHWNA has established general noise abatement requirements for federally funded transportation projects. In general, the FHWA considers a traffic noise impact for residential areas to have occurred whenever either the average sound level ( $L_{\text {sq }}$ ) exceeds 67 dBA in exterior areas, 52 dBA in interior areas, or an increase of greater than 10 dBA over pre existing levels.
Some State regulations include noise from new or modified stationary sources as part of their siting regulations. No State noise regulations have been identified for Ohio or West Virginia.
As part of the Ohio Power Siting Board power plant permitting and siting process for Ohio, the following general information is requested by the Ohio Administrative Code, Chapter 490613 07-A-3:

- A description of the construction noise levels expected at the nearest property boundary, including any dynamiting activities, operation of earth moving equipment, driving of piles, erection of structures, truck traffic, and installation of equipment.
- A description of the operational noise levels expected at the nearest property boundary. The description will address the generating and processing equipment and associated road traffic.
- Indication of the location of any noise-sensitive areas within one mile of the proposed facility.
- Description of the equipment and procedures to mitigate the effects of noise emissions from the proposed facility during construction and operation.

In addition to the Federal and State regulations described above, most local jurisdictions in the U.S. are governed by local municipal ordinances, (if one or any exist). Often, noise ordinances are very general and qualitative in nature, making them difficult to implement. Local governments may also go beyond the limits and restrictions imposed at the State and Federal level. As part of a general regulatory search, there were no local noise ordinances identified for Meigs County or Letart Falls, Ohio.

## Good Practice Guidelines

The World Bank Group has established noise abatement guidelines for projects they fund. In general, the World Bank requires that ambient noise resulting from new thermal power projects be no greater than an equivalent day-night sound level ( $L_{\text {dn }}$ ) of 55 dBA or an increase of 3 dBA over background levels.

In summary, no specific Federal, state or local noise control requirements were identified for the proposed location.
Based on a review of Federal, state, and local requirements for noise control and good practice guidelines, a general recommendation for the consideration of potential noise impact
from a proposed project would be an equivalent day-night sound level ( $L_{\text {din }}$ ) of no greater than 55 dBA or if the background $\mathrm{L}_{\mathrm{dn}}$ is greater then 55 dBA , an increase of no greater than 3 dBA over the background $\mathrm{L}_{\text {on }}$. The $\mathrm{L}_{d n} n$ is a measure of noise levels over a 24 -hour, day-night period.

## AMP-OHIO AMBIENT NOISE MONITORING

The proposed new facility is located near the town of Letart Falls in Meigs County, Ohio along the Ohio River. The site is shown on the Site Location Map in the attached Figures 1 and 2. There are several small residential areas located to the north, south, and west of the proposed site. GAI conducted a site reconnaissance to identify appropriate site boundary locations and local noise-sensitive areas (NSAs) for noise measurement on June 4, 2006. Special consideration was given to nearby residences. The starting point for the noise investigation was the determination of the appropriate analysis area for noise impacts. These include areas that have the potential to be affected by construction or operational noise resulting from the proposed facility.
Nine NSAs, shown in Figure 3, were identified around the proposed site. NSA Location 1 is located to the northeast, NSA Location 2 and Location 3 to the south, NSA Location 4 and Location 5 to the southeast, and NSA Location 6, Location 7, Location 8, and Location 9 to the north of the proposed site. Other NSA locations within one mile of the proposed site are further from potential noise areas and therefore do not need to be considered. Any potential impact detected at Letart, West Virginia will be characterized by modeling at NSA locations Location 4 and Location 5.

Background noise monitoring was conducted at locations at or near the plant property boundary at points nearest the noise-sensitive receptors. Locations were selected that had no or minimal obstructions between the noise-sensitive receptor and the proposed plant location. Noise measurement locations are identified in Figure 4.

## SOUND LEVEL MEASUREMENT

GAl performed baseline noise monitoring at or near the selected noise-sensitive areas on June 4 to 6, 2006. The baseline noise monitoring consisted of both day-time and night-time sound level meter measurements. Noise monitoring was conducted at or near all NSA locations shown in Figure 3 except NSA Location 9. Because access to NSA Location 9 was not available to conduct ambient noise monitoring, the values measured at the nearest location with access (NSA Location 6) were used to represent NSA Location 9.

The ambient (background) sound level measurement results are summarized in Table 1. The tabulated results show the measured time-weighted day-time and night-time average sound level, or $L_{\text {an }}$, for the monitoring period. The $L_{d n}$ results were all below 55 dBA , ranging from 43.4 dBA at NSA Location 4 to 51.9 dBA at NSA Location 3.

Whenever possible, noise measurements were conducted over a 15 -minute period. Day-time noise measurements at Locations 4 and 5 were conducted over a 5 -minute period because of frequent traffic on Route 124. This was done to minimize the impact of traffic noise on the ambient background monitoring. The detailed ambient sound pressure level measurement and octave bandwidth measurement results are presented in Appendix A.
Sound level measurements were conducted at NSA Location 5 to evaluate the potential noise impact from barge traffic operating on the Ohio River. The results of this sampling indicate that $L_{\text {eq }}$ for barge noise ranged from 62.0 to 71.9 dBA .

Other than periodic river barge traffic and road traffic noise, no other significant noise sources were identified in the project area.

The average day-night sound level was calculated using the Leq obtained at each location. The day-night level ( $L_{m_{n}}$ ) is the 24 hour average A-weighted noise level. The $L_{d n}$ is an important noise descriptor because it is used by several Federal agencies, such as the Federal Aviation Administration (FAA), Federal Energy Regulatory Commission (FERC), U.S. Department of Housing and Urban Development (HUD), U.S. Environmental Protection Agency (EPA), and Federal Highway Administration (FHWA), to assess community noise impacts.
During the day-time measurements, the ambient temperature ranged from $60^{\circ} \mathrm{F}$ to $81^{\circ} \mathrm{F}$, with partly cloudy skies and occasional wind. During the night-time measurements, the ambient temperature ranged from $47^{\circ} \mathrm{F}$ to $60^{\circ} \mathrm{F}$, with partly cloudy skies and occasional wind.

## Noise Measurement Equipment

An Extech Sound Level Meter/Octave Band Analyzer (SLM/OBA) (Model 407790/Serial Number 050903585) was used in this investigation for the octave band analysis and for realtime sound level measurements. The Extech SLM/OBA was calibrated using an Extech Calibrator (Model 407766/Serial Number Q222671) as per the manufacturer's instructions before and after each period of use. The calibration equipment was factory calibrated within one year of the test date.
A CEL Noise Dosimeter (Model 360/Serial Number 3/075862) was used in this investigation for the 5-minute and 15-minute sound pressure level measurements. The CEL-360 was calibrated using a CEL Acoustic Callbrator (Model RE/Serial Number 3/10225842) as per the manufacturer's instructions before and after each period of use. The calibration equipment was factory calibrated within one year of the test date.
Equipment calibration certificates are provided in Appendix B.

## OPERATION NOISE IMPACT ANALYSIS

The operational noise impact analysis was developed by modeling the expected sound pressure levels (SPLs) at the NSAs resulting from each noise generating component of the project and combining these sound levels with the existing background noise levels to estimate the total noise impact of the proposed project at NSAs. The calculated ambient SPL. at the nearest measurement location was used as the background or existing sound level.
Components of the proposed Baseload Generating Facility identified as "Significant Noise Producing Equipment" are detailed in Table 2.

The estimated $\mathrm{L}_{\text {eq }}$ from the operation of the proposed Baseload Generating Facility at each NSA was calculated using the Power Acoustics SPM 9613 (Version 2.0) Noise Modeling Software. Parameters such as noise sources and observers (NSAs) were incorporated into the model. The noise modeling software is based on the ISO Standard for Acoustics Attenuation of Sound During Propagation Outdoors, Parts 1 (Calculation of the Absorption of Sound by the Atmosphere) and 2 (General Method of Calculation) [ISO Standard 9613-1 (1993) and 2 (1996)].

The noise modeling software was used to predict the cumulative noise impact from the operation of the proposed facility. The model output provided an estimate of the impact at each NSA and a noise contour for the study area. The predicted noise impacts at each NSA were then combined with the existing or ambient background noise level to estimate the noise
level expected at each NSA with the facility in operation. This analysis is presented in Table 3. This table presents the existing ambient noise levels at the NSAs, the predicted sound levels from the proposed Baseload Generating Facility at the NSAs without the ambient noise contribution, the predicted noise level at each NSA from the combination of the proposed Baseload Generating Facility with the existing ambient noise levels.
The estimated $L_{\text {eq }}$ from the model was then compared to spreadsheet calculations of the $L_{o q}$ as a method of verification. These calculations were made using simplified ISO 9613 equations to verify the model calculations and identify model errors or anomalies before considering noise mitigation measures to reduce the noise impact at NSA locations exceeding noise impact criteria.
A copy of the model inputs and results are provided in Appendix C.
The following basic equations are used in the noise model calculation of noise impact:

1) The noise reduction resulting from hemispheric radiation from the noise source was calculated using the equation:

$$
L_{d 2}=L_{\text {measured }(d 1)}+20 \log \left(D_{d 1} / D_{d 2}\right)
$$

where;
$L_{\text {measurad }(d 1)}=$ sound level measured at distance $\left(D_{1}\right)$ from the source,
$L_{d 2}=$ estimated sound level at distance $\left(D_{2}\right)$ from the source
2) Noise attenuation from atmospheric absorption and ground effects were estimated based on the methodology described in ISO Standard 9613, Part 1 and Part 2, using the following equations:
a. Atmospheric absorption:

$$
\text { Aatm }=4.8(D / 1000)
$$

where;
$\mathrm{D}=$ distance from the source to the receiver.
b. Ground Effects:

$$
A g r=4.8-(2 * h n / D) *(17+300 / D)
$$

where;
$D=$ distance from the source to the receiver,
$h_{m}=$ mean height of the propagation path above the ground $(\mathrm{m})$. Assumed to be 2.25 meters.
3) Sound levels were combined using the following equation:

$$
L_{e q}=10 \log \left(\left(\sum_{n=1}^{1} 10^{\operatorname{Leq}(\pi) / K 0}\right)\right)
$$

where;

$$
L_{\text {eq(n) }}=\text { sound level for source } n
$$

4) The average $L_{d n}$ is calculated using the $L_{\text {eq }}$ measured or calculated for each measurement location or NSA. The $L_{-d n}$ is calculated using the following formula:

$$
L_{\mathrm{d} n}=10 \log \left(\frac{15}{24} \times 10^{\operatorname{Leq}(\operatorname{dov}) / 10}+\frac{9}{24} \times 10^{\operatorname{Leq}(n i z g)+10 / 10}\right)
$$

The day-time period is considered to be from 7:00 a.m. to 10:00 p.m. (or 15 hours) and the night-time period is from 10:00 p.m. to 7:00 a.m. (or 9 hours).

## OPERATION NOISE IMPACT

The results of this analysis, presented in Table 3, indicate that the operation of the proposed Baseload Generating Facility at the AMP-Ohio site is predicted to result in $L_{d n}$ noise level ranging from 45.7 dBA at NSA Location 4 to 54.4 dBA at NSA Location 9. All NSAs are expected to have $\mathrm{L}_{\text {dn }}$ values below 55 dBA .

Based on the recommended noise impact criteria of no greater than an equivalent day-night sound level ( $L_{\text {dn }}$ ) of 55 dBA or if the background $L_{d n}$ is greater then 55 dBA , an increase of 3 dBA over the background $\mathrm{L}_{\mathrm{dn}}$, no NSAs were found to exceed the noise impact criteria.

A contour map showing the noise impact from the facility on the surrounding area is provided as Figure 5.
Components of the proposed Baseload Generating Facility identified as "Significant Noise Producing Equipment" are detailed in Table 2.
The most significant operating noise sources will be the turbine generators and boilers and related equipment. The noise from the turbine and boiler buildings, and water treatment building is assumed to be controlled to $90 \mathrm{dBA}, 85 \mathrm{dBA}$, and 90 dBA , respectively, at the exterior of the buildings. These noise levels should be achievable through the use of a building enclosure and sound absorbing materials, mutters, lagging and vibration isolation and damping techniques incorporated into the design and construction of the facility.
Noise from power roof vents, fans and motors, mobile equipment, and coal handling equipment, as indicated in Table 2, were estimated using assumptions from the Edison Electric Institute (EEI), "Electric Power Plant Environmental Noise Guide", 2nd Edition, 1984.
The coal crusher and coal transfer house is assumed to be enclosed, providing a noise attenuation of approximately 25 dBA .
The estimation of noise generated from coal and limestone unloading at the Barge Unloading Area was based on the EEI guide, assuming that the clamshell unloading bucket will complete one unloading cycle every 60 seconds.

Noise from the boiler relief valve was estimated using the EEI guide, assuming that there are 12 minutes of steam release per year.

The cooling tower units consist of two banks of 16 individual forced air cooling units. Noise emission from the cooling towers was estimated using performance data from SPX Cooling Technologies and noise emission characteristics provided by the EEI guide.
Noise emission estimates for the Main Power and Reserve Auxiliary Transformers were based on the assumption that the equipment will comply with the operating performance guidelines of the National Electrical Manufacturers Association (NEMA) Standard TR 1-1993 (R2000).
The SPM 9613 Noise Modeling Software also takes into account the physical configuration and location of equipment, the elevation of noise sources (such as the two 500 -foot high stacks), and sound emission characteristics. Such characteristics include the direction of noise generated from the forced air cooling units, fans, roof vents, stacks, etc.; as well as the octave band frequency of the noise.
Although noise from river traffic (barge delivery of coal to the facility) may be noticeable, the potential impact from barge noise will be minimal compared with existing levels. The potential increase of barge noise above current levels will not be significant.
The motor vehicle traffic to the plant will be primarily employee traffic, since coal and limestone shipment will be by river barge. On-site motor vehicle traffic will be haul trucks for moving fly ash and bottom ash from the plant to the on-site solid waste landifil unit in the east portion of the site. The on-site traffic will consist of approximately one haul truck every five minutes operating at a low speed. However, this traffic will be limited to the east area of the site that is the furthest from NSA areas and will have minimal noise impact compared with noise from generated from the operating facility.
The switchyard at the plant site will be a 345 kV four-breaker ring bus configuration. The switchyard at the transmission line interconnection will be a six-breaker ring bus configuration. The primary noise emitting equipment at each of the switchyards will be the 345 kV circuit breakers. The noise will be of very short duration when the circuit breakers operate. The circuit breakers will operate very infrequently. The other potential source of noise at the switchyards is the possibility of corona noise during rain or high humidity conditions. Corona free hardware will be used in the design of the switchyard buswork to minimize corona noise. Therefore, noise impacts due to the switchyard are not expected to be significant.
Steam from the boilers will need to be vented during initial facility startup, during restarting the facility after maintenance activities, and for emergency high-pressure safety releases. Atthough noise from the steam vents can be quite loud, it typically only lasts for several minutes and occurs very infrequently (typically a few times per year).

## CONSTRUCTION NOISE IMPACT

Construction noise is usually considered shorthterm noise and noise levels often vary depending on the construction phase. Construction of new industrial facilities can generally be divided into five phases: sife preparation and excavation, concrete pouring, steel erection, mechanical installation, and cleanup. Construction noise estimates are based on the noise levels generated by individual pieces of construction equipment and equipment usage factors based on estimated times of operation.
Construction noise impact was estimated using the FHWA Roadway Construction Noise Model (RCNM), Version 1.0. This is the FHWA's national screening model for the prediction of construction noise based on a comprehensive database of the noise generated from the operation of a wide variety of types of construction equipment.

The following assumptions were made for the types of significant construction equipment to pe used in the construction of the proposed facility:

- Site Preparation and Excavation:
- Five (5) graders, five (5) dozers, five (5) excavators, and five (5) haul trucks
- Pile Driving
- Typically two (2) to four (4) rigs, with six (6) maximum
- Concrete Pouring:
- $\quad$ Seven (7) concrete mixer trucks, three (3) cranes, and five (5) pick-up trucks
- Steel Erection:
- Five (5) cranes, four (4) flat-bed trucks, two (2) front-end loaders, and four (4) pick-up trucks
- Mechanical Installation:
- Five (5) cranes, four (4) fiat-bed trucks, two (2) front-end loaders, and four (4) pick-up trucks
- Clean-up:
- Two (2) cranes, two (2) dozers, two (2) excavators, three (3) flat-bed trucks, and four (4) pick-up trucks
Blasting is not expected to be necessary during the construction of this facility.
The highest potential for adverse noise impact from construction is assumed to occur at the NSA located closest to the facility. This would be at NSA Location 9, which is located approximately 1,500 feet from the center of the facility. This receptor location was used in the noise modeling analysis.


## Description of Construction Activities

The AMP-Ohio facility will be constructed on a fast-track basis to minimize the overall duration of the project. Noise produced during construction is expected to be similar to that of other industrial construction projects. The overall construction schedule for the facility is approximately 24 months and will progress through six phases: site preparation and excavation, pile driving, concrete pouring, steel erection, mechanical installation, and cleanup.

## Site Preparation and Excavation

The site preparation phase begins at contractor mobilization at the site and involves the use of large earthmoving equipment including graders, dozers, excavators and off-road haul trucks. Typical operations include excavating, hauling, and backfilling at the site. Depending on the amount of earthwork required, this operation would occur 6 days per week, primarily during daylight hours. During this period, the topsoil is removed and rough shaping and grading of the site is performed in preparation of concrete foundations and roadways. It would be during this phase that pile driving would begin, if required. Installation of facilities such as temporary offices, shops, laydown yards, and underground utilities would occur during this phase.

## Pile Placement

It is expected that pile placement or driving for foundations will be necessary. From an economic standpoint the use of drilled augercast piles is preferred. However, due to geotechnical considerations, the use of driven " H "-piles or concrete filled pipe piles may be necessary. The need for, types, and number of piles required can not be determined until test piles are driven and detailed designs are completed. For the purpose of this evaluation it is assumed that pile driving will be required over a period of 40 weeks using two (2) to four (4) rigs. For noise modeling, a worst case of six (6) rigs was assumed. This could be up to six (6) auger drills or six (6) impact rigs or any combination of the two.

## Concrete Pouring

At the completion of pile placement, concrete foundation work will begin. This work is typically during a single shift daily over a five day work-week. Major equipment on site will be excavators and dump trucks used to dig foundations to allow for the installation of formwork, reinforcing steei (rebar) and the placement of concrete. Large crawler cranes will be used to support the large foundations to set the formwork and rebar. Concrete trucks and concrete pump trucks will be used to place the concrete.

## Structure Steel Erection

Steel erection will begin when the concrete foundations are complete. The setting of equipment and piping in structures will begin once the steel is erected. This work is typically during a single shift daily over a five day work-week. Typical equipment are large crawler cranes used to install the steel, piping and equipment, small rubber tired cranes staging materials for installation, and semi-trailer trucks hauling material from the laydown and storage areas to the process units.

## Mechanical and Electrical Installation

The mechanical and electrical instaliation phase will overlap with the structural steel erection work. This phase involves the installation of piping, valves, instrumentation, electrical equipment, and cables and wires. During this phase, siding is installed on structures. The workforce is at its peak during this phase. Typical equipment are large crawler cranes near the structures and laydown yards, smaller rubber tired cranes for staging materials for installation, and semi-trailer trucks hauling material.

## Cleanup

The final phase is the transition from construction to start-up and commissioning of the plant. The contractors are demobilizing and cleaning up the site. Demobilization involves the loading out of construction equipment and trailers. Typical equipment on-site during this phase includes rubber tired cranes supporting the remaining work as well as loading out equipment and material. Final grading and paving will also be performed during this phase. This phase is completed with the commissioning and initial operations of the facility.
Based on the assumptions discussed above, the potential noise impacts during construction are presented below. These results indicate that significant noise levels from construction activities will be expected at the NSA locations. At the closest NSA (NSA Location 9), the following $L_{8 q}$ impacts are expected during each phase of construction:

# Noise Impact Analysis - Proposed Baseload Generating Facility - Meigs Caunty, Ohio 

- Site Preparation and Excavation:
- Pile Driving:
- Concrete Pouring:
- Steel Erection:
- Mechanical Installation:
- Clean-up:
61.4 dBA
55.6 dBA (auger drills only) to 72.5 dBA (impact pile drivers only)
57.2 dBA
54.4 dBA
54.4 dBA
55.7 dBA

The RCNM input and results are presented in Appendix D.
Noise associated with construction activities will be intermittent, as equipment is operated only on an as-needed basis. Neighbors in the vicinity may hear the construction noise, but the overall impact will be temporary. It is assumed that construction activity will be completed during day-time periods.

High pressure steam will be used during construction to remove dirt and debris from the boilers and equipment before initial facility startup. The steam will be released into a muffing system or vessel to reduce pressure before being released to the atmosphere. This "steam blow' could last several hours or longer and will be loud. However, this process will be scheduled in advance and efforts will be made to inform the surrounding community in advance of the potential for high noise levels for a limited duration.

## NOISE IMPACT MITIGATION

## Construction Noise

Noise associated with construction activities will be intermittent, as equipment is operated only on an as-needed basis. Neighbors in the vicinity may hear the construction noise, but the overall impact will be temporary. To minimize noise impact during night-time hours, general construction activity on the site will be limited to daylight hours.

## Operation Noise

Based on the results of this analysis, noise from plant operation is expected to be below 55 dBA at all NSAs. Therefore, additional noise impact mitigation should not be required.
This analysis assumes that the plant design will include the construction of sound reducing or absorbing structures or enclosures around noise generating sources when possible, as discussed in the Operational Noise Impact Analysis Results section eartier in this report. This will include the use of mufflers, lagging and vibration isolation and damping techniques incorporated into the design and installation of equipment such as motors, fans, pumps, and discharge vents and stacks, where practical.
Noise emission from the cooling towers will be mitigated using current technology for reducing energy consumption and noise generation. This typically includes features such as oversized towers designed for reduced fan speed or two-speed motors to operate fans at lower speeds when permitted by cooling demand.
Noise emission estimates for the Main Power and Reserve Auxiliary Transformers were based on the assumption that the equipment will comply with the operating performance guidelines of the National Electrical Manufacturers Association (NEMA) Standard TR 1-1993 (R2000) for noise control.

Table 1
Ambient Sound Level Measurements
Existing American Municipal Power (AMP) - Ohio Site Letart Falls, Meigs County, Ohio June 4, 2006 to June 6, 2006

| Sound Level Measurement Location | Time <br> Period | $\underset{(\mathrm{dBA})}{\mathrm{L}_{2 q}{ }^{1}}$ | $\begin{aligned} & L_{d n}{ }^{2} \\ & (\mathrm{dBA}) \end{aligned}$ |
| :---: | :---: | :---: | :---: |
| 1 | day | 40.1 | 46.2 |
|  | night | 39.7 |  |
| 2 | day | 40.0 | 46.2 |
|  | night | 39.7 |  |
| 3 | day | 40.8 | 51.9 |
|  | night | 45.9 |  |
| 4 | day | 42.2 | 43.4 |
|  | night | 34.8 |  |
| 5 | day | 41.8 | 49.6 |
|  | night | 43.3 |  |
| 6 | day | 43.4 | 46.3 |
|  | night | 38.9 |  |
| 7 | day | 40.6 | 46.1 |
|  | night | 39.5 |  |
| 8 | day | 42.7 | 44.6 |
|  | night | 36.5 |  |

${ }^{1}$ The ambient day and night Leq sound levels were measured as described in the report.
${ }^{2}$ The amblent average day-night sound levels were calculated using the following equation: $\left.L_{d x}=10 \log \left(\frac{15}{24} \times 10^{\operatorname{Les}(d a y y}\right) / 10 \quad+\frac{9}{24} \times 10^{\operatorname{Legq}(\text { night })+10 \%} / 10\right)$
Table 2
Slgnificant Nolse Producing Equipment
Proposed American Municipal Power (AMP) - Ohio Site

| Equipment Location | Description | $\begin{aligned} & \mathrm{SPL} \\ & (\mathrm{dBA}) \end{aligned}$ | Notes | Potentiad Equipment Vendiors (per Sargent \& Lundy) |
| :---: | :---: | :---: | :---: | :---: |
| Turbine Building | Turbine Generalor and rekated equipment | 90 | Design assumption ${ }^{(1)}$ | General Electric, Slemens, Alstom |
| Turbine Building | Turbine Building Power Roof Vents | 110 | Electric Power Plant Naise Guide ${ }^{(2)}$ | Noise from Turbine out open vents in roof |
| Boller Building | Boiler and related equipment | 85 | Design assumption ${ }^{\text {(3) }}$ | Babcock \& Wilcox, Fosler Wheeler, Alslom, Hitachi |
| Boiler Buidting | Boiler Building Power Roof Vents | 110 | Elecric Power Plant Noise Guide ${ }^{\text {d }}$ | Noise from Boiler out open vemta in roof |
| Boller Buidling | Boller Relief Valves on Boiler Building Roof | 114 | Electric Power Plant Noise Guide ${ }^{\text {dx }}$ (3) | Yarway, Dresser |
| Boiler Búlding | Forced draft fan and motor | 96 | Electric Power Plamt Noise Guidd ${ }^{(2)}$ | Howden, Gardnar Denver, Barron, Chicago Biower |
| Boiler Building | Induced dratt fan and motor | 95 | Electric Power Plant Nolse Guide ${ }^{\text {[2] }}$ | Howden, Gardmer Denver, Barton, Chicago Blower |
| Boiler Butiding | Primary air fan and molor | 95 | Electric Power Plant Noise Guidd ${ }^{(2)}$ | Howden, Gardner Denver, Barron, Chicago Blower |
| Boiller Building | SCR fans | 95 | Electric Power Pland Noise Guide ${ }^{(2)}$ | Howden, Gardner Denver, Barron, Chicago Blower |
| Auxiliary Boiler | Auxiliary Boiler | 85 | Design assumplion ${ }^{\text {(2) }}$ | Rentach, Foster Whesler, ABCO, Hilachi |
| Slacks | Bottom Ash Handing - Front end loader | 90 | Eleciric Power Plant Noise Guide ${ }^{(2)}$ | Allen Sherman Hoff, Alstom, United Conveyor |
| Cooling Tower 1 | Coolling Towers (16 units) | 94 | SPX Cooling Technologies ${ }^{(4)}$ | GEA, Marley, Hamone |
| Cooling Tower 2 | Coolling Towers (16 units) | 94 | SPX Cooling Technologies ${ }^{(4)}$ | GEA, Marley, Hamone |
| Make-up Water Treatment Building | Water Treatment | 90 | Design assumption ${ }^{(1)}$ | US Filter, Glegg, Graver, Aquatech |
| Fly Ash Silos | Vacuum Exhausters- | 90 | Electric Pawer Plant Noise Guide ${ }^{(2)}$ | United Conveyor, Whaelabrator |
| Coal Tranefer House | Coail Handiling | 102 | Electric Power Plant Noise Guidd ${ }^{(2)}$ | Roberts \& Schaefer Company |
| Limestone Pile | Bulldozer | 90 | Electric Power Plant Noise Guide ${ }^{(2)}$ | Roberts \& Schaeter Company |
| Aclive Coal Pites | Mobile Equipment | 90 | Eleatric Power Plent Nolse Guide ${ }^{(2)}$ | Roberts \& Schaeter Company |
| Chimmoy | Stacks - at 500 feet helght | 120 | Electric Power Plant Nolse Guide ${ }^{(2)}$ | Noise from Powertock escaping through Stack |
| Main Power Tranisformer | Main Power Transformer | 85 | MEMA TR-1 ${ }^{(5)}$ | ABE, GE, Mitsubishi |
| Reserve Auxiliary Transformer | Reserve Auxiliary Transformer | 75 | NEMA TR-1 ${ }^{(5)}$ | ABB, Delha Stat, GE |
| Coal Crusher House Bulliding | Coal Crushers | 102 | Electric Power Plant Noise Guide ${ }^{2}$ | Roberts \& Schaefer Company |
| Coal Unoading Dump al Barge Unloader | Clamshell bucket | 120 | Electric Power Plant Noise Gulde ${ }^{(2)(6)}$ | Robents \& Schaefer Company |

${ }^{14}$ Building design assumed to achieve exterior noise level
(2) "Electric Power Flant Environmertak Noise Guide," Second Edition, Edison Electric Institite, 1084
${ }^{\text {(3) }}$ Assumes 12 minules of pressure rellief per year
${ }^{(4)}$ "Cooling Tower Fundamentals," Second Edtion, SPX Cooling Technologies, 2000
${ }^{(3)}$ Assumes conformance with National Electric Manufacturers Assoclation (NEMA) Standerd TR 1-1993 (R2000)
() Assumes one unloading cycte evary 60 seconds

Table 3
Predicted Noise Impacts
Noise Sensitive Area (NSA) Sites
Proposed American Municipal Power (AMP) - Ohio Site Letart Falls, Meigs County, Ohio

| Scenario | Time Period | Measured and Calculated Ambient Sound Levels |  | Predicted Sound Levels from Proposed Equipment (w/o Existing) |  | Predicted Sound Levels from Proposed Equipment with Existing Ambient Levels |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | $\begin{gathered} L_{\theta q}^{1} \\ (d B A) \end{gathered}$ | $\begin{aligned} & L_{d n}^{3} \\ & (d B A) \end{aligned}$ | $\begin{gathered} L_{e q}^{2} \\ (d B A) \end{gathered}$ | $\begin{aligned} & \mathrm{L}_{\mathrm{dn}}^{3} \\ & (\mathrm{dBA}) \end{aligned}$ | $\begin{aligned} & L_{\infty q}^{4} \\ & (d B A) \end{aligned}$ | $\begin{aligned} & L_{d n}^{3} \\ & (\mathrm{dBA}) \end{aligned}$ |
| NSA \#1 | day | 40.1 | 46.2 | 29.4 | 35.8 | 40.5 | 46.6 |
|  | night | 39.7 |  |  |  | 40.1 |  |
| NSA \#2 | day | 40.0 | 46.2 | 36.6 | 43.0 | 41.7 | 47.9 |
|  | night | 39.7 |  |  |  | 41.4 |  |
| NSA \#3 | day | 40.8 | 51.9 | 34.7 | 41.1 | 41.8 | 52.2 |
|  | night | 45.9 |  |  |  | 46.3 |  |
| NSA \#4 | day | 42.2 | 43.4 | 35.6 | 42.0 | 43.0 | 45.7 |
|  | night | 34.8 |  |  |  | 38.2 |  |
| NSA \#5 | day | 41.8 | 49.6 | 38.2 | 44.6 | 43.4 | 50.8 |
|  | night | 43.3 |  |  |  | 44.5 |  |
| NSA \#6 | day | 43.4 | 46.3 | 40.6 | 47.0 | 45.2 | 49.7 |
|  | night | 38.9 |  |  |  | 42.9 |  |
| NSA \#7 | day | 40.6 | 46.1 | 40.2 | 46.6 | 43.4 | 49.4 |
|  | night | 39.5 |  |  |  | 42.9 |  |
| NSA \#8 | day | 42.7 | 44.6 | 38.8 | 45.2 | 44.2 | 47.9 |
|  | night | 36.5 |  |  |  | 40.8 |  |
| NSA \#9 | day | 43.4 | 46.3 | 47.2 | 53.6 | 48.7 | 54.4 |
|  | night | 38.9 |  |  |  | 47.8 |  |

${ }^{1}$ The measured $\mathrm{L}_{\text {eq }}$ and calculated $\mathrm{L}_{\mathrm{d}}$ ambient sound levels were taken from Table 1 of the Report.
${ }^{2}$ Predicted Noise Increase Using "SPM9613 Noise Model"
${ }^{3}$ The ambient average day-night sound levels were calculated using the following equation:

$$
L_{d n}=10 \quad \log \left(\frac{15}{24} \times 10^{L e q(d a y} / h_{0}+\frac{9}{24} \times 10^{\text {Leq (nigh })+10 / \rho_{0}}\right)
$$

${ }^{4}$ The predicted sound levels from proposed equipment with existing ambient levels were calculated by combining the existing and proposed sound levels using the following equation:

$$
L_{e q}=10 \log \left(\left(\sum_{n=1}^{i} 10^{\operatorname{Leq}(n) / 10}\right)\right)
$$







Appendix A-1
Ambient Sound Pressure Level Measurements
Existing American Municipal Power (AMP) - Ohio Site Letart Falls, Meigs County, Ohio
June 4, 2006 to June 6, 2006

| Sound Level Measurement Location | Time Period | Date of Test | Time of Test | Duration (minutes) | $\begin{aligned} & \mathrm{LA}_{\alpha_{4}} \\ & (\mathrm{dBA}) \end{aligned}$ | LAS $_{\text {Tux }}$ <br> (dBA) | $\begin{aligned} & \mathrm{LL}_{\mathrm{pk}} \\ & (\mathrm{dBA}) \end{aligned}$ | $\begin{gathered} \mathrm{LS}_{10} \\ (\mathrm{dBA}) \end{gathered}$ | $\begin{gathered} L S_{50} \\ (\mathrm{dBA}) \end{gathered}$ | $\begin{aligned} & \mathrm{LS}_{90} \\ & (\mathrm{dBA}) \end{aligned}$ | $\begin{gathered} L S_{95} \\ (\mathrm{dBA}) \end{gathered}$ | $\begin{aligned} & L S_{99} \\ & (\mathrm{dBA}) \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | day | 6/5/2006 | 10:21 | 13 | 41.3 | 51.1 | 77.5 | 44.5 | 39.5 | 36.5 | 36.0 | 35.5 |
|  | day | 6/5/2006 | 14:34 | 15 | 40.5 | 55.3 | 80.2 | 43.5 | 36.5 | 34.0 | 33.5 | 32.5 |
|  | day | 6/5/2006 | 14:52 | 15 | 39.2 | 51.8 | 85.2 | 42.0 | 37.5 | 33.5 | 33.0 | 32.0 |
|  | day | 6/5/2006 | 15:08 | 15 | 39.1 | 49.2 | 82.4 | 41.5 | 38.0 | 34.5 | 34.0 | 32.5 |
|  | Average Day ${ }^{1}$ |  |  |  | 40.1 | -- | - | 43.0 | 38.0 | 34.8 | 34.3 | 33.4 |
|  | night | 6/4/2006 | 23:19 | 15 | 39.6 | 56.2 | 81.0 | 40.5 | 39.0 | 36.5 | 36.0 | 36.0 |
|  | night | 6/4/2006 | 23:37 | 15 | 39.8 | 59.2 | 87.5 | 41.0 | 28.0 | 35.5 | 35.0 | 34.5 |
|  | night | 6/4/2006 | 23:53 | 15 | 38.3 | 55.9 | 87.7 | 41.0 | 35.5 | 34.0 | 34.0 | 33.0 |
|  | night | 6/5/2006 | 0:11 | 15 | 40.9 | 62.9 | 91.4 | 44.0 | 35.5 | 33.5 | 33.5 | 33.0 |
|  | Average Night ${ }^{1}$ |  |  |  | 39.7 | -- | - | 41.9 | 35.9 | 35.0 | 34.7 | 34.3 |
| 2 | day | 6/4/2006 | 21:35 | 15 | 38.8 | 50.5 | 84.4 | 41.0 | 38.0 | 34.5 | 34.0 | 33.5 |
|  | day | 6/5/2006 | 21:45 | 15 | 36.5 | 48.7 | 79.3 | 39.0 | 35.5 | 34.5 | 34.0 | 33.0 |
|  | day | 6/6/2006 | 9:31 | 15 | 39.7 | 51.6 | 78.9 | 42.0 | 37.0 | 35.5 | 35.0 | 34.5 |
|  | day | 6/6/2006 | 9:47 | 15 | 42.8 | 54.1 | 83.4 | 47.0 | 40.0 | 36.0 | 35.5 | 35.0 |
|  | Average Day ${ }^{1}$ |  |  |  | 40.0 | -- | - | 43.3 | 37.9 | 35.2 | 34.7 | 34.1 |
|  | night | 6/4/2006 | 22:01 | 15 | 40.4 | 50.9 | 80.7 | 42.5 | 39.0 | 37.5 | 37.0 | 36.5 |
|  | night | 6/4/2006 | 22:20 | 15 | 38.7 | 52.0 | 84.3 | 41.0 | 37.5 | 35.5 | 35.0 | 34.5 |
|  | night | 6/4/2006 | 22:38 | 15 | 37.3 | 49.4 | 83.2 | 39.0 | 36.5 | 34.5 | 34.5 | 34.0 |
|  | night | 6/4/2006 | 22:55 | 15 | 41.4 | 50.3 | 79.4 | 44.5 | 40.5 | 36.5 | 36.0 | 34.5 |
|  | Average Night ${ }^{1}$ |  |  |  | 39.7 | $\cdots$ | - | 42.2 | 38.6 | 36.1 | 35.7 | 35.0 |
| 3 | day | 6/5/2006 | 15:32 | 15 | 40.9 | 54.1 | 86.9 | 45.0 | 37.0 | 33.5 | 32.5 | 31.5 |
|  | day | 6/5/2006 | 15:49 | 13 | 40.4 | 52.6 | 78.7 | 43.0 | 37.5 | 34.5 | 34.0 | 33.0 |
|  | day | 6/6/2006 | 10:05 | 15 | 41.4 | 54.6 | 88.2 | 43.5 | 39.0 | 36.5 | 36.0 | 35.5 |
|  | day | 6/6/2006 | 10:23 | 15 | 40.5 | 53.9 | 86.2 | 43.0 | 38.5 | 36.0 | 35.5 | 34.5 |
|  | Average Day ${ }^{1}$ |  |  |  | 40.8 | --- | - | 43.7 | 38.1 | 35.3 | 34.7 | 33.9 |
|  | night | 6/5/2006 | 0:37 | 15 | 46.9 | 59.3 | 83.6 | 52.0 | 39.0 | 34.5 | 34.5 | 34.0 |
|  | night | 6/5/2006 | 1:00 | 15 | 37.6 | 53.0 | 80.9 | 39.0 | 35.5 | 34.0 | 33.5 | 33.0 |
|  | night | 6/5/2006 | 1:17 | 15 | 48.2 | 72.7 | 104.3 | 47.0 | 40.5 | 36.5 | 35.5 | 35.0 |
|  | night | 6/5/2006 | 22:06 | 15 | 45.6 | 53.1 | 89.8 | 49.5 | 44.0 | 34.0 | 33.0 | 31.0 |
|  | Average Night ${ }^{1}$ |  |  |  | 45.9 | $\cdots$ | $\cdots$ | 48.8 | 40.8 | 34.9 | 34.2 | 33.5 |

${ }^{1}$ The average sound levels were calculated by combining the sound levels using the following equation: $\quad L_{\text {eq }}=10 \log \left(\left(\sum_{n=1}^{i} 10{ }^{\text {leg }}\right.\right.$ (n)/ho $\left.)\right)$ and dividing by the number of measurements taken.

## Appendix A-1

Ambient Sound Pressure Level Measurements
Existing American Municipal Power (AMP) - Ohio Site
Letart Falls, Meigs County, Ohio
June 4, 2006 to June 6, 2006

| Sound Level Measurement Location | Time Period | Date of Test | Time of Test | Duration <br> (minutes) | $\begin{aligned} & {L A_{e q}} \\ & (\mathrm{dBA}) \end{aligned}$ | $L^{L A} S_{m *}$ <br> (dBA) | $\begin{gathered} \mathrm{LI}_{\mathrm{pk}} \\ (\mathrm{dBA}) \end{gathered}$ | $\begin{gathered} \mathrm{LS}_{10} \\ (\mathrm{dBA}) \end{gathered}$ | $\begin{aligned} & \mathrm{LS}_{50} \\ & (\mathrm{dBA}) \end{aligned}$ | $\begin{aligned} & \mathrm{LS}_{90} \\ & (\mathrm{dBA}) \end{aligned}$ | $\begin{gathered} \mathrm{LS}_{95} \\ (\mathrm{dBA}) \end{gathered}$ | $\begin{aligned} & \mathrm{LS}_{89} \\ & (\mathrm{dBA}) \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 4 | day | 6/5/2006 | 11:10 | 5 | 41.8 | 50.2 | 83.2 | 44.5 | 40.5 | 37.0 | 36.0 | 35.0 |
|  | day | 6/5/2006 | 11:22 | 5 | 40.7 | 50.6 | 81.3 | 44.0 | 39.5 | 36.5 | 36.0 | 35.0 |
|  | day | 6/6/2006 | 13:34 | 5 | 42.0 | 60.2 | 86.5 | 44.0 | 38.5 | 36.5 | 36.0 | 35.5 |
|  | day | 6/6/2006 | 13:44 | 5 | 43.6 | 52.9 | 83.8 | 48.0 | 40.5 | 35.5 | 35.0 | 35.0 |
|  | Average Day ${ }^{1}$ |  |  |  | 42.2 | --- | - | 45.5 | 39.8 | 36.4 | 35.8 | 35.1 |
|  | night | 6/5/2006 | 1:37 | 15 | 35.9 | 51.9 | 86.1 | 37.0 | 35.0 | 34.0 | 34.0 | 33.0 |
|  | night | 6/5/2006 | 1:54 | 15 | 35.6 | 46.7 | 81.8 | 37.0 | 35.0 | 34.0 | 34.0 | 33.5 |
|  | night | 6/5/2006 | 2:11 | 15 | 33.9 | 44.8 | 78.9 | 36.0 | 33.5 | 30.5 | 30.0 | 30.0 |
|  | night | 6/5/2006 | 2:30 | 15 | 33.4 | 45.2 | 77.6 | 36.0 | 31.5 | 30.0 | 30.0 | 30.0 |
|  | Average Nigint ${ }^{1}$ |  |  |  | 34.8 | $\cdots$ | $\cdots$ | 36.5 | 34.0 | 32.5 | 32.4 | 31.9 |
| 5 | day | 6/5/2006 | 10:52 | 5 | 40.6 | 55.0 | 81.4 | 44.0 | 36.5 | 33.5 | 30.0 | 32.5 |
|  | day | 6/5/2006 | 13:16 | 5 | 38.2 | 58.6 | 93.3 | 39.0 | 34.0 | 32.5 | 32.0 | 31.5 |
|  | day | 6/5/2006 | 13:23 | 5 | 45.5 | 53.8 | 89.1 | 51.5 | 38.0 | 34.0 | 33.5 | 30.0 |
|  | day | 6/612006 | 10:59 | 5 | 38.8 | 56.7 | 91.1 | 39.0 | 34.5 | 32.5 | 32.5 | 32.0 |
|  | Average Day ${ }^{1}$ |  |  |  | 41.8 | - | -- | 46.6 | 36.0 | 33.2 | 32.2 | 31.6. |
|  | night | 6/5/2006 | 22:28 | 15 | 39.3 | 56.4 | 87.8 | 41.0 | 38.0 | 35.5 | 34.5 | 34.0 |
|  | night | 6/5/2006 | 22:47 | 15 | 39.0 | 54.4 | 86.5 | 41.0 | 38.0 | 34.5 | 34.0 | 33.5 |
|  | night | 6/5/2006 | 23:05 | 15 | 45.0 | 50.7 | 79.6 | 49.0 | 43.5 | 41.0 | 40.0 | 39.0 |
|  | night | 6/5/2006 | 23:24 | 15 | 45.8 | 69.0 | 93.1 | 47.5 | 43.5 | 38.0 | 37.0 | 36.0 |
|  |  | Averag | ge Night ${ }^{1}$ |  | 43.3 | --- | -- | 46.0 | 41.6 | 38.0 | 37.1 | 36.2 |
| 6 | day | 6/5/2006 | 11:47 | 15 | 41.9 | 59.0 | 88.6 | 43.0 | 37.0 | 33.0 | 32.5 | 32.0 |
|  | day | 6/5/2006 | 12:12 | 15 | 45.9 | 62.5 | 89.3 | 47.0 | 42.0 | 39.0 | 38.5 | 37.5 |
|  | day | 6/6/2006 | 11:07 | 15 | 42.8 | 58.0 | 83.8 | 44.5 | 40.0 | 38.0 | 38.0 | 37.5 |
|  | day | 6/6/2006 | 11:26 | 15 | 41.6 | 54.4 | 80.3 | 44.5 | 39.5 | 37.5 | 37.0 | 36.5 |
|  | Average Day ${ }^{1}$ |  |  |  | 43.4 | -m- | $\cdots$ | 45.0 | 40.0 | 37.4 | 37.0 | 36.4 |
|  | night | 6/6/2006 | 0:15 | 15 | 40.3 | 53.3 | 83.7 | 43.5 | 36.0 | 33.0 | 32.5 | 32.0 |
|  | night | 6/6/2006 | 0:32 | 15 | 40.1 | 54.1 | 85.8 | 43.0 | 33.5 | 32.0 | 31.5 | 31.0 |
|  | night | 6/6/2006 | 0:50 | 15 | 35.6 | 61.3 | 85.1 | 34.5 | 33.0 | 31.5 | 31.0 | 31.0 |
|  | night | 6/6/2006 | 1:08 | 15 | 38.2 | 60.8 | 86.4 | 38.0 | 34.0 | 32.5 | 32.5 | 32.0 |
|  | Average Night ${ }^{1}$ |  |  |  | 38.9 | - | $\cdots$ | 41.1 | 34.3 | 32.3 | 31.9 | 31.5 |
| he average so dividing by the | levels <br> mber of | ere calculated measuremen | d by combining ts taken. | the sound | els usin | the follo | gequ | $L_{\text {oq }}=10 \mathrm{log}$ |  | $\left(\left(\sum_{n=1}^{1} 10^{\log (n) / 70}\right)\right)$ |  |  |

Appendix A-1
Ambient Sound Pressure Level Measurements
Existing American Municipal Power (AMP) - Ohio Site
Letart Falls, Meigs County, Ohio
June 4, 2006 to June 6, 2006

| Sound Level Measurement Location | Time Period | Date of Test | Time of Test | Duration (minutes) | $\begin{aligned} & L A_{e q} \\ & (\mathrm{dBA}) \end{aligned}$ | $\begin{aligned} & \mathrm{LAS}_{m x} \\ & (\mathrm{dBA}) \end{aligned}$ | $\begin{gathered} \mathrm{LL}_{\mathrm{pk}} \\ (\mathrm{dBA}) \end{gathered}$ | $\begin{gathered} \mathrm{LS}_{10} \\ (\mathrm{dBA}) \end{gathered}$ | $\begin{gathered} \mathrm{LS}_{60} \\ (\mathrm{dBA}) \end{gathered}$ | $\begin{aligned} & \mathrm{LS}_{90} \\ & (\mathrm{dBA}) \end{aligned}$ | $\begin{gathered} \mathrm{LS}_{95} \\ (\mathrm{dBA}) \end{gathered}$ | $\begin{gathered} \mathrm{LS}_{99} \\ (\mathrm{dBA}) \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 7 | day | 6/5/2006 | 12:31 | 15 | 39.5 | 50.2 | 83.3 | 41.5 | 39.0 | 37.0 | 36.5 | 35.0 |
|  | day | 6/5/2006 | 12:48 | 15 | 40.3 | 49.6 | 94.7 | 42.5 | 39.0 | 37.5 | 37.0 | 36.5 |
|  | day | 6/6/2006 | 12:06 | 15 | 37.7 | 52.8 | 86.2 | 39.5 | 35.5 | 33.0 | 32.5 | 31.5 |
|  | day | 6/6/2006 | 12:25 | 15 | 43.0 | 67.5 | 99.4 | 45.0 | 38.0 | 34.0 | 33.5 | 32.5 |
|  | Average Day ${ }^{1}$ |  |  |  | 40.6 | ---- | $\cdots$ | 42.6 | 38.1 | 35.8 | 35.3 | 34.3 |
|  | night | 6/6/2006 | 1:32 | 15 | 35.9 | 48.9 | 76.6 | 37.5 | 35.5 | 34.0 | 34.0 | 33.5 |
|  | night | 6/6/2006 | 1:48 | 15 | 43.3 | 59.4 | 82.2 | 46.5 | 36.0 | 34.5 | 34.5 | 34.0 |
|  | night | 6/6/2006 | 2:04 | 15 | 37.1 | 44.7 | 78.0 | 39.0 | 36.5 | 34.5 | 34.0 | 33.5 |
|  | night | 6/6/2006 | 2:21 | 15 | 37.2 | 42.2 | 77.8 | 39.5 | 37.0 | 34.0 | 33.5 | 33.0 |
|  | Average Night ${ }^{1}$ |  |  |  | 39.5 | -- | $\cdots$ | 42.2 | 36.3 | 34.3 | 34.0 | 33.5 |
| 8 | day | 6/5/2006 | 13:38 | 15 | 40.1 | 50.9 | 88.0 | 43.0 | 39.0 | 35.5 | 35.0 | 34.5 |
|  | day | 6/5/2006 | 14:01 | 15 | 40.7 | 52.9 | 82.8 | 44.0 | 38.5 | 35.5 | 35.0 | 34.0 |
|  | day | 6/6/2006 | 12:47 | 15 | 45.9 | 70.6 | 90.7 | 44.0 | 39.0 | 35.5 | 35.0 | 33.5 |
|  | day | 6/6/2006 | 13:07 | 15 | 41.6 | 59.9 | 91.2 | 43.5 | 37.5 | 35.0 | 34.5 | 33.5 |
|  | Average Day ${ }^{1}$ |  |  |  | 42.7 | - | -- | 43.6 | 38.5 | 35.4 | 34.9 | 33.9 |
|  | night | 6/6/2006 | 2:44 | 15 | 38.7 | 49.9 | 91.8 | 41.5 | 38.0 | 33.5 | 33.5 | 30.0 |
|  | night | 6/6/2006 | 3:01 | 15 | 35.4 | 51.5 | 81.7 | 36.5 | 34.5 | 33.5 | 33.0 | 32.5 |
|  | night | 6/6/2006 | 3:17 | 15 | 34.2 | 44.2 | 79.4 | 35.0 | 34.0 | 33.0 | 33.0 | 32.5 |
|  | Average Night ${ }^{1}$ |  |  |  | 36.5 | $\cdots$ | - | 38.6 | 35.9 | 33.3 | 33.2 | 31.8 |

[^0]
## Appendix A-2

Ambient Octave Band Sound Pressure Level Measurements Existing American Municipal Power (AMP) - Ohio Site Letart Falls, Meigs County, Ohio
June 4, 2006 to June 6, 2006

| Sound Level Measurement Location | Time Period | Date of Test | Time of Test | Sound Pressure Level ( Hz ) |  |  |  |  |  |  |  |  | $\begin{gathered} L_{\mathrm{eq}} \\ (\mathrm{dBA}) \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | 31.5 | 63 | 125 | 250 | 500 | 1,000 | 2,000 | 4,000 | 8,000 |  |
| 1 | Day | 615166 | 10.20 | 13.8 | 28.1 | 27.9 | 32.3 | 29.8 | 30.6 | 30.5 | 33.1 | 27.8 | 59.0 |
|  | Day | 615/06 | 10:21 | 12.7 | 28.0 | 25.7 | 32.7 | 28.9 | 30.1 | 26.8 | 28.4 | 27.2 | 61.0 |
|  | Day | 615/06 | 10:22 | 18.9 | 25.0 | 25.0 | 29.6 | 27.4 | 26.9 | 30.5 | 31.0 | 28.1 | 60.4 |
|  | Day | 215/06 | 10:23 | 11.6 | 25.0 | 22.8 | 26.0 | 22.0 | 24.3 | 25.5 | 33.3 | 28.8 | 58.5 |
|  | Day | 8,5/106 | 10:24 | 8.7 | 18.1 | 24.8 | 26.5 | 26.9 | 24.3 | 26.9 | 32.0 | 26.5 | 56.5 |
|  | Day | $65 / 106$ | 10:29 | 13.4 | 22.7 | 21.9 | 28.8 | 25.5 | 25.4 | 26.7 | 27.0 | 28.8 | 57.6 |
|  | Day | 6/5106 | 14:27 | 0.0 | 13.7 | 14.6 | 15.9 | 18.1 | 22.2 | 25.6 | 33.7 | 26.8 | 49.2 |
|  | Day | 6/5/06 | 14:35 | 2.3 | 75.5 | 14.8 | 16.4 | 13.4 | 22.1 | 25.4 | 26.9 | 27.2 | 49.9 |
|  | Day | 6\%/06 | 14:36 | 0.0 | 10.8 | 16.2 | 20.3 | 18.6 | 26.9 | 28.4 | 29.2 | 27.6 | 48.3 |
|  | Day | 6/5/06 | 14:38 | 0.0 | 10.2 | 13.0 | 16.5 | 18.0 | 22.6 | 27.1 | 33.6 | 28.0 | 48.8 |
|  | Day | 6/5/06 | 14:39 | 2.4 | 12.2 | 23.7 | 28.9 | 23.5 | 25.3 | 25.9 | 29.1 | 26.7 | 51.2 |
|  | Day | 6/5/06 | 14:44 | 3.5 | 10.4 | 11.8 | 27.0 | 18.9 | 21.4 | 30.6 | 27.9 | 28.9 | 50.8 |
|  | Day | 6/6/05 | 14:50 | 0.0 | 15.4 | 16.1 | 20.1 | 19.2 | 24.0 | 25.1 | 29.2 | 28.6 | 48.8 |
|  | Day | 6/5/06 | 14:51 | 0.8 | 12.6 | 17.5 | 25.4 | 19.6 | 22.8 | 26.5 | 30.1 | 26.9 | 49.1 |
|  | Day | 6ifide | 14:52 | 0.0 | 16.3 | 30.0 | 33.8 | 26.3 | 30.2 | 27.3 | 28.7 | 28.8 | 53.9 |
|  | Day | 6/5/06 | 14:53 | 0.0 | 11.0 | 11.7 | 17.9 | 22.3 | 22.8 | 25.3 | 29.3 | 27.9 | 48.1 |
|  | Day | 6/5106 | 14:54 | 0.0 | 13.9 | 20.2 | 21.9 | 21.6 | 25.5 | 27.3 | 42.5 | 30.2 | 60.1 |
|  | Day | $6{ }^{6} 5106$ | 14.59 | 0.0 | 11.8 | 28.1 | 40.0 | 24.7 | 29.0 | 24.5 | 30.3 | 27.3 | 54.8 |
|  | Day | $6{ }^{6} 5106$ | 15:40 | 0.0 | 13.2 | 20.5 | 27.4 | 18.3 | 24.5 | 27.9 | 29.0 | 27.6 | 49.8 |
|  | Day | 6/5106 | 15:11 | 0.0 | 10.1 | 16.8 | 19.6 | 20.5 | 24.6 | 27.6 | 29.4 | 30.3 | 46.5 |
|  | Day | 6/5/06 | 15:12 | 10.9 | 12.3 | 19.6 | 25.0 | 21.8 | 27.9 | 31.5 | 33.9 | 29.0 | 55.8 |
|  | Day | 6/5/06 | 15:13 | 0.0 | 15.7 | 16.9 | 21.1 | 19.0 | 25.7 | 28.8 | 34.8 | 27.6 | 54.8 |
|  | Day | 6/5106 | 15:14 | 0.0 | 12.7 | 16.0 | 25.7 | 30.1 | 29.9 | 31.0 | 33.5 | 28.8 | 54.9 |
|  | Day | 6/5/06 | 15:19 | 0.0 | 14.8 | 24.0 | 26.8 | 25.7 | 27.6 | 27.2 | 29.9 | 28.7 | 49.9 |
|  | Average Day' |  |  | 4.1 | 15.8 | 20.0 | 25.2 | 22.4 | 25.7 | 27.5 | 31.1 | 27.8 | 54.2\% |
|  | Night | 6/4/06 | 11:57 | 8.2 | 23.1 | 23.0 | 30.8 | 25.8 | 31.7 | 25.6 | 29.4 | 26.1 | 56 |
|  | Night | 614406 | 23:20 | 0.0 | 15.0 | 25.6 | 37.5 | 22.9 | 31.6 | 25.3 | 35.0 | 25.7 | 53.9 |
|  | Night | 64/06 | 23:21 | 0.0 | 18.6 | 15.2 | 28.0 | 19.6 | 24.8 | 25.8 | 44.5 | 29.3 | 51.7 |
|  | Night | 614106 | 23:22 | 2.5 | 15.8 | 20.0 | 23.1 | 22.8 | 27.0 | 26.2 | 39.8 | 26.9 | 50.3 |
|  | Night | 8/4/06 | 23:23 | 2.4 | 14.1 | 14.4 | 23.8 | 21.5 | 23.2 | 23.3 | 43.0 | 27.3 | 52.6 |
|  | Night | 6/4/06 | 23:24 | 8.2 | 14.6 | 18.0 | 21.7 | 23.5 | 31.7 | 26.2 | 40.0 | 26.8 | 53.3 |
|  | Night | $614 / 46$ | 23:29 | 4.0 | 20.1 | 17.0 | 27.4 | 24.2 | 25.9 | 22.1 | 39.5 | 27.2 | 54.7 |
|  | Night | 6/4/06 | 23:40 | 8.6 | 28.1 | 22.8 | 29.3 | 26.0 | 27.0 | 24.5 | 31.1 | 26.2 | 59.9 |
|  | Night | 64/106 | 23:41 | 6.2 | 27.1 | 24.7 | 28.7 | 25.8 | 29.1 | 26.6 | 31.4 | 27.6 | 59.3 |
|  | Night | 6/4106 | 23:42 | 4.6 | 20.5 | 21.7 | 23.8 | 26.5 | 27.1 | 22.9 | 35.8 | 25.3 | 55.9 |
|  | Night | 6/4/06 | 23:43 | 5.3 | 15.6 | 21.5 | 22.9 | 26.2 | 28.1 | 222 | 35.6 | 25.4 | 51.0 |
|  | Night | 6/4/08 | 23:44 | 1.9 | 14.9 | 17.0 | 30.0 | 22.5 | 28.6 | 23.1 | 38.1 | 28.2 | 50.5 |
|  | Night | 6/4/06 | 23:49 | 0.5 | 16.8 | 22.9 | 26.5 | 27.7 | 29.2 | 25.5 | 33.0 | 27.4 | 51.2 |
|  | Night | 6/4/06 | 23:55 | 5.6 | 22.2 | 25.2 | 34.5 | 31.4 | 35.4 | 30.2 | 31.4 | 24.8 | 54.4 |
|  | Night | 6/4/06 | 23:56 | 2.5 | 18.5 | 29.2 | 26.9 | 28.7 | 33.0 | 40.8 | 31.3 | 30.2 | 55.2 |
|  | Night | 6/4/06 | 23:58 | 4.9 | 25.0 | 24.3 | 25.9 | 26.5 | 24.6 | 22.5 | 29.4 | 29.7 | 54.6 |
|  | Night | 6/4/06 | 23:59 | 0.7 | 14.3 | 20.2 | 25.7 | 24.7 | 25.7 | 227 | 30.4 | 27.0 | 49.2 |
|  | Night | 615106 | 0.04 | 1.7 | 12.8 | 22.0 | 24.2 | 23.5 | 26.5 | 23.3 | 31.1 | 27.3 | 48.9 |
|  | Night | 6/5/06 | 0:10 | 0.0 | 11.3 | 19.4 | 24.9 | 27.7 | 29.8 | 31.2 | 35.5 | 28.5 | 49.4 |
|  | Nighd | 6/5/06 | 0:11 | 0.7 | 8.1 | 19.3 | 28.2 | 30.1 | 34.4 | 26.9 | 32.0 | 27.4 | 49.7 |
|  | Night | 6/5/06 | 0:12 | 0.0 | 12.6 | 16.3 | 25.4 | 28.1 | 26.7 | 23.6 | 29.1 | 26.2 | 49.0 |
|  | Night | 6/5\%06 | 0:13 | 0.0 | 10.7 | 18.6 | 22.2 | 25.8 | 23.5 | 22.8 | 30.0 | 26.0 | 47.3 |
|  | Night | 6/5/06 | 0:14 | 0.0 | 10.9 | 22.1 | 27.4 | 24.7 | 25.4 | 23.6 | 30.3 | 26.6 | 49.0 |
|  | N(ight | $6 / 5 / 06$ | 0:15 | 0.0 | 12.1 | 23.3 | 31.7 | 27.3 | 30.4 | 23.6 | 27.5 | 26.9 | 51.1 |
|  | Night | 6/5/06 | 0:20 | 0.0 | 17.5 | 26.5 | 27.8 | 32.0 | 32.8 | 26.2 | 28.7 | 28.4 | 51.9 |
|  | Average Nigh ' ${ }^{\text {+ }}$ |  |  | 27 | 16.8 | 21.1 | 27.1 | 25.8 | 28.5 | 25.5 | 33.7 | 27.0 | 53.7 |

${ }^{1}$ The average octave band sound pressure jevels ( Hz ) were calculaled by using straight averages. The average sound pressure levels (dBA) were calculated by combining the sound levels using the following equation: $\left.L_{m}=10^{\log }\left(\left(\sum_{n=1}^{1} 10^{\text {Lag }}{ }^{(n)}\right)_{6}\right)\right)^{\text {and dividing by the number of measurements taken. }}$

## Appendix A-2

Ambient Octave Band Sound Pressure Level Measurements
Existing American Municipal Power (AMP) - Ohio Site
Letart Falls, Meigs County, Ohio
June 4, 2006 to June 6, 2006


[^1]Appendix A-2
Ambient Octave Band Sound Pressure Level Measurements
Existing American Municipal Power (AMP) - Ohio Site
Letart Falls, Meigs County, Ohio
June 4, 2006 to June 6, 2006

| Sound Level Measurement Location | Tirne Period | Dale of Test | Time of Test | Sound Pressure Level ( Hz ) |  |  |  |  |  |  |  |  | $\begin{gathered} L_{8 q} \\ (\mathrm{dBA}) \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | 31.5 | 63 | 125 | 250 | 500 | 1,000 | 2,000 | 4,000 | 8,000 |  |
| 3 | Day | 6/5106 | 15:35 | 0.8 | 11.2 | 30.3 | 31.3 | 25.3 | 26.3 | 27.4 | 28.5 | 24.9 | 55.8 |
|  | Day | 655106 | 15:36 | 0.0 | 11.5 | 28.6 | 22.6 | 20.1 | 26.4 | 23.8 | 26.4 | 25.1 | 50.3 |
|  | Day | 6/5/06 | 15.37 | 0.0 | 15.5 | 25.4 | 33.5 | 28.7 | 29.7 | 31.8 | 27.9 | 24.6 | 53.4 |
|  | Day | 8/5/06 | 15:38 | 0.0 | 13.3 | 24.6 | 24.3 | 26.5 | 25.4 | 26.5 | 32.2 | 25.2 | 51.3 |
|  | Day | 6/6/06 | 15:39 | 0.6 | 13.0 | 20.9 | 20.2 | 25.9 | 24.9 | 25.7 | 26.7 | 24.9 | 48.9 |
|  | Day | 615/06 | 15:44 | 0.4 | 15.8 | 24.7 | 24.9 | 20.9 | 26.0 | 26.4 | 29.5 | 27.7 | 51.8 |
|  | Day | 6.5/06 | 15:50 | 3.0 | 26.2 | 30.8 | 35.7 | 27.6 | 33.0 | 31.3 | 31.5 | 25.7 | 61.3 |
|  | Day | 65/06 | 15:51 | 1.4 | 22.1 | 21.1 | 24.8 | 25.6 | 29.0 | 30.3 | 28.4 | 25.6 | 53.1 |
|  | Day | 6/5/06 | 15:52 | 6.9 | 23.3 | 27.9 | 31.6 | 23.8 | 25.9 | 29.4 | 27.4 | 25.8 | 57.6 |
|  | Day | $6 / 5106$ | 15:53 | 10.2 | 34.7 | 31.1 | 25.2 | 21.8 | 26.9 | 28.5 | 26.7 | 27.0 | 61.9 |
|  | Day | 6/5/00 | 15:54 | 3.9 | 32.4 | 27.8 | 27.0 | 20.3 | 29.9 | 27.9 | 26.6 | 26.4 | 60.3 |
|  | Day | 616/08 | 10:05 | 71.0 | 26.1 | 31.8 | 24.8 | 22.4 | 24.3 | 25.5 | 29.4 | 27.5 | 39.3 |
|  | Day | 6/6/06 | 1006 | 6.2 | 26.9 | 31.5 | 24.8 | 27.8 | 25.3 | 28.3 | 26.2 | 25.5 | 59.2 |
|  | Day | 6/6/06 | 10.07 | 10.4 | 23.0 | 31.3 | 33.5 | 24.8 | 27.4 | 28.4 | 29.2 | 25.6 | 58.6 |
|  | Day | 696106 | 10:08 | 7.2 | 22.7 | 31.9 | 25.8 | 29.7 | 31.8 | 28.8 | 29.0 | 27.4 | 57.6 |
|  | Day | 6/6/03 | 10:09 | 10.3 | 26.1 | 26.0 | 25.1 | 30.1 | 32.9 | 27.2 | 30.2 | 26.7 | 57.9 |
|  | Day | 6/6/06 | 10:10 | 4.4 | 21.4 | 31.7 | 32.3 | 26.7 | 27.2 | 30.5 | 31.1 | 24.4 | 38.4 |
|  | Day | 6/6106 | 10:20 | 10.3 | 22.2 | 33.5 | 29.8 | 27.0 | 41.8 | 29.7 | 29.9 | 26.4 | 59.6 |
|  | Dey | 6/6106 | 10.21 | 5.0 | 30.6 | 33.4 | 26.8 | 21.5 | 31.9 | 31.0 | 31.8 | 26.8 | 58.8 |
|  | Day | 6/6/06 | 10.22 | 3.3 | 23.4 | 27.8 | 26.8 | 23.5 | 31.4 | 27.7 | 27,3 | 26.2 | 58.4 |
|  | Day | 6/6/06 | 10:23 | 10.0 | 18.0 | 28.3 | 26.2 | 23.4 | 32.3 | 28.8 | 36.3 | 28.8 | 58.9 |
|  | Day | 8/8/06 | 10:24 | 4.6 | 25.3 | 27.1 | 31.1 | 26.3 | 34.9 | 29.2 | 29.6 | 25.7 | 56.7 |
|  | Day | 6/6/06 | 10:25 | 2.3 | 32.9 | 31.7 | 27.1 | 24.6 | 31.5 | 29.8 | 29.8 | 28.1 | 62.5 |
|  | Average Day ${ }^{\text {i }}$ |  |  | 4.9 | 22.5 | 28.7 | 27.6 | 24.9 | 29.4 | 28.4 | 29.1 | 26.2 | 58.2 |
|  | Night | 6/5/06 | 0:35 | 6.0 | 22.2 | 28.6 | 39.8 | 32.5 | 27.9 | 30.2 | 26.1 | 27.9 | 62.8 |
|  | Night | 6/5/06 | 0:36 | 1.8 | 18.0 | 26.0 | 32.9 | 27.5 | 27.8 | 29.4 | 25.8 | 27.4 | 56 |
|  | Night | 6/5/06 | 0:37 | 0.0 | 18.1 | 26.6 | 38.8 | 29.6 | 31.9 | 31.5 | 27.3 | 27.5 | 57.1 |
|  | Night | 6/5/06 | 0.38 | 4.8 | 23.0 | 43.5 | 53.1 | 48.0 | 48.8 | 42.3 | 45.7 | 33.2 | 70.1 |
|  | Night | 615108 | 0:38 | 2.8 | 14.1 | 27.3 | 29.8 | 24.5 | 25.8 | 29.9 | 26.7 | 27.2 | 55.4 |
|  | Night | 6/5106 | 0:44 | 4.1 | 24.9 | 28.0 | 35.8 | 34.6 | 37.6 | 35.3 | 37.8 | 29.1 | 63.3 |
|  | Night | 6/5106 | 1:00 | 4.1 | 22.2 | 30.5 | 35.3 | 30.0 | 30.1 | 31.5 | 26.6 | 26.1 | 62.8 |
|  | Nuytht | 6/5906 | 1:01 | 0.0 | 22.2 | 33.1 | 34.5 | 29.8 | 30.3 | 30.3 | 25.9 | 26.1 | 60.7 |
|  | Night | $8 / 5 / 06$ | 1:02 | 0.0 | 22.4 | 27.3 | 22.1 | 29.6 | 27.1 | 30.8 | 28.2 | 27.1 | 60.6 |
|  | Night | 6/5/06 | 1:03 | 7.9 | 25.7 | 25.7 | 24.6 | 29.3 | 25.4 | 29.9 | 26.2 | 27.5 | 62.2 |
|  | Night | $6 / 5 / 06$ | 1:04 | 7.8 | 22.4 | 34.4 | 37.6 | 30.9 | 31.6 | 32.8 | 27.1 | 27.0 | 62.3 |
|  | Nipht | 615106 | 1:09 | 13.3 | 24.8 | 33.3 | 31.0 | 30.5 | 30.3 | 30.7 | 26.9 | 26.8 | 61.4 |
|  | Night | 6/5106 | 1:15 | 7.8 | 44.6 | 34.5 | 24.7 | 28.5 | 28.7 | 32.2 | 26.4 | 27.2 | 71.2 |
|  | Night | 6/5/06 | 1:16 | 2.7 | 42.1 | 31.9 | 31.8 | 29.6 | 28.5 | 30.7 | 25.6 | 28.0 | 69.1 |
|  | Night | 6/5106 | 1:17 | 4.4 | 26.2 | 30.9 | 27.5 | 30.3 | 27.1 | 29.5 | 25.4 | 26.4 | 58.8 |
|  | Night | 6/5/06 | 1:18 | 5.9 | 34.9 | 31.6 | 34.6 | 33.4 | 30.1 | 31.9 | 26.4 | 26.2 | 63.5 |
|  | Night | 6/5/06 | 1:19 | 15.1 | 36.9 | 31.7 | 30.9 | 32.1 | 30.1 | 30.9 | 27.7 | 26.9 | 64.7 |
|  | Night | 6/5106 | 1:24 | 28.3 | 32.2 | 31.1 | 31.7 | 33.2 | 30.7 | 28.9 | 25.8 | 25.0 | 73.0 |
|  | Night | 6/5/06 | 22:00 | 13.3 | 20.2 | 19.6 | 20.3 | 19.2 | 27.9 | 37.7 | 28.9 | 21.3 | 56.0 |
|  | Night | 655008 | 22:01 | 7.1 | 11.1 | 25.9 | 19.0 | 20.4 | 21.7 | 24.6 | 28.9 | 25.3 | 53.0 |
|  | Night | 615106 | 22:02 | 4.8 | 18.6 | 23.5 | 35.4 | 20.0 | 23.2 | $31.7^{\circ}$ | 28.5 | 25.0 | 55.2 |
|  | Night | 6/5/06 | 22:03 | 13.6 | 15.0 | 22.3 | 26.3 | 18.1 | 21.5 | 26.7 | 25.0 | 25.2 | 55.5 |
|  | Nighth | 6/5106 | 22:04 | 7.4 | 18.7 | 28.6 | 39.8 | 27.4 | 31.8 | 34.4 | 27.9 | 28.3 | 58.3 |
|  | Night | 615/06 | 22:09 | 4.0 | 23.3 | 25.0 | 36.1 | 27.2 | 24.1 | 22.9 | 27.1 | 29.8 | 56.4 |
|  | Average Nipht ${ }^{\text {' }}$ |  |  | 7.0 | 24.4 | 20.2 | 32.2 | 29.0 | 29.2 | 31.1 | 28.1 | 27.0 | 64.9 |

[^2]Appendix A-2
Ambient Octave Band Sound Pressure Level Measurements Existing American Municipal Power (AMP) - Ohio Site Letart Falls, Meigs County, Ohio
June 4, 2006 to June 6, 2006

| Sound Level |  | Date of |  | Sound Pressure Level ( Hz ) |  |  |  |  |  |  |  |  | $\begin{gathered} L_{* q} \\ (d B A) \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Location |  |  |  | 31.5 | 63 | 125 | 250 | 500 | 1,000 | 2,000 | 4,000 | 8,000 |  |
|  | Day | 6/5/06 | 11:00 | 5.7 | 20.3 | 29.5 | 24.2 | 19.9 | 26.3 | 30.2 | 32.5 | 23.7 | 54.2 |
|  | Day | 6/5/06 | 11:01 | 6.8 | 19.1 | 28.6 | 22.0 | 21.7 | 25.8 | 24.7 | 29.9 | 24.4 | 53.9 |
|  | Day | 6/5/06 | 11:02 | 6.7 | 21.7 | 28.3 | 31.0 | 25.5 | 24.3 | 29.9 | 47.8 | 20.6 | 56.6 |
|  | Day | 6/5/06 | 11:02 | 7.9 | 20.8 | 26.5 | 22.7 | 35.9 | 35.5 | 29.4 | 24.8 | 20.8 | 55.9 |
|  | Day | 6/5/06 | 11:03 | 5.6 | 21.7 | 30.5 | 26.2 | 26.1 | 29.0 | 31.6 | 23.4 | 20.9 | 56.3 |
|  | Day | 6/5106 | 11:03 | 2.8 | 24.1 | 32.0 | 26.8 | 23.2 | 29.2 | 26.7 | 40.2 | 21.8 | 56.6 |
|  | Day | $6 / 5106$ | 11:20 | 0.1 | 15.7 | 25.8 | 29.0 | 28.5 | 29.6 | 23.3 | 30.4 | 22.7 | 55.2 |
|  | Day | 6/5/06 | 11:20 | 1.9 | 23.1 | 21.1 | 27.7 | 20.4 | 30.0 | 24.3 | 26.6 | 25.0 | 54.1 |
|  | Day | 6/5/06 | 11:21 | 6.3 | 17.6 | 28.8 | 31.8 | 21.0 | 30.0 | 25.5 | 29.2 | 24.3 | 55.4 |
|  | Day | 6/5/06 | 11:21 | 3.8 | 18.4 | 25.1 | 24.9 | 21.4 | 30.6 | 22.9 | 28.4 | 26.7 | 54.0 |
|  | Day | 6/5/06 | 11:22 | 4.5 | 21.8 | 26.0 | 25.8 | 19.3 | 30.1 | 26.3 | 35.4 | 23.6 | 67.0 |
|  | Day | 6/5/06 | 1122 | 0.0 | 18.3 | 23.7 | 42.1 | 36.1 | 33.7 | 31.1 | 31.9 | 24.4 | 56.8 |
|  | Day | 6/8/06 | 13:30 | 3.1 | 17.5 | 26.5 | 26.8 | 23.3 | 30.7 | 27.5 | 44.0 | 24.7 | 52.5 |
|  | Day | 6/6/06 | 13:31 | 6.8 | 18.0 | 27.3 | 25.4 | 30.8 | 31.3 | 29.9 | 25.5 | 23.1 | 53.3 |
|  | Day | 6/6/06 | 13:32 | 1.9 | 12.2 | 27.5 | 32.9 | 26.0 | 31.2 | 26.5 | 29.2 | 24.2 | 55.4 |
|  | Day | 6/6/06 | 13:33 | 0.0 | 14.2 | 31.2 | 31.1 | 28.6 | 32.3 | 27.1 | 26.1 | 26.8 | 54.2 |
|  | Day | 6/6/06 | 13:34 | 0.0 | 25.1 | 26.6 | 28.3 | 22.1 | 31.6 | 31.4 | 28.1 | 25.2 | 53.7 |
|  | Day | 6/6/06 | 13:35 | 0.0 | 15.7 | 27.0 | 28.2 | 21.9 | 31.3 | 28.1 | 29.2 | 25.9 | 53,0 |
|  | Day | 6/6106 | 13:36 | 3.5 | 17.0 | 24.8 | 32.2 | 29.7 | 312 | 28.1 | 34.3 | 29.5 | 53.4 |
|  | Day | 6/6/06 | 13:37 | 4.3 | 15.6 | 30.3 | 29.8 | 31.8 | 32.6 | 28.5 | 26.1 | 21.8 | 56.8 |
|  | Day | 6/6/06 | 13:38 | 1.0 | 25.3 | 26.2 | 29.7 | 29.1 | 33.0 | 35.3 | 37.3 | 25.8 | 55.4 |
|  | Day | 6/6/06 | 13:39 | 6.0 | 26.6 | 36.9 | 30.0 | 22.4 | 31.8 | 31.2 | 33.6 | 24.7 | 59.3 |
|  | Day | 6/6/06 | 13:40 | 0.0 | 19.1 | 21.5 | 28.3 | 21.7 | 30.8 | 24.2 | 27.2 | 25.3 | 51.6 |
|  | Day | 6/6/06 | 13.41 | 0.0 | 14.7 | 20.1 | 31.8 | 22.9 | 30.3 | 28.0 | 28.5 | 24.2 | 31.2 |
| 4 |  | Average Da |  | 3.3 | 19.2 | 26.9 | 28.6 | 25.4 | 30.5 | 27.9 | 31.2 | 24.2 | 55.2 |
| 4 | Night | $6 / 5 / 06$ | 1:35 | 0.9 | 8.3 | 19.1 | 24.9 | 24.3 | 23.7 | 29.2 | 25.0 | 25.6 | 48.7 |
| . | Night | 6/5/06 | 1:36 | 0.7 | 10.4 | 19.7 | 29.5 | 30.0 | 28.8 | 31.3 | 24.8 | 25.4 | 49.1 |
|  | Might | 6/5/06 | 1:37 | 0.6 | 11.1 | 25.7 | 26.1 | 29.3 | 28.3 | 29.9 | 25.3 | 25.0 | 49.8 |
|  | Night | 6/5/06 | 1:38 | 0.0 | 15.8 | 22.9 | 34.4 | 30.1 | 29.1 | 29.4 | 26.8 | 25.6 | 51.0 |
|  | Night | 6/5/06 | 1:39 | 0.0 | 8.9 | 19.9 | 31.5 | 24.5 | 27.0 | 26.7 | 26.8 | 26.1 | 48.5 |
|  | Nighl | 6/5/06 | 1:44 | 0.0 | 7.5 | 28.2 | 40.0 | 35.4 | 31.1 | 27.3 | 25.6 | 26.4 | 57.6 |
|  | Night | 6/5/06 | 1:50 | 0.0 | 8.3 | 23.9 | 32.0 | 28.1 | 28.5 | 24.6 | 25.1 | 26.3 | 51.0 |
|  | Night | 6/5/06 | 1:51 | 0.0 | 13.8 | 26.8 | 28.3 | 26.7 | 28.9 | 23.8 | 25.6 | 27.3 | 49.9 |
|  | Night | 6/5/06 | 1:52 | 0.0 | 11.0 | 20.8 | 26.7 | 24.3 | 25.7 | 24.1 | 25.3 | 26.2 | 47.5 |
|  | Night | $6 / 5106$ | 1:53 | 0.0 | 9.8 | 22.1 | 24.4 | 26.7 | 26.8 | 24.3 | 25.6 | 26.4 | 47.6 |
|  | Night | 6/5/06 | 1:54 | 0.0 | 12.1 | 24.3 | 26.3 | 23.5 | 27.8 | 23.6 | 25.6 | 26.6 | 48.0 |
|  | Night | 6/5106 | 1:59 | 0.0 | 11.8 | 24.7 | 25.5 | 24.9 | 28.6 | 24.4 | 25.2 | 26.4 | 48.4 |
|  | Night | 6/5106 | 2:10 | 0.0 | 12.0 | 18.9 | 23.8 | 24.7 | 26.2 | 29.6 | 25.9 | 27.6 | 46.8 |
|  | Nignt | $6 / 5 / 06$ | 2:11 | 0.0 | 7.1 | 19.3 | 24.2 | 21.1 | 24.0 | 28.2 | 26.3 | 27.6 | 45.2 |
|  | Night | 6/5/06 | 2:12 | 0.0 | 5.4 | 12.4 | 20.0 | 22.4 | 24.0 | 26.4 | 25.8 | 26.1 | 45.0 |
|  | Night | 6/5/06 | 2:13 | 0.0 | 8.7 | 15.6 | 21.5 | 23.6 | 24.0 | 25.3 | 25.0 | 25.6 | 46.2 |
|  | Night | 6/5/06 | 2:14 | 5.2 | 9.3 | 18.6 | 26.9 | 28.5 | 28.2 | 23.7 | 25.2 | 25.0 | 48.7 |
|  | Night | 6/5/06 | 2:19 | 0.0 | 1.9 | 21.3 | 14.7 | 18.0 | 22.7 | 22.6 | 25.0 | 27.0 | 43.0 |
|  | Night | 6/5/06 | 2:31 | 0.0 | 4.6 | 17.9 | 28.7 | 23.7 | 27.6 | 24.9 | 25.8 | 25.2 | 45.4 |
|  | Night | 6/5/06 | 2:32 | 0.0 | 8.5 | 21.5 | 26.7 | 21.1 | 24.2 | 22.1 | 26.4 | 25.0 | 48.4 |
|  | Night | 6/5/06 | 2:33 | 0.0 | 5.2 | 15.8 | 18.2 | 16.5 | 22.0 | 22.1 | 28.0 | 28.6 | 44.1 |
|  | Might | 6/5/06 | 2:34 | 0.0 | 8.4 | 20.5 | 23.2 | 19.6 | 23.2 | 21.7 | 26.8 | 25.5 | 44.7 |
|  | Night | 8/5/06 | 2:39 | 0.0 | 9.8 | 17.2 | 24.0 | 25.5 | 32.1 | 29.9 | 25.5 | 24.8 | 48.0 |
|  | Night | 6/5/06 | 2:30AM | 0.0 | 3.4 | 18.6 | 20.1 | 17.6 | 23.7 | 23.1 | 25.6 | 25.9 | 43.6 |
|  |  | Average Nig | $\mathrm{t}^{1}$ | 0.3 | 8.9 | 20.7 | 25.9 | 24.6 | 26.5 | 25.8 | 25.7 | 26.1 | 49.1 |

${ }^{1}$ The average octave band sound pressure levels (Hz) were calculated by using straight averages. The average sound pressure fevels (dBA) were calculated by combining the sound tevels using the following gquatian: $\left.L_{a}=10 \quad \log \left(\left(\sum_{n=1}^{1} 10^{i e q}\right)^{\prime}\right)\right)$ and dividing by the number of measurements taken.

## Appendix A-2

Ambient Octave Band Sound Pressure Level Measurements
Existing American Municipal Power (AMP) - Ohio Site
Letart Falls, Meigs County, Ohio
June 4, 2006 to June 6, 2006

| Sound Level Measurement Location | Time Period | Date of | Time of Test | Sound Pressure Level ( $\mathrm{Hz}_{\text {I }}$ ) |  |  |  |  |  |  |  |  | $\begin{gathered} L_{e q} \\ (d B A) \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | 31.5 | 63 | 125 | 250 | 500 | 1,000 | 2,000 | 4,000 | 8,000 |  |
| 5 | Day | 6/5106 | 13:05 | 0.0 | 16.1 | 21.7 | 23.7 | 18.9 | 24.2 | 31.2 | 25.3 | 23.1 | 51.9 |
|  | Day | 6,5/06 | 13:05 | 0.7 | 15.8 | 23.4 | 26.5 | 27.5 | 32.4 | 33.8 | 29.7 | 23.6 | 53.7 |
|  | Day | 6/5\%06 | 13:06 | 3.0 | 12.1 | 20.0 | 24.7 | 21.3 | 26.9 | 33.6 | 25.9 | 22.8 | 50.1 |
|  | Day | 615\%06 | 13:06 | 11.5 | 21.1 | 21.5 | 23.5 | 21.1 | 27.4 | 33.6 | 26.8 | 23.1 | 61.3 |
|  | Day | 6/5/06 | 13:07 | 7.8 | 19.9 | 29.8 | 34.8 | 31.3 | 27.4 | 34.5 | 29.5 | 23.6 | 59.1 |
|  | Day | 6/5106 | 13:07 | 4.8 | 19.1 | 27.2 | 28.5 | 30.7 | 28.8 | 33.2 | 27.8 | 23.0 | 55.5 |
|  | Day | 6/5/06 | 13:15 | 7.1 | 15.8 | 23.2 | 30.6 | 24.0 | 30.1 | 34.4 | 31.5 | 24.6 | 55.3 |
|  | Day | 6/5\%06 | 13:15 | 5.9 | 9.9 | 16.9 | 29.0 | 26.2 | 36.4 | 42.7 | 32.7 | 26.8 | 56.3 |
|  | Day | 6/5/06 | 13:16 | 13.7 | 20.1 | 21.8 | 24.4 | 22.1 | 27.7 | 33.7 | 29.6 | 25.0 | 57.6 |
|  | Day | 6,5106 | 13:16 | 12.3 | 31.6 | 22.6 | 28.8 | 22.5 | 29.5 | 33.8 | 31.1 | 26.0 | 61.8 |
|  | Day | 6/5/06 | 13:17 | 14.1 | 22.8 | 20.4 | 30.0 | 25.4 | 27.2 | 32.2 | 29.1 | 25.7 | 61.6 |
|  | Day | 6/5/06 | 13:17 | 18.3 | 28.9 | 28.5 | 25.5 | 21.7 | 26.3 | 29.9 | 29.9 | 25.8 | 67.4 |
|  | Day | 685/06 | 13:30 | 30.7 | 42.8 | 39.9 | 43.9 | 48.3 | 47.7 | 42.3 | 30.4 | 28.8 | 77.3 |
|  | Day | 6/5/06 | $13: 31$ | 27.5 | 40.8 | 36.2 | 42.3 | 46.1 | 45.5 | 37.0 | 29.6 | 30.1 | 73.7 |
|  | Day | 6/8/06 | 10:50 | 4.3 | 26.6 | 30.5 | 23.5 | 29.4 | 44.6 | 28.8 | 26.6 | 25.9 | 60.4 |
|  | Day | 6/6/06 | 10:51 | 3.4 | 16.5 | 30.3 | 20.8 | 24.8 | 45.1 | 32.9 | 31.7 | 26.8 | 56.5 |
|  | Day | 6/6/06 | 10:52 | 5.5 | 19.9 | 26.7 | 19.3 | 24.8 | 42.3 | 30.8 | 28.5 | 28.8 | 54.5 |
|  | Day | 6/2f06 | 10:53 | 4.2 | 19.5 | 26.5 | 19.1 | 23.6 | 40.6 | 30.9 | 27.6 | 27.4 | 54.9 |
|  | Day | 6/6/06 | 10:54 | 3.6 | 26.0 | 31.7 | 22.4 | 23.3 | 35.5 | 23.2 | 26.9 | 26.6 | 58.8 |
|  | Day | 6/6106 | 10.55 | 3.1 | 23.4 | 28.5 | 21.8 | 25.3 | 37.1 | 29.5 | 29.2 | 26.1 | 55.3 |
|  | Day | 6/6/06 | 11.00 | 2.9 | 17.2 | 38.7 | 30.4 | 39.9 | 59.0 | 33.8 | 33.5 | 26.3 | 65.2 |
|  | Day | 666106 | 11:07 | 0.0 | 17.1 | 20.5 | 24.6 | 33.6 | 48.3 | 32.6 | 28.2 | 26.1 | 57.8 |
|  | Day | 6/8/06 | 11:02 | 4.6 | 20.1 | 47.1 | 21.4 | 26.9 | 49.0 | 27.7 | 29.9 | 25.7 | 58.1 |
|  | Day | 6\%8106 | 11:03 | 5.5 | 18.6 | 24.1 | 22.9 | 20.8 | 40.5 | 31.7 | 29.5 | 27.0 | 53.0 |
|  | Day | 6/606 | 11:04 | 7.6 | 22.3 | 25.0 | 21.6 | 22.5 | 32.6 | 25.9 | 27.8 | 27.0 | 53.5 |
|  | Day | $6 / 6 / 06$ | 11:05 | 0.0 | 19.7 | 20.5 | 22.9 | 23.3 | 37.4 | 27.7 | 30.5 | 27.8 | 52. |
|  | Averace Day ${ }^{1}$ |  |  | 7.8 | 21.7 | 25.5 | 26.3 | 27.1 | 37.4 | 32.4 | 29.2 | 25.9 | 65.8 |
|  | Night | 35/06 | 22:25 | 8.1 | 17.7 | 29.2 | 30.9 | 27.8 | 29.2 | 37.0 | 33.5 | 23.0 | 55.9 |
|  | Night | 6/5108 | 22:26 | 6.3 | 12.5 | 24.8 | 27.2 | 24.7 | 23.0 | 33.1 | 28.1 | 24.7 | 53.7 |
|  | Night | 6/5106 | 22:27 | 4.2 | 17.6 | 22.0 | 24.2 | 22.8 | 25.5 | 32.5 | 29.5 | 25.7 | 51.4 |
|  | Night | 6/5106 | 22:28 | 7.9 | 19.6 | 28.2 | 24.6 | 23.3 | 26.6 | 37.0 | 25.7 | 23.9 | 58.1 |
|  | Night | 6/5106 | 22:29 | 6.5 | 14.0 | 24.5 | 22.4 | 16.3 | 16.6 | 37.1 | 25.7 | 25.2 | 52.8 |
|  | Night | 6/5106 | 22:34 | 7.0 | 15.3 | 19.8 | 27.4 | 26.9 | 23.9 | 39.6 | 27.7 | 26.4 | 52.5 |
|  | Night | 6/5108 | 22:45 | 4.2 | 15.5 | 24.2 | 26.1 | 34.8 | 25.7 | 37.7 | 27.7 | 26.2 | 55.2 |
|  | Night | 6/5106 | 22:46 | 6.3 | 15.0 | 22.3 | 25.9 | 25.6 | 28.2 | 36.2 | 26.1 | 22.6 | 53.1 |
|  | Night | B5/06 | 22:47 | 0.0 | 17.8 | 23.2 | 25.7 | 20.3 | 23.4 | 36.4 | 27.1 | 25.3 | 50.8 |
|  | A Sight | $65 / 106$ | 22:48 | 5.5 | 13.8 | 20.4 | 29.2 | 49.7 | 25.9 | 35.3 | 28.1 | 28.2 | 52.7 |
|  | Night | 6/5/06 | 22:49 | 6.0 | 14.8 | 23.4 | 20.3 | 20.0 | 20.9 | 35.1 | 28.2 | 29.1 | 51.3 |
|  | Night | 6/5/06 | $22: 54$ | 10.1 | 17.2 | 23.8 | 28.2 | 25.7 | 22.2 | 36.1 | 26.8 | 27.3 | 54.5 |
|  | Night | $6 / 5 / 06$ | 23:15 | 11.8 | 26.7 | 30.7 | 35.8 | 39.6 | 39.0 | 40.0 | 26.4 | 25.9 | 59.1 |
|  | Night | E/5106 | 23:16 | 122 | 28.5 | 26.8 | 31.4 | 36.1 | 36.6 | 35.7 | 29.6 | 27.2 | 59.0 |
|  | Night | 6/5/06 | 23:17 | 9.0 | 20.6 | 21.4 | 34.0 | 37.0 | 35.1 | 40.3 | 32.6 | 27.0 | 56.8 |
|  | Night | 615/06 | 23:18 | 11.5 | 24.6 | 25.8 | 37.5 | 36.5 | 31.6 | 37.5 | 27.2 | 25.6 | 58.9 |
|  | Night | 6/5/06 | 23:19 | 18.0 | 26.8 | 32.3 | 39.8 | 40.0 | 37.6 | 36.8 | 24.6 | 27.5 | 61.6 |
|  | Night | $6 / 5106$ | 23:20 | 10.0 | 21.8 | 29.5 | 36.7 | 42.1 | 32.8 | 36.5 | 24.4 | 27.5 | 57.5 |
|  | Night | $65 / 106$ | 23:25 | 14.3 | 18.7 | 28.1 | 33.0 | 37.8 | 33.1 | 36.7 | 24.9 | 29.8 | 58.8 |
|  | Night | 6/5/06 | 23:26 | 16.7 | 17.9 | 27.6 | 32.3 | 36.9 | 30.2 | 35.4 | 24.9 | 28.5 | 59.1 |
|  | Naght | 6/5/06 | 23:27 | 13.9 | 21.8 | 29.3 | 36.1 | 31.1 | 37.4 | 41.4 | 25.7 | 28.4 | 59.3 |
|  | Night | 6/5/06 | 23:28 | 9.5 | 20.8 | 27.2 | 33.5 | 41.0 | 31.7 | 34.2 | 25.6 | 27.4 | 57.0 |
|  | NHight | 6/5106 | 23:29 | 0.9 | 24.2 | 26.8 | 29.5 | 30.9 | 31.8 | 34.4 | 26.0 | 25.7 | 53.8 |
|  | Night | $615 / 06$ | 23:30 | 12.3 | 19.1 | 26.2 | 23.3 | 34.9 | 30.2 | 31.0 | 23.2 | 26.6 | 56.1 |
|  | Average Night ${ }^{\text {a }}$ |  |  | 9.2 | 19.3 | 25.7 | 29.8 | 30.5 | 29.1 | 36.4 | 27.6 | 26.4 | 56.8 |

[^3]Appendix A-2
Ambient Octave Band Sound Pressure Level Measurements
Existing American Municipal Power (AMP) - Ohio Site
Letart Falls, Meigs County, Ohio
June 4, 2006 to June 6, 2006

| Sound Level Measurement Location | Time Period | Date of Test | Time of Test | Sound Pressure Level (Hz) |  |  |  |  |  |  |  |  | $\begin{gathered} \mathrm{L}_{\mathrm{qq}} \\ (\mathrm{dBA}) \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | 31.5 | 63 | 125 | 250 | 500 | 1,000 | 2,000 | 4,000 | 8,000 |  |
| 6 | Day | 6/5/06 | $11: 55$ | 9.5 | 26.7 | 27.4 | 30.7 | 28.3 | 30.8 | 30.0 | 30.4 | 24.9 | 57.7 |
|  | Day | 6/5/06 | 11:56 | 0.1 | 14.0 | 21.5 | 28.9 | 19.1 | 25.1 | 23.9 | 27.0 | 25.1 | 51.9 |
|  | Day | 6/5/06 | 11:57 | 5.4 | 19.9 | 23.2 | 23.9 | 21.2 | 29.1 | 24.6 | 26.3 | 26.1 | 55.1 |
|  | Day | 6/5/06 | 11:58 | 5.0 | 23.0 | 24.2 | 27.7 | 21.5 | 30.9 | 24.8 | 28.9 | 26.8 | 56.2 |
|  | Day | 6/5/06 | 11:59 | 4.5 | 25.8 | 31.4 | 32.9 | 26.0 | 31.0 | 27.7 | 25.9 | 28.1 | 56.5 |
|  | Day | 6/5/06 | 12:04 | 9.4 | 20.2 | 34.0 | 34.4 | 32.4 | 36.6 | 36.4 | 33.2 | 26.3 | 65.2 |
|  | Day | 6/5,06 | 12:10 | 17.5 | 22.4 | 33.8 | 24.6 | 22.7 | 33.5 | 25.8 | 26.1 | 22.6 | 67.8 |
|  | Day | 6/5/06 | 12:11 | 18.6 | 21.4 | 36.9 | 25.6 | 25.0 | 34.7 | 28.5 | 25.8 | 23.9 | 64.7 |
|  | Day | 6/5/06 | 12:12 | 24.5 | 22.9 | 38.5 | 44.8 | 34.7 | 38.1 | 34.3 | 36.1 | 25.9 | 71.6 |
|  | Day | 6/5/06 | 12:13 | 14.0 | 25.8 | 37.8 | 29.1 | 21.9 | 31.9 | 24.1 | 27.0 | 26.1 | 63.3 |
|  | Day | 615/06 | 12:14 | 8.0 | 28.8 | 37.3 | 24.6 | 29.5 | 34.5 | 34.8 | 33.4 | 26.4 | 66.1 |
|  | Day | 615/06 | 12:19 | 14.7 | 26.6 | 30.2 | 29.5 | 27.0 | 39.4 | 41.7 | 29.8 | 29.0 | 64.2 |
|  | Day | 6/8106 | 11:10 | 10.4 | 30.7 | 33.2 | 34.4 | 33.0 | 51.6 | 30.3 | 27.8 | 26.5 | 61.1 |
|  | Day | 616706 | 11:11 | 2.9 | 30.9 | 35.5 | 26.8 | 20.8 | 43.9 | 27.9 | 27.3 | 24.5 | 59.9 |
|  | Day | 6/6/06 | 11:12 | 5.6 | 35.7 | 35.3 | 30.3 | 41.4 | 53.6 | 30.6 | 31.4 | 25.1 | 64.9 |
|  | Day | 6/6/06 | 11:13 | 11.4 | 34.8 | 36.5 | 23.1 | 26.9 | 41.0 | 28.2 | 24.3 | 22.5 | 63.4 |
|  | Day | 66/606 | 11:14 | 2.3 | 30.8 | 40.8 | 23.6 | 24.3 | 39.6 | 31.3 | 29.2 | 28.4 | 63.7 |
|  | Day | 616106 | 11:15 | 10.1 | 30.8 | 36.1 | 25.9 | 26.2 | 44.8 | 29.0 | 29.3 | 24.9 | 60.6 |
|  | Day | $6 / 606$ | 11:25 | 3.6 | 28.0 | 32.5 | 24.8 | 26.4 | 28.8 | 26.2 | 24.3 | 25.1 | 57.8 |
|  | Day | 6/8106 | 11:26 | 0.0 | 30.4 | 32.1 | 19.9 | 21.2 | 25.3 | 24.0 | 25.5 | 25.3 | 58.5 |
|  | Day | 6/8106 | 11:27 | 2.7 | 29.5 | 32.5 | 22.3 | 22.3 | 27.3 | 28.0 | 26.4 | 28.3 | 59.4 |
|  | Day | 6/6/06 | 11:28 | 8.9 | 28.8 | 34.3 | 27.4 | 24.9 | 30.7 | 28.7 | 27.6 | 28.1 | 58.7 |
|  | Day | 6/6/06 | 11:29 | 7.2 | 31.0 | 35.9 | 31.5 | 30.3 | 33.6 | 29.0 | 26.8 | 24.9 | 60.0 |
|  | Day | 6/6/06 | 11:30 | 3.4 | 29.0 | 35.9 | 32.1. | 30.1 | 31.6 | 29.9 | 26.5 | 27.6 | 59.2 |
|  |  | Average D |  | 8.3 | 26.9 | 33.2 | 28.3 | 28.5 | 35.3 | 29.1 | 28.2 | 25.9 | 63.5 |
|  | Night | 6/8/06 | 0:15 | 11.0 | 22.1 | 28.4 | 23.1 | 26.9 | 29.0 | 27.7 | 28.8 | 27.3 | 56.8 |
|  | Night | 6/6/06 | 0:16 | 4.4 | 23.5 | 28.0 | 29.8 | 29.2 | 29.6 | 25.0 | 26.0 | 28.4 | 58.8 |
|  | Night | 6\%\%06 | 0:17 | 6.8 | 20.5 | 29.2 | 36.0 | 32.8 | 33.3 | 29.6 | 27.0 | 26.2 | 58.6 |
|  | Night | 6/6/06 | 0:18 | 16.3 | 35.0 | 33.6 | 30.3 | 33.5 | 32.5 | 31.6 | 26.6 | 28.6 | 64.9 |
|  | Night | 6/6/06 | 0:19 | 15.5 | 25.0 | 27.9 | 28.8 | 34.6 | 32.5 | 35.8 | 28.6 | 25.8 | 01.7 |
|  | Night | 6/6/06 | 0:20 | 16.4 | 24.3 | 31.6 | 34.2 | 33.4 | 32.3 | 29.1 | 28.9 | 25.2 | 62.2 |
|  | Night | 6/8/06 | 0:30 | 14.0 | 26.6 | 33.9 | 34.5 | 29.6 | 32.9 | 32.5 | 29.5 | 25.8 | 64.2 |
|  | Night | 66606 | 0:31 | 16.5 | 28.9 | 33.0 | 39.3 | 36.3 | 352 | 30.6 | 26.9 | 26.1 | 64.5 |
|  | Night | 616/06 | 0:32 | 26.0 | 34.1 | 38.7 | 43.0 | 48.6 | 43.6 | 36.2 | 26.6 | 27.5 | 72.2 |
|  | Night | 666/06 | 0:33 | 25.0 | 41.9 | 33.0 | 25.2 | 31.0 | 34.8 | 34.1 | 25.9 | 27.0 | 73.8 |
|  | Night | 616106 | 0:34 | 15.6 | 21.0 | 27.3 | 28.6 | 29.2 | 29.1 | 29.7 | 26.7 | 25.2 | 58.9 |
|  | Night | 6/6/06 | 0:35 | 6.2 | 19.1 | 27.0 | 23.8 | 20.5 | 25.8 | 29.9 | 26.7 | 25.1 | 53.6 |
|  | Night | 6/6/06 | 0:55 | 11.6 | 20.3 | 20.9 | 24.7 | 18.3 | 21.4 | 28.6 | 25.5 | 28.1 | 56.1 |
|  | Night | 6/8.06 | 0:56 | 4.8 | 20.4 | 24.6 | 26.5 | 21.5 | 21.8 | 28.9 | 25.6 | 25.8 | 54.4 |
|  | Night | 6/6/06 | 0:57 | 5.5 | 28.3 | 24.1 | 20.1 | 24.2 | 23.4 | 29.6 | 26.6 | 28,3 | 57.0 |
|  | Night | 6/6/06 | 0:58 | 5.7 | 18.0 | 23.9 | 18.9 | 23.3 | 22.9 | 30.0 | 26.3 | 26.2 | 51.4 |
|  | Night | 6/6/06 | 0:59 | 7.8 | 24.2 | 26.7 | 23.7 | 26.3 | 29.2 | 30.3 | 27.7 | 25.6 | 56.9 |
|  | Night | 6/6/06 | $1: 00$ | 10.6 | 22.3 | 20.2 | 21.4 | 27.8 | 23.6 | 30.7 | 26.0 | 25.8 | 58.1 |
|  | Night | 6/5/06 | 1:15 | 9.4 | 29.8 | 28.8 | 32.4 | 32.5 | 32.9 | 32.7 | 26.6 | 27.5 | 61.0 |
|  | Nigm | 618106 | 1:16 | 15.4 | 25.3 | 28.5 | 24.3 | 24.8 | 28.2 | 30.0 | 25.6 | 27.3 | 58.9 |
|  | Night | 6/6/06 | 1:17 | 9.4 | 22.0 | 25.4 | 20.3 | 25.4 | 21.9 | 29.7 | 25.7 | 25.3 | 58.9 |
|  | Night | 6/6/06 | 1:18 | 7.0 | 24.9 | 24.8 | 20.6 | 23.8 | 20.8 | 29.9 | 25.9 | 29.5 | 562 |
|  | Night | 6/6/06 | 1:19 | 11.5 | 30.5 | 33.1 | 22.1 | 26.2 | 23.4 | 30.0 | 25.6 | 26.7 | 59.8 |
|  | Night | 6/1/108 | 1:20 | 9.8 | 26.1 | 27.1 | 19.0 | 21.7 | 26.0 | 30.3 | 25.8 | 25.6 | 56.4 |
|  | Average Night ${ }^{\text { }}$ |  |  | 11.8 | 25.4 | 28.3 | 27.1 | 28.4 | 28.5 | 30.4 | 26.5 | 26.7 | 64.1 |

[^4]Appendix A-2
Ambient Octave Band Sound Pressure Level Measurements Existing American Municipal Power (AMP) - Ohio Site Letart Falis, Meigs County, Ohio
June 4, 2006 to June 6, 2006

| Sound Level Measurement Location | Time Period | Date of Test | Time of Test | Sound Pressure Level ( Hz ) |  |  |  |  |  |  |  |  | $\begin{gathered} L_{e q} \\ (\mathrm{dBA}) \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | 31.5 | 63 | 125 | 250 | 500 | 1,000 | 2,000 | 4,000 | 8,000 |  |
| 7 | Day | 6/5/06 | 12:30 | 3.8 | 20.1 | 32.6 | 30.4 | 28.3 | 33.6 | 23.7 | 25.7 | 24.4 | 57.6 |
|  | Day | 615/06 | 12:31 | 6.4 | 20.6 | 32.6 | 30.4 | 25.0 | 30.8 | 24.1 | 26.6 | 27.1 | 57.4 |
|  | Day | 615/06 | $12: 32$ | 5.1 | 24.6 | 30.1 | 29.6 | 26.7 | 31.9 | 26.8 | 28.6 | 24.2 | 58.3 |
|  | Day | 6/5/06 | 12:33 | 7.8 | 18.6 | 24.0 | 22.3 | 23.4 | 31.8 | 27.7 | 27.3 | 25.4 | 55.2 |
|  | Day | 6/5/06 | 12:34 | 6.5 | 16.7 | 28.5 | 21.9 | 22.1 | 30.7 | 23.2 | 27.0 | 26.2 | 65.0 |
|  | Day | 6/5/06 | 12:39 | 3.6 | 20.2 | 31.5 | 32.7 | 31.3 | 32.9 | 29.2 | 29.3 | 24.0 | 56.2 |
|  | Day | $6 \mathrm{~W} / 106$ | 12:45 | 3.2 | 25.2 | 31.3 | 27.1 | 28.5 | 33.1 | 28.6 | 26.5 | 23.6 | 61.9 |
|  | Day | 655/06 | 12:46 | 7.1 | 24.5 | 29.3 | 30.8 | 32.8 | 33.3 | 27.3 | 27.4 | 22,1 | 57.0 |
|  | Day | 6/5/08 | 12:47 | 7.2 | 21.6 | 21.7 | 22.8 | 23.4 | 31.1 | 24.7 | 27.8 | 25.7 | 53.0 |
|  | Day | 6/5/06 | 12:48 | 6.5 | 18.4 | 30.5 | 29.0 | 20.5 | 32.3 | 30.0 | 29.3 | 27.8 | 58.8 |
|  | Day | G610s | 12:49 | 8.6 | 21.7 | 28.1 | 26.7 | 33.9 | 31.4 | 26.8 | 28.5 | 26.8 | 55.4 |
|  | Day | 6/5/06 | 12:54 | 6.4 | 19.7 | 25.3 | 28.2 | 29.4 | 33.0 | 29.6 | 28.2 | 26.0 | 55.7 |
|  | Day | 6/6/06 | 12:45 | 0.0 | 8.9 | 17.8 | 25.2 | 18.8 | 25.8 | 30.8 | 31.2 | 32.6 | 48.3 |
|  | Day | 8/8/06 | 12:16 | 4.6 | 21.3 | 27.7 | 29.1 | 34.6 | 39.2 | 31.8 | 28.7 | 27.2 | 56.2 |
|  | Day | $6 / 8106$ | 12:17 | 3.7 | 15.6 | 24.0 | 32.1 | 31.6 | 39.8 | 36.5 | 27.5 | 26.5 | 52.7 |
|  | Day | 6/6/06 | 12:18 | 5.2 | 14.0 | 24.5 | 25.3 | 29.3 | 28.9 | 29.4 | 25.9 | 23.8 | 54.2 |
|  | Day | 6/6/06 | 12:19 | 0.0 | 13.4 | 22.8 | 29.5 | 27.4 | 43.1 | 38.7 | 29.4 | 26.8 | 53.5 |
|  | Day | 6/6/06 | 12:20 | 2.4 | 15.6 | 26.5 | 30.0 | 32.7 | 34.3 | 23.2 | 25.5 | 28.0 | 52.3 |
|  | Day | 6/8/06 | 12:30 | 0.0 | 17.3 | 17.8 | 18.7 | 18.7 | 26.5 | 24.1 | 25.9 | 26.8 | 50.4 |
|  | Day | 6/6/06 | 12:39 | 0.0 | 9.6 | 20.1 | 23.3 | 27.6 | 31.4 | 28.5 | 27.5 | 27.5 | 48.0 |
|  | Day | 616/06 | 12:32 | 0.0 | 2.4 | 21.7 | 30.0 | 29.5 | 30.7 | 28.1 | 27.2 | 25.8 | 51.1 |
|  | Day | 8/0/06 | 12:33 | 2.2 | 26.5 | 30.9 | 30.1 | 34.4 | 33.6 | 27.0 | 25.2 | 23.0 | 58.5 |
|  | Day | 616/106 | 12:34 | 0.5 | 18.6 | 26.0 | 24.5 | 34.7 | 34.9 | 32.9 | 46.6 | 27.0 | 56.2 |
|  | Day | 6/6/06 | 12:35 | 0.0 | 18.7 | 26.1 | 27.5 | 23.7 | 35.8 | 32.0 | 38.8 | 29.2 | 57.8 |
|  |  | Average ${ }^{\text {D }}$ |  | 4.0 | 18.2 | 26.3 | 27.4 | 28.1 | 32.9 | 28.5 | 28.9 | 26.1 | 56 |
|  | Night | 6/6/06 | 1:30 | 12.8 | 23.3 | 28.6 | 28.8 | 25.8 | 25.9 | 29.8 | 29.9 | 26.0 | 58 |
|  | Night | 8/6/08 | 1:31 | 13.3 | 24.8 | 27.7 | 25.7 | 28.8 | 28.0 | 30.0 | 26.0 | 29.5 | 59.9 |
|  | Night | 6/6/06 | 1:32 | 14.0 | 21.5 | 26.8 | 29.6 | 25.1 | 26.7 | 29.6 | 27.2 | 25.9 | 58.4 |
|  | Night | 6/6/06 | 1:33 | 9.3 | 25.3 | 25.6 | 25.3 | 29.3 | 26.4 | 30.8 | 26.5 | 25.7 | 59.1 |
|  | Nighin | 6/6/06 | 1:34 | 8.8 | 29.0 | 31.0 | 26.2 | 33.3 | 27.5 | 28.8 | 25.7 | 26.3 | 59.7 |
|  | Nighl | 6/6/06 | 1:35 | 3.2 | 28.1 | 26.2 | 29.2 | 26.5 | 26.8 | 27.8 | 25.5 | 25.4 | 57.4 |
|  | Nighi | B/6/06 | 1:55 | 7.4 | 24.6 | 28.4 | 30.0 | 23.3 | 27.4 | 29.1 | 25.2 | 26.0 | 35.9 |
|  | Nught | 6/6/06 | 1:56 | 3.6 | 22.9 | 26.3 | 27.8 | 30.0 | 29.8 | 29.8 | 26.0 | 30.4 | 55.2 |
|  | Night | 6/6/06 | 1:57 | 8.4 | 24.3 | 27.0 | 27.2 | 27.3 | 29.6 | 29.8 | 25.8 | 25.8 | 56.5 |
|  | Night | 6/6/06 | 1:58 | 8.5 | 23.5 | 24.4 | 23.9 | 19.4 | 24.7 | 28.7 | 25.8 | 25.6 | 56.5 |
|  | Night | 6/6/06 | 1:59 | 9.3 | 18.2 | 28.1 | 26.1 | 26.5 | 28.3 | 28.0 | 28.1 | 26.4 | 58.4 |
|  | Night | 6/6/06 | 2:00) | 4.9 | 22.7 | 25.8 | 27.2 | 26.6 | 26.8 | 26.0 | 25.4 | 25.7 | 54.7 |
|  | Nightit | 6/6106 | 2:02 | 8.2 | 19.5 | 27.4 | 22.5 | 25.3 | 25.1 | 22.9 | 25.7 | 26.9 | 54.6 |
|  | Night | 6/5/06 | 2:03 | 14.5 | 21.1 | 31.9 | 27.9 | 26.8 | 27.4 | 23.9 | 25.4 | 25.2 | 62.1 |
|  | Night | 6/6/06 | 2:04 | 15.3 | 20.3 | 33.5 | 26.8 | 26.1 | 25.7 | 23.6 | 25.7 | 25.8 | 62.4 |
|  | Night | 6/6/06 | 2.05 | 13.8 | 28.4 | 29.9 | 31.2 | 26.2 | 26.6 | 24.8 | 26.5 | 28.2 | 61.2 |
|  | Night | 8/8/06 | 2:06 | 12.6 | 26.2 | 27.2 | 22.9 | 23.3 | 24.8 | 27.0 | 27.7 | 28.4 | 58.8 |
|  | Night | 6,6/06 | 2:10 | 10.7 | 25.9 | 27.5 | 25.1 | 26.0 | 27.6 | 23.9 | 25.6 | 25.7 | 57.3 |
|  | Night | 6/6/106 | 2:20 | 14.0 | 28.8 | 22.7 | 20.9 | 21.5 | 23.0 | 27.4 | 26.1 | 28.5 | 59.6 |
|  | Night | 6\%\%06 | 2:21 | 10.0 | 28.7 | 28.7 | 21.1 | 21.8 | 25.8 | 25.8 | 27.6 | 26.3 | 59.0 |
|  | Night | 6/6/06 | 2:22 | 8.5 | 27.5 | 25.7 | 20.6 | 22.1 | 23.6 | 23.6 | 25.5 | 26.1 | 57.2 |
|  | Nlight | 86106 | 2:23 | 12.3 | 30.7 | 24.9 | 28.9 | 29.1 | 27.0 | 25.7 | 26.3 | 25.9 | 60.2 |
|  | Night | 6/6,106 | 2:24 | 14.3 | 30.4 | 23.5 | 23.7 | 38.2 | 26.9 | 23.9 | 26.2 | 27.0 | 60.4 |
|  | Night. | 6/6/06 | 2:25 | 133 | 31.7 | 28.6 | 24.4 | 25.7 | 24.6 | 22.9 | 25.9 | 26.3 | 60.8 |
|  | Average Night' |  |  | 10.5 | 25.1 | 27.3 | 26.0 | 26.4 | 26.4 | 26.8 | 26.2 | 26.4 | 59.0 |

[^5]
## Appendix A-2

Ambient Octave Band Sound Pressure Level Measurements Existing American Municipal Power (AMP) - Ohio Site Letart Falls, Meigs County, Ohio
June 4, 2006 to June 6, 2006

| Sound Level Measurement Lacation | Time Period | Date of Test | Time of Test | Sound Pressure Level (Hz) |  |  |  |  |  |  |  |  | $\begin{gathered} L_{8 q} \\ (\mathrm{dBA}) \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | 31.5 | 63 | 125 | 250 | 500 | 1,000 | 2,000 | 4,000 | 8,000 |  |
| 8 | Day | 615/06 | 13:40 | 2.3 | 18.6 | 26.1 | 28.2 | 33.6 | 27.6 | 31.0 | 30.4 | 27.5 | 54.0 |
|  | Day | 6,5106 | 13:41 | 0.0 | 25.2 | 28.3 | 28.9 | 23.1 | 27.9 | 31.2 | 32.8 | 27.4 | 56.5 |
|  | Day | 615/06 | 13:42 | 4.1 | 20.8 | 34.6 | 22.0 | 21.4 | 27.2 | 28.1 | 35.2 | 27.5 | 58.5 |
|  | Day | 6/5106 | 13:43 | 3.1 | 19.1 | 24.0 | 29.6 | 23.7 | 25.4 | 25.3 | 28.3 | 26.7 | 54.8 |
|  | Day | 6/5/06 | 13:44 | 4.8 | 22.5 | 30.3 | 38.8 | 28.1 | 29.4 | 30.0 | 32.1 | 28.2 | 58.3 |
|  | Day | 815106 | $13: 49$ | 7.8 | 16.2 | 33.6 | 30.5 | 32.4 | 32.0 | 29.6 | 27.9 | 27.5 | 58.6 |
|  | Day | 6/5106 | 14:00 | 8.4 | 18.0 | 21.3 | 25.3 | 20.6 | 31.2 | 28.5 | 29.1 | 27.9 | 53.6 |
|  | Day | 6/5i06 | 14:01 | 3.0 | 19.2 | 21.4 | 32.7 | 22.3 | 28.4 | 28.0 | 28.2 | 28.1 | 54.2 |
|  | Day | 6/5/06 | 14:02 | 9.1 | 23.3 | 26.9 | 26.3 | 24.8 | 29.4 | 25.3 | 29.7 | 26.8 | 68.2 |
|  | Day | 615/06 | 14:03 | 8.4 | 22.6 | 22.8 | 34.0 | 29.3 | 24.5 | 24.0 | 34.8 | 26.7 | 58.8 |
|  | Day | 6,5/06 | 14:04 | 6.0 | 16.7 | 31.2 | 33.2 | 21.1 | 25.7 | 28.5 | 28.4 | 27.7 | 56.8 |
|  | Day | 3/5/06 | 14:09 | 6.2 | 20.0 | 25.3 | 32.3 | 32.5 | 25.3 | 27.3 | 32.3 | 27.7 | 55.2 |
|  | Day | 8/6106 | 12:55 | 5.0 | 22.0 | 28.4 | 37.4 | 29.9 | 29.9 | 30.2 | 30.6 | 28.8 | 61.6 |
|  | Day | 6/6/06 | 12:56 | 0.0 | 22.3 | 24.1 | 25.8 | 20.5 | 27.1 | 37.0 | 31.6 | 25.1 | 56.8 |
|  | Day | 6/6/06 | 12:57 | 3.4 | 23.0 | 20.3 | 14.9 | 32.0 | 30.5 | 34.0 | 38.2 | 23.1 | 55.4 |
|  | Day | 6/6/06 | 12:58 | 1.1 | 23.5 | 23.9 | 33.4 | 36.0 | 36.2 | 25.1 | 24.7 | 27.0 | 55.5 |
|  | Day | 6/6/08 | 12:59 | 10.1 | 27.1 | 20.2 | 19.5 | 23.3 | 30.9 | 24.2 | 28.1 | 23.7 | 59.3 |
|  | Day | B/0/06 | 13:00 | 8.0 | 32.5 | 28.7 | 31.4 | 32.3 | 31.8 | 31.8 | 27.8 | 24.9 | 61.8 |
|  | Day | 616/06 | 13:10 | 0.0 | 34.4 | 19.6 | 29.7 | 29.3 | 33.7 | 34.9 | 24.7 | 26.3 | 81.4 |
|  | Day | 6/6/06 | 13:11 | 10.9 | 26.5 | 26.7 | 28.9 | 28.7 | 32.7 | 27.8 | 27.6 | 24.5 | 57.7 |
|  | Day | 8/6/06 | 13:12 | 6.2 | 33.6 | 22.6 | 25.5 | 32.4 | 40.9 | 36.3 | 34.8 | 31.9 | 81.8 |
|  | Day | 6/6/06 | 13:13 | 11.1 | 29.8 | 37.3 | 46.5 | 46.1 | 47.4 | 50.1 | 52.0 | 44.8 | 66.8 |
|  | Day | 5/6/06 | 13:14 | 3.5 | 16.2 | 20.7 | 20.5 | 23.7 | 31.6 | 24.0 | 26.2 | 24.5 | 51.9 |
|  | Day | 5/6/06 | 13:15 | 0.4 | 20.8 | 24.1 | 21.4 | 19.8 | 31.4 | 23.0 | 32.9 | 28.0 | 52.9 |
|  |  | Average Day |  | 5.1 | 23.1 | 25.8 | 29.0 | 27.8 | 30.8 | 29.8 | 31.1 | 27.4 | 59.1 |
|  | Night | 6/6/06 | 2:45 | 3.0 | 26.7 | 22.4 | 18.3 | 27.2 | 25.7 | 27.5 | 28.0 | 27.5 | 55.4 |
|  | Night | 6/5106 | 2:46 | 3.9 | 18.9 | 25.6 | 27.1 | 26.8 | 26.6 | 22.5 | 28.8 | 27.0 | 54.1 |
|  | Night | 6/606 | 2:47 | 4.9 | 11.3 | 27.2 | 27.6 | 27.1 | 28.1 | 23.9 | 30.2 | 25.8 | 54.1 |
|  | Nighe | 6/6/06 | 2:48 | 3.7 | 15.7 | 24.7 | 25.4 | 22.7 | 27.1 | 26.9 | 28.5 | 26.2 | 53.6 |
|  | Night | 6/6/06 | 2:49 | 6.8 | 23.4 | 25.2 | 30.9 | 27.4 | 24.9 | 25.1 | 28.6 | 26.2 | 55.4 |
|  | Night | 6/6/06 | 2:50 | 10.4 | 19.2 | 26.1 | 31.1 | 27.0 | 26.3 | 24.8 | 30.7 | 26.7 | 56.3 |
|  | Nighl | 6\%\%06 | 3:05 | 5.9 | 22.1 | 26.8 | 20.4 | 23.9 | 23.3 | 24.7 | 31.3 | 26.5 | 53.6 |
|  | Night | 646106 | 3:06 | 7.1 | 22.2 | 23.9 | 22.6 | 24.4 | 23.3 | 22.7 | 27.3 | 25.3 | 53.4 |
|  | Night | 6/6/06 | 3:07 | 1.8 | 23.0 | 22.4 | 20.7 | 24.2 | 24.3 | 25.5 | 28.0 | 24.1 | 53.6 |
|  | Night | 6/6/06 | 3:08 | 6.5 | 19.9 | 21.0 | 21.6 | 27.3 | 24.4 | 24.8 | 28.6 | 24.1 | 53.3 |
|  | Night | 6/6/06 | 3:09 | 4.9 | 19.7 | 20.6 | 24.8 | 24.2 | 26.1 | 25.2 | 25.4 | 23.7 | 52.8 |
|  | Night | 6/6/08 | 3:10 | 50 | 14.7 | 20.9 | 18.0 | 24.3 | 24.9 | 24.9 | 25.1 | 23.9 | 52.1 |
|  | Night | 647/06 | 3:15 | 8.2 | 13.4 | 22.5 | 24.4 | 25.7 | 26.1 | 26.2 | 29.5 | 25.4 | 54.4 |
|  | Night | 6/6/06 | 3:16 | 1.8 | 15.7 | 22.7 | 21.5 | 25.3 | 27.3 | 27.7 | 34.4 | 25.9 | 51.7 |
|  | Night | 616106 | 3:17 | 1.1 | 17.2 | 23.4 | 24.8 | 25.9 | 31.1 | 28.7 | 31.7 | 26.4 | 53.7 |
|  | Night | 6/6/06 | 3:18 | 0.0 | 14.3 | 25.7 | 18.5 | 26.2 | 21.1 | 24.4 | 27.6 | 27.1 | 52.4 |
|  | Night | 6/6/08 | 3:19 | 4.9 | 13.6 | 23.7 | 25.8 | 24.5 | 24.9 | 26.1 | 33.0 | 24.9 | 53.4 |
|  | Night | 6/6/06 | 3:20 | 1.0 | 11.5 | 22.9 | 24.4 | 24.9 | 29.3 | 29.2 | 37.6 | 24.1 | 54.3 |
|  | Average ${ }^{\text {Night }{ }^{\text { }} \text { ' }}$ |  |  | 4.5 | 17.9 | 23.8 | 23.8 | 25.5 | 25.8 | 25.5 | 29.7 | 25.8 | 53.9 |

[^6]

## Supfonent Informition



## Callhratign Referencts





## Calthnation Mirormation




## Smud $P$ esmue M equsif Chtrition Remils <br> 

 Ge time of con bitilit


Atnogpiric Conaltions


Caibrated by
 Dater 6206


We hereby certify that to the best of our knowledge the instruments listed below meet or exceed the sperfications state of the apmoprite munition manuals. Extech Instruments Corporation m SO 90 e nt edified compony, inspects its incoming shipments using an approved samphng plan with an AQE All incoming inspections are performed using test equipment that is traceable to Nation al. Standards.
CUSTOMER: FIELD ENVIRONMENTAL
MODEL $4.407790 \quad$ SN OS0903585

Authorized Extech Signature $\qquad$ Date 1/3/06


Source Data Summary For: Active Coal Piles - Bulldozer
P: $\backslash 2006 \backslash C 060340.00 \backslash C o m p u t e r ~ M o d e l \backslash A c t i v e C o a l P i l e s . s r c ~$
Source Coordinates:

| $(x 1, y 1):(1100,1000)$ | $(x 2, y 2):(1100,1000)$ |
| :--- | :--- |
| $(x 3, y 3):(1100,1000)$ | $(x 4, y 4):(1100,1000)$ |
| $(z$ lower, $z$ upper $):(185,188)$ |  |


Ground Elevation, in meters: 185
Ground Composition: 0
Points will be placed on the surfaces of a 3-D source

|  |  |  | Octave | Eand | enter Pr | eque | Hz |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Lw or Dixectivity Angle | 16 | 31.5 | -63 | 125 | 250 | 500 | 1.000 | 2000 | 4000 | 8000 |
| Lw, in AB re 1 picowatt | 0.0 | 90.0 | 79.0 | 84.0 | 87.0 | 82.0 | 80.0 | 77.0 | 71.0 | 65.0 |

0.0
10.0
20.0
30.0
40.0
50.0
60.0
70.0
80.0
90.0
100.0
110.0
120.0
130.0
140.0
150.0
160.0
170.0
180.0
0.0
10.0
20.0
30.0
40.0
50.0
60.0
70.0
80.0
90.0
100.0
110.0
120.0
330.0
140.0
150.0
160.0
170.0
180.0
190.0
200.0
210.0
220.0
230.0
240.0
250.0
260.0
270.0
280.0
290.0
300.0
310.0
320.0
330.0
340.0
350.0

User Defined vertical Directivity Indices, in $d B$

| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

User Defined Horizontal Directivity Indices. in dg

| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |  |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |

Source Data Summary For: Active Limestone Pile - Bulldozer
P: \2006\C060340.00\Computer Model\ActiveLimestonePile.src
Source Coordinates:

| $(x 1, y 1):(1250,1050)$ | $(x 2, y 2):(1250,1050)$ |
| :--- | :--- |
| $(x 3, y 3):(1250,1050)$ | $(x 4, y 4):(1250,1050)$ |
| $(z$ lower, z upper $):(185,188)$ |  |

( $z$ lower، $z$ upper): (185, 188)
Included sides: (Top) (Bottom) (x1-y1 - $\quad x 2-y 2$ ) ( $x 2-y 2->x 3-y 3)^{\prime}\left(x 3-y^{3}->x 4-y^{4}\right)\left(x 4-y^{4}->x 1-y_{1}\right)$
Ground Elevation, in meters: 185
Ground Composition: 0
Points will be placed on the surfaces of a 3-D source

| Lw of Directivity Angle | Octave Band Center Frequency, Hz |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 16 | 31. 5 | 63 | -125 | 250 | 500 | 1000 | 2000 | 4000 | 8000 |
| Lw, in dB re 1 picowatt | 0.0 | 90.0 | 79.0 | 84.0 | 87.0 | 82.0 | 80.0 | 77.0 | 71.0 | 65.0 |
|  | Iser Defined Vertical Directivity Indices, in dB |  |  |  |  |  |  |  |  |  |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 10.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 20.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 30.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 40.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 50.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 60.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 70.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 80.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 90.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 100.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 110.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 120.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 130.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 140.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 150.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 160.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 170.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 180.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

User Defined Forizontal Directivity Indices. in dB
0.0
10.0
20.0
30.0
40.0
50.0
60.0
70.0
80.0
90.0
100.0
110.0
120.0
130.0
140.0
150.0
160.0
170.0
180.0
190.0
200.0
210.0
220.0
230.0
240.0
250.0
260.0
270.0
280.0
290.0
300.0
310.0
320.0
330.0
340.0
350.0

0

| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

Source Data Summary For: Auxiliary Boiler
P: \2006\C060340.00\Computer Model \Auxiliary Boiler.src
Source Coordinates:

$(x 3, y 3):(1406,1219)$
$(z$ lower, $z$ upper): (185, 189)
Included Sides: (Top) ( $x 1-y 1->x 2-y 2$ ) ( $x 2-y^{2} \rightarrow x 3-y^{3}$ ) ( $\left.x 4-y 4 \rightarrow x\right]-y 1$ )
Ground Elevation, in meters: 185
Ground Composition: 0
A point source, centered at the average of all corners will be used

|  | Octave Band Center Frequency. Hz |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Lw or Directivity Angle | 16 | 31.5 | 63 | 125 | 250 | 500 | 1000 | 2000 | 4000 | 8000 |
| Lw, in dB re 1 picowatt | 0.0 | 79.0 | 9.0 | 78.0 | 6.0 | 73.0 | 70.0 | 67.0 | 64.0 | 61.0 |


0.0
10.0
20.0
30.0
40.0
50.0
60.0
70.0
80.0
90.0
100.0
110.0
120.0
130.0
140.0
150.0
160.0
170.0
180.0
190.0
200.0
210.0
220.0
230.0
240.0
250.0
260.0
270.0
280.0
290.0
300.0
310.0
320.0
330.0
340.0
350.0

相

Iw or Directivity Angle
Lw, in dB re icowatt


User Defined Vertical Directivity Indices...in $A B$

| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

User Defined Horizontal Directivity Indices, in dB

| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 |  |  |  |  |  |  |  |  |

```
Source Data Summary For: Boiler Building
P:\2005\C060340.00\Computer Model\BoilerBuilding.sre
Source Coordinates:
    (x1,y1): (1360, 1010) 
(z lower, z upper): (185, 267)
Included Sides: (TOp) (x1-y1 -> x2-y2) (x2-y2 -> x3-y3) (x3-y3 -> x4-y4) (x4-y4 -> x1-y1)
```

Ground Elevation, in meters: 185
Ground Composition: 0
Points will be placed on the surfaces of a $3-1$ source

| Lw or Directivity AngleLw, in dB re 1 picowatt | Octave Band Center Frequency, Hz |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 16 | 31.5 | 63 | 125 | 250 | 500 | 1000 | 2000 | 4000 | 8000 |
|  | 0.0 | 81.0 | 80.0 | 75.0 | 69.0 | 68.0 | 66.0 | 64.0 | 64.0 | 64.0 |
|  | User Defined Vertical Directivity Indices, in dB |  |  |  |  |  |  |  |  |  |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 10.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 20.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 30.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 40.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 50.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 60.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 70.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 80.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 90.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 100.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 110.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 120.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 130.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 140.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 150.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 160.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 170.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 180.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

User Defined Horizontal Directivity Indices, in dB
0.0
10.0
20.0
30.0
40.0
50.0
60.0
70.0
80.0
90.0
100.0
110.0
120.0
130.0
140.0
150.0
160.0
170.0
180.0
190.0
200.0
210.0
220.0
230.0
240.0
250.0
260.0
270.0
280.0
290.0
300.0
310.0
320.0
330.0
340.0
350.0

| 0.0 | 0.0 |
| :--- | :--- |
| 0.0 | 0.0 |
| 0.0 | 0.0 |
| 0.0 | 0.0 |
| 0.0 | 0.0 |
| 0.0 | 0.0 |
| 0.0 | 0.0 |
| 0.0 | 0.0 |
| 0.0 | 0.0 |
| 0.0 | 0.0 |
| 0.0 | 0.0 |
| 0.0 | 0.0 |
| 0.0 | 0.0 |
| 0.0 | 0.0 |
| 0.0 | 0.0 |
| 0.0 | 0.0 |
| 0.0 | 0.0 |
| 0.0 | 0.0 |
| 0.0 | 0.0 |
| 0.0 | 0.0 |
| 0.0 | 0.0 |
| 0.0 | 0.0 |
| 0.0 | 0.0 |
| 0.0 | 0.0 |
| 0.0 | 0.0 |
| 0.0 | 0.0 |
| 0.0 | 0.0 |
| 0.0 | 0.0 |
| 0.0 | 0.0 |
| 0.0 | 0.0 |
| 0.0 | 0.0 |
| 0.0 | 0.0 |
| 0.0 | 0.0 |
| 0.0 | 0.0 |
| 0.0 | 0.0 |
| 0.0 | 0.0 |
| 0.0 |  |

Source Data Summary For: Boiler Building - Boiler Relief Valves
P: \2006\C060340.00\Computer Model\BoilerBuilding - Boiler Relief Valves.src
Source coordinates:

| $\{x 1, y 1):(1500,1200)$ | $\left(x 2, y^{2}\right):(1500,1200)$ |
| :--- | :--- |
| $(x 3, y 3):(1500,1200)$ | $\left(x 4, y^{4}\right):$ |
| $(z$ lower, z upper $):(267,267)$ | $(1500,1200)$ |

(z lower, z upper) : $(267,267)$
Included Sides: (Top)
Ground Elevation, in meterg: 267
Ground Composition: 0
Points will be placed on the surfaces of a 3-D source

|  | Octave Band Center Frequency, Hz |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Lw or Directivity Angle | 16 | 31.5 | 63 | 125 | 250 | 500 | 1000 | 2000 | 4000 | 8000 |
| Lw, in dB re 1 picowatt | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |


|  | User Defined Yertical Directivity Indices, in dB |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 0.0 | 0.0 | 0.0 | 84.0 | 94.0 | 104.0 | 107.0 | 104.0 | 97.0 | 88.0 | 79.0 |
| 10.0 | 0.0 | 0.0 | 84.0 | 94.0 | 104.0 | 107.0 | 104.0 | 97.0 | 88.0 | 79.0 |
| 20.0 | 0.0 | 0.0 | 84.0 | 94.0 | 104.0 | 107.0 | 104.0 | 97.0 | 88.0 | 79.0 |
| 30.0 | 0.0 | 0.0 | 84.0 | 94.0 | 104.0 | 107.0 | 104.0 | 97.0 | 88.0 | 79.0 |
| 40.0 | 0.0 | 0.0 | 84.0 | 94.0 | 104.0 | 107.0 | 104.0 | 97.0 | 88.0 | 79.0 |
| 50.0 | 0.0 | 0.0 | 84.0 | 94.0 | 104.0 | 107.0 | 104.0 | 97.0 | 88.0 | 79.0 |
| 60.0 | 0.0 | 0.0 | 84.0 | 94.0 | 104.0 | 107.0 | 104.0 | 97.0 | 88.0 | 79.0 |
| 70.0 | 0.0 | 0.0 | 84.0 | 94.0 | 104.0 | 107.0 | 104.0 | 97.0 | 88.0 | 79.0 |
| 80.0 | 0.0 | 0.0 | 84.0 | 94.0 | 104.0 | 107.0 | 104.0 | 97.0 | 88.0 | 79.0 |
| 90.0 | 0.0 | 0.0 | 84.0 | 94.0 | 104.0 | 107.0 | 104.0 | 97.0 | 88.0 | 79.0 |
| 100.0 | 0.0 | 0.0 | 84.0 | 94.0 | 104.0 | 107.0 | 104.0 | 97.0 | 88.0 | 79.0 |
| 110.0 | 0.0 | 0.0 | 84.0 | 94.0 | 104.0 | 107.0 | 104.0 | 97.0 | 88.0 | 79.0 |
| 120.0 | 0.0 | 0.0 | 84.0 | 94.0 | 104.0 | 107.0 | 104.0 | 97.0 | 88.0 | 79.0 |
| 130.0 | 0.0 | 0.0 | 84.0 | 94.0 | 104.0 | 107.0 | 104.0 | 97.0 | 88.0 | 79.0 |
| 140.0 | 0.0 | 0.0 | 84.0 | 94.0 | 104.0 | 107.0 | 104.0 | 97.0 | 88.0 | 79.0 |
| 150.0 | 0.0 | 0.0 | 84.0 | 94.0 | 104.0 | 107.0 | 104.0 | 97.0 | 88.0 | 79.0 |
| 160.0 | 0.0 | 0.0 | 84.0 | 94.0 | 104.0 | 107. D | 104.0 | 97.0 | 88.0 | 79.0 |
| 170.0 | 0.0 | 0.0 | 84.0 | 94.0 | 104.0 | 107.0 | 104.0 | 97.0 | 88.0 | 79.0 |
| 180.0 | 0.0 | 0.0 | 84.0 | 94.0 | 104.0 | 107.0 | 104.0 | 97.0 | 88.0 | 79.0 |

User Defined_Horizontal Directiyity Indices_mand
0.0
10.0
20.0
30.0
40.0
50.0
50.0
70.0
80.0
90.0
100.0
110.0
120.0
130.0
140.0
150.0
160.0
170.0
180.0
190.0
200.0
210.0
220.0
230.0
240.0
250.0
260.0
270.0
280.0
290.0
300.0
310.0
320.0
330.0
340.0
350.0

| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| :--- | :--- | :--- | :--- | :--- |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 |  |  |  |


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0.0

| 0.0 | 0.0 |
| :--- | :--- |
| 0.0 | 0.0 |
| 0.0 | 0.0 |
| 0.0 | 0.0 |
| 0.0 | 0.0 |
| 0.0 | 0.0 |
| 0.0 | 0.0 |
| 0.0 | 0.0 |
| 0.0 | 0.0 |
| 0.0 | 0.0 |
| 0.0 | 0.0 |
| 0.0 | 0.0 |
| 0.0 | 0.0 |
| 0.0 | 0.0 |
| 0.0 | 0.0 |
| 0.0 | 0.0 |
| 0.0 | 0.0 |
| 0.0 | 0.0 |
| 0.0 | 0.0 |
| 0.0 | 0.0 |
| 0.0 | 0.0 |
| 0.0 | 0.0 |
| 0.0 | 0.0 |
| 0.0 | 0.0 |
| 0.0 | 0.0 |
| 0.0 | 0.0 |
| 0.0 | 0.0 |
| 0.0 | 0.0 |
| 0.0 | 0.0 |
| 0.0 | 0.0 |
| 0.0 | 0.0 |
| 0.0 | 0.0 |
| 0.0 | 0.0 |
| 0.0 | 0.0 |
| 0.0 | 0.0 |
| 0.0 | 0.0 |
| 0.0 |  |




Included Sides: (Top)
Ground Elevation, in meters: 267
Ground composition: 0
Points will be placed on the surfacee of a 3-D source

Lw or Dixectivity Angle
Lw, in dB re 1 picowatt

0.0
10.0
20.0
30.0
40.0
50.0
60.0
70.0
80.0
90.0
100.0
110.0
120.0
130.0
140.0
150.0
160.0
170.0
180.0
0.0
10.0
20.0
30.0
40.0
50.0
60.0
70.0
80.0
90.0
100.0
110.0
120.0
130.0
140.0
150.0
160.0
170.0
180.0
190.0
200.0
210.0
220.0
230.0
240.0
250.0
260.0
270.0
280.0
290.0
300.0
310.0
320.0
330.0
340.0
350.0


User Defined Horizontal Directivity Indices, in dB

| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0 | 0 |  |  |  |  |  |

Source Data Summary For: Boiler Combustion Air - Forced Draft Fan
P: \2006\C060340.00\Computer Model\Bailer Combustion Air - Forced Draft Fan.src
Source Coordinates:

| $(x 1, y 1):(1500,1300)$ | $(x 2, y 2):(1500,1300)$ |
| :--- | :--- |
| $(x 3, y 3):(1500,1300)$ | $(x 4, y 4):$ |
| (z lower, $z$ upper): $(1500,180)$ |  |
| Included Sides: (Top) |  |

Included Sides: (Top)
Ground Elevation, in meters: 185
Ground Composition: 0
A point source, centered at the average of all corners will be used

## Lw or Directivity Angle <br> Lw, in dB re 1 picowatt




User Defined Vertical Directivity Indices, in dB

0.0
10.0
20.0
30.0
40.0
50.0
60.0
70.0
80.0
90.0
100.0
110.0
120.0
130.0
140.0
150.0
160.0
170.0
180.0
190.0
200.0
210.0
220.0
230.0
240.0
250.0
260.0
270.0
280.0
290.0
300.0
310.0
320.0
330.0
340.0
350.0

| 0.0 | 84.0 | 86.0 | 88.0 | 87.0 | 86.0 | 86.0 | 82.0 | 78.0 | 71.0 |
| ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| 0.0 | 84.0 | 86.0 | 88.0 | 87.0 | 86.0 | 86.0 | 82.0 | 78.0 | 71.0 |
| 0.0 | 84.0 | 86.0 | 88.0 | 87.0 | 86.0 | 86.0 | 82.0 | 78.0 | 71.0 |
| 0.0 | 84.0 | 86.0 | 88.0 | 87.0 | 86.0 | 86.0 | 82.0 | 78.0 | 71.0 |
| 0.0 | 84.0 | 86.0 | 88.0 | 87.0 | 86.0 | 86.0 | 82.0 | 78.0 | 71.0 |
| 0.0 | 84.0 | 86.0 | 88.0 | 87.0 | 86.0 | 86.0 | 82.0 | 78.0 | 71.0 |
| 0.0 | 84.0 | 86.0 | 88.0 | 87.0 | 86.0 | 86.0 | 82.0 | 78.0 | 71.0 |
| 0.0 | 84.0 | 86.0 | 88.0 | 87.0 | 86.0 | 86.0 | 82.0 | 78.0 | 71.0 |
| 0.0 | 84.0 | 86.0 | 88.0 | 87.0 | 86.0 | 86.0 | 82.0 | 78.0 | 71.0 |
| 0.0 | 84.0 | 86.0 | 88.0 | 87.0 | 86.0 | 86.0 | 82.0 | 78.0 | 71.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

User Defined Horizontal Directivity Indices, in an

| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 |  |  |  |  |  |  |  |  |  |

Source Data Summary For: Bojiler Combustion Air - Induced Draft Fan
P: \2006\C060340.00\Computer Model\Boiler Combustion Air - Induced Draft Fan.src
Source Coordinates:
( $\mathrm{x} 1, \mathrm{y}^{1}$ ): (1500, 1300)
( $\mathrm{x} 2, \mathrm{y} 2$ ) : (1500, 1300)
(x3, y3) : ( 1500,1300 )
( $x 4, y^{4}$ ): $(1500,1300)$
(z lower, $z$ upper): (185, 188)
Included Sides:
Ground Elevation, in meters: 185
Ground Composition: 0
A point source, centered at the average of all comers will be used

| Iw or Directivity Ancie | Octave Band Center Frequency. Hz |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 16 | 31.5 | 63 | -125 | 250 | 500 | 1000 | 2000 | 4000 | 8000 |
| Lw, in dB re 1 picowatt | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
|  | User Defined Vertical Directivity Indices, in din |  |  |  |  |  |  |  |  |  |
| 0.0 | 0.0 | 84.0 | 86.0 | 88.0 | 87.0 | 86.0 | 86.0 | 82.0 | 78.0 | 71.0 |
| 10.0 | 0.0 | 84.0 | 86.0 | 88.0 | 87.0 | 86.0 | 85.0 | 82.0 | 78.0 | 71.0 |
| 20.0 | 0.0 | 84.0 | 86.0 | 88.0 | 87.0 | 86.0 | 86.0 | 82.0 | 78.0 | 71.0 |
| 30.0 | 0.0 | 84.0 | 86.0 | 88.0 | 87.0 | 86.0 | 86.0 | 82.0 | 78.0 | 71.0 |
| 40.0 | 0.0 | 84.0 | 86.0 | 88.0 | 87.0 | 86.0 | 86.0 | 82.0 | 78.0 | 71.0 |
| 50.0 | 0.0 | 84.0 | 86.0 | 88.0 | 87.0 | 86.0 | 86.0 | 82.0 | 78.0 | 71.0 |
| 60.0 | 0.0 | 84.0 | 86.0 | 88.0 | 87.0 | 86.0 | 86.0 | 82.0 | 78.0 | 71.0 |
| 70.0 | 0.0 | 84.0 | 86.0 | 88.0 | 87.0 | 86.0 | 86.0 | 82.0 | 78.0 | 71.0 |
| 80.0 | 0.0 | 84.0 | 86.0 | 88.0 | 87.0 | 86.0 | 86.0 | 82.0 | 78.0 | 71.0 |
| 90.0 | 0.0 | 84.0 | 86.0 | 88.0 | 87.0 | 86.0 | 86.0 | 82.0 | 78.0 | 71.0 |
| 100.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 110.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 120.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 130.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 140.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 150.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 160.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 170.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 180.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

User Defined Horizontal Directivity Indices, in dB
0.0
10.0
20.0
30.0
40.0
50.0
60.0
70.0
80.0
90.0
100.0
110.0
120.0
130.0
140.0
150.0
160.0
170.0
180.0
190.0
200.0
210.0
220.0
230.0
240.0
250.0
260.0
270.0
280.0
290.0
300.0
310.0
320.0
330.0
340.0
350.0


Source Data Summary For: Boiler Combustion Air - Primary Air Fan
P: $\backslash 2006 \backslash C 060340.00 \backslash$ Computer Model $\backslash$ Boiler Combustion Air - Primary Air Pan.src
Source Coordinates:
$(x 1, y 1):(1500,1300)$
$(x 3, y 3):(1500,1300)$
$(2$ lower, z upper): $(185,188)$

Included sides: (Top)

Included Sides: (Top)
Ground Elevation, in meters: 185
Ground Composition: 0
A point source, centered at the average of all corners will be used

| Lw or Directivity Angle | Octave Band Center Frequency, Hz |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 16 | -31.5 | 63 | 125 | 250 | 500 | 1000 | 2000 | 4000 | 8000 |
| Lw, in $d B$ re 1 picowatt | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
|  | User Defined vertical Directivity Indices. in in |  |  |  |  |  |  |  |  |  |
| 0.0 | 0.0 | 84.0 | 86.0 | 88.0 | 87.0 | 86.0 | 86.0 | 82.0 | 78.0 | 71.0 |
| 10.0 | 0.0 | 84.0 | 86.0 | 88.0 | 87.0 | 86.0 | 86.0 | 82.0 | 78.0 | 71.0 |
| 20.0 | 0.0 | 84.0 | 86.0 | 88.0 | 87.0 | 86.0 | 86.0 | 82.0 | 78.0 | 71.0 |
| 30.0 | 0.0 | 84.0 | 86.0 | 88.0 | 87.0 | 86.0 | 86.0 | 82.0 | 78.0 | 71.0 |
| 40.0 | 0.0 | 84.0 | 86.0 | 88.0 | 87.0 | 86.0 | 86.0 | 82.0 | 78.0 | 71.0 |
| 50.0 | 0.0 | 84.0 | 86.0 | 88.0 | 87.0 | 86.0 | 86.0 | 82.0 | 78.0 | 71.0 |
| 60.0 | 0.0 | 84.0 | 86.0 | 88.0 | 87.0 | 86.0 | 86.0 | 82.0 | 78.0 | 71.0 |
| 70.0 | 0.0 | 84.0 | 86.0 | 88.0 | 87.0 | 86.0 | 86.0 | 82.0 | 78.0 | 71.0 |
| 80.0 | 0.0 | B4.0 | 86.0 | 88.0 | 87.0 | 86.0 | 86.0 | 82.0 | 78.0 | 71.0 |
| 90.0 | 0.0 | 84.0 | 86.0 | 88.0 | 87.0 | 86.0 | 86.0 | 82.0 | 78.0 | 71.0 |
| 100.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 110.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 120.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 130.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 140.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 150.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 160.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 170.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 280.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

User Defined Horizontal Directivity Indices. in ar
0.0
10.0
20.0
30.0
40.0
50.0
60.0
70.0
80.0
90.0
100.0
110.0
120.0
130.0
140.0
150.0
160.0
170.0
180.0
190.0
200.0
210.0
220.0
230.0
240.0
250.0
260.0
270.0
280.0
290.0
300.0
310.0
320.0
330.0
340.0
350.0

| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

Source Coordinates:

| $(x 1, y 1):(557,1599)$ | $(x 2, y 2):(566,1610)$ |
| :--- | :--- |
| $(x 3, y 3):(576,1601)$ | $(x 4, y 4)=(568,1591)$ |

(z lower, z upper) : (177, 180)

Ground Elevation, in meters: 177
Ground Composition: 3
Points will be placed on the surfaces of a 3-D source

| $\frac{\text { Lw or Directivity Angle }}{\text { Lw, in } d B \text { re } 1 \text { picowatt }}$ | Octave Band Center Frequency, Hz |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 16 | 31.5 | 6.3 | 125 | 250 | 500 | 1000 | 2000 | 4000 | 8000 |
|  | 0.0 | 95.0 | 98.0 | 95.0 | 93.0 | 91.0 | 90.0 | 85.0 | 80.0 | 76.0 |
|  | Usex Defined Vertical Dixectivity Indices, in dB |  |  |  |  |  |  |  |  |  |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 10.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 20.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 30.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 40.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 50.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 60.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 70.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 80.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 90.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 100.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 110.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 120.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 130.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 140.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 150.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 160.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 170.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 180.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

Source Data Sumary For: Corl Transfer House
P: \2006\C060340.00\Computer Model\CoalTransferHouse.src
Source coordinates:
( $\mathrm{x} 1, \mathrm{y} 1$ ): $(1026,1072$ )
(x2,y2): (1020, 1083)
( $\mathrm{x} 3, \mathrm{y}^{3}$ ) : $(1028,1087$ ) ( $\mathrm{x} 4, \mathrm{y} 4$ ): $(1034,1077)$
(z lower, z upper): (185, 200)

Ground Elevation, in meters: 185
Ground Composition: 0
Points will be placed on the surfaces of a 3-D source

$\frac{\text { Lw or Directivity Angle }}{\text { Lw. in } \mathrm{dB} \text { re } 1 \text { picowatt }}$ | Octave Band Center Frequency, Hz |  |  |  |  |  |  |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| $\mathbf{1 6}$ | $\frac{31.5}{95}$ | $\frac{63}{95.0}$ | $\frac{125}{95.0}$ | $\frac{250}{93.0}$ | $\frac{500}{91.0}$ | $\frac{1000}{90.0}$ | $-\frac{2000}{88.0}$ | $\frac{4000}{80.0}$ |

User Defined Vertical Dixectivity Indices, in dR

0.0
10.0
20.0
30.0
40.0
50.0
60.0
70.0
80.0
90.0
100.0
110.0
120.0
130.0
140.0
150.0
160.0
170.0
180.0
190.0
200.0
210.0
220.0
230.0
240.0
250.0
260.0
270.0
280.0
290.0
300.0
310.0
320.0
330.0
340.0
350.0

| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

User Defined Hocizontal Directivity Indices in dB

|  |  |  |  | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |  |  |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 .0 | 0.0 |  |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |

Source Data Summary For: Cooling Tower 1-1
P: \2006\C060340.00\Computer Model\CoolingTower1-1.src
Source Coordinates:
(x1,y1): (1170, 1255)
(x3,y3): (1170, 1255)
(z lower, z upper): (185, 192)
Included Sides: (Top) ( $x 1-y 1 \rightarrow x 2-y 2$ ) ( $x 3-y 3 \rightarrow x 4-y^{4}$ )
Ground Elevation, in meters: 185
Ground Composition: 0
Points will be placed on the surfaces of a 3-D source

Iw or Directivity Angle
Lw, in dB re 1 picowatt

| 16 | Octave Band Center Prequency, Hz |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 31.5 | 63 | 125 | 250 | 500 | 1000 | 2000 | -4000 | 8000 |
| 0.0 | 85.0 | 88.0 | 88.0 | 84.0 | 84.0 | 83.0 | 83.0 | 80.0 | 74.0 |
| User Defined Veatical Directivity Indices in dB |  |  |  |  |  |  |  |  |  |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |


0.0
10.0
20.0
30.0
40.0
50.0
60.0
70.0
80.0
90.0
100.0
110.0
120.0
130.0
140.0
150.0
160.0
170.0
180.0
190.0
200.0
210.0
220.0
230.0
240.0
250.0
260.0
270.0
280.0
290.0
300.0
310.0
320.0
330.0
340.0
350.0
0.0
10.0
20.0
30.0
40.0
50.0
60.0
70.0
80.0
90.0
100.0
110.0
120.0
130.0
140.0
150.0
160.0
170.0
180.0
190.0
200.0
210.0
220.0
230.0
240.0
250.0
260.0
270.0
280.0
290.0
300.0
310.0
320.0
330.0
340.0
350.0

Source Data Summary For: Cooling Tower 1-2
P: \2006\C060340.00\Computer Model \CoolingTowerl-2.src
Source Coordinates:

| $(x 1, y 1):(1179,1264)$ | $(x 2, y 2):(1179,1264)$ |
| :--- | :--- |
| $(x 3, y 3):(1179,1264)$ | $(x 4, y 4):(1179$, |
| $1254)$ |  |

(z lower,z upper): (185, 192)
Included Sides: (Top) (x1-y1 -> $x 2-y^{2}$ ) ( $x 3-y^{3} \rightarrow x 4-y^{4}$ )
Ground Elevation, in meters: 185
Ground Composition: 0
Points will be placed on the surfaces of a 3-D source

```
Lw or Directivity Angle
Lw, in dB re 1 picowatt
Lw, in dB re 1 picowatt
```



Octave Band Center Frequency, H $\frac{125}{88}$ $-250$ $-500$ $-\frac{1000}{83.0}$ $-2000$ $\frac{4000}{80.0}$

User pefined Vertical Directivity Indices, in $d B$

0.0
10.0
20.0
30.0
40.0
50.0
60.0
70.0
80.0
90.0
100.0
110.0
120.0
130.0
140.0
150.0
160.0
170.0
180.0
190.0
200.0
210.0
220.0
230.0
240.0
250.0
260.0
270.0
280.0
290.0
300.0
310.0
320.0
330.0
340.0
350.0

| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

User Defined Horizontal Directiyity Indices, in dB

| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

Source Coordinates:
(x1, Y1): (1188, 1273)
(x3, y3): (1188, 1273)
( $x 2, y 2$ ): $(1188,1273)$
$\left(x 4, Y^{4}\right):(1188,1273)$
(z Iower, z upper): (185, 192)
Included Sides: (Top) (x1-yI -> $x 2-y^{2}$ ) ( $x 3-y 3$-> $x 4-y 4$
Ground Elevation, in meters: 185
Ground Composition: 0
Points will be placed on the surfaces of a 3-D source

| Lh or Dixectivity Angle | Octave Band Center Frequency, Hz |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 26 | 31.5 | 63 | 125 | 250 | 500 | 2000 | 2000 | 4000 | 8000 |
| Lw, in CB re 1 picowatt | 0.0 | 85.0 | 88.0 | 88.0 | 84.0 | 84.0 | 83.0 | 83.0 | 80.0 | 74.0 |
|  | User Defined Vertical. Directivity Indices, in dB |  |  |  |  |  |  |  |  |  |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 10.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 20.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 30.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 40.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 50.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 60.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 70.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 80.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 90.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 100.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 110.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 120.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 130.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 140.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 150.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 160.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 170.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 180.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

Source Data Summary For: Cooling Tower 1-4
P: \2006\C060340.00\Computer Model\CoolingTower1-4.src


| Lw or Directivity Angle | Octave Band Center Frequency, Hz |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 16 | -31.5 | 63 | 125 | 250 | 500 | 1000 | 2000 | 4000 | 8000 |
| Lw, in dB re 1 picowatt | 0.0 | 85.0 | 88.0 | 88.0 | 84.0 | 84.0 | 83.0 | 83.0 | 80.0 | 74.0 |

0.0
10.0
20.0
30.0
40.0
50.0
60.0
70.0
80.0
90.0
100.0
110.0
120.0
130.0
140.0
150.0
160.0
170.0
180.0
0.0
10.0
20.0
30.0
40.0
50.0
60.0
70.0
80.0
90.0
100.0
110.0
120.0
130.0
140.0
150.0
160.0
170.0
180.0
190.0
200.0
210.0
220.0
230.0
240.0
250.0
260.0
270.0
280.0
290.0
300.0
310.0
320.0
330.0
340.0
350.0

| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |




Lw, in dB re 1 picowatt

| 16 | 31.5 | $\begin{array}{r} \text { ave } \\ 63 \end{array}$ |  | 250 |  | 1000 | 2000 | 4000 | 000 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 0.0 | $\frac{-31.5}{85.0}$ | 88.0 | 88.0 | 84.0 | 84.0 | 83.0 | 83.0 | 80.0 | 74.0 |
|  | User Defined Vertical Directivity Indices, ind |  |  |  |  |  |  |  |  |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

Dser Defined Horizontal Dixectivity Indices in dB

Source Data Summary For: Cooling Tower 1-5
P: \2006\C060340.00\Computer Madel\CoolingTower1-5.src

```
Source Coordinates:
(x1،y1): (1206, 1291)
(x3,y3): (1206, 1291) (x4,y4): (1206, 1291)
(x2,y2): (1206, 1291)
(z lower, z upper): (185, 192)
Included Sides: (Top) (x1-y1 -> x2-y2) (x3-y3 -> x4-y4)
Ground Elevation, in meters: }18
Ground Composition: 0
Points will be placed on the surfaces of a 3-D source
```

| Lw or Directivity Angle | Octave Band Center Frequency, Hz |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Lw, in dB re 1 picowatt | 0.0 | $\frac{31.5}{85.0}$ | 68.0 | 88.0 | 8250 | $\frac{500}{84.0}$ | $\frac{1000}{83.0}$ | $\frac{2000}{83.0}$ | 4000 | 8000 |
|  | User Defined Vertical Directivity Indices, in dB |  |  |  |  |  |  |  |  |  |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 10.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 20.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 30.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 40.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 50.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 60.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 70.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 80.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 90.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 100.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 110.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 120.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 130.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 140.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 150.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 160.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 170.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 180.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

User Defined forizontal Directivity Indices, in dB


Source Data Summary For: Cooling Tower 1-6
$\mathbf{p}: \backslash 2006 \backslash C 060340.00 \backslash$ Computer Model\CoolingTower1-6.sre
Source Coordinates:
(x1, $\mathrm{Y}^{1}$ ): $(1215,1300)$
( $x 2, y^{2}$ ): $(1215,1300)$
(x3,y3): (1215, 1300) $\left(x 4, Y^{4}\right):(1215,1300)$
(z lower, z upper): (185, 192)
Included sides: (Top) (xl-yl -3 $\left.x 2-y^{2}\right)(x 3-y 3->x 4-y 4)$
Ground Elevation, in meters: 185
Ground Composition: D
Points will be placed on the surfaces of a 3-D source
$\frac{\text { Lw or Directivity Angle }}{\text { Lw, in }} \mathrm{dB}$ re 1 pioowatt
Lw, in dB re 1 picowatt

| Octave Eand Center Frequency, | Hz |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| -16 | $\frac{31.5}{85.0}$ | $\frac{63}{88.0}$ | $-\frac{125}{88.0}$ | $\frac{250}{84.0}$ | $\frac{500}{84.0}$ | $\frac{100}{83} .0$ | 2000 $-4000$

8000

User Defined Vertical Directivity Indices, in dB


| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

User Defined Horizontal Directivity Indices, in dB

| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |



Ground Elevation, in meters: 185
Ground Composition: 0
Points will be placed on the surfaces of a 3-D source

| Iw or Directivity angle | Octave Band Centes Frequency, Hz |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 16 | 31.5 | 63 | 125 | 250 | 500 | 1000 | 2000 | 4000 | 8000 |
| Lw, in dB re 1 picowatt | 0.0 | 85.0 | 88.0 | 88.0 | 84.0 | 24.0 | 83.0 | 83.0 | 80.0 | 74.0 |
|  | User Defined Vertical Directivity Indices, in dB |  |  |  |  |  |  |  |  |  |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 20.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 20.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 30.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 40.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 50.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 60.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 70.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 80.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 90.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 100.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 110.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 120.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 130.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 140.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 150.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 160.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 170.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 180.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

User Befined Horizontal Directivity Indicer. in dB
0.0
10.0
20.0
30.0
40.0
50.0
60.0
70.0
80.0
90.0
100.0
110.0
120.0
130.0
140.0
150.0
160.0
170.0
180.0
190.0
200.0
210.0
220.0
230.0
240.0
250.0
260.0
270.0
280.0
290.0
300.0
310.0
320.0
330.0
340.0
350.0

Iw or Directivity angle
0.0
10.0
20.0
30.0
40.0
50.0
60.0
70.0
80.0
90.0
100.0
110.0
120.0
130.0
140.0
150.0
160.0
170.0
180.0

0
0.
0.
0.
0.
0.
0.
0.
0.
0.
0.
0.
0.
0.
0.
0.
0.
0.
0.

| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

Source Data Summary For: Cooling Tower 1-8
P: \2006\C060340.00\Computer Model $\backslash$ CoolingTower1-8. sre
Source Coordinates:

| (x1, y1) : (1233، 1319) | (x2,y2) : 12333,1319 ) |
| :---: | :---: |
| ( $\mathrm{x} 3, \mathrm{y} 3$ ) : (1233, 1319) | ( $\mathrm{x} 4, \mathrm{y} 4)$ : (1233, 1319) |
| (z lower, z upper): $(185,192)$ |  |
| Included Sides: (To |  |

Ground Elevation, in meters: 185
Ground Composition: 0
Points will be placed on the surfaces of a 3-D source

## Lw or Directivity Angle <br> Lw, in dB re 1 picowatt



User Defined Horizontal Dixectivity Indices, in dB
0.0
10.0
20.0
30.0
40.0
50.0
60.0
70.0
80.0
90.0
100.0
110.0
120.0
130.0
140.0
150.0
160.0
170.0
180.0
190.0
200.0
210.0
220.0
230.0
240.0
250.0
260.0
270.0
280.0
290.0
300.0
310.0
320.0
330.0
340.0
350.0

| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

Source Data Summary For: Cooling Tower 1-9
p: \2006\C060340.00\Computer Model\CoolingToweri-9.src

Source Coordinates:
$(x 1, y l):(1242,1328)$
( $\mathrm{x} 2 . \mathrm{y}^{2}$ ) : (1242, 1328)
$(x 3, y 3):(1242,1328)$
(z lower, z upper): (185, 192)
Included Sides: (Top) (xl-yl -> $x 2-y^{2}$ ) ( $x 3-y 3$-> $x 4-y^{4}$ )
Ground Elevation, in meters: 185
Ground Composition: 0
Points will be placed on the surfaces of a 3-D source

| Lw or Directivity Angle | 16 | 31.5 | tave $63$ | Eand $\ldots 125$ | $\begin{aligned} & \text { er F } \\ & 250 \end{aligned}$ | $\begin{array}{r} \text { ruenc } \\ 500 \end{array}$ | $\begin{aligned} & \mathrm{Hz} \\ & 1000 \end{aligned}$ | 2000 | 4000 | 8000 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Lw, in dB re 1 picowatt | 0.0 | 85.0 | 88.0 | 88.0 | 84.0 | 84.0 | 83.0 | 83.0 | 80.0 | 74.0 |
|  | User Defined vercical Directiyity Indicege in dB |  |  |  |  |  |  |  |  |  |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 10.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 20.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 30.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 40.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 50.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 60.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 70.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 80.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 90.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 100.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 110.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 120.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 130.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 140.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 150.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 160.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 170.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 180.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

User Defined Horizontal Directivity Indices, in dB

| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |  |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |  |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |

Source Data Summary For: Cooling Tower 1-10
$\mathbf{F}: \backslash 2006 \backslash$ C060340.00 $\backslash$ Computer Model $\backslash$ CoolingTower1-10.src
Source Coordinates:

Ground Elevation, in meters: 185
Ground Composition: 0
points will be placed on the surfaces of a $3-D$ source

```
Lw or Directivity Angle
Lw, in dB re 1 picowatt
```



2000
4000
8000

User Defined Vertical Directivity Indices, in dr

0.0
10.0
20.0
30.0
40.0
50.0
60.0
70.0
80.0
90.0
100.0
110.0
120.0
130.0
140.0
150.0
160.0
170.0
180.0
190.0
200.0
210.0
220.0
230.0
240.0
250.0
260.0
270.0
280.0
290.0
300.0
310.0
320.0
330.0
340.0
350.0

| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

User Defined Horizontal Directivity Indices, in dB

| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 |  |  |  |  |  |  |  |  |  |

Source Data Summary For: Cooling Tower 1-11
P: \2006\C060340,00\Computer Model\CoolingTowerl-11.src
Source Coordinateg:


Ground Elevation, in meters: 185
Ground Composition: 0
Points will be placed on the surfaces of a 3-D source

| Lw or Directivity Angle | Octave Eand Center Frequency, Hz |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 16 | -31.5 | 68 | 125 | 250 | 500 | 1000 | $\underline{2000}$ | $\frac{4000}{80.0}$ | $\frac{8000}{74}$ |
| Lw, in dB re 1 picowatt | 0.0 | 85.0 | 88.0 | B8.0 | 84.0 | 84.0 | 83.0 | 83.0 | 80.0 | 74.0 |
|  | Ufer Defined Vertical Directivity Indices, in dB |  |  |  |  |  |  |  |  |  |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 10.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 20.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 30.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 40.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 50.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 60.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 70.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 80.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 90.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 100.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 110.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 120.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 130.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 140.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 150.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 160.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 170.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 180.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

User Defined Horizontal Directivity Indices, in $d B$
0.0
10.0
20.0
30.0
40.0
50.0
60.0
70.0
80.0
90.0
100.0
110.0
120.0
130.0
140.0
150.0
160.0
170.0
180.0
190.0
200.0
210.0
220.0
230.0
240.0
250.0
260.0
270.0
290.0
290.0
300.0
310.0
320.0
330.0
340.0
350.0

Source Data Summary For: Cooling Tower 1-12
P: \2006\C060340.00\Computer Model \CoolingTower1-12.src
Source Coordinates:


Included sides: (Top) ( $x 1-y^{1}->x 2-y^{2}$ ) ( $x^{3}-y^{3} \rightarrow x 4-y^{4}$ )
Ground Elevation, in meters: 185
Ground Composition: 0
Points will be placed on the surfaces of a $3-D$ source

```
Lw or Directivity Angle
```

Lw, in dB re 1 picowatt

| 16 | Octave Band Center Frequency, Hz |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | -31.5 | 63 | 125 | 250 | 500 | 1000 | 2000 | 4000 | 8000 |
| 0.0 | 85.0 | 88.0 | 88.0 | 84.0 | 84.0 | 83.0 | 83.0 | B0.0 | 74.0 |
|  | User Defined Vertical Directivity Indices in din |  |  |  |  |  |  |  |  |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

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340.0
350.0

| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

```
source Coordinates:
(xl,y1): (1278, 1364)
(x3,y3): (1278, 1364) (x4,y4); (1278, 1364)
    (x2,Y2): (1278, 1364)
(z lowex, z upper): (185, 192)
Included Sides: (TOp) (xl-yl -> x2-y2) (x3-y3 -> x4-y4)
Ground Elevation, in meters: }18
Ground Composition: 0
Foints will be placed on the surfaces of a 3-D source
```

Lw or Dinectivity Angle
$L w$, in $d B$ re 1 picowatt

| 16 | Octave Band Center Frequency, Hz |  |  |  |  |  | $\frac{2000}{83.0}$ | $\frac{4000}{80.0}$ | $\frac{8000}{74.0}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 31.5 | 63 | $\underline{125}$ | 250 | -500 | 1000 |  |  |  |
| 0.0 | 85.0 | 88.0 | 88.0 | 84.0 | 84.0 | 83.0 |  |  |  |
| User Defined Vertical Directivity Indices, in is |  |  |  |  |  |  |  |  |  |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |


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| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| :---: | :---: | :---: | :---: | :---: |
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0.0
0.0
0.0
0.0
0.0
0.0
0.0
0.0
0.0
0.0
0.0

Source Data Summary For: Cooling Tower 1-14
$\mathrm{P}: \backslash 2006 \backslash \mathrm{C} 060340.00 \backslash$ Computer Model $\backslash$ CoolingTower1-14.src
Source Coordinates:

| $(\mathrm{x} 1, \mathrm{y} 1):(1287,1373)$ | $(\mathrm{x} 2, \mathrm{y}):(1287,1373)$ |
| :--- | :--- |
| $(\mathrm{x} 3, \mathrm{y} 3):(1287,1373)$ | $\left(\mathrm{x} 4, \mathrm{Y}^{4}\right):(1287,1373)$ |

(z lower, $z$ upper): (185, 192)
Included Sides: (Top) (x1-y1 -> $x 2-\mathrm{y} 2$ ) ( $\mathrm{x} 3-\mathrm{y} 3$-> $\mathrm{x} 4-\mathrm{y} 4$ )
Ground Elevation, in meters: 185
Ground Composition: 0
points will be placed on the surfaces of a 3-D source

| Lw or Directivity Angle | Octave Band Center Frequency, Hz |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 16 | $\frac{31.5}{85.0}$ | -63 | 88 | 250 | 500 | $\frac{1000}{830}$ | $\frac{2000}{83.0}$ | 4000 | 8000 |
| Lw, in dB re 1 picowatt | 0.0 | 85.0 |  | 88.0 | B4.0 | 84.0 | 83.0 | 83.0 | 80.0 | 74.0 |
|  | Tser Defined Yertical Directivity Indices, in dib |  |  |  |  |  |  |  |  |  |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 10.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 20.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 30.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 40.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 50.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 60.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 70.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 80.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 90.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 100.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 110.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 120.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 130.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 140.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 150.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 160.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 170.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 180.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

User Defined Horizontal Directivity Indices._in dB
0.0
10.0
20.0
30.0
40.0
50.0
60.0
70.0
80.0
90.0
100.0
110.0
120.0
130.0
140.0
150.0
160.0
170.0
180.0
190.0
200.0
210.0
220.0
230.0
240.0
250.0
260.0
270.0
280.0
290.0
300.0
310.0
320.0
330.0
340.0
350.0
10

| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | O. 0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

```
Source Data Summary For: Cooling Tower 1-15
P:\2006\C060340.00\Computer Model\CoolingTowerl-15.sre
Source Coordinates:
(x1.y1): (1296, 1382)
(x3,y3): (1296, 1382)
    (x2,y2): (1296, 1382)
    (x4,y4): (1296, 13B2)
(z lower, z upper): (185, 192)
Included Sides: (Top) (x1-y1 -> x2-y2) (x3-y3 -> x4-y4)
Ground Elevation, in meters: }18
Ground Composition: 0
Points will be placed on the surfaces of a 3-D source
```

|  | Octave Band Center Prequency, Hz |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 16 | 31.5 | 63 | 125 | 250 | 500 | 1000 | 2000 | 4000 | 8000 |
| $\frac{\text { Lw or Dinectivity Ancle }}{\text { Lw, in } \mathrm{dB} \text { re } 1 \text { picowatt }}$ | 0.0 | 85.0 | 88.0 | 88.0 | 84.0 | 84.0 | 83.0 | 83.0 | 80.0 | 74.0 |
|  | User Defined vertical Directivity Indices, in dr |  |  |  |  |  |  |  |  |  |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 10.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 20.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 30.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 40.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 50.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 60.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 70.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 80.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 90.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 100.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 110.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 120.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 130.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 140.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 150.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 160.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 170.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 180.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

User Defined Horizontal. Directivity Indices, in dB
0.0
10.0
20.0
30.0
40.0
50.0
60.0
70.0
80.0
90.0
100.0
110.0
120.0
130.0
140.0
150.0
160.0
170.0
180.0
190.0
200.0
210.0
220.0
230.0
240.0
250.0
260.0
270.0
280.0
290.0
300.0
310.0
320.0
330.0
340.0
350.0

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0.0
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0.0
0.0
0.0






Source Data Summary For: Cooling Tower 1-16
p: \2006\C060340.00\Computer Model $\backslash$ CoolingTower1-16.src
Source Coordinates:


Ground Elevation, in meters: 185
Ground Composition: 0
Points will be placed on the surfaces of a 3-D source

| Lw or Dixectivity Angle | Octave Band Center Frequency, Hz |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 16 | 31.5 | 63 | 125 | 250 | 500 | 1000 | 2000 | 4000 | . 8000 |
| Lw, in dB re 1 picowatt | 0.0 | 85.0 | 88.0 | 88.0 | 84.0 | 84.0 | 83.0 | 83.0 | 80.0 | 74.0 |
|  | Dser Defined Vertical Directivity Indices, in dB |  |  |  |  |  |  |  |  |  |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 10.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 20.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 30.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 40.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 50.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 60.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 70.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 80.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 90.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 100.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 110.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 120.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 130.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 140.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 150.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 160.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 170.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 180.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

User Defined Horizontal Directixity Indices, in dB
0.0
10.0
20.0
30.0
40.0
50.0
60.0
70.0
80.0
90.0
100.0
110.0
120.0
130.0
140.0
150.0
160.0
170.0
180.0
190.0
200.0
210.0
220.0
230.0
240.0
250.0
260.0
270.0
280.0
290.0
300.0
310.0
320.0
330.0
340.0
350.0

| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

Source Data Summary For: Cooling Tower 2-1
F: \2006\C060340.00\Computer Model\CoolingTower2-1.src
Source Coordinates:
(x1, Y1) : $(951,1335)$
( $\mathrm{x} 2, \mathrm{y} 2$ ) : (951, 1335)
(x3, y3): 951,1335 ) ( $\mathrm{x} 4, \mathrm{y} 4$ ): (951, 1335)
( $z$ lower, z upper): (185, 192)
Included Sides: (Top) ( $x 1-y 1-7 x 2-y 2$ ) ( $x 3-y 3->x 4-y^{4}$ )
Ground Elevation, in meters: 185
Ground Corposition: 0
Points will be placed on the surfaces of a 3-D source

| Lwor Directivity Angle <br> Lw, in dB re 1 picowart | Octave Band Center Frequency, Hz |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 16 | 31.5 | 63 | 125 | 250 | 500 | 1000 | 2000 | 4000 | 8000 |
|  | 0.0 | 85.0 | 88.0 | 88.0 | 84.0 | 84.0 | 83.0 | 83.0 | 80.0 | 74.0 |
|  | User Defined Vertical Directivity Indices, in dB |  |  |  |  |  |  |  |  |  |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 10.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 20.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 30.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 40.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 50.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 60.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 70.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 80.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 90.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 100.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 110.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 120.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 130.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 140.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 150.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 160.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 170.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 180.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

$\begin{array}{llllllllllll}0 & 0.0 & 0.0 & 0.0 & 0.0 & 0.0 & 0.0 & 0.0 & 0.0 & 0.0\end{array}$
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0.0
0.0

| 0.0 | 0.0 | 0.0 |
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| 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 |
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$\begin{array}{ll}0.0 \\ 0.0 \\ 0 . \\ 0 . \\ 0 . \\ 0 . \\ 0 . \\ 0 . \\ 0 . \\ 0 . \\ 0 . \\ 0 . \\ 0 . \\ 0 . \\ 0 . \\ 0 . \\ 0 . \\ 0 . \\ 0 . \\ 0 . \\ 0 . \\ 0 . \\ 0.0 \\ 0 . \\ 0 . \\ 0 . \\ 0 . \\ 0 . \\ 0 . \\ 0 . \\ 0 . \\ 0 . \\ 0 . \\ 0 . \\ 0 . \\ 0 . \\ & \\ 0 . \\ 0.0\end{array}$
on the surfaces of a 3-D source

User Defined Vertical Directivity Indices, in dB

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0

Source Data Summary For: Cooling Tower 2-2
P: \2006\C060340.00\Computer Model\CoolingTower2-2.grc
Source coordinates


Ground Elevation, in meters: 185
Ground Composition: 0
Points will be placed on the surfaces of a 3-D source

| Lw or Directivity Angle | Octave Band Center Frequency, Hz |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 16 | 31.5 | 63 | 125 | 250 | 500 | 1000 | 2000 | 6000 | 8000 |
| Lw, in dB re 1 pleowatt | 0.0 | 85.0 | 88.0 | 88.0 | 84.0 | 84.0 | 83.0 | 83.0 | 80.0 | 74.0 |
|  | User Defined Vertical Directivity Indices, in dB |  |  |  |  |  |  |  |  |  |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 10.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 20.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 30.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 40.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 50.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 60.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 70.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 80.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 90.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 100.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 110.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 120.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 130.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 140.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 150.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 160.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 170.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 180.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

User Defined Horizontai Directivity Indiced in dB
0.0
10.0
20.0
30.0
40.0
50.0
60.0
70.0
80.0
90.0
100.0
110.0
120.0
130.0
140.0
150.0
160.0
170.0
180.0
190.0
200.0
210.0
220.0
230.0
240.0
250.0
260.0
270.0
280.0.
290.0
300.0
310.0
320.0
330.0
340.0
350.0
User De

| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

```
Source Data Summary For: Cooling Tower 2-3
P:\2006\C060340.00\Computer Model\CoolingTower2-3.sre
Source Coordinates:
    (x1,y1): (969, 1353)
    (x2,y2): (969, 1353)
    (x3,y3): (969, 1353)
    (x4.y4): (969, 1353)
(z lower, z upper): (185, 192)
Included Sides: (Top) {xl-yl -> x2-y2} (x3-y3 -> x4-y4)
Ground Elevation, in meters: 185
Ground Composition: 0
Points will be placed on the surfaces of a 3-D source
```

Lw or Directivity Angle
Lw, in dB re 1 picowatt

| Octave Band Center Frequency, Hz |  |  |  |  |  |  |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 0.0 | $\frac{31.5}{85.0}$ | $\frac{63}{88.0}$ | $\frac{125}{88.0}$ | $\frac{250}{84.0}$ | $\frac{500}{84.0}$ | $\frac{1000}{83.0}$ | $\frac{2000}{83.0}$ | $\frac{4000}{80.0}$ |

User Defimect Vertical Directivity Indices, in dB
0.0
10.0
20.0
30.0
40.0
50.0
50.0
70.0
80.0
90.0
100.0
110.0
120.0
130.0
140.0
150.0
160.0
170.0
180.0
0.0
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| 0.0 | 0.0 | 0.0 | 0.0 |
| :--- | :--- | :--- | :--- |
| 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 |
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User Defined Horizontel Directivity Indices, in dB
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0.0
0.0
0.0
0.0


Source Data Summary For: Cooling Tower 2-4
F:\2006\C060340.00\Computer Model\CcolingTower2-4.src
Source Coordinates:
( $\mathrm{x} 1, \mathrm{Y} 1$ ): $(978,1362$ )
$(x 2, y 2):(978,1362)$
$\left(x 3, y^{3}\right)=(978,1362)$ $\left(x^{4}, y^{4}\right):(978,1362)$
( $z$ lowex, $z$ upper): (185, 192)
Included Sides: (Top) (x1-y1 $\rightarrow x 2-y 2$ ) ( $x 3-y^{3}-3 x^{4}-y^{4}$ )
Ground Blevation, in meters: 185
Ground Composition: 0
Points will be placed on the surfaces of a 3-D source

|  |  |  | Octave | Band Ce | nter F | requenc | Hz |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Lw or Directivity Angle | 16 | 31.5 | 63 | 125 | 250 | - 500 | 1000 | 2000 | 4000 | 8000 |
| Lw, in dB re 1 plcowatt | 0.0 | 85.0 | 88.0 | 88.0 | 84.0 | 84.0 | 83.0 | 83.0 | 80.0 | 74.0 |


| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 10.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 20.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 30.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 40.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 50.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 60.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 70.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 80.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 90.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 100.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 110.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 120.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 130.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 140.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 150.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 160.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 170.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 180.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

User Defined_Horizontal Directivity Indices, in dB
0.0
10.0
20.0
30.0
40.0
50.0
60.0
70.0
80.0
90.0
100.0
110.0
120.0
130.0
140.0
150.0
160.0
170.0
180.0
190.0
200.0
210.0
220.0
230.0
240.0
250.0
260.0
270.0
280.0
290.0
300.0
310.0
320.0
330.0
340.0
350.0


## Source Data Summary For: Cooling Tower 2-5

P: \2006\C060340.00\Computer Model\CoolingTower2-5.src


| $\frac{\text { Lw or Dinectivity Angle }}{\text { Lw }}$ in $d B$ re 1 picowatt | Octave Band Center Frequency, Hz |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 16 | 31.5 | -63 | -125 | 250 | 500 | 1000 | 2000 | 4000 | 8000 |
|  | 0.0 | 85.0 | 88.0 | 88.0 | 84.0 | 84.0 | 83.0 | 83.0 | 80.0 | 74.0 |
|  | User Defined yertical Directivity Indices, in dB |  |  |  |  |  |  |  |  |  |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 10.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 20.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 30.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 40.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 50.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 60.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 70.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 80.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 90.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 100.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 110.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 120.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 130.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 140.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 150.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 160.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 170.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 180.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

User Defined Horizontal Directivity Indices, in dB
0.0
10.0
20.0
30.0
40.0
50.0
60.0
70.0
80.0
90.0
100.0
110.0
120.0
130.0
140.0
150.0
160.0
170.0
180.0
190.0
200.0
210.0
220.0
230.0
240.0
250.0
260.0
270.0
280.0
290.0
300.0
310.0
320.0
330.0
340.0
350.0


| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| :--- | :--- | :--- | :--- | :--- |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |



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0.0



Source Data Summary For: Cooling Tower 2-6
$\mathrm{P}: \backslash 2006 \backslash C 060340.00 \backslash$ Computer Model $\backslash$ CoolingTower2-6.s5c
Source Coordinates:

| (x1, y2) : | 1996, 1381) | (x2, y2) : 9996,1381$)$ |
| :---: | :---: | :---: |
| (x3, y3) : | (996, 1381) | ( $\mathrm{x} 4, \mathrm{y}^{4}$ ) : $(996,1381)$ |
| (z lower, | 2 upper) : (185, 192) |  |
| Included | des: (Top) (x |  |

Ground Elevation, in meters: 185
Ground Composition: 0
Points will be placed on the surfaces of a 3-D source

Lw or Directivity Angle
Lw, in dB re 1 picowatt


User Defined Forizontal Direativity Indicer in aB
0.0
10.0
20.0
30.0
40.0
50.0
60.0
70.0
80.0
90.0
100.0
110.0
120.0
130.0
140.0
150.0
160.0
170.0
180.0
190.0
200.0
210.0
220.0
230.0
240.0
250.0
260.0
270.0
280.0
290.0
300.0
310.0
320.0
330.0
340.0
350.0
0.0
10.0
20.0
30.0
40.0
50.0
60.0
70.0
80.0
90.0
100.0
110.0
120.0
130.0
140.0
150.0
160.0
170.0
180.0
180.0

```
Source Data Summary For: Cooling Tower 2-7
```

P: \2006\C060340.00\Computer Model\CoolingTower2-7.src
Source Coordinates:
$\{x 1, y 1\rangle:(1005,1390) \quad\{\mathrm{x} 2, \mathrm{y} 2):(1005,1390)$
$\left(\mathrm{x} 3, \mathrm{y}^{3}\right):(1005,1390),{ }_{(185,192)}\left(\mathrm{x} 4, \mathrm{y}^{4}\right):(1005,1390)$
(z lower, z upper) : $(185,192)$
Included sides: (Top) (x1-y1 -> $\mathrm{x} 2-\mathrm{y} 2$ ) ( $\mathrm{x} 3-\mathrm{y} 3->\mathrm{x} 4-\mathrm{y} 4$ )
Ground Elevation, in meters: 185
Ground Composition: 0

Points will be placed on the surfaces of a 3-D source
0.0
10.0
20.0
30.0
40.0
50.0
60.0
70.0
80.0
90.0
100.0
110.0
120.0
130.0
140.0
150.0
160.0
170.0
180.0
190.0
200.0
210.0
220.0
230.0
240.0
250.0
260.0
270.0
280.0
290.0
300.0
310.0
320.0
330.0
340.0
350.0

| Lw or Directivity Angle | Octave Band Center Frequency, Hz |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 16 | 31.5 | 63 | 125 | 250 | 500 | 1000 | 2000 | 4000 | 8000 |
| Lw, in dB re 1 picowatt | 0.0 | 85.0 | 88.0 | 88.0 | 84.0 | 84.0 | 83.0 | 83.0 | 80.0 | 74.0 |
|  | Deer Defined Vertical pirectivity Indices, in AB |  |  |  |  |  |  |  |  |  |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 10.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 20.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 30.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 40.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 50.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 60.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 70.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 80.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 90.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 100.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 110.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 120.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 130.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 140.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 150.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 160.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 170.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 180.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

User Defined Horizontal Directivity Indices. in dB
$\begin{array}{lll} & 0.0 & 85 \\ & & \\ & & \\ & 0.0 & 0 \\ 0.0 & 0 \\ 0.0 & 0 \\ 0.0 & 0 \\ 0.0 & 0 \\ 0.0 & 0 \\ 0.0 & 0 \\ 0.0 & 0 \\ 0.0 & 0 \\ 0.0 & 0 \\ 0.0 & 0 \\ 0.0 & 0 \\ 0.0 & 0 \\ 0.0 & 0 \\ 0.0 & 0 \\ 0.0 & 0 \\ 0.0 & 0 \\ 0.0 & 0 \\ 0.0 & 0 \\ & & \\ & & \\ & 0.0 & 0 \\ & 0.0 & 0\end{array}$
10

| 0.0 | 0.0 |
| :--- | :--- |
| 0.0 | 0.0 |
| 0.0 | 0.0 |
| 0.0 | 0.0 |
| 0.0 | 0.0 |
| 0.0 | 0.0 |
| 0.0 | 0.0 |
| 0.0 | 0.0 |
| 0.0 | 0.0 |
| 0.0 | 0.0 |
| 0.0 | 0.0 |
| 0.0 | 0.0 |
| 0.0 | 0.0 |
| 0.0 | 0.0 |
| 0.0 | 0.0 |
| 0.0 | 0.0 |
| 0.0 | 0.0 |
| 0.0 | 0.0 |
| 0.0 | 0.0 |
| 0.0 | 0.0 |
| 0.0 | 0.0 |
| 0.0 | 0.0 |
| 0.0 | 0.0 |
| 0.0 | 0.0 |
| 0.0 | 0.0 |
| 0.0 | 0.0 |
| 0.0 | 0.0 |
| 0.0 | 0.0 |
| 0.0 | 0.0 |
| 0.0 | 0.0 |
| 0.0 | 0.0 |
| 0.0 | 0.0 |
| 0.0 | 0.0 |
| 0.0 | 0.0 |
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| 0.0 | 0.0 |
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0.0


Source Data Sumary For: Cooling Tower 2-8
P: \2006\C060340.00\Computer Model \CoolingTower2-8.src
Source Coordinates:


Ground Elevation, in meters: 185
Ground Composition: 0
Points will be placed on the surfaces of a 3-D source

|  |  |  | Octave | Band | Er F | requen |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Lw or Directivity Angle | 16 | 31.5 | 63 | 125 | 250 | 500 | 1000 | 200 | 4000 | 8000 |
| Lw, in dB re 1 picowatt | . 0 | 85.0 | 88.0 | 88.0 | 84.0 | 84.0 | 83.0 | 83.0 | 80. | 74.0 |

User Defined Vertical Directivity Indices. in $a B$

0.0
10.0
20.0
30.0
40.0
50.0
60.0
70.0
80.0
90.0
100.0
110.0
120.0
130.0
140.0
150.0
160.0
170.0
180.0
190.0
200.0
210.0
220.0
230.0
240.0
250.0
260.0
270.0.
280.0
290.0
300.0
310.0
320.0
330.0
340.0
350.0

| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

User pefined Horizontal pirectivity Indiees in d

|  |  |  |  |  |  |  |  | 0 | 0.0 | 0.0 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |
| 0.0 |  |  |  |  |  |  |  |  |  |  |

Source Data Summary For: Cooling Tower 2-9
F: \2006\C060340.00\Computer Model\CoolingTower2-9.src


Ground Elevation, in meters: 185
Ground Composition: 0
Points will be placed on the surfaces of a 3-D source

| $\frac{\text { Lw or Directivity Angle }}{\text { Lw, in dB re } 1 \text { picowatt }}$ | Octave Band Center Frequency, Hz |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 16 | 31.5 | 63 | 125 | 250 | 500 | 1000 | 2000 | 4000 | 8000 |
|  | 0.0 | 85.0 | 88.0 | 88.0 | 84.0 | 84.0 | 83.0 | 83.0 | 80.0 | 74.0 |
|  | User Defined Vertical Directivity Indices, in dB |  |  |  |  |  |  |  |  |  |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 10.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 20.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 30.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 40.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 50.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 60.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 70.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 80.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 90.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 100.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 110.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 120.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 130.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 140.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 150.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 160.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 170.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 180.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

GBer Defined Hoxizontal Directivity Indices. in dB
0.0
10.0
20.0
30.0
40.0
50.0
60.0
70.0
80.0
90.0
100.0
110.0
120.0
130.0
140.0
150.0
160.0
170.0
180.0
190.0
200.0
210.0
220.0
230.0
240.0
250.0
260.0
270.0
280.0
290.0
300.0
310.0
320.0
330.0
340.0
350.0

| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

Source Data Summary For: Cooling Tower 2-10
P: \2006\C060340.00\Computer Model\CoolingTower2-10.sre
Source Coordinates:
( $\mathrm{x} 1, \mathrm{y}^{1}$ ): (1033, 1417) (x2, y2): (1033, 1417)
(x3,y3): (1033, 1417) (x4,y4): (1033, 1417)
(z lower, z upper): (185, 192)
Included Sides: (Top) (x1-y1 -> $x 2-y 2$ ) ( $x 3-y^{3} 3$-> $x 4-y 4$ )
Ground Elevation, in meters: 185
Ground Composition: 0
Points will be placed on the surfaces of a 3-D source

| Lw or Directivity Angle | Octave Band Center Frequency, Hz |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 16 | 31.5 | 63 | 12.5 | 250 | 500 | 1000 | 2000 | 4000 | 8000 |
| Lw, in ds re 1 picowatt | 0.0 | 85.0 | 88.0 | 88.0 | 84.0 | 84.0 | 83.0 | 83.0 | 80.0 | 74.0 |
|  | User Defined Vertical Directivity Indices, in dB |  |  |  |  |  |  |  |  |  |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 10.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 20.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 30.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 40.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 50.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 60.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 70.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 80.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 90.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 100.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 110.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 120.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 130.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 140.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 150.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 160.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 170.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 180.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

Usex Defined Hoxizontal Difectivity Indices. in dB
0.0
10.0
20.0
30.0
40.0
50.0
60.0
70.0
80.0
90.0
100.0
110.0
120.0
130.0
140.0
150.0
160.0
170.0
180.0
190.0
200.0
210.0
220.0
230.0
240.0
250.0
260.0
270.0
280.0
290.0
300.0
310.0
320.0
330.0
340.0
350.0

| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 |  |  |  |  |  |  |  |  |

Source coordinates:
( $\mathrm{x} 1, \mathrm{y} 1):(1042,1426) \quad(\mathrm{x} 2, \mathrm{y} 2):(1042,1426)$
$\left\{x 3, y^{3}\right):(1042,1426) \quad(x 4, y 4):(1042,1426)$
(z lower, z upper): $(185,192)$
Included Sides: (Top) (x1-y1 $\left.\rightarrow x 2-y_{2}\right)\left(x 3-y^{3} \rightarrow x 4-y^{4}\right)$
Ground Elevation, in meters: 185
Ground Composition: 0
Points will be placed on the surfaces of a 3-D source

| Lw or Directivity Anale | Octave Band Center Frequency, Hz |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 16 | 31.5 | 63 | 125 | 250 | 500 | 1000 | 2000 | 4000 | 8000 |
| Lw, in dB re 1 picowatt | 0.0 | 85.0 | 88.0 | 88.0 | 84.0 | 84.0 | 83.0 | 83.0 | 80.0 | 74.0 |
|  | User Defined Vertical Directivity Indices. in eib |  |  |  |  |  |  |  |  |  |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 10.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 20.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 30.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 40.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 50.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 60.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 70.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 80.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 90.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 100.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 110.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 120.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 130.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 140.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 150.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 160.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 170.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 180.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

0.0
10.0
20.0
30.0
40.0
50.0
60.0
70.0
80.0
90.0
100.0
110.0
120.0
130.0
140.0
150.0
160.0
170.0
180.0
190.0
200.0
210.0
220.0
230.0
240.0
250.0
260.0
270.0
280.0
290.0
300.0
310.0
320.0
330.0
340.0
350.0

Source Data Summary For: Cooling Tower 2-12
P: \2006\C060340.00\Computer Model \CoolingTower2-12.src
Source Coordinates:

0.0
10.0
20.0
30.0
40.0
50.0
60.0
70.0
80.0
90.0
100.0
110.0
120.0
130.0
140.0
150.0
160.0
170.0
180.0
190.0
200.0
210.0
220.0
230.0
240.0
250.0
260.0
270.0
280.0
290.0
300.0
310.0
320.0
330.0
340.0
350.0

| Lw or Directivity Angle | Octave Band Center Frequency. Hz |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 16 | -31. 5 | 63 | 125 | 250 | 500 | 1000 | 2000 | 4000 | 8000 |
| Lw, in dB re 1 picowatt | 0.0 | 85.0 | 88.0 | 88.0 | 84.0 | 84.0 | 83.0 | 83.0 | 80.0 | 74.0 |
|  | User Defined vertical Directivity Indices, in di |  |  |  |  |  |  |  |  |  |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 10.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 20.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 30.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 40.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 50.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 60.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 70.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 80.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 90.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 100.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 110.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 120.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 130.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 140.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 150.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 160.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 170.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 180.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |


|  | 0.0 | 8.8 |
| :--- | :--- | :--- |
|  |  |  |
|  | 0.0 | 0 |
| 0.0 | 0.0 |  |
| 0.0 | 0.0 |  |
| 0.0 | 0.0 |  |
| 0.0 | 0.0 |  |
| 0.0 | 0.0 |  |
| 0.0 | 0.0 |  |
| 0.0 | 0.0 |  |
| 0.0 | 0.0 |  |
| 0.0 | 0 |  |
| 0.0 | 0 |  |
| 0.0 | 0.0 |  |
| 0.0 | 0.0 |  |
| 0.0 | 0.0 |  |
| 0.0 | 0.0 |  |
| 0.0 | 0.0 |  |
| 0.0 | 0.0 |  |
| 0.0 | 0 |  |

User Defined Horizontal Directivity Indices in dB

| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

Source Data Sumary For: Cooling Tower 2-13
P: \2006\c060340.00\Computer Model\CoolingTower2-13.sre
Source Coordinates:


Ground Elevation, in meters: 185
Ground Composition: 0
Points will be placed on the surfaces of a 3-D source

| Lw or Directiyity Angle | Octave Band Center Frequency, Hz |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 16 | 31.5 | 63 | 125 | 250 | 500 | 1000 | 3000 | 4000 | 8000 |
| Lw, in dB re 1 picowatt | 0.0 | 85.0 | B8.0 | 88.0 | 84.0 | 84.0 | 83.0 | 83.0 | 80.0 | 74.0 |
|  | Oser Defined Vertical Directivity Indices. in dB |  |  |  |  |  |  |  |  |  |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 10.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 20.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 30.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 40.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 50.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 60.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 70.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 80.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 90.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 100.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 110.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 120.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 130.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 140.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 150.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 160.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 170.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 180.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

User Defined Horizontal Directivity Indices, in dB


| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

Source Data Summary For：Cooling Tower 2－14
P： $2006 \backslash$ C060340．00 Computer Model $\backslash$ CoolingTower2－14．src
Source Coordinates：


Ground Elevation，in meters： 185
Ground Composition： 0
Points will be placed on the surfaces of a 3－D source

Lw of Directivity Angle
Lw，in dB re 1 picowatt

| 16 | 31.5 | tave 63 | $\begin{array}{r} \text { and } \mathrm{C} \\ 125 \end{array}$ | er F 250 | uenc | Hz <br> 1000 | 2000 | 4000 | 8000 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 0.0 | 85.0 | 88.0 | 88.0 | 84.0 | 84.0 | 83.0 | 83.0 | 80.0 | 74.0 |
| User Defined Vertical Directivity Indices，in dB |  |  |  |  |  |  |  |  |  |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

User Defined Horizontal Directivity Indices．in dB
0.0
10.0
20.0
30.0
40.0
50.0
60.0
70.0
80.0
90.0
100.0
110.0
120.0
130.0
140.0
150.0
160.0
170.0
180.0
190.0
200.0
210.0
220.0
230.0
240.0
250.0
260.0
270.0
280.0
290.0
300.0
310.0
320.0
330.0
340.0
350.0
0.0
.0
0
0
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0
0
0
0
0
0
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.0
.0
.0
.0
.0
0
0.0
10.0
20.0
30.0
40.0
50.0
60.0
70.0
80.0
90.0
100.0
110.0
120.0
130.0
140.0
150.0
160.0
170.0
180.0

0都
相
相
共




| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0. | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

Source Data Sumary For: Cooling Tower 2-15
P: \2006\C060340.00\Computer Model\CoolingTower2-15.src
Source Coordinates:
$(x 1, y I):(1078,1462) \quad\left(x 2, y^{2}\right):(1078,1462)$
$(x 3, y 3):(1078,1462) \quad\left(x 4, y^{4}\right):(1078,1462)$
(z lower, 2 upper): $(185,192)$
Included Sides: (Top) (x1-y1 $\rightarrow \mathrm{x}_{2}-\mathrm{y}_{2}$ ) ( $\mathrm{x} 3-\mathrm{y}^{3}-\mathrm{x} \times 4-\mathrm{y}_{4}$ )
Ground Elevation, in meters: 185
Ground Composition: 0
Points will be placed on the surfaces of a 3-D source

| Lw or Directivity Angle | Octave Band Center Frequency, Hz |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 16 | -31.5 | 63 | 125 | 250 | 500 | 1000 | 2000 | 4000 | 8000 |
| Low, in dB re 1 picowatt | 0.0 | 85.0 | 88.0 | 88.0 | 84.0 | 84.0 | 83.0 | 83.0 | 80.0 | 74.0 |
|  | User pefined Vertical Directivity Indices, in d⿴ |  |  |  |  |  |  |  |  |  |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 10.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 20.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 30.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 40.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 50.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 60.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 70.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 80.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 90.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 100.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 110.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 120.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 130.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 140.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 150.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 160.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 170.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 180.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

User Defined_Horizontal Directivity Indices_in dB
0.0
10.0
20.0
30.0
40.0
50.0
60.0
70.0
80.0
90.0
100.0
110.0
120.0
130.0
140.0
150.0
160.0
170.0
180.0
190.0
200.0
210.0
220.0
230.0
240.0
250.0
260.0
270.0
280.0
290.0
300.0
310.0
320.0
330.0
340.0
350.0

Source Data Summary For: Cooling Tower 2-16
F: \2006\C060340.00\Computer Model\CoolingTower2-16.src
Source Coordinates:

| ( $\mathrm{x} 1, \mathrm{y} 1)$ : (1087, 1471) | (x2, ${ }^{2}$ ) : $(1087,1471)$ |
| :---: | :---: |
| (x3, y3): (1087, 1471) | ( $\mathrm{x} 4, \mathrm{y}^{4}$ ) : (1087, 1471) |
| (z lower,z upper) : $(185,192)$ |  |
| Included Sides: (Top) (xi-yl |  |

Ground Elevation, in meters: 185
Ground Composition: 0
Points will be placed on the surfaces of a 3-D source

| $\frac{\text { Lw or Directivity Angle }}{\text { Lw, in } \mathrm{dB} \text { re } 1 \text { picowatt }}$ | Octave Band Center Frequency. Hz |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 16 | 31.5 | 63 | 125 | 250 | 500 | 2000 | 2000 | 4000 | 8000 |
|  | 0.0 | 85.0 | 88.0 | 88.0 | 84.0 | 84.0 | 83.0 | 83.0 | 80.0 | 74.0 |
|  | User Defined vertical Directivity Indices, in ${ }^{\text {d }}$ |  |  |  |  |  |  |  |  |  |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 10.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 20.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 30.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 40.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 50.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 60.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 70.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 80.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 90.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 100.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 110.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 120.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 130.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 140.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 150.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 160.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 170.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 180.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

Iser Defined Horizontal pirectivity Indices. in dB
0.0
10.0
20.0
30.0
40.0
50.0
60.0
70.0
80.0
90.0
100.0
110.0
120.0
130.0
140.0
150.0
160.0
170.0
180.0
190.0
200.0
210.0
220.0
230.0
240.0
250.0
260.0
270.0
280.0
290.0
300.0
310.0
320.0
330.0
340.0
350.0

| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 |  |  |  |  |  |  |  |  |  |

Source Data Summary For: Crusher House
P: \2006\C060340.00\Computer Model \CrusherHouse.sre
Source Coordinates:
( $\mathrm{x} 1, \mathrm{y} 1$ ) : (1193, 1134) (x2,y2): (1209, 1143)
$(x 3, y 3)=(1220,1125) \quad(x 4, y 4):(1204,1116)$
(z lower, z upper): (185, 215)

Ground Elevarion, in meters: I85
Ground Composition: 0
A point source, centered at the average of all corners will be used
0.0
10.0
20.0
30.0
40.0
50.0
60.0
70.0
80.0
90.0
100.0
110.0
120.0
130.0
140.0
150.0
160.0
170.0
180.0
190.0
200.0
210.0
220.0
230.0
240.0
250.0
260.0
270.0
280.0
290.0
300.0
310.0
320.0
330.0
340.0
350.0
都
0.0
0.0
0.0
0.0
0.0
0.0
0.0
0.0
0.0
0.0
0.0
0.0
0.0
0.0
0.0
0.0
0.0
0.0
0.0
0.0
0.0
0.0
0.0
0.0
0.0
0.0
0.0
0.0
0.0
0.0
0.0
0.0
0.0
0.0
0.0
0.0

| Lw or Directivity Anqle | Octave Band Center Frequency, Hz |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 16 | 31.5 | 63 | 125 | 250 | 500 | 1000 | 2000 | 4000 | 8000 |
| Lw, in dB re 1 picowatt | 0.0 | 96.0 | 96.0 | 96.0 | 92.0 | 90.0 | 87.0 | 85.0 | 81.0 | 72.0 |
|  | Uner Defined Vertical Directivity Indiceran in dB |  |  |  |  |  |  |  |  |  |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 10.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 20.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 30.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 40.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 50.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 60.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 70.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 80.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 90.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 100.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 110.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 120.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 130.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 140.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 150.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 160.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 170.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 180.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |



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Source Data Summary For: Fly Ash Handling - Vacuum Exhauster
P: \2006\C060340.00\Computer Model\Fly Ash Handling - Vacuum Exhausters.src
Source Coordinates:

| $(\mathrm{x}, \mathrm{y} 1):(1399$, | $1194)$ |
| :--- | :--- |
| $(\mathrm{x}, \mathrm{y} 3):(1406,1219)$ | $(\mathrm{x} 2, \mathrm{y} 2):(1411$, |
| $(\mathrm{x}, \mathrm{y}):(1191)$ |  |

(z lower, z upper): (185, 209)
Included Sides: (Top)
Ground Elevation, in meters: 0
Ground Composition: 0
Points will be placed on the gurfaces of a 3-D source

|  |  |  | Octave | Band Ce | enter Fr | requency |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Lw or Directivity Angle | 16 | 31.5 | 63 | 125 | 250 | 500 | 1000 | 2000 | 4000 | 8000 |
| Lw, in dB re 1 picowatt | . 0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0. |


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Sounce Coardinates:

| $(x 1, y 1):(1550,1400)$ | $(x 2, y 2):(1550,1400)$ |
| :--- | :--- |
| $\left(x 3, y^{3}\right):(1550,1400)$ | $(x 4, y 4):(1550,1400)$ |

(z lower, z upper) : (190, 190)
Included Sides: (Top)
Ground Elevation, in meters: 185
Ground Composition: 0
Points will be placed on the surfaces of a 3-D source

| $\frac{\text { Lw or Directivity Angle }}{\text { Lw, in } d B \text { re } 1 \text { picowatt }}$ | Octave Band Center Frequency, Hz |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 16 | 31.5 | 63 | 125 | 250 | 500 | 1000 | 2000 | 4.000 | 8009 |
|  | 0.0 | 82.0 | 88.0 | 90.0 | 85.0 | 85.0 | 79.0 | 74.0 | 69.0 | 62.0 |
|  | User Defined Vertical Directivity Indices, in dB |  |  |  |  |  |  |  |  |  |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 10.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 20.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 30.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 40.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 50.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 60.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 70.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 80.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 90.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 100.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 110.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 120.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 130.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 140.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 150.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 160.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 170.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 180.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

User Defined Horizontad Directivity Indices, in dB


Source Data Summary For: Make-up Water Treatment Facility
$P: \backslash 2006 \backslash C 060340.00 \backslash$ Computer Model \Make-upWaterTreatmentFacility.src
Source Coordinates:

| $\left(x 1, y^{1}\right):(1302,1143)$ | $(x 2, y 2):(1313,1187)$ |
| :--- | :--- |
| $\left(x 3, y^{3}\right):(1343,1179)$ | $\left(x 4, y^{4}\right):(1331,1135)$ |
| $(z$ lower, z upper): (185, 191) |  |


Ground Elevation, in meters: 185
Ground Composition: D
Points will be placed on the surfaces of a 3-D source

Lw or Directivity Angle
Lw, in dB re 1 picowatt

| Octave Band Center Frequeney, Hz |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\begin{array}{r} 16 \\ -0.0 \end{array}$ | 31.5 | 63 | 125 | 250 | 500 | 1000 | 2000 | 4000 | 8000 |
|  | 76.0 | 82.0 | 80.0 | 84.0 | 90.0 | 90.0 | 88.0 | 76.0 | 72.0 |
| Usex Defined Vertical Directivity Indices, in dB |  |  |  |  |  |  |  |  |  |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

User Defined Forizontal Directivity Indices in $A B$
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| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

Source Data Sumany For: Reserve Transformer
p: \2006\C060340.00\Computer Model\Reserve Transformer.src
Source Coordinates:
(x1,y1): (1550, 1375) (x2, y2): (1550, 1375)
$(x 3, y 3):(1550,1375) \quad\left(x 4, y^{4}\right):(1500,1375)$
(z lower, z upper): (190, 190)
Included Sides: (Top)
Ground Elevation, in meters: 185
Ground Composition: 0
Points will be placed on the surfaces of a 3-D source

| Lw or Directivity Angle | Octave Band Center Frequency, Hz |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 2. 16 | $\frac{31.5}{72.0}$ | 78.0 | 80.0 | 250 | 500 | 1000 | 2000 | 4000 | $\frac{8000}{52.0}$ |
| Lw, in dB re 1 picowatt |  |  |  |  | 75.0 | 75.0 | 69.0 | 64.0 | 59.0 |  |
|  | User Defined Vertical Directiyity Indices, in dB |  |  |  |  |  |  |  |  |  |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 10.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 20.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 30.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 40.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 50.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 60.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 70.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 80.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 90.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 100.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 110.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 120.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 130.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 140.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 150.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 160.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 170.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 180.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

Weer Defined Horizontal Directivity Indices, in AB

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Source Data Summary For: SCR Fans
P: $\backslash 2006 \backslash C 060340.00 \backslash C o m p u t e x$ Model $\backslash$ Boiler - SCR Fan.stc
Source coordinates:


Included Sides: (Top)
Ground Elevation, in meters: 0
Ground Composition: 0
Points will be placed on the surfaces of a 3-D source

## Lw of Directivity Angle <br> Lw, in dB re 1 picowatt

| Octave Band Center Frequency, Hz |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 16 | 31.5 | 63 | 125 | 250 | 500 | 1000 | 2000 | 4000 | 8000 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| User Defined Vertical Directivity Indices, in di |  |  |  |  |  |  |  |  |  |
| 0.0 | 84.0 | 86.0 | 88.0 | 87.0 | 86.0 | 86.0 | 82.0 | 78.0 | 71.0 |
| 0.0 | 84.0 | 86.0 | 88.0 | 87.0 | 86.0 | 86.0 | B2.0 | 78.0 | 71.0 |
| 0.0 | 84.0 | 86.0 | 88.0 | 87.0 | 86.0 | 86.0 | 82.0 | 78.0 | 71.0 |
| 0.0 | 84.0 | 86.0 | 88.0 | 87.0 | 86.0 | 86.0 | 82.0 | 78.0 | 71.0 |
| 0.0 | 84.0 | 86.0 | 88.0 | 87.0 | 86.0 | 85.0 | 82.0 | 78.0 | 71.0 |
| 0.0 | 84.0 | 86.0 | 88.0 | 87.0 | 86.0 | 86.0 | 82.0 | 78.0 | 71.0 |
| 0.0 | 84.0 | 86.0 | 88.0 | 87.0 | 86.0 | 86.0 | 82.0 | 78.0 | 71.0 |
| 0.0 | 84.0 | 86.0 | 88.0 | 87.0 | 86.0 | 86.0 | 82.0 | 78.0 | 71.0 |
| 0.0 | 84.0 | 86.0 | 88.0 | 87.0 | 86.0 | 86.0 | 82.0 | 78.0 | 71.0 |
| 0.0 | 84.0 | 86.0 | 88.0 | 87.0 | 86.0 | 86.0 | 82.0 | 78.0 | 71.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

User Defined Horizontal Directivicy Indices, in de
0.0
10.0
20.0
30.0
40.0
50.0
60.0
70.0
80.0
90.0
100.0
110.0
120.0
130.0
140.0
150.0
160.0
170.0
180.0
190.0
200.0
210.0
220.0
230.0
240.0
250.0
260.0
270.0
280.0
290.0
300.0
310.0
320.0
330.0
340.0
350.0

| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

Source Data Sumary For: Stacks - Ash Handling - Front End Loader F: \2006\C060340.00\Computer Model\Stacks Ash Handling - Front End Loader.src

Source coordinates:


Ground Elevation, in meters: 185

Ground Composition: 0

Points will be placed on the surfaces of a 3-D source

| Lw or Directivity Ancle | 16 | 31.5 | tave 63 | and C 125 | $\begin{array}{r} \text { er F } \\ 250 \end{array}$ | uency <br> 500 | Hz <br> 1000 | 2000 | 4000 | 8000 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Lw, in dB re 1 picowatt | 0.0 | 0.0 | 79.0 | 84.0 | 87.0 | 82.0 | 80.0 | 77.0 | 71.0 | 65.0 |
|  | Tser Defined Vertical Directivity Incimen in dB |  |  |  |  |  |  |  |  |  |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 10.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 20.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 30.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 40.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 50.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 60.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 70.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 80.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 90.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 100.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 110.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 120.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 130.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 140.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 150.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 160.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 170.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 180.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

User Defined Forizental Directivity Indices. in dB
0.0
10.0
20.0
30.0
40.0
50.0
60.0
70.0
80.0
90.0
100.0
110.0
120.0
130.0
140.0
150.0
160.0
170.0
180.0
190.0
200.0
210.0
220.0
230.0
240.0
250.0
260.0
270.0
280.0
290.0
300.0
310.0
320.0
330.0
340.0
350.0
350.0
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0.
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0.
0.
0.
0.0

Source Data Summary For: Stack 1
P: \2006\C050340.00\Computer Model\Stack1.src
Source coordinates:

| $(x 1, y 1):(1400,1000)$ | $(x 2, y 2):(1400,1000)$ |
| :--- | :--- |
| $(x, y 3):(1400,1000)$ | $\left(x 4, y^{4}\right):(1400,1000)$ |
| $(z$ lower, $\mathbf{z}$ upper $):(337,337)$ |  |

Included Sides: (Top)
Ground Elevation, in meters: 0
Ground Composition: a
Points will be placed on the surfaces of a 3-D source

| Lwor Directivity Angle | Octave Band Center Frequency, Hz |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 16 | 37.5 | 63 | 125 | 250 | 500 | 1000 | 2000 | 4000 | 8000 |
| Lw, in dB re 1 picowatt | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
|  | User Defined Vertical Directivity Indices._in $\mathrm{dR}^{\text {d }}$ |  |  |  |  |  |  |  |  |  |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 120.0 | 0.0 | 0.0 | 0.0 |
| 10.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 120.0 | 0.0 | 0.0 | 0.0 |
| 20.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 120.0 | 0.0 | 0.0 | 0.0 |
| 30.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 120.0 | 0.0 | 0.0 | 0.0 |
| 40.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 120.0 | 0.0 | 0.0 | 0.0 |
| 50.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 120.0 | 0.0 | 0.0 | 0.0 |
| 60.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 70.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 80.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 90.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 100.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 110.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 120.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 130.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 140.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 150.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 160.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 170.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 180.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

User Defined Horizontal Directivity Indices_ in dB
0.0
10.0
20.0
30.0
40.0
50.0
60.0
70.0
80.0
90.0
100.0
110.0
120.0
130.0
140.0
150.0
160.0
170.0
180.0
190.0
200.0
210.0
220.0
230.0
240.0
250.0
260.0
270.0
280.0
290.0
300.0
310.0
320.0
330.0
340.0
350.0

| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

Source Data Summary For: Stack 2
P: \2006\C060340.00\Computer Model\Stack2.sro

(z iower, z upper): $(337,337)$
Included sides: (Top)
Ground Elevation, in meters: 0
Ground Composition: 0
Points will be placed on the surfaces of a 3-D source
$\frac{\text { Lw or Directivity Angle }}{\text { Lw, in } d B \text { re } 1 \text { picowatt }}$


User Defined Vertical Directivity Indices, in of


| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 120.0 | 0.0 | 0.0 | 0.0 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 120.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 120.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 120.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 120.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 120.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

User Defined Hoxizontal Directiviey Indices, in dB
0.0
10.0
20.0
30.0
40.0
50.0
60.0
70.0
80.0
90.0
100.0
110.0
120.0
130.0
140.0
150.0
160.0
170.0
180.0
190.0
200.0
210.0
220.0
230.0
240.0
250.0
260.0
270.0
280.0
290.0
300.0
310.0
320.0
330.0
340.0
350.0

| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 |  |  |  |  |  |  |  |  |  |

Source Data Summary For: Turbine Building
P: $\backslash 2006 \backslash C 060340.00 \backslash$ Computer Model $\backslash$ TurbineBuilding. sxc
Source Coordinates:


Ground Elevation, in meters: 0
Ground Composition: 0
Foints will be placed on the surfaces of a $3-D$ source

| Octave Band Center Frequency, Hz |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $-16$ | 31.5 | 63 | 125 | 250 | 500 | 1000 | 2000 | 4000 | 8000 |
|  | 81.0 | 87.0 | 85.0 | 80.0 | 76.0 | 72.0 | 69.0 | 61.0 | 55.0 |
| User Defined Vertical Direcrivity Indices, in dB |  |  |  |  |  |  |  |  |  |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |


| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

Source Data Summary For: Turbine Building - Power Roof Vents
P: \2006\C060340.00\Computer Model\TurbineBuilding Power Roof Vents.src
Source Coordinates:
(x1,y1): (1419, 1222) (x2, y2): (1443, 1313)
(x3,y3): (1591, 1273)
(z lower, z upper): (221, 221)
Included Sides: (Top)
Ground Elevarion, in meters: 221
Ground Composition: 0
Points will be placed on the surfaces of a 3-D source

| Lw or Directivity Angle | Octave Band Center Frequency, Hz |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 16 | 31.5 | 63 | 125 | 250 | 500 | 1000 | 2000 | 4000 | 8000 |
| Lw, in dB re 1 plcowatt | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
|  | User Defined Vertical Ditectivity Indices, in dB |  |  |  |  |  |  |  |  |  |
| 0.0 | 0.0 | 99.0 | 100.0 | 101.0 | 102.0 | 102.0 | 102.0 | 100.0 | 95.0 | 95.0 |
| 10.0 | 0.0 | 99.0 | 100.0 | 101.0 | 102.0 | 102.0 | 102.0 | 100.0 | 96.0 | 95.0 |
| 20.0 | 0.0 | 99.0 | 100.0 | 101.0 | 102.0 | 102.0 | 102.0 | 100.0 | 96.0 | 95.0 |
| 30.0 | 0.0 | 99.0 | 100.0 | 101.0 | 102.0 | 102.0 | 102.0 | 100.0 | 96.0 | 95.0 |
| 40.0 | 0.0 | 99.0 | 100.0 | 101.0 | 102.0 | 102.0 | 102.0 | 100.0 | 96.0 | 95.0 |
| 50.0 | 0.0 | 99.0 | 100.0 | 101.0 | 102.0 | 102.0 | 102.0 | 100.0 | 96.0 | 95.0 |
| 60.0 | 0.0 | 99.0 | 100.0 | 101.0 | 102.0 | 102.0 | 102.0 | 100.0 | 96.0 | 95.0 |
| 70.0 | 0.0 | 99.0 | 100.0 | 101.0 | 102.0 | 102.0 | 102.0 | 100.0 | 96.0 | 95.0 |
| 80.0 | 0.0 | 99.0 | 100.0 | 101.0 | 102.0 | 102.0 | 102.0 | 100.0 | 96.0 | 95.0 |
| 90.0 | 0.0 | 99.0 | 100.0 | 101.0 | 102.0 | 102.0 | 102.0 | 100.0 | 96.0 | 95.0 |
| 100.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 110.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 120.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 130.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 140.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 150.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 160.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 170.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 180.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

User Defined Horizontal Directivity Indices, in dB
0.0
10.0
20.0
30.0
40.0
50.0
60.0
70.0
80.0
90.0
100.0
110.0
120.0
130.0
140.0
150.0
160.0
170.0
180.0
190.0
200.0
210.0
220.0
230.0
240.0
250.0
260.0
270.0
280.0
290.0
300.0
310.0
320.0
330.0
340.0
350.0

| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | D. 0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

User Input Observers For: Observers
P: \2006\C060340.00\Computer Model\Observers.obs
Locations (in meters) and Ground Hardness (Non-dimensional 0 to 1)

| Included | X | Y | $z$ | Ground Elevation | Ground Herdness | Middle Ground Hardness |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| x | 3192.00 | 1864.00 | 214.50 | 185.00 | 0.50 | 0.30 |
| x | 866.00 | 315.00 | 186.50 | 185.00 | 0.50 | 0.30 |
| x | 517.00 | 336.00 | 186.50 | 185.00 | 0.50 | 0.30 |
| X | 393.00 | 610.00 | 186.50 | 185.00 | 0.50 | 0.30 |
| x | 451.00 | 944.00 | 186.50 | 185.00 | 0.50 | 0.30 |
| x | 1282.00 | 1964.00 | 186.50 | 185.00 | 0.50 | 0.30 |
| $x$ | 1662.00 | 1947.00 | 186.50 | 185.00 | 0.50 | 0.30 |
| $x$ | 1914.00 | 1936.00 | 186.50 | 185.00 | 0.50 | 0.30 |
| x | 1250.00 | 1605.00 | 186.50 | 185.00 | 0.50 | 0.30 |
|  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

## Input Data Summary For: <br> P:I2006IC060340.001Computer ModelMAMP-Ohio_SNL_NoiseModel 9-6.prj

## Project Description:

AMP-Ohir Base Model S-6
User Defined Observer Fositions will be cakculaied with the following options:

## Lime and 3-D sources will have 64 points per source

Sort on A-weighted sound levels (maximum to minimum)
incluce 150 9613 Ground Eirects with a 20 a
Barriers are NOT inctuded in the calculation
Reflectors are NOT included in the calculation
Industriad Sites and Fodiage are NOT included in the calculation
Temperature, in degrees C: 15
Relabive Humidity, in percent: 70

Page Number. 2

## Source Files:

P:T2006iC060340.00iComputer Madelt unbineBulding. src /I Turbine Buiking

P:2006tC060340.001Computhr Model|Bciler Combustion Air - Forced Draft Fan.src // Boiler Combustion Air - Forced Drafl Fan P:i20064C060340.001Computer MtodellBailar Combustion Air - Induced Draft Fan.sre $1 /$ Boiler Combustion Air - Inducad Draft Fan P: 20061 C 060340.001 Computer ModelBBeiler Combustion Ajr - Primary Air Fansrc // Boiler Combustion Air - Primary Air Fan P: L2006iC080340.601Computer NodenBbiler - SCR Fan.src // SCR Fans
P:12006xC060340.001Computer ModanStacks Ash Handing - Front End Laader.src // Stacks - Ash Handling - Front End Loader
P:200610060340.00tComputer MlodaRMake-cpWaterTreatmentFacility, sre /I Make-up Water Treatment Facility
P:12006)C060340.001Computter ModeRActiveCoalPiles.src // Axtive Coal Piles
P:L20061C060340.004Computer WhodelActivel LmestonePile sre / Active Limestone Pile
Pit2006lC060340.00tComputer ModelVAuxiliary Boiler.sre /f Auxiliary Boiler
P:20061C060340.00tComputer ModeltCoalTransferHouse.src // Coal Transfer House
P:LDOnGC060340.00tComputer ModeliCrusherHouse src // Crusher House
P:120061C060340.001Computer ModeRSlack 1.src // Stack $\ddagger$
P:12006ic080940.091Computer ModenStack2.src // Stack 2

P:20061C060340.001Gomputer ModenMain Transformer.src // Main Transformer
P:L2006iC060340.001Computer ModeNReserve Transformer.src // Main Transformer
P:12006i0060340. 01)Computer ModehBoilerBuikting Power Roof Vents.src // Boiler Euviding - Power Roof Vents
: 20061C060340. Q0iComputer ModAllTurbineBuilding Power Roof Vents.src // Furbina Building - Power Roof Vents

Pi2006iC060340.001Computer ModENBoilerBuidding - Boiler Relief Valves.srct II Boiler Building - Boiler Relief Valves
P:2006icobn340. DovComputer ModalFly Ash Handing -VaCuum Exheusiers.sic // Fh Ash Handling - Vactum Exhauster
P:2006iC060340.001Computer ModellCooling Fower2-1.src H Cooling Tower 2-1
P:12006iC060340.001Computer ModeßCoolingTower2-2.ssc // Cooling Tower 2-2
P:12006ica60340.001Computer ModelCaolingTower2-3.sre // Cooling Tawer 2-3
P:T2006iC060340.001Computer MadeNCcolingTower2-4.s56 // Cooling Tower 2-4
P:12006iC060340.001Computer ModelCoodingTower2-5.src // Cooling Tower 2-5
P:12006iC0150340.001Computer ModenCodingTower2-6.src // Cooling Tower 2-6 P:120061C060340.001Cormputer ModelWCoolingTowsr2-7.src $/ /$ Cooling Tower 2-7 P:VO06iC06i0340.001Computer ModeACodingTower2-B. sre $/ /$ Cooling Tower 2-8 P:20061C060340.001Computer ModehCbolingTower2-9.scc $/ /$ Cooling Tower 2-9 P:2008iC060340.001Computer KotanCoolingTower2-10.src // Cooling Tower 2-10 P: 200661C060340.001Corputer MootanCoolingTower2-10. sic // Cooling Tower 2-10 P:2006ic060340.001Computer ModenCoolingTower2-11.sre // Cooling Tower 2-11 P:12006ic060340.001Computer ModehCoclingTower2-12.src // Cooling Tower 2-12 P:12006tC060340.001Conputer MoxderkCooling Tower2-13. anc // Cooling Tawer 2-13 P:120084C060340.001Computer K4xdenCoolingTower2-14.src // Cooling Tower 2-14 P: 200061C060340.001Computer ModellCoolingTower2-16.src // Cooling Tower 2-15 P:iz00G1C060340.001Computer ModenCoolingTower2-16.src // Cooling Tower 2-16 P:L2006iC050340.00tGomputer ModellCDolingTower 1-1.src // Cooling Tower 1-1 P:2006iC060340.004Computer Mod anCoolingTower1-2.src // Cooling Tower 1-2 P:20061C060340.001Computer ModenCoolingTower 1-3.src // Cooling Tower 1-3 P:2006icob0340.n01Compulter ModènCoolingTower1-4.src // Cocting Tower 1.4 P:L2006iC060340.001Computer ModenCoolingTower1-5.8rc // Cooting Tower 1.5 P:120081C060340.001Computer ModêhCoolingTower1-6.src // Coolng Tower 1-6 P: 2006iC060340.001Compuler ModeNCoolingTower1-7.sre / Cooling Tower 1.7 P:120061.060340. DaComputer ModelhCcolingTower 1-8.src // Cooling Tower 1-8 P:2006iC060340.001Computss ModenCoolingTewer1-9.src / Cooling Tower 1-9 P:Van6lco60340.00NCompuier ModelCoolingTower1-10.src /f Cooling Tower 1-10 P:12006IC060340.001Computer ModenCoolingTower1-11.stc // Cooling Tower 1-11 P:1200GiC060340.001Computer ModenCoodingTower 1-12.src // Cooling Tower 1-12 P:2006iC060340.001Gomputer MadetiCoolingTower1-13.src // Cooting Tower 1-13 P20061C060340.03Computer MadenCoolingTowert-14.scc /f Cooling Tower 1-14 P:20061C060340.0MComputer MadêßCodingTower 1-15.src // Cooling Tower 1-15 P:2006iCa60340.001Computer ModeNCoclingTower1-16.src // Cooling Tower 1-16

## Page Number: 3

Observer File:

## P:12006ic060340.007Computer Mode/hobservers.obs // Observers

Contour File:
P:12006iC060340.001Computer ModellContaurs 8-15.cis //

Output Data Summary
$x=3192 y=1864 \quad z=214.5$ (in meters)

| Source Component | Octave Band Center Fraquency, Hz |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $\frac{16}{0.0}$ | $\frac{31.5}{29.2}$ | 63 | 125 | 250 | 500 | 1000 | 2000 | 4000 | 8000 | $\mathrm{dB}(\mathrm{A})$ | $\frac{\mathrm{dB}(\mathrm{C})}{36.6}$ |
| Total of Sources |  |  | 30.9 | 30.0 | 29.8 | 29.6 | 23.8 | 10.0 | 0.0 | 0.0 | 29.4 |  |
| Boiler Building - Boiler Relief Valves | 0.0 | 0.0 | 10.6 | 19.3 | 28.0 | 28.7 | 22.6 | 7.1 | 0.0 | 0.0 | 28.2 | 322 |
| Turbine Building - Power Roof Vents | 0.0 | 12.5 | 13.2 | 12.8 | 12.3 | 10.1 | 7.0 | 0.0 | 0.0 | 0.0 | 11.4 | 18.9 |
| Crusher House | 0.0 | 21.4 | 21.3 | 19.9 | 14.3 | 9.7 | 3.1 | 0.0 | 0.0 | 0.0 | 11.3 | 25.0 |
| Coal Transfer House | 0.0 | 19.7 | 19.5 | 18.1 | 14.4 | 9.6 | 4.6 | 0.0 | 0.0 | 0.0 | 11.3 | 23.5 |
| Make-up Water Treatment Facility | 0.0 | 1.9 | 7.8 | 4.5 | 7.0 | 10.5 | 7.1 | 0.0 | 0.0 | 0.0 | 10.8 | 14.8 |
| Euiler Combustion Air - Forced Draft Fan |  |  |  |  |  |  |  |  |  |  |  |  |
| Bsiler Combustion Air - Induced Orat Fen |  |  |  |  |  |  |  |  |  |  |  |  |
|  | 0.0 | 10.9 | 12.8 | 13.5 | 11.2 | 8.0 | 4.9 | 0.0 | 0.0 | 0.0 | 9.5 | 18.2 |
| Boiler Combustion Air - Primary Air Fan | 0.0 | 10.9 | 12.8 | 13.5 | 11.2 | 8.0 | 4.9 | 0.0 | 0.0 | 0.0 | 9.5 | 18.2 |
| SCR Fans | 0.0 | 10.7 | 12.6 | 13.3 | 11.0 | 7.7 | 4.6 | 0.0 | 0.0 | 0.0 | 9.3 | 18.0 |
| Coal Barge Unloading - Clamshell Bucket |  |  |  |  |  |  |  |  |  |  |  |  |
|  | 0.0 | 18.5 | 21.3 | 16.4 | 12.4 | 7.1 | 1.6 | 0.0 | 0.0 | 0.0 | 9.0 | 23.3 |
| Fly Ash Handing - Vacuum Exhauster | 0.0 | 10.3 | 12.2 | 12.9 | 10.5 | 7.1 | 3.8 | 0.0 | 0.0 | 0.0 | 8.6 | 17.5 |
| Main Transtormer | 0.0 | 9.3 | 15.2 | 16.0 | 9.7 | 7.6 | 0.0 | 0.0 | 0.0 | 0.0 | 7.8 | 19.3 |
| Cooding Tower 1-16 | 0.0 | 11.2 | 14.0 | 12.7 | 7.3 | 4.9 | 0.5 | 0.0 | 0.0 | 0.0 | 6.2 | 17.4 |
| Cooling Tower 1-15 | 0.0 | 13.1 | 14.0 | 127 | 7.2 | 4.8 | 0.4 | 0.0 | 0.0 | 0.0 | 6.1 | 17.4 |
| Cocoling Tower 1-14 | 0.0 | 11.1 | 13.9 | 126 | 7.1 | 4.7 | 0.3 | 0.0 | 0.0 | 0.0 | 6.0 | 17.3 |
| Cooling Tower 1-13 | 0.0 | 11.0 | 13.9 | 12.6 | 7.1 | 4.7 | 0.3 | 0.0 | 0.0 | 0.0 | 5.9 | 17.3 |
| Cooting Tower 1-12 | 0.0 | 11.0 | 13.8 | 12.5 | 7.0 | 4.6 | 0.2 | 0.0 | 0.0 | 0.0 | 5.9 | 17.2 |
| Cooling Tower 1.11 | 0.0 | 10.9 | 13.8 | 12.5 | 7.0 | 4.5 | 0.1 | 0.0 | 0.0 | 0.0 | 5.8 | 17.1 |
| Cooling Tower 1-1D | 0.0 | 10.9 | 13.7 | 12.4 | 6.9 | 4.4 | 0.0 | 0.0 | 0.0 | 0.0 | 5.7 | 17.1 |
| Cooling Tower 1-9 | 0.0 | 10.8 | 13.7 | 12.4 | 6.8 | 4.4 | 0.0 | 0.0 | 0.0 | 0.0 | 5.6 | 17.0 |
| Cooling Tawer 1-8 | 0.0 | 10.8 | 13.6 | 12.3 | 6.8 | 4.3 | 0.0 | 0.0 | 0.0 | 0.0 | 5.6 | 17.0 |
| Cooling Tower 1.7 | 0.0 | 10.7 | 13.6 | 12.3 | 6.7 | 4.2 | 0.0 | 0.0 | 0.0 | 0.0 | 5.5 | 16.9 |
| Cooking Tower 1-6 | 0.0 | 10.7 | 13.5 | 122 | 6.7 | 4.1 | 0.0 | 0.0 | 0.0 | 0.0 | 5.4 | 16.9 |
| Cooling Tower 1.5 | 0.0 | 10.6 | 13.5 | 12.2 | 6.6 | 4.1 | 0.0 | 0.0 | 0.0 | 0.0 | 5.3 | 16.8 |
| Cooling Tower 1-4 | 0.0 | 10.6 | 13.4 | 12.1 | 6.5 | 4.1 | 0.0 | 0.0 | 0.0 | 0.0 | 5.3 | 16.8 |
| Cooling Tower 1-3 | 0.0 | 10.5 | 13.4 | 12.1 | 6.5 | 3.9 | 0.0 | 0.0 | 0.0 | 0.0 | 5.2 | 16.7 |
| Cooling Tower 1-2 | 0.0 | 10.5 | 13.3 | 12.0 | 6.4 | 3.8 | 0.0 | 0.0 | 0.0 | 0.0 | 5.1 | 16.7 |
| Coding Tower $1-1$ | 0.0 | 10.5 | 13.3 | 12.0 | 6.4 | 3.8 | 0.0 | 0.0 | 0.0 | 0.0 | 5.0 | 16.6 |
| Cooling Tower 2-16 | 0.0 | 10.3 | 13.2 | 11.8 | 6.2 | 3.6 | 0.0 | 0.0 | 0.0 | 0.0 | 4.8 | 16.5 |
| Stacks - Ash Handling - Front End Loader |  |  |  |  |  |  |  |  |  |  |  |  |
|  | 0.0 | 0.0 | 4.8 | 8.5 | 10.0 | 2.5 | 0.0 | 0.0 | 0.0 | 0.0 | 4.8 | 13.3 |
| Cooling Tower 2-15 | 0.0 | 10.3 | 13.1 | 11.8 | 6.2 | 3.5 | 0.0 | 0.0 | 0.0 | 0.0 | 4.8 | 16.4 |
| Cooling Tower 2-14 | 0.0 | 10.2 | 13.1 | 11.7 | 6.1 | 3.4 | 0.0 | 0.0 | 0.0 | 0.0 | 4.7 | 16.4 |
| Cooling Tower 2-13 | 0.0 | 102 | 13.0 | 11.7 | 6.1 | 3.4 | 0.0 | 0.0 | 0.0 | 0.0 | 4.6 | 16.3 |
| Cooling Towar 2-12 | 0.0 | 10.2 | 13.0 | 11.6 | 6.0 | 3.3 | 0.0 | 0.0 | 0.0 | 0.0 | 4.6 | 16.3 |
| Cooling Tower 2.11 | 0.0 | 10.1 | 12.9 | 11.6 | 5.9 | 3.2 | 0.0 | 0.0 | 0.0 | 0.0 | 4.5 | 16.2 |
| Cooling Tower 2-10 | 0.0 | 10.1 | 12.9 | 11.5 | 5.9 | 3.2 | 0.0 | 0.0 | 0.0 | 0.0 | 4.4 | 16.2 |
| Cooling Tower 2.9 | 0.0 | 10.0 | 12.9 | 11.5 | 5.8 | 3.1 | 0.0 | 0.0 | 0.0 | 0.0 | 4.4 | 16.2 |
| Cooling Tower 2-8 | 0.0 | 10.0 | 12.8 | 11.4 | 5.8 | 3.0 | 0.0 | 0.0 | 0.0 | 0.0 | 4.3 | 16.1 |
| Cooling Tower $2-7$ | 0.0 | 9.9 | 12.8 | 11.4 | 5.7 | 3.0 | 0.0 | 0.0 | 0.0 | 0.0 | 4.2 | 16.1 |
| Active Limestone Pite - Bulidozer | 0.0 | 15.5 | 4.3 | 8.0 | 9.4 | 1.8 | 0.0 | 0.0 | 0.0 | 0.0 | 4.2 | 15.8 |
| Cooling Tower 2-6 | 0.0 | 9.9 | 12.7 | 11.4 | 5.7 | 2.9 | 0.0 | 0.0 | 0.0 | 0.0 | 4.1 | 16.0 |
| Cooling Tower 2.5 | 0.0 | 9.9 | 12.7 | 11.3 | 5.6 | 2.8 | 0.0 | 0.0 | 0.0 | 0.0 | 4.1 | 16.0 |
| Cooling Tower 2.4 | 0.0 | 9.8 | 12.6 | 11.3 | 5.6 | 2.8 | 0.0 | 0.0 | 0.0 | 0.0 | 4.0 | 15.9 |
| Cooling Tower 2.3 | 0.0 | 9.8 | 12.6 | 11.2 | 5.5 | 2.7 | 0.0 | 0.0 | 0.0 | 0.0 | 3.9 | 15.9 |
| Gooling Tower 2-2 | 0.0 | 9.7 | 12.6 | 11.2 | 5.5 | 2.6 | 0.0 | 0.0 | 0.0 | 0.0 | 3.9 | 15.8 |
| Cooling Tower 2.1 | 0.0 | 9.7 | 12.5 | 11.1 | 5.4 | 2.6 | 0.0 | 0.0 | 0.0 | 0.0 | 3.8 | 15.8 |
| Active Coat Piles-Bulldozer | 0.0 | 14.8 | 3.7 | 7.3 | 8.6 | 0.8 | 0.0 | 0.0 | 0.0 | 0.0 | 3.2 | 14.9 |
| Turbine Bulking | 0.0 | 7.8 | 13.7 | 10.4 | 4.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.5 | 15.6 |
| Reserve Transformer | 0.0 | 0.0 | 5.1 | 5.9 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 9.2 |
| Auxiliary Eciler | 0.0 | 5.4 | 5.2 | 2.9 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 00 | 0.0 | 8.8 |
| Boiler Euilding | 0.0 | 7.4 | 6.3 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 8.8 |
| Boiler Building - Power Roof Vents | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Stack 2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Stack 1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

## Output Data Summary

$x=866 \quad y=315 z=186.5$ (in meters)


## Output Data Summary

$x=517 \quad y=336 \quad z=186.5$ (in meters)

| Sourca Cominanemt | Octave Band Conter Frequency. Hz |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 16 | 31.5 | 63 | 125 | 250 | 500 | 1000 | 2000 | 4000 | 8000 | (B) $A$ ) | $\mathrm{dB}(\mathrm{C})$ |
| Total of Sources | 0.0 | 34.9 | 36.3 | 35.3 | 34.4 | 34.3 | 29.8 | 20.7 | 0.0 | 0.0 | 34.7 | 41.7 |
| Boiler Buitding - Boiler Relief Valves | 0.0 | 0.0 | 13.5 | 22.3 | 31.4 | 32.7 | 27.5 | 14.3 | 0.0 | 0.0 | 32.4 | 36.0 |
| Coal Transfer House | 0.0 | 27.9 | 27.8 | 26.8 | 24.1 | 21.0 | 18.5 | 123 | 0.0 | 0.0 | 23.1 | 32.4 |
| Crusher House | 0.0 | 27.5 | 27.5 | 26.4 | 21.6 | 18.3 | 13.5 | 6.6 | 0.0 | 0.0 | 19.8 | 31.5 |
| Make-up Wader Tregirnent Facility | 0.0 | 6.7 | 12.6 | 9.6 | 12.7 | 17.3 | 15.3 | 7.9 | 0.0 | 0.0 | 18.6 | 24.4 |
| Coal Barge Unloading-Clamshall Bucket |  |  |  |  |  |  |  |  |  |  |  |  |
|  | 0.0 | 24.9 | 27.8 | 23.3 | 20.3 | 16.8 | 13.6 | 2.7 | 0.0 | 0.0 | 18.5 | 30.2 |
| Aclive Coal Files-Bulldozer | 0.0 | 23.1 | 12.0 | 16.0 | 18.3 | 12.2 | 8.7 | 1.6 | 0.0 | 0.0 | 14.5 | 23.9 |
| Fly Ash Handling - Vecuum Exhauster | 0.0 | 14.0 | 15.9 | 16.8 | 14.8 | 12.3 | 10.1 | 0.2 | 0.0 | 0.0 | 14.1 | 21.7 |
| Cooling Tower 2-1 | 0.0 | 16.2 | 19.1 | 18.1 | 13.3 | 11.9 | 9.1 | 4.0 | 0.0 | 0.0 | 13.8 | 23.0 |
| Cooling Tower 2-2 | 0.0 | 16.1 | 19.1 | 18.0 | 13.2 | 11.8 | 8.9 | 3.8 | 0.0 | 0.0 | 13.6 | 22.9 |
| SCR Fans | 0.0 | 13.6 | 15.5 | 16.4 | 14.4 | 11.8 | 9.5 | 0.0 | 0.0 | 0.0 | 13.8 | 21.3 |
| Cooling Tower 2-3 | 0.0 | 16.0 | 19.0 | 17.9 | 13.1 | 11.7 | 8.8 | 3.6 | 0.0 | 0.0 | 13.5 | 22.8 |
| Cooling Tower 2-4 | 0.0 | 16.0 | 18.9 | 17.8 | 13.0 | 11.6 | 8.6 | 3.4 | 0.0 | 0.0 | 13.4 | 22.7 |
| Coollng Tower 1-1 | 0.0 | 15.9 | 18.8 | 17.8 | 12.9 | 11.5 | 8.6 | 3.3 | 0.0 | 0.0 | 13.4 | 22.6 |
| Cooling Tower $2-5$ | 0.0 | 15.9 | 18.8 | 17.7 | 12.8 | 11.4 | 8.5 | 3.2 | 0.0 | 0.0 | 13.2 | 22.6 |
| Cooling Tower 1-2 | 0.0 | 15.8 | 18.7 | 17.7 | 12.8 | 11.4 | 8.5 | 3.1 | 0.0 | 0.0 | 13.2 | 22.5 |
| Gooling Tower 2-5 | 0.0 | 15.8 | 18.7 | 17.6 | 12.7 | 11.3 | 8.4 | 3.0 | 0.0 | 0.0 | 13.1 | 22.5 |
| Cooling Tower 1.3 | 0.0 | 15.7 | 18.6 | 17.6 | 12.7 | 11.3 | 8.3 | 2.9 | 0.0 | 0.0 | 13.1 | 22.4 |
| Cooling Tower $2-7$ | 0.0 | 15.7 | 18.6 | 17.5 | 12.6 | 11.2 | 8.2 | 2.8 | 0.0 | 0.0 | 13.0 | 22.4 |
| Boiler Combustion Air - Forcead Draft Fan |  |  |  |  |  |  |  |  |  |  |  |  |
| Boiler Combustion Air - Induced Drafl Fan |  |  |  |  |  |  |  |  |  |  |  |  |
|  | 0.0 | 13.2 | 15.1 | 15.9 | 13.9 | 11.2 | 8.9 | 0.0 | 0.0 | 0.0 | 13.0 | 20.8 |
| Boller Combustion Air - Primary Air Fan | 0.0 | 13.2 | 15.1 | 45.8 | 13.9 | 11.2 | 8.9 | 0.0 | 0.0 | 0.0 | 13.0 | 20.8 |
| Cooling Tower 1-4 | 0.0 | 15.6 | 18.6 | 17.5 | 12.6 | 112 | B. 2 | 2.7 | 0.0 | 0,0 | 12.9 | 22.3 |
| Active Limestone fine - Bullozer | 0.0 | 21.8 | 10.7 | 14.7 | 16.9 | 10.6 | 6.9 | 0.0 | 0.0 | 0.0 | 12.9 | 22.5 |
| Cooling Tower 2-8 | 0.0 | 15.6 | 18.5 | 17.4 | 12.5 | 11.1 | 8.1 | 2.6 | 0.0 | 0.0 | 12.8 | 22.3 |
| Cooling Tower t-5 | 0.0 | 15.6 | 18.5 | 17.4 | 12.5 | 11.0 | 8.0 | 2.5 | 0.0 | 0.0 | 12.8 | 22.2 |
| Cooling Tower 2-9 | 0.0 | 15.5 | 18.4 | 17.3 | 12.4 | 11.0 | 7.9 | 2.4 | 0.0 | 0.0 | 12.7 | 22.2 |
| Cooling Tower 1-6 | 0.0 | 15.5 | 18.4 | 17.3 | 12.4 | 10.9 | 7.9 | 2.3 | 0.0 | 0.0 | 12.7 | 22.1 |
| Cooding Tower 2-10 | 0.0 | 15.4 | 18.3 | 17.2 | 12.3 | 10.9 | 7.8 | 2.2 | 0.0 | 0.0 | 12.6 | 22.1 |
| Coollng Jower 1-7 | 0.0 | 15.4 | 18.3 | 17.2 | 12.3 | 10.8 | 7.7 | 2.1 | 0.0 | 0.0 | 12.5 | 22.0 |
| Cooling Towar 2.11 | 0.0 | 15.3 | 18.2 | 47.1 | 12.2 | 10.7 | 7.7 | 2.0 | 0.0 | 0.0 | 12.5 | 22.0 |
| Cooling Towar 1-8 | 0.0 | 15.3 | 18.2 | 17.1 | 12.2 | 10.7 | 7.6 | 1.9 | 0.0 | 0.0 | 12.4 | 21.9 |
| Cooling Towar 2-12 | 0.0 | 15.2 | 18.1 | 17.0 | 12.1 | 10.6 | 7.5 | 1.8 | 0.0 | 0.0 | 12.3 | 21.9 |
| Cooling Tower 1-9 | 0.0 | 15.2 | 18.1 | 17.0 | 12.1 | 10.6 | 7.5 | 1.7 | 0.0 | 0.0 | 12.3 | 21.8 |
| Cooling Tower 2-13 | 0.0 | 15.1 | 18.0 | 17.0 | 12.0 | 10.5 | 7.4 | 1.6 | 0.0 | 0.0 | 12.2 | 21.8 |
| Stacks - Ash Handling - Front End Loader |  |  |  |  |  |  |  |  |  |  |  |  |
|  | 0.0 | 0.0 | 10.1 | 14.1 | 16.3 | 9.9 | 6.0 | 0.0 | 0.0 | 0.0 | 12.1 | 19.5 |
| Cooling Tower 1-10 | 0.0 | 15.1 | 18.0 | 16.9 | 12.0 | 10.4 | 7.3 | 1.5 | 0.0 | 0.0 | 12.1 | 21.7 |
| Cooling Tower 2-14 | 0.0 | 15.1 | 18.0 | 16.9 | 11.8 | 10.4 | 7.3 | 1.4 | 0.0 | 0.0 | 12.1 | 21.7 |
| Cowling Tower 1-11 | 0.0 | 15.0 | 17.9 | 16.8 | 11.9 | 10.3 | 7.2 | 1.3 | 0.0 | 0.0 | 12.0 | 21.6 |
| Cooling Tower 2-15 | 0.0 | 15.0 | 17.9 | 16.8 | 11.8 | 10.3 | 7.1 | 1.3 | 0.0 | 0.0 | 12.0 | 21.6 |
| Gooling Tower 1-12 | 0.0 | 14.9 | 17.8 | 16.7 | 11.8 | 10.2 | 7.0 | 1.1 | 0.0 | 0.0 | 11.9 | 21.5 |
| Cooling Tower 2-16 | 0.0 | 14.8 | 17.8 | 16.7 | 11.7 | 10.2 | 7.0 | 1.1 | 0.0 | 0.0 | 11.8 | 27.5 |
| Cooling Tower 1-13 | 0.0 | 14.8 | 17.7 | 16.6 | 11.7 | 10.1 | 6.9 | 0.9 | 0.0 | 0.0 | 11.7 | 21.4 |
| Cooing Tower 1-14 | 0.0 | 14.7 | 17.6 | 16.5 | 11.6 | 10.0 | 6.8 | 0.7 | 0.0 | 0.0 | 11.6 | 21.4 |
| Cooling Tower 1-15 | 0.0 | 14.7 | 17.6 | 16.4 | 11.5 | 9.9 | 6.6 | 0.5 | 0.0 | 0.0 | 11.5 | 21.3 |
| Cooling Tower 1-16 | 0.0 | 14.6 | 17.5 | 16.4 | 11.4 | 9.8 | 6.5 | 0.3 | 0.0 | 0.0 | 11.4 | 21.2 |
| Wtain Transformer | 0.0 | 10.5 | 16.4 | 17.3 | 11.2 | 9.3 | 0.8 | 0.0 | 0.0 | 0.0 | 9.5 | 20.6 |
| Turbine Building | 0.0 | 10.3 | 16.2 | 13.1 | 7.1 | 1.4 | 0.0 | 0.0 | 0.0 | 0.0 | 3.8 | 16.2 |
| Auxiliary Boiler | 0.0 | 9.1 | 9.0 | 6.9 | 3.9 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.9 | 12.8 |
| Reserve Transformer | 0.0 | 0.7 | 6.6 | 7.4 | 1.3 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 10.8 |
| Turbine Bualding - Power Roof Vents | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 5.2 |
| Boller Building | 0.0 | 11.3 | 10.2 | 4.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 12.8 |
| Boiler Building - Power Root Vents | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Stack 1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Stack 2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

## Output Data Summary

```
x=393 y=610 z=186.5 (in meters)
```

| Source Component. | Octave Band Center Frequency, Hz |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 16 | 31,5 | 63 | 125 | 250 | 500 | 1000 | 2000 | 4000 | 88000 | dB(A) | $\underline{A B}(C)$ |
| Total of Sources | 0.0 | 36.0 | 37.5 | 36.4 | 35.2 | 35.1 | 30.9 | 22.6 | 0.3 | 0.0 | 35.6 | 42.7 |
| Ecider Building - Boiler Retief Vaives | 0.0 | 0.0 | 13.8 | 22.7 | 31.8 | 33.2 | 28.1 | 15.1 | 0.0 | 0.0 | 32.9 | 36.5 |
| Coal Transfer House | 0.0 | 29.0 | 29.0 | 28.0 | 25.4 | 22.4 | 20.1 | 14.4 | 0.0 | 0.0 | 24.7 | 33.6 |
| Coal Barge Unioading - Clamshell Bucket |  |  |  |  |  |  |  |  |  |  |  |  |
|  | 0.0 | 26.9 | 29.8 | 25.4 | 22.6 | 19.4 | 16.7 | 7.0 | 0.0 | 0.0 | 21.2 | 32.3 |
| Crustuer House | 0.0 | 28.3 | 28.2 | 27.2 | 22.5 | 19.3 | 14.6 | 8.1 | 0.0 | 0.0 | 20.8 | 32.3 |
| Make-up Water Trastmeni Facility | 0.0 | 7.3 | 13.2 | 10.2 | 13.4 | 18.0 | 16.2 | 9.1 | 0.0 | 0.0 | 19.4 | 22.2 |
| Coding Tower 2.1 | 0.0 | 17.8 | 20.7 | 19.7 | 15.0 | 13.9 | 11.3 | 7.0 | 0.0 | 0.0 | 15.9 | 24.6 |
| cooling Tower 2-2 | 0.0 | 17.6 | 20.6 | 19.6 | 14.9 | 13.7 | 11.1 | 6.8 | 0.0 | 0.0 | 16.8 | 24.5 |
| Cooling Tower 2 -3 | 0.0 | 17.5 | 20.4 | 19.4 | 14.7 | 13.6 | 11.0 | 6.6 | 0.0 | 0.0 | 15.6 | 24.4 |
| Active Coad Pies - Bulidizer | 0.0 | 23.8 | 12.8 | 16.8 | 19.2 | 13.2 | 9.8 | 3.0 | 0.0 | 0.0 | 15.5 | 24.7 |
| Cooling Tower 2-4 | 0.0 | 17.4 | 20.3 | 19.3 | 14.6 | 13.4 | 10.8 | 6.3 | 0.0 | 0.0 | 15.4 | 24.2 |
| Cooling Tower $2-5$ | 0.0 | 17.3 | 20.2 | 19.2 | 14.5 | 13.3 | 10.6 | 6.1 | 0.0 | 0.0 | 15.3 | 24.1 |
| Gooling Tower 2.6 | 0.0 | 17.2 | 20.1 | 19.1 | 14.3 | 13.1 | 10.4 | 5.9 | 0.0 | 0.0 | 15.1 | 24.0 |
| Coollng Tower 2-7 | 0.0 | 17.1 | 20.0 | 18.9 | 14.2 | 13.0 | 10.3 | 5.7 | 0.0 | 0.0 | 14.9 | 23.9 |
| Cooling Tower 2-8 | 0.0 | 16.9 | 19.9 | 18.8 | 14.1 | 12.8 | 10.1 | 5.4 | 0.0 | 0.0 | 14.8 | 23.7 |
| Fly Ash Handling - Vacuum Exhauster | 0.0 | 14.4 | 16.4 | 17.3 | 15.4 | 12.9 | 10.9 | 1.3 | 0.0 | 0.0 | 14.8 | 22.3 |
| Cooling Tower 1-1 | 0.0 | 16.9 | 18.8 | 18.8 | 14.0 | 12.8 | 10.0 | 5.3 | 0.0 | 0.0 | 44.7 | 23.7 |
| Coollng Tower 2-9 | 0.0 | 16.8 | 19.7 | 18.7 | 14.0 | 12.7 | 10.0 | 5.2 | 0.0 | B. 0 | 14.6 | 23.6 |
| Caoling Tower 1-2 | 0.0 | 16.8 | 19.7 | 18.7 | 13.9 | 12.6 | 9.9 | 5.1 | 0.0 | 0.0 | 14.6 | 23.6 |
| Coofing Tower 2-10 | 0.0 | 16.7 | 19.6 | 18.6 | 13.8 | +2.6 | 9.8 | 5.0 | 0.0 | 0.0 | 14.5 | 23.5 |
| Cooling Tower 1-3 | 0.0 | 16.7 | 19.6 | 18.6 | 13.8 | 12.5 | 9.7 | 4.9 | 0.0 | 0.0 | 14.4 | 23.5 |
| cooling Tower 2-11 | 0.0 | 16.6 | 19.3 | 18.5 | 13.7 | 12.4 | 9.6 | 4.8 | 0.0 | 0.0 | 14.3 | 23.4 |
| Cooling Tower $1-4$ | 0.0 | 16.6 | 19.5 | 18.4 | 13.7 | 12.4 | 2.6 | 4.7 | 0.0 | 0.0 | 14.3 | 23.3 |
| Cooling Tower $2-12$ | 0.0 | 16.5 | 19.4 | 18.4 | 13.6 | 12.3 | 9.5 | 4.6 | 0.0 | 0.0 | 14.2 | 23.3 |
| Cooling Tower 1-5 | 0.0 | 16.5 | 19.4 | 18.3 | 13.5 | 12.2 | 9.4 | 4.5 | 0.0 | 0.0 | 14.1 | 23.2 |
| SCR Fans | 0.0 | 14.0 | 15.9 | 16.8 | 14.8 | 12.3 | 10.1 | 0.2 | 0.0 | 0.0 | 14.1 | 21.7 |
| Cooling Tower 2-13 | 0.0 | 16.4 | 19.3 | 18.3 | 13.5 | 12.2 | 9.3 | 4.3 | 0.0 | 0.0 | 14.0 | 23.2 |
| Cooling Towar 1-6 | 0.0 | 16.4 | 19.3 | 18.2 | 13.4 | 12.1 | 9.3 | 4.2 | 0.0 | 0.0 | 14.0 | 23.1 |
| Cooling Tower 2-14 | 0.0 | 18.3 | 19.2 | 18.2 | 13.4 | 12.0 | 9.2 | 4.1 | 0.0 | 0.0 | 13.9 | 23.0 |
| Cooling Tower 1.7 | 0.0 | 16.3 | 19.2 | 18.1 | 13.3 | 12.0 | 9.1 | 40 | 0.0 | 0.0 | 13.8 | 23.0 |
| Cooling Tower 2-15 | 0.0 | 16.2 | 19.1 | 18.1 | 13.2 | 11.9 | 9.0 | 3.9 | 0.0 | 0.0 | 13.7 | 22.9 |
| Coofing Tower 1-8 | 0.0 | 16.2 | 49.1 | 18.0 | 13.2 | 11.8 | 8.9 | 3.8 | 0.0 | 0.0 | 13.7 | 22.9 |
| Boiter Combustion Air - Forcad Drafl Fan |  |  |  |  |  |  |  |  |  |  |  |  |
| Boiler Combustion Air - Induced Draft Fan |  |  |  |  |  |  |  |  |  |  |  |  |
|  | 0.0 | 13.7 | 15.6 | 16.4 | 14.5 | 11.9 | 9.6 | 0.0 | 0.0 | 0.0 | 13.6 | 21.4 |
| Boiler Combustion Alr - Primary Air Fan | 0.0 | 13.7 | 15.6 | 16.4 | 14.5 | 11.9 | 9.6 | 0.0 | 0.0 | 0.0 | 13.6 | 21.4 |
| Cooling Tower 2-16 | 0.0 | 16.1 | 19.0 | 18.0 | 13.1 | 11.8 | 8.9 | 3.7 | 0.0 | 0.0 | 13.6 | 22.8 |
| Activa Limestone Pile - Bulldazer | 0.0 | 22.3 | 11.2 | 15.2 | 17.5 | 11.3 | 7.6 | 0.1 | 0.0 | 0.0 | 13.6 | 23.1 |
| Cooling Tower 1-9 | 0.0 | 16.1 | 19.0 | 17.9 | 13.1 | 11.7 | 8.8 | 3.6 | 0.0 | 0.0 | 13.5 | 22.8 |
| Cocaing Tower t-10 | 0.0 | 16.0 | 18.9 | 17.8 | 13.0 | 11.6 | 8.6 | 3.4 | 0.0 | 0.0 | 13.4 | 22.7 |
| Cooling Tower 1-11 | 0.0 | 15.9 | 18.8 | 17.7 | 12.8 | 11.4 | 8.5 | 3.2 | 0.0 | 0.0 | 13.2 | 22.6 |
| Ccoling Tower 1-12 | 0.0 | 15.8 | 18.7 | 17.6 | 12.7 | 11.3 | 8.3 | 3.0 | 0.0 | 0.0 | 13.1 | 22.5 |
| Cooling Tower 1-13 | 0.0 | 15.7 | 18.6 | 17.5 | 12.6 | 11.2 | 8.2 | 2.8 | 0.0 | 0.0 | 13.0 | 22.4 |
| Cooling Tower 1-14 | 0.8 | 15.6 | 18.5 | 17.4 | 12.5 | 11.1 | 8.1 | 2.6 | 0.0 | 0.0 | 128 | 22.3 |
| Cooling Tower 1-15 | 0.0 | 15.5 | 18.4 | 17.3 | 12.4 | 10.9 | 7.9 | 2.4 | 0.0 | 0.0 | 12.7 | 22.1 |
| Cooling Tower 1-18 | 0.0 | 15.4 | 18.3 | 17.2 | 12.3 | 10.8 | 7.8 | 2.2 | 0.0 | 0.0 | 12.6 | 22.0 |
| Stacks - Ash Handing - Front End Loader 0 |  |  |  |  |  |  |  |  |  |  |  |  |
|  | 0.0 | 0.0 | 10.3 | 14.3 | 16.5 | 10.1 | 8.3 | 0.0 | 0.0 | 0.0 | 12.4 | 19.7 |
| Main Transformer | 0.0 | 11.0 | 16.9 | 17.8 | 11.7 | 10.0 | 1.6 | 0.0 | 0.0 | 0.0 | 10.1 | 21.2 |
| Turbine Building | 0.0 | 10.7 | 16.6 | 13.5 | 7.6 | 2.0 | 0.0 | 0.0 | 0.0 | 0.0 | 4.3 | 18.7 |
| Auciliary Boiler | 0.0 | 9.6 | 9.5 | 7.4 | 4.5 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 1.6 | 13.3 |
| Reserve Transformer | 0.0 | 1.2 | 7.1 | 8.0 | 1.9 | 0.2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.4 | 11.3 |
| Turbine Building - Power Root Vents | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 4.2 |
| Boder Building | 0.0 | 11.6 | 10.5 | 4.4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 13.1 |
| Boiler Building - Power Roof Vents | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Stack 1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Stack 2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

## Output Data Summary

$x=451 \quad y=944 z=186.5$ (in metars)

| Scurce Comoonent. | Octave Band Center Frequency, Hz |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 16 | 31.5 | 63 | 125 | 250 | 500 | 1000 | 2000 | 4000 | 8000 | dE(A) | dB(C) |
| Tolal of Sources | 0.0 | 38.5 | 40.1 | 38.9 | 37.4 | 37.2 | 33.6 | 27.0 | 9.6 | 0.0 | 38.2 | 45.2 |
| Boiler Euilding - Boifer Relied Valves | 0.0 | 0.0 | 15.1 | 24.1 | 33.3 | 34.9 | 30.0 | 17.9 | 0.0 | 0.0 | 34.7 | 38.2 |
| Coal Transfer Housa | 0.0 | 31.5 | 31.5 | 30.6 | 28.1 | 25.4 | 23.4 | 18.6 | 0.2 | 0.0 | 27.9 | 36.3 |
| Goal Barge Unloading - Clamshell Bucket |  |  |  |  |  |  |  |  |  |  |  |  |
|  | 0.0 | 30.5 | 33.5 | 29.1 | 26.6 | 23.8 | 21.6 | 13.5 | 0.0 | 0.0 | 25.6 | 36.1 |
| Crusher House | 0.0 | 30.2 | 30.1 | 29.1 | 24.5 | 21.6 | 17.3 | 11.6 | 0.0 | 0.0 | 23.2 | 34.2 |
| Make-up Water Treatment Facility | 0.0 | 8.9 | 14.8 | 11.8 | 15.2 | 20.1 | 18.5 | 12.3 | 0.0 | 0.0 | 21.7 | 24.2 |
| Cooling Tower 2-1 | 0.0 | 20.9 | 23.9 | 23.0 | 18.5 | 17.7 | 15.6 | 12.6 | 0.0 | 0.0 | 20.2 | 28.0 |
| Cooling Tower 2-2 | 0.0 | 20.8 | 23.7 | 22.8 | 18.3 | 17.5 | 15.4 | 12.4 | 0.0 | 0.0 | 20.0 | 27.9 |
| Cooling Tower 2-3 | 0.0 | 20.6 | 23.5 | 22.6 | 18.1 | 17.3 | 15.2 | 12.1 | 0.0 | 0.0 | 19.8 | 27.7 |
| Cocing Tower 2-4 | 0.0 | 20.4 | 23.4 | 22.4 | 17.9 | 17.1 | 15.0 | 11.8 | 0.0 | 0.0 | 19.6 | 27.5 |
| Cocling Tower 2-5 | 0.0 | 20.3 | 23.2 | 22.3 | 17.8 | 16.9 | 14.7 | 11.5 | 0.0 | 0.0 | 19.3 | 27.3 |
| Cooling Tower 2-5 | 0.0 | 20.1 | 23.0 | 22.1 | 17.6 | 16.7 | 14.5 | 11.3 | 0.0 | 0.0 | 19.1 | 27.2 |
| Cooling Tower 2-7 | 0.0 | 19.9 | 22.9 | 21.9 | 17.4 | 16.5 | 14.3 | 11.0 | 0.0 | 0.0 | 18.9 | 27.0 |
| Cooling Tower 2-8 | 0.0 | 19.8 | 22.7 | 24.8 | 17.2 | 16.3 | 14.1 | 10.7 | 0.0 | 0.0 | 18.7 | 26.8 |
| Cooiling Tower 2-9 | 0.0 | 19.6 | 22.6 | 21.6 | 17.1 | 16.2 | 13.9 | 10.4 | 0.0 | 0.0 | 18.5 | 26.7 |
| Cooling Tower 2-10 | 0.0 | 19.5 | 22.4 | 21.5 | 16.9 | 16.0 | 13.7 | 10.2 | 0.0 | 0.0 | 18.3 | 26.5 |
| Cooling Tower 2-11 | 0.0 | 19.3 | 22.3 | 21.3 | 16.7 | 15.8 | 13.5 | 9.9 | 0.0 | 0.0 | 18.1 | 26.3 |
| Cooling Tower 2-12 | 0.0 | 19.2 | 22.1 | 21.2 | 16.6 | 15.6 | 13.3 | 9.7 | 0.0 | 0.0 | 17.9 | 26.2 |
| Active Coad Piles - Eundidozer | 0.0 | 25.7 | 14.7 | 18.7 | 21.2 | 15.4 | 12.3 | 6.3 | 0.0 | 0.0 | 17.8 | 28.7 |
| Cooling Tower 1-1 | 0.0 | 19.1 | 22.0 | 21.1 | 16.5 | 15.5 | 13.2 | 9.5 | 0.0 | 0.0 | 17.8 | 26.1 |
| Cooling Tower $2-13$ | 0.0 | 19.1 | 22.0 | 21.0 | 16.4 | 15.5 | 13.1 | 9.4 | 0.0 | 0.0 | 17.7 | 26.0 |
| Cooling Tower 1-2 | 0.0 | 19.0 | 21.9 | 20.9 | 16.3 | 15.4 | 13.0 | 9.3 | 0.0 | 0.0 | 17.6 | 25.9 |
| Cooling Tower 2-14 | 0.0 | 18.9 | 21.8 | 20.9 | 16.3 | 15.3 | 12.9 | 9.2 | 0.0 | 0.0 | 17.5 | 25.9 |
| Cooling Tower 1-3 | 0.0 | 18.8 | 21.6 | 20.8 | 16.2 | 15.2 | 12.8 | 9.1 | 0.0 | 0.0 | 17.4 | 25.8 |
| Cocaling Tower 2-16 | 0.0 | 18.8 | 21.7 | 20.7 | 16.1 | 15.1 | 12.7 | 8.9 | 0.0 | 0.0 | 17.3 | 25.7 |
| Coding Tower 1-4 | 0.0 | 18.7 | 21.7 | 20.7 | 16.1 | 45.1 | 12.6 | 8.8 | 0.0 | 0.0 | 17.3 | 25.7 |
| Cooding Tower 2-16 | 0.0 | 18.6 | 21.6 | 20.6 | 16.0 | 15.0 | 12.5 | 8.7 | 0.0 | 0.0 | 17.2 | 25.6 |
| Cooling Tower 1-5 | 0.0 | 18.6 | 21.5 | 20.5 | 15.9 | 14.9 | 12.5 | 8.6 | 0.0 | 0.0 | 17.1 | 25.5 |
| Cooling Tower 1-6 | 0.0 | 18.5 | 21.4 | 20.4 | 15.8 | 14.7 | 12.3 | 8.4 | 0.0 | 0.0 | 16.9 | 25.4 |
| Fly Ash Handing - Vacuum Exhaustar | 0.0 | 15.9 | 17.8 | 18.8 | 17.0 | 14.8 | 13.0 | 4.3 | 0.0 | 0.0 | 16.8 | 23.9 |
| Coding Tower 1-7 | 0.0 | 18.3 | 21.3 | 20.3 | 15.6 | 14.6 | 12.1 | 8.1 | 0.0 | 0.0 | 16.7 | 25.3 |
| Cooling Tower 1-8 | 0.0 | 18.2 | 27.1 | 20.2 | 15.5 | 14.4 | 12.0 | 7.9 | 0.0 | 0.0 | 16.6 | 25.1 |
| cooling Tower 1-9 | 0.0 | 18.1 | 21.0 | 20.0 | 15.4 | 14.3 | 11.8 | 7.7 | 0.0 | 0.0 | 16.4 | 25.0 |
| Cooling Tower 1-10 | 0.0 | 18.0 | 20.9 | 19.9 | 15.2 | 14.1 | 11.6 | 7.5 | 0.0 | 0.0 | 16.2 | 24.9 |
| Cooling Tower 1-11 | 0.0 | 17.9 | 20.8 | 19.8 | 15.1 | 14.0 | 11.4 | 7.2 | 0.0 | 0.0 | 16.1 | 24.7 |
| SCR Fans | 0.0 | 15.3 | 17.2 | 18.1 | 18.3 | 14.0 | 12.1 | 3.1 | 0.0 | 0.0 | 15.9 | 23.2 |
| Cooling Tower 1-12 | 0.0 | 17.7 | 20.7 | 19.7 | 15.0 | 13.9 | 11.3 | 7.0 | 0.0 | 0.0 | 15.9 | 24.6 |
| Cooling Tower 1-13 | 0.0 | 17.6 | 20.6 | 19.6 | 14.9 | 13.7 | 11.1 | 6.8 | 0.0 | 0.0 | 15.8 | 24.5 |
| Boiler Combustion Air - Induced Drafl Fan |  |  |  |  |  |  |  |  |  |  |  |  |
| Boiler Combustion Air - Forced Draft Fan |  |  |  |  |  |  |  |  |  |  |  |  |
|  | 0.0 | 15.1 | 17.0 | 17.9 | 18.1 | 13.7 | 11.8 | 2.7 | 0.0 | 0.0 | 15.7 | 23.0 |
| Boiler Combustion Air - Primary Air Fan | 0.0 | 15.1 | 17.0 | 17.9 | 16.1 | 13.7 | 11.8 | 2.7 | 0.0 | 0.0 | 15.7 | 23.0 |
| Cooling Tower 9-14 | 0.0 | 17.5 | 20.4 | 19.4 | 14.7 | 13.6 | 11.0 | 6.6 | 0.0 | 0.0 | 15.6 | 24.4 |
| Active Limestone Pile - Bulldozer | 0.0 | 23.9 | 12.8 | 16.6 | 19.2 | 13.2 | 9.8 | 3.1 | 0.0 | 0.0 | 15.5 | 24.8 |
| Cooling Tower 1-15 | 0.0 | 17.4 | 20.3 | 19.3 | 14.6 | 13.4 | 10.8 | 6.4 | 0.0 | 0.0 | 15.4 | 24.3 |
| Cooling Tower 1-16 | 0.0 | 17.3 | 20.2 | 19.2 | 14.5 | 13.3 | 10.6 | 6.1 | 0.0 | 0.0 | 15.3 | 24.1 |
| Stacks - Ast Hendling - Front End Loader |  |  |  |  |  |  |  |  |  |  |  |  |
|  | 0.0 | 0.0 | 11.4 | 15.4 | 17.7 | 11.5 | 7.9 | 0.5 | 0.0 | 0.0 | 13.8 | 21.0 |
| Main Transioxmer | 0.0 | 12.5 | 18.4 | 19.3 | 13.4 | 11.9 | 3.9 | 0.0 | 0.0 | 0.0 | 12.0 | 22.7 |
| Turbine Bullding | 0.0 | 12.1 | 18.0 | 14.9 | 9.1 | 3.7 | 0.0 | 0.0 | 0.0 | 0.0 | 6.0 | 20.1 |
| Auxiliary Boiler | 0.0 | 11.0 | 11.0 | 8.9 | 6.2 | 2.0 | 0.0 | 0.0 | 0.0 | 0.0 | 3.5 | 14.9 |
| Reserve Transformer | 0.0 | 2.6 | 8.5 | 9.5 | 3.6 | 2.1 | 0.0 | 0.0 | 0.0 | 0.0 | 2.2 | 12.9 |
| Boiler Euilding | 0.0 | 12.8 | 11.7 | 5.7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 14.3 |
| Turbine Building - Power Roul Vents | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.5 |
| Boiter Building - Power Roof Vents | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Stack 1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Stack 2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

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## Output Data Summary

$x=1282 y=1904 z=186.5$ (in melars)

|  | Octave Band Center Frequency, Hz |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Source Component | 16 | 31.5 | 63 | 125 | 250 | 500 | 1000 | 2000 | 4000) | 8000 | dBIA | dB(C) |
| Total of Saurses | 0.0 | 38.6 | 40.9 | 40.0 | 39.1 | 39.8 | 36.2 | 29.7 | 14.5 | 0.0 | 40.6 | 46.6 |
| Boiler Buidding - Bioiler Relief Vahves | 0.0 | 0.0 | 17.7 | 26.8 | 36.2 | 38.2 | 33.8 | 23.0 | 0.0 | 0.0 | 38.1 | 41.4 |
| Coul Barge Unloading - Clamshell Buckei |  |  |  |  |  |  |  |  |  |  |  |  |
|  | 0.0 | 28.9 | 31.8 | 27.4 | 24.8 | 21.8 | 19.4 | 10.7 | 0.0 | 0.0 | 23.8 | 34.4 |
| Make-up Water Treatment Facility | 0.0 | 9.9 | 15.8 | 12.8 | 16.2 | 21.3 | 19.9 | 14.1 | 0.0 | 0.0 | 23.1 | 25.5 |
| Coal Transfer House | 0.0 | 27.7 | 27.6 | 26.6 | 23.9 | 20.8 | 18.2 | 11.9 | 0.0 | 0.0 | 22.9 | 32.2 |
| Crusher House | 0.0 | 29.5 | 29.4 | 28.5 | 23.8 | 20.8 | 46.4 | 10.5 | 0.0 | 0.0 | 22.4 | 33.6 |
| Coceling Tower 2-16 | 0.0 | 22.5 | 25.5 | 24.6 | 20.2 | 19.5 | 17.6 | 15.1 | 2.8 | 0.0 | 22.3 | 29.7 |
| Cooling Tower 2-15 | 0.0 | 22.3 | 25.3 | 24.4 | 20.0 | 19.3 | 17.4 | 14.8 | 2.3 | 0.0 | 22.0 | 29.5 |
| Cooling Tower 2-14 | 0.0 | 22.1 | 25.1 | 24.2 | 19.8 | 18.1 | 17.1 | 14.5 | 1.8 | 0.0 | 21.8 | 29.3 |
| Cooling Tower 2-13 | 0.0 | 21.9 | 24.9 | 24.0 | 19.6 | 18.9 | 16.9 | 14.3 | 1.3 | 0.0 | 21.5 | 29.1 |
| Cooling Tower 1-16 | 0.0 | 21.8 | 24.8 | 23.9 | 19.4 | 18.7 | 16.7 | 14.1 | 1.0 | 0.0 | 21.4 | 29.0 |
| Cooling Tower 2-12 | 0.0 | 21.8 | 24.7 | 23.8 | 19.4 | 18.7 | 16.7 | 14.0 | 0.8 | 0.0 | 21.3 | 28.9 |
| Cooling Tower 1-15 | 0.0 | 21.7 | 24.6 | 23.7 | 19.3 | 18.6 | 16.6 | 13.9 | 0.6 | 0.0 | 21.2 | 28.9 |
| Cooling Tower 2-11 | 0.0 | 21.8 | 24.5 | 23.6 | 19.2 | 18.6 | 16.4 | 13.7 | 0.3 | 0.0 | 21.1 | 28.7 |
| Boiler Combustion Air - Primary Air Fan | 0.0 | 19.1 | 21.0 | 22.1 | 20.6 | 48.7 | 17.5 | 10.2 | 0.0 | 0.0 | 21.4 | 27.5 |
| Boilsr Combustion Air - Induced Draft Fan |  |  |  |  |  |  |  |  |  |  |  |  |
|  | 0.0 | 19.1 | 21.0 | 22.1 | 20.6 | 16.7 | 17.5 | 10.2 | 0.0 | 0.0 | 21.1 | 27.5 |
| Boiler Combustion Air - Forced Drafik Fan |  |  |  |  |  |  |  |  |  |  |  |  |
|  | 0.0 | 19.1 | 21.0 | 22.1 | 20.6 | 18.7 | 17.5 | 10.2 | 0.0 | 0.0 | 21.1 | 27.5 |
| Cooling Tower 1-14 | 0.0 | 21.6 | 24.5 | 23.6 | 19.2 | 18.4 | 16.4 | 13.6 | 0.2 | 0.0 | 21.0 | 28.7 |
| Cocling Tower 1-13 | 0.0 | 21.4 | 24.4 | 23.5 | 19.0 | 18.3 | 16.2 | 13.4 | 0.0 | 0.0 | 20.9 | 28.6 |
| Cooling Tower 2-10 | 0.0 | 21.4 | 24.4 | 23.4 | 19.0 | 18.3 | 16.2 | 13.4 | 0.0 | 0.0 | 20.9 | 28.6 |
| Cooling Tower $1-12$ | 0.0 | 21.3 | 24.2 | 23.3 | 18.9 | 18.1 | 16.1 | 13.2 | 0.0 | 0.0 | 20.7 | 28.4 |
| Cooling Tower 2-9 | 0.0 | 21.2 | 24.2 | 23.3 | 18.8 | 18.1 | 16.0 | 13.1 | 0.0 | 0.0 | 20.6 | 28.4 |
| Cooling Tower 1-11 | 0.0 | 21.2 | 24.1 | 23.2 | 18.7 | 18.0 | 15.9 | 13.0 | 0.0 | 0.0 | 20.5 | 28.3 |
| Cooling Tower 2.8 | 0.0 | 21.1 | 24.0 | 23.1 | 18.6 | 17.9 | 15.8 | 12.9 | 0.0 | 0.0 | 20.4 | 28.2 |
| Cooling Tower 1-10 | 0.0 | 21.0 | 24.0 | 23.1 | 18.6 | 17.8 | 15.7 | 12.8 | 0.0 | 0.0 | 20.4 | 28,2 |
| Cooling Tower 1-9 | 0.0 | 20.9 | 23.8 | 22.9 | 18.4 | 17.7 | 15.6 | 12.6 | 0.0 | 0.0 | 20.2 | 28.0 |
| Cooling Tower 2.7 | 0.0 | 20.9 | 23.8 | 22.9 | 18.4 | 17.7 | 15.6 | 12.6 | 0.0 | 0.0 | 20.2 | 28.0 |
| Cooling Tower 1-8 | 0.0 | 20.8 | 23.7 | 22.8 | 18.3 | 17.5 | 15.4 | 12.4 | 0.0 | 0.0 | 20.0 | 27.9 |
| Cooling Tower 2-6 | 0.0 | 20.7 | 23.7 | 22.8 | 18.3 | 17.5 | 15.4 | 12.3 | 0.0 | 0.0 | 20.0 | 27.8 |
| Cooling Tower 1-7 | 0.0 | 20.6 | 23.6 | 22.6 | 18.1 | 17.3 | 15.2 | 12.1 | 0.0 | 0.0 | 19.8 | 27.7 |
| Cooling Tower $2-5$ | 0.0 | 20.6 | 23.5 | 22.6 | 18.1 | 17.3 | 15.1 | 12.9 | 0.0 | 0.0 | 19.8 | 27.7 |
| Cooling Tower 1-6 | 0.0 | 20.5 | 23.4 | 22.5 | 18.0 | 17.2 | 15.0 | 11.9 | 0.0 | 0.0 | 19.7 | 27.6 |
| Fly Ash Harding - Vacuum Exhouster | 0.0 | 18.0 | 19.9 | 21.0 | 19.4 | 17.4 | 16.1 | 8.4 | 0.0 | 0.0 | 19.7 | 26.3 |
| Cooling Tower 2-4 | 0.0 | 20.4 | 23.4 | 23.4 | 17.9 | 17.7 | 14.9 | 11.8 | 0.0 | 0.0 | 19.5 | 27.5 |
| SCR Fans | 0.0 | 17.9 | 19.8 | 20.9 | 19.3 | 17.3 | 15.9 | 8.2 | 0.0 | 0.0 | 19.5 | $26 . \dagger$ |
| Coallng Tower 1-5 | 0.0 | 20.4 | 23.3 | 22.4 | 17.8 | 17.0 | 14.9 | 11.7 | 0.0 | 0.0 | 19.5 | 27.4 |
| Cooling Tower 2-3 | 0.0 | 20.3 | 23.2 | 22.3 | 17.7 | 16.9 | 14.7 | 11.5 | 0.0 | 0.0 | 19.3 | 27.3 |
| Cocling Tower 1-4 | 0.0 | 20.2 | 23.2 | 22.2 | 17.7 | 16.9 | 14.7 | 11.5 | 0.0 | 0.0 | 19.3 | 27.3 |
| Cooking Tower 1-3 | 0.0 | 20.1 | 23.1 | 22.1 | 17.6 | 16.7 | 14.5 | 11.3 | 0.0 | 0.0 | 19.1 | 27.2 |
| Cooling Tower 2-2 | 0.0 | 20.1 | 23.0 | 22.1 | 17.6 | 16.7 | 14.5 | 11.3 | 0.0 | 0.0 | 19.1 | 27.2 |
| Cooling Tower 1-2 | 0.0 | 20.0 | 22.9 | 22.0 | 17.5 | 16.6 | 14.4 | 11.4 | 0.0 | 0.0 | 19.0 | 27.0 |
| Main Transformer | 0.0 | 18.1 | 24.0 | 25.1 | 19.6 | 18.9 | 11.8 | 3.9 | 0.0 | 0.0 | 18.0 | 28.7 |
| Cooling Tower 2-1 | 0.0 | 19.9 | 229 | 21.9 | 17.4 | 16.5 | 14.3 | 11.0 | 0.0 | 0.0 | 18.9 | 27.0 |
| Cooling Towar 1-1 | 0.0 | 19.9 | 22.8 | 21.9 | 17.3 | 16.4 | 14.2 | 10.9 | 0.0 | 0.0 | 18.8 | 26.9 |
| Active Limestone Pils - Bulldozer | 0.0 | 22.8 | 11.7 | 45.7 | 18.0 | 11.9 | 8.3 | 1.0 | 0.0 | 0.0 | 14.4 | 23.6 |
| Active Coad Piles - Bulldozer | 0.0 | 22.1 | 11.1 | 15.0 | 17.3 | 11.1 | 7.4 | 0.0 | 0.0 | 0.0 | 13.4 | 22.9 |
| Stacks - Asht Handing - Front End Loader |  |  |  |  |  |  |  |  |  |  |  |  |
|  | 0.0 | 0.0 | 14.0 | 15.0 | 17.3 | 11.1 | 7.4 | 0.0 | 0.0 | 0.0 | 13.3 | 20.5 |
| Turbine Building | 0.0 | 15.3 | 21.2 | 18.2 | 12.7 | 7.7 | 2.4 | 0.0 | 0.0 | 0.0 | 9.9 | 23.4 |
| Reserve Transformer | 0.0 | 7.8 | 13.8 | 14.9 | 9.4 | 8.6 | 1.5 | 0.0 | 0.0 | 0.0 | 8.7 | 18.4 |
| Auxiliary Boiler | 0.0 | 43.3 | 13.2 | 11.2 | 8.7 | 4.7 | 0.4 | 0.0 | 0.0 | 0.0 | 6.3 | 17.2 |
| Boiler Bulding | 0.0 | 14.7 | 13.0 | 7.0 | 0.4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.3 | 15.6 |
| Turtine Building - Power Roof Vents | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Boiler Building - Power Roof Vents | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Stack 1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Stack 2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

$x=1862 y=1947 z=186.5$ fin meters)

| Selres Componsin | Qctave Band Center Frequency, Hz |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 16 | 31.5 | 63 | 125 | 250 | 500 | 1000 | 2000 | 4000 | 8000 | $d \mathrm{~B}(\mathrm{~A}) \mathrm{dB}(\mathrm{C}$ |  |
| Total of Sourcas | 0.0 | 37.0 | 39.1 | 38.5 | 38.6 | 39.6 | 35.8 | 27.8 | 9.6 | 0.0 | 40.2 | 45.7 |
| Boiler Building - Boiler Rellet Valves | 0.0 | 0.0 | 18.1 | 27.1 | 36.5 | 38.5 | 34.2 | 23.6 | 0.8 | 0.0 | 38.5 | 41.8 |
| Make-up Water Treatment Facility Boiler Combustion Air - Forced Draft Fan | 0.0 | 9.3 | 15.3 | 12.3 | 15.6 | 20.6 | 19.1 | 13.1 | 0.0 | 0.0 | 22.3 | 24.8 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | 0.0 | 19.5 | 21.4 | 22.5 | 21.0 | 19.2 | 18.0 | 10.9 | 0.0 | 0.0 | 21.6 | 27.9 |
| Bailer Combustion Air - Primary Air Fan Boiler Combustion Air - minduced Draft Fan | 0.0 | 19.5 | 21.4 | 22.5 | 21.0 | 10.2 | 18.0 | 10.9 | 0.0 | 0.0 | 21.6 | 27.9 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | 0.0 | 19.5 | 21.4 | 22.5 | 21.0 | 18.2 | 18.0 | 10.9 | 0.0 | 0.0 | 21.6 | 27.9 |
| Crusher Housa | 0.0 | 28.5 | 28.5 | 27.5 | 22.8 | 19.6 | 15.0 | 8.6 | 0.0 | 0.0 | 21.1 | 32.5 |
| Coal Transfer House | 0.0 | 26.3 | 26.3 | 25.2 | 22.4 | 19.1 | 16.2 | 9.2 | 0.0 | 0.0 | 21.0 | 30.8 |
| Main Transformer | 0.0 | 19.0 | 25.0 | 26.1 | 20.7 | 20.0 | 13.0 | 5.4 | 0.0 | 0.0 | 20.1 | 29.7 |
| SCR Fans | 0.0 | 18.2 | 20.2 | 21.2 | 19.6 | 17.7 | 16.4 | 8.8 | 0.0 | 0.0 | 20.0 | 28.5 |
| Cooling Tower 1-14 | 0.0 | 20.6 | 23.5 | 22.6 | 18.1 | 17.3 | 15.2 | 12.1 | 0.0 | 0.0 | 19.8 | 27.7 |
| Coat Barge Unloading - Clamshell Buckot |  |  |  |  |  |  |  |  |  |  |  |  |
|  | 0.0 | 25.8 | 28.7 | 24.2 | 21.3 | 17.9 | 14.9 | 4.5 | 0.0 | 0.0 | 19.7 | 31.1 |
| Cooling Tower 1-15 | 0.0 | 20.4 | 23.4 | 22.4 | 17.9 | 17.1 | 14.9 | 11.8 | 0.0 | 0.0 | 19.6 | 27.5 |
| Fly Ash Handling - Vacuum Exhaustar | 0.0 | 17.9 | 19.8 | 20.8 | 19.2 | 17.2 | 15.8 | 8.1 | 0.0 | 0.0 | 19.4 | 26.1 |
| Cooling Tower 1-14 | 0.0 | 20.3 | 23.2 | 22.3 | 17.8 | 16.9 | 14.7 | 11.5 | 0.0 | 0.0 | 19.3 | 27.3 |
| Cooling Tower 1.19 | 0.0 | 20.1 | 23.1 | 22.1 | 17.6 | 16.7 | 14.5 | 11.3 | 0.0 | 0.0 | 19.1 | 27.2 |
| Cooling Tower 1-12 | 0.0 | 20.0 | 22.9 | 21.9 | 17.4 | 16.5 | 14.3 | 11.0 | 0.0 | 0.0 | 18.9 | 27.0 |
| Cooling Tower 1-11 | 0.0 | 19.8 | 22.7 | 21.8 | 17.3 | 16.4 | 14.1 | 10.7 | 0.0 | 0.0 | 18.7 | 26.8 |
| Cooling Tower 1.10 | 0.0 | 19.7 | 22.6 | 21.6 | 17.1 | 16.2 | 13.9 | 10.5 | 0.0 | 0.0 | 18.5 | 26.7 |
| Cooking Towar 2-16 | 0.0 | 19.5 | 22.5 | 21.5 | 16.9 | 16.0 | 13.7 | 10.3 | 0.0 | 0.0 | 18.4 | 26.5 |
| Cooling Towar 1-9 | 0.0 | 19.5 | 22.4 | 21.5 | 16.9 | 16.0 | 13.7 | 10.2 | 0.0 | 0.0 | 18.3 | 26.5 |
| Cocoling Tower 2-15 | 0.0 | 19.4 | 22.3 | 21.4 | 16.8 | 15.9 | 13.5 | 10.0 | 0.0 | 0.0 | 182 | 26.4 |
| Cocling Tower 1-8 | 0.0 | 19.4 | 22.3 | 21.3 | 16.8 | 15.8 | 13.5 | 10.0 | 0.0 | 0.0 | 18.1 | 26.4 |
| Coolitrg Tower 2-14 | 0.0 | 19.2 | 22.2 | 21.2 | 16.6 | 15.7 | 13.4 | 9.8 | 0.0 | 0.0 | 18.0 | 26.2 |
| Cooling Tower 1-7 | 0.0 | 19.2 | 22.1 | 21.2 | 16.6 | 15.7 | 13.3 | 9.7 | 0.0 | 0.0 | 17.9 | 26.2 |
| Cooling Tower 2-13 | 0.0 | 19.1 | 22.0 | 21.1 | 16.5 | 15.5 | 13.2 | 9.5 | 0.0 | 0.0 | 17.8 | 26.1 |
| Cooling Tower 1.6 | 0.0 | 19.1 | 22.0 | 21.0 | 16.4 | 15.5 | 13.1 | 9.5 | 0.0 | 0.0 | 17.7 | 26.0 |
| Cooling Tower 2-12 | 0.0 | 18.9 | 21.9 | 20.9 | 16.3 | 15.3 | 13.0 | 9.2 | 0.0 | 0.0 | 17.6 | 25.9 |
| Cooling Towar 1-5 | 0.0 | 18.9 | 21.9 | 20.9 | 16.3 | 15.3 | 12.9 | 9.2 | 0.0 | 0.0 | 17.6 | 25.9 |
| Cocling Tower 2-11 | 0.0 | 18.8 | 21.7 | 20.8 | 16.2 | 15.2 | 12.8 | 9.0 | 0.0 | 0.0 | 17.4 | 25.8 |
| Cosing Tower 1-4 | 0.0 | 18.8 | 21.7 | 20.8 | 16.1 | 15.1 | 12.8 | 9.0 | 0.0 | 0.0 | 17.4 | 25.8 |
| Cooling Tower 2-10 | 0.0 | 18.7 | 21.6 | 20.6 | 16.0 | 15.0 | 12.6 | 8.8 | 0.0 | 0.0 | 17.2 | 25.6 |
| Cooling Tower 1-3 | 0.0 | 18.7 | 21.6 | 20.6 | 16.0 | 15.0 | 12.6 | 8.7 | 0.0 | 0.0 | 17.2 | 25.6 |
| Cooling Tower $2-9$ | 0.0 | 18.5 | 21.5 | 20.5 | 15.9 | 14.8 | 12.4 | 8.5 | 0.0 | 0.0 | 17.0 | 25.5 |
| Cooking Tower 1-2 | 0.0 | 18.5 | 21.5 | 20.5 | 15.9 | 14.8 | 12.4 | 8.5 | 0.0 | 0.0 | 17.0 | 25.5 |
| cooking Tower 2-8 | 0.0 | 18.4 | 21.3 | 20.4 | 15.7 | 14.7 | 12.2 | 8.3 | 0.0 | 0.0 | 16.8 | 25.3 |
| Cooking Tawer 1-1 | 0.0 | 18.4 | 21.3 | 20.3 | 15.7 | 14.7 | 12.2 | 8.2 | 0.0 | 0.0 | 16.8 | 25.3 |
| Cocoling Tower 2-7 | 0.0 | 18.3 | 21.2 | 20.2 | 15.6 | 14.5 | 12.0 | 8.0 | 0.0 | 0.0 | 16.7 | 25.2 |
| Cooling Tower 2-6 | 0.0 | 18.4 | 21.1 | 20.1 | 15.4 | 14.4 | 11.9 | 7.8 | 0.0 | 0.0 | 16.5 | 25.1 |
| Cooting Tower 2-5 | 0.0 | 18.0 | 21.0 | 20.0 | 15.3 | 14.2 | 11.7 | 7.5 | 0.0 | 0.0 | 16.3 | 24.9 |
| Cooilng Tower 2.4 | 0.0 | 17.9 | 20.8 | 19.8 | 15.1 | 14.0 | 11.5 | 7.3 | 0.0 | 0.0 | 16.1 | 24.8 |
| Coobling Tower 2.3 | 0.0 | 17.8 | 20.7 | 19.7 | 15.0 | 13.9 | 11.3 | 7.1 | 0.0 | 0.0 | 16.0 | 24.6 |
| Cooling Tower 2-2 | 0.0 | 17.7 | 20.6 | 19.6 | 14.9 | 13.7 | 11.2 | 6.8 | 0.0 | 0.0 | 15.8 | 24.5 |
| Caoling Tower 2-1 | 0.0 | 17.5 | 20.5 | 19.4 | 14.7 | 13.6 | 11.0 | 6.6 | 0.0 | 0.0 | 15.8 | 24.4 |
| Active Limestone Pile - Buildozer | 0.0 | 22.1 | 11.0 | 15.0 | 17.2 | 11.0 | 7.3 | 0.0 | 0.0 | 0.0 | 13.3 | 22.9 |
| Stacks - Ash Handling - Front End Loader |  |  |  |  |  |  |  |  |  |  |  |  |
|  | 0.0 | 0.0 | 10.9 | 14.9 | 17.1 | 10.9 | 7.2 | 0.0 | 0.0 | 0.0 | 13.2 | 20.4 |
| Active Coal Piles - Aulldozer | 0.0 | 21.1 | 10.0 | 14.0 | 16.2 | 9.8 | 5.9 | 0.0 | 0.0 | 0.0 | 12.0 | 21.8 |
| Turbine Bublding | 0.0 | 15.5 | 21.6 | 18.6 | 13.1 | 8.2 | 2.9 | 0.0 | 0.0 | 0.0 | 10.3 | 23.7 |
| Reserve Transformer | 0.0 | 8.6 | 14.6 | 15.7 | 10.2 | 9.5 | 2.5 | 0.0 | 0.0 | 0.0 | 9.6 | 19.3 |
| Auxiliary Boiler | 0.0 | 13.1 | 13.0 | 14.1 | 8.5 | 4.5 | 02 | 0.0 | 0.0 | 0.0 | 6.1 | 17.0 |
| Boiler Building | 0.0 | 14.2 | 13.2 | 7.2 | 0.5 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.5 | 15.8 |
| Turbine Building - Power Raof Vents | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Boiler Euilding - Power Rool Verts | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | D.0 |
| Stack 1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Stack 2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

## Output Data Summary

| Source Comporent. | Octave Band Center Frequency, Hz |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 16 | 31.5 | $\frac{63}{37.6}$ | 125 | 250 | 500 | 1000 | 2000 | ,4000 | 8000 |  |  |
| Total of Sources | 0.0 | 35.5 |  | $\frac{17.0}{}$ | 37.4 | 38.4 | 34.4 | 25.5 | 4.4 | 0.0 | 38.8 | 44.3 |
| Boiler Buitoing - Boiler Ralief Velves Mako-up Water Treatment Facility Boiler Combustion Air - Forced Drafl Fan | 0.0 | 0.0 | 17.2 | 26.2 | 35.6 | 37.5 | 33.1 | 22.0 | 0.0 | 0.0 | 37.5 | 40.8 |
|  | 0.0 | 8.2 | 14.1 | 11.1 | 14.4 | 19.2 | 17.5 | 10.9 | 0.0 | 0.0 | 20.7 | 23.3 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | 0.0 | 18.4 | 20.3 | 21.4 | 19.8 | 17.9 | 16.6 | 9.0 | 0.0 | 0.0 | 20.1 | 26.7 |
| Boller Combustion Air - Primary Air Fan <br> Boiler Compustion Air - Induced Drati Fan | 0.0 | 18.4 | 20.3 | 21.4 | 19.8 | 17.9 | 16.6 | 9.0 | 0.0 | 0.0 | 20.1 | 28.7 |
|  | 0.0 | 18.4 | 20.3 | 21.4 | 19.8 | 17.9 | 16.6 | 9.0 | 0.0 | 0.0 | 20.1 | 26.7 |
| Crusher House | 0.0 | 27.4 | 27.3 | 26.2 | 21.4 | 18.1 | 13.3 | 6.3 | 0.0 | 0.0 | 19.6 | 31.3 |
| Coal Transfer House | 0.0 | 25.2 | 25.1 | 24.0 | 21.0 | 17.5 | 14.4 | 6.6 | 0.0 | 0.0 | 19.4 | 29.5 |
| SCRFans | 0.0 | 17.4 | 19.3 | 20.3 | 18.7 | 16.6 | 15.2 | 7.2 | 0.0 | 0.0 | 18.8 | 25.6 |
| Main Transtormer | 0.0 | 17.8 | 23.7 | 24.8 | 19.3 | 18.5 | 11.4 | 3.4 | 0.0 | 0.0 | 18.8 | 28.3 |
| Fly Ash Handling - Vacuum Exhauster | 0.0 | 16.8 | 18.7 | 19.7 | 18.1 | 15.9 | 14.4 | 6.1 | 0.0 | 0.0 | 18.1 | 24.9 |
| Coal Berge Untoading - Clamshell Bucket |  |  |  |  |  |  |  |  |  |  |  |  |
|  | 0.0 | 24.4 | 27.0 | 22.4 | 19.4 | 15.7 | 12.3 | 0.8 | 0.0 | 0.0 | 17.4 | 29.3 |
| Cooling Tower 1-16 | 0.0 | 18.7 | 21.7 | 20.7 | 16.1 | 15.1 | 12.7 | 8.9 | 0.0 | 0.0 | 17.3 | 25.7 |
| Cooing Tower 1-15 | 0.0 | 18.6 | 21.5 | 20.6 | 15.9 | 14.9 | 12.5 | 8.6 | 0.0 | 0.0 | 17.1 | 25.5 |
| Cooling Tower 1-14 | 0.0 | 18.5 | 21.4 | 20.4 | 15.8 | 14.7 | 12.3 | 8.4 | 0.0 | 0.0 | 16.9 | 25.4 |
| Cooling Tower 1 -13 | 0.0 | 18.3 | 21.3 | 20.3 | 15.6 | 14.6 | 12.1 | 8.1 | 0.0 | 0.0 | 16.7 | 25.3 |
| Cooling Tower 1-12 | 0.0 | 18.2 | 21.1 | 20.2 | 15.5 | 14.4 | 11.9 | 7.9 | 0.0 | 0.0 | 16.6 | 25.1 |
| Cooling Tower 1-11 | 0.0 | 48.1 | 21.0 | 20.0 | 15.4 | 14.3 | 11.8 | 7.6 | 0.0 | 0.0 | 16.4 | 25.0 |
| Cooling Tower 1-10 | 0.0 | 18.0 | 20.9 | 19.9 | 152 | 14.1 | 11.6 | 7.4 | 0.0 | 0.0 | 162 | 24.8 |
| Cooling Tower 1-9 | 0.0 | 17.8 | 20.8 | 19.8 | 15.1 | 14.0 | 11.4 | 7.2 | 0.0 | 0.0 | 16.0 | 24.7 |
| Cooling Tower 1-8 | 0.0 | 17.7 | 20.6 | 19.6 | 14.9 | 13.8 | 11.2 | 6.9 | 0.0 | 0.0 | 15.9 | 24.6 |
| Cooling Tower 1-7 | 0.0 | 17.6 | 20.5 | 19.5 | 14.8 | 13.7 | 11.1 | 6.7 | 0.0 | 0.0 | 15.7 | 24.4 |
| Cooling Tower 1-6 | 0.0 | 17.5 | 20.4 | 19.4 | 14.7 | 13.5 | 10.9 | 6.5 | 0.0 | 0.0 | 15.5 | 24.3 |
| Cooling Tower 2-16 | 0.0 | 17.4 | 20.4 | 19.3 | 14.6 | 13.5 | 10.8 | 6.4 | 0.0 | 0.0 | 15.5 | 24.3 |
| Cooling Tower 1-5 | 0.0 | 17.4 | 20.3 | 19.3 | 14.5 | 13.4 | 10.7 | 6.2 | 0.0 | 0.0 | 15.4 | 24.2 |
| Cooling Tower 2-16 | 0.0 | 17.3 | 20.2 | 19.2 | 14.5 | 13.3 | 10.7 | 6.2 | 0.0 | 0.0 | 15.3 | 24.2 |
| Coaling Tower 1-4 | 0.0 | 17.7 | 20.2 | 19.1 | 14.4 | 13.2 | 10.6 | 6.0 | 0.0 | 0.0 | 15.2 | 24.1 |
| Cooling Tower 2-14 | 0.0 | 17.2 | 20.1 | 19.1 | 14.4 | 13.2 | 10.5 | 6.0 | 0.0 | 0.0 | 15.2 | 24.0 |
| Cooling Tower 1-3 | 0.0 | 17.1 | 20.0 | 19.0 | 14.3 | 13.1 | 10.4 | 5.8 | 0.0 | 0.0 | 15.1 | 23.9 |
| Cooling Tower 2-13 | 0.0 | 17.1 | 20.0 | 19.0 | 14.3 | 13.0 | 10.4 | 5.8 | 0.0 | 0.0 | 15.0 | 23.9 |
| Cooling Tower 7-2 | 0.0 | 17.0 | 19.9 | 18.9 | 14.2 | 12.9 | 102 | 5.6 | 0.0 | 0.0 | 14.9 | 23.8 |
| Cooling Tower 2-12 | 0.0 | 17.0 | 19.9 | 18.9 | 14.1 | 12.9 | 10.2 | 6.5 | 0.0 | 0.0 | 14.9 | 23.8 |
| Cooling Tower 1-1 | 0.0 | 16.9 | 19.8 | 18.8 | 14.0 | 12.8 | 10.1 | 5.4 | 0.0 | 0.0 | 14.7 | 23.7 |
| Cooling Tower 2-11 | 0.0 | 16.9 | 19.8 | 18.8 | 14.0 | 12.8 | 10.0 | 5.3 | 0.0 | 0.0 | 14.7 | 23.7 |
| Cocling Tower 2-10 | 0.0 | 16.8 | 19.7 | 18.7 | 13.9 | 12.6 | 9.9 | 5.1 | 0.0 | 0.0 | 14.6 | 23.6 |
| Cooling Tower 2-9 | 0.0 | 16.7 | 19.6 | 48.6 | 13.8 | 12.5 | 9.7 | 4.9 | 0.0 | 0.0 | 14.4 | 23.5 |
| Cooling Tower 2-8 | 0.0 | 16.6 | 19.5 | 18.4 | 13.7 | 12.4 | 9.6 | 4.7 | 0.0 | 0.0 | 14.3 | 23.3 |
| Cooling Tower 2-7 | 0.0 | 16.5 | 19.4 | 18.3 | 13.5 | 12.2 | 9.4 | 4.5 | 0.0 | 0.0 | 14.1 | 23.2 |
| Cooling Tower 2 -6 | 0.0 | 16.4 | 19.3 | 18.2 | 13.4 | 12.1 | 9.3 | 4.3 | 0.0 | 0.0 | 14.0 | 23.1 |
| Cooling Tower 2-5 | 0.0 | 16.3 | 19.2 | 18.1 | 13.3 | 12.0 | 9.1 | 4.1 | 0.0 | 0.0 | 13.8 | 23.0 |
| Cooling Tower 2-4 | 0.0 | 16.2 | 19.1 | 18.0 | 13.2 | 11.8 | 8.0 | 3.8 | 0.0 | 0.0 | 13.7 | 22.8 |
| Cooling Tower 2-3 | 0.0 | 16.1 | 19.0 | 17.9 | 13.1 | 11.7 | 8.8 | 3.6 | 0.0 | 0.0 | 13.5 | 23.8 |
| Cooling Towar 2-2 | 0.0 | 16.0 | 18.9 | 17.8 | 13.0 | 14.6 | 8.7 | 3.4 | 0.0 | 0.0 | 13.4 | 22.7 |
| Cooling Tower 2-1 | 0.0 | 15.8 | 18.8 | 17.7 | 12.9 | 11.5 | 8.5 | 3.2 | 0.0 | 0.0 | 13.3 | 22.6 |
| Stacks - Ash Handling - Front End Loader |  |  |  |  |  |  |  |  |  |  |  |  |
|  | 0.0 | 0.0 | 10.2 | 14.1 | 16.3 | 10.0 | 6.1 | 0.0 | 0.0 | 0.0 | 12.2 | 19.6 |
| Activa Limagtone Pile - Bulldozer | 0.0 | 21.4 | 10.0 | 13.9 | 16.1 | 8.8 | 5.9 | 0.0 | 0.0 | 0.0 | 12.0 | 21.8 |
| Active Coad Piles - Bulldoretr | 0.0 | 20.1 | 9.0 | 129 | 15.0 | 8.4 | 4.3 | 0.0 | 0.0 | 0.0 | 10.7 | 20.7 |
| Turbine Bulding | 0.0 | 14.7 | 20.6 | 17.7 | 12.1 | 7.1 | 1.6 | 0.0 | 0.0 | 0.0 | 9.3 | 22.8 |
| Reserve Transformer | 0.0 | 7.4 | 13.3 | 14.4 | 8.9 | 8.1 | 0.9 | 0.0 | 0.0 | 0.0 | 8.1 | 18.0 |
| Auxiliary Boiler | 0.0 | 12.0 | 11.9 | 9.9 | 7.3 | 3.2 | 0.0 | 0.0 | 0.0 | 0.0 | 4.8 | 15.9 |
| Boiler Building | 0.0 | 13.5 | 12.4 | 6.4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 15.0 |
| Turbine Building - Power Roof Vents | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Boiler Building - Power Roof Venils | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.3 | 0.6 | 0.0 | 0.0 | 0.0 | 0.0 |
| Stack 2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Stack 1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

$$
x=1250 y=1605 z=125.5 \text { (in meters) }
$$

|  | Octave Band Center Frequency, Hz |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Source Component | 16 | 31.5 | 63 | 125 | 250 | 500 | 1000 | 2000 | 4000 | 8000 | dB/A | C |
| Total of Sources | 0.0 | 44.5 | 67.0 | 46.3 | 44.6 | 45.4 | 42.7 | 38.9 | 30.3 | 7.2 | 47.2 | 52.7 |
| Boiler Building - Eoiler Relief Valves | 0.0 | 0.0 | 21.9 | 37.0 | 40.7 | 43.0 | 39.2 | 29.8 | 12.0 | 0.0 | 43.3 | 46.3 |
| Cooling Tower 2-16 | 0.0 | 30.5 | 33.5 | 32.7 | 28.5 | 28.3 | 26.9 | 25.9 | 19.2 | 0.0 | 32.0 | 38.1 |
| Cooling Tower 1.16 | 0.0 | 30.1 | 33.1 | 32.3 | 28.1 | 27.8 | 26.5 | 25.4 | 18.5 | 0.0 | 31.5 | 37.7 |
| Cooling Tower 2-15 | 0.0 | 30.0 | 33.0 | 32.2 | 28.0 | 27.7 | 26.3 | 25.3 | 18.4 | 0.0 | 31.4 | 37.6 |
| Cooling Tower 1-15 | 0.0 | 29.8 | 32.8 | 32.0 | 27.8 | 27.6 | 26.2 | 25.1 | 18.1 | 0.0 | 31.2 | 37.4 |
| Cooling Tower 1-14 | 0.0 | 29.6 | 32.6 | 31.7 | 27.6 | 27.3 | 25.9 | 24.8 | 17.6 | 0.0 | 30.9 | 37.7 |
| Cooling Tower 2-14 | 0.0 | 29.5 | 32.5 | 31.7 | 27.5 | 27.2 | 25.8 | 24.7 | 17.5 | 0.0 | 30.8 | 37.1 |
| Cooling Tower 1-13 | 0.0 | 29.3 | 32.3 | 31.5 | 27.3 | 27.0 | 25.6 | 24.4 | 17.2 | 0.0 | 30.6 | 36.9 |
| Cooling Tower 2-13 | 0.0 | 29.1 | 32.1 | 31.2 | 27.0 | 26.7 | 25.3 | 24.1 | 16.8 | 0.0 | 30.3 | 36.6 |
| Cooling Tower 1-12 | 0.0 | 29.0 | 32.0 | 31.2 | 27.0 | 26.7 | 25.2 | 24.1 | 16.7 | 0.0 | 30.2 | 36.6 |
| Cooling Tower 1-11 | 0.0 | 28.7 | 31.7 | 30.9 | 26.7 | 26.4 | 24.9 | 23.7 | 18.1 | 0.0 | 29.9 | 36.3 |
| Cooling Tower 2-12 | 0.0 | 28.6 | 31.6 | 30.8 | 26.6 | 26.3 | 24.8 | 23.6 | 16.0 | 0.0 | 29.8 | 36.2 |
| Make-up Water Treatment Facilily | 0.0 | 14.9 | 20.9 | 18.0 | 21.7 | 27.1 | 26.4 | 22.3 | 2.4 | 0.0 | 29.7 | 31.6 |
| Cooling Tiwer 1-40 | 0.0 | 28.4 | 31.4 | 30.6 | 26.4 | 26.4 | 24.6 | 23.3 | 15.6 | 0.0 | 29.8 | 36.0 |
| Cooling Tower 2-11 | 0.0 | 28.2 | 31.2 | 30.4 | 26.2 | 25.8 | 24.4 | 23.1 | 15.2 | 0.0 | 29.3 | 35.8 |
| Coofing Tower 1-8 | 0.0 | 28.1 | 31.1 | 30.3 | 26.1 | 25.7 | 24.3 | 23.0 | 15.1 | 0.0 | 29.2 | 36.7 |
| Cooling Towar 1-8 | 0.0 | 27.9 | 30.8 | 30.0 | 25.8 | 25.4 | 23.9 | 22.6 | 44.5 | 0.0 | 28.9 | 35.4 |
| Cooling Tower 2-10 | 0.0 | 27.8 | 30.8 | 30.0 | 25.8 | 25.4 | 23.9 | 22.6 | 14.5 | 0.0 | 28.8 | 35.3 |
| Cooling Tower 1-7 | 0.0 | 27.5 | 30.5 | 29.7 | 25.5 | 25.1 | 23.6 | 22.2 | 14.0 | 0.0 | 28.5 | 35.0 |
| Cooling Tower 2-9 | 0.0 | 27.5 | 30.4 | 29.6 | 25.4 | 25.0 | 23.5 | 22.1 | 13.8 | 0.0 | 28.4 | 35.0 |
| Cnusher House | 0.0 | 34.4 | 34.4 | 33.5 | 29.1 | 26.5 | 22.7 | 18.5 | 6.1 | 0.0 | 28.4 | 38.6 |
| Coal Transfer House | 0.0 | 31.9 | 31.8 | 30.9 | 28.5 | 25.8 | 23.8 | 18.1 | 1.1 | 0.0 | 28.2 | 36.6 |
| Cooling Tower 1-6 | 0.0 | 27.3 | 30.2 | 29.4 | 25.2 | 24.8 | 23.3 | 21.8 | 13.4 | 0.0 | 28.1 | 34.7 |
| Cooding Tower $2-8$ | 0.0 | 27.7 | 30.1 | 29.2 | 25.0 | 24.6 | 23.1 | 21.6 | 13.1 | 0.0 | 27.9 | 34.6 |
| Cooing Tower 1-5 | 0.0 | 27.0 | 29.9 | 29.1 | 24.9 | 24.5 | 22.9 | 21.5 | 12.9 | 0.0 | 27.8 | 34.4 |
| Cooling Tower 2-7 | 0.0 | 23.7 | 29.7 | 28.9 | 24.6 | 24.2 | 22.7 | 21.1 | 12.4 | 0.0 | 27.5 | 34.2 |
| Cooling Tower 1-4 | 0.0 | 26.7 | 29.7 | 28.8 | 24.6 | 24.2 | 22.6 | 21.1 | 12.3 | 0.0 | 27.5 | 34.2 |
| Boiler Combustion Air - Primary Air Fan | 0.0 | 24.1 | 28.0 | 27.2 | 25.9 | 24.4 | 23.7 | 17.9 | 6.8 | 0.0 | 27.2 | 32.8 |
| Boiler Combustion Air - Forced Draft Fan |  |  |  |  |  |  |  |  |  |  |  |  |
| Boller Combustion Air - Induced Draft Fan |  |  |  |  |  |  |  |  |  |  |  |  |
|  | 0.0 | 24.1 | 26.0 | 27.2 | 25.9 | 24.4 | 23.7 | 17.9 | 6.9 | 0.0 | 27.2 | 32.8 |
| Cooling Tower 1-3 | 0.0 | 26.4 | 29.4 | 28.6 | 24.3 | 23.9 | 22.3 | 20.7 | 11.8 | 0.0 | 27.1 | 33.9 |
| Cooling Tower 2-6 | 0.0 | 26.4 | 29.4 | 28.5 | 24.3 | 23.9 | 22.3 | 20.7 | 11.7 | 0.0 | 27.1 | 33.8 |
| Cooling Tower 1-2 | 0.0 | 26.2 | 29.1 | 28.3 | 24.0 | 23.6 | 22.0 | 20.4 | 11.2 | 0.0 | 26.8 | 33.6 |
| Cooling Tower 2-5 | 0.0 | 26.1 | 29.1 | 28.2 | 23.8 | 23.5 | 21.9 | 20.3 | 11.1 | 0.0 | 26.7 | 33.5 |
| Coolng Tower 1-1 | 0.0 | 25.9 | 28.9 | 28.0 | 23.7 | 23.3 | 21.7 | 20.0 | 90.7 | 0.0 | 26.5 | 33.3 |
| Cooling Tower 2-4 | 0.0 | 25.8 | 28.7 | 27.9 | 23.6 | 23.2 | 21.5 | 19.8 | 10.4 | 0.0 | 26.3 | 33.2 |
| Copling Tower 2-3 | 0.0 | 25.5 | 28.4 | 27.6 | 23.3 | 22.8 | 21.2 | 19.4 | 9.8 | 0.0 | 26.0 | 32.9 |
| Cooling Tower 2-2 | 0.0 | 25.2 | 28.1 | 27.3 | 23.0 | 22.5 | 20.8 | 19.0 | 9.1 | 0.0 | 25.6 | 32.5 |
| Coal Barge Lntoading - Clamshell Bucket |  |  |  |  |  |  |  |  |  |  |  |  |
|  | 0.0 | 30.3 | 33.2 | 28.8 | 26.3 | 23.5 | 21.3 | 13.1 | 0.0 | 0.0 | 25.6 | 35.8 |
| Fly Ash Handling - Vacuum Exhauster | 0.0 | 22.6 | 24.5 | 25.7 | 24.3 | 22.7 | 24.9 | 15.7 | 3.5 | 0.0 | 25.4 | 31.2 |
| Cooling Tower 2-1 | 0.0 | 24.9 | 27.9 | 27.0 | 22.7 | 22.2 | 20.5 | 18.6 | 8.5 | 0.0 | 25.3 | 32.3 |
| SCR Fens | 0.0 | 22.2 | 24.2 | 25.3 | 23.9 | 22.3 | 21.5 | 15.2 | 2.6 | 0.0 | 25.0 | 30.9 |
| Main Transformer | 0.0 | 22.8 | 28.8 | 29.9 | 24.6 | 24.2 | 17.6 | 10.9 | 0.0 | 0.0 | 24.4 | 33.6 |
| Active Limestone Pile - Bulldozer | 0.0 | 27.1 | 16.1 | 20.2 | 22.7 | 17.1 | 14.1 | 8.5 | 0.0 | 0.0 | 19.5 | 28.2 |
| Active Coal Plles - Buldozer | 0.0 | 26.1 | 15.0 | 19.1 | 21.7 | 15.9 | 12.8 | 6.9 | 0.0 | 0.0 | 18.3 | 27.1 |
| Stacks - Ash Handling - Front End Loader |  |  |  |  |  |  |  |  |  |  |  |  |
|  | 0.0 | 0.0 | 14.9 | 19.0 | 21.5 | 15.7 | 12.6 | 6.6 | 0.0 | 0.0 | 18.1 | 24.8 |
| Turbine Building | 0.0 | 19.6 | 25.5 | 22.6 | 17.3 | 12.7 | 7.9 | 2.7 | 0.0 | 0.0 | 14.9 | 27.8 |
| Reserve Transformer | 0.0 | 12.7 | 18.6 | 19.8 | 14.5 | 14.1 | 7.4 | 0.7 | 0.0 | 0.0 | 14.2 | 23.5 |
| Auxiliary Roiler | 0.0 | 18.3 | 18.3 | 18.4 | 14.1 | 10.6 | 6.8 | 1.8 | 0.0 | 0.0 | 12.4 | 22.4 |
| Bolter Bullding | 0.0 | 18.3 | 17.2 | 11.3 | 4.8 | 3.3 | 0.3 | 0.0 | 0.0 | 0.0 | 5.6 | 19.9 |
| Turbine Building - Power Roof Vents | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Boiler Building - Power Roof Verts | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Stack 1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Stack 2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

Roadway Construction Noise Model (RCNM), Version 1.0

| Report date: | $07 / 13 / 2006$ |
| :--- | :--- |
| Case Description: | Site Preparation and Grading |


|  |  | **** Receptor \#9 **** |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  |  |  | Baselines | ( $d B A$ ) |
| Description | Land Use | Daytime | Evening | Night |
| NSA 9 | Residential | 43.0 | 43.0 | 40.0 |


| Description | Impact Device | Usage <br> (\%) | Equipment |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Spec Lmax (dBA) | Actual <br> Lmax <br> (dBA) | Receptor Distance (feet) | Estimated Shielding ( $\alpha B A$ ) |
| Grader | No | 40 | 85.0 |  | 1500.0 | 0.0 |
| Grader | No | 40 | 85.0 |  | 1500.0 | 0.0 |
| Grader | No | 40 | 85.0 |  | 1500.0 | 0.0 |
| Grader | No | 40 | 85.0 |  | 1500.0 | 0.0 |
| Grader | No | 40 | 85.0 |  | 1500.0 | 0.0 |
| Dozer | No | 40 |  | 81.7 | 1500.0 | 0.0 |
| Dozer | No | 40 |  | 81.7 | 1500.0 | 0.0 |
| Dozer | No | 40 |  | 81.7 | 1500.0 | 0.0 |
| Dozer | No | 40 |  | 81.7 | 1500.0 | 0.0 |
| Dozer | No | 40 |  | 81.7 | 1500.0 | 0.0 |
| Excavator | No | 40 |  | 80.7 | 1500.0 | 0.0 |
| Excavator | No | 40 |  | 80.7 | 1500.0 | 0.0 |
| Excavator | No | 40 |  | 80.7 | 1500.0 | 0.0 |
| Excavator | No | 40 |  | 80.7 | 1500.0 | 0.0 |
| Excavator | No | 40 |  | 80.7 | 1500.0 | 0.0 |
| Dump Truck | No | 40 |  | 76.5 | 1500.0 | 0.0 |
| Dump Truck | No | 40 |  | 76.5 | 1500.0 | 0.0 |
| Dump Truck | No | 40 |  | 76.5 | 1500.0 | 0.0 |
| Dump Truck | No | 40 |  | 76.5 | 1500.0 | 0.0 |
| Dump Truck | No | 40 |  | 76.5 | 1500.0 | 0.0 |
|  |  |  |  | esults |  |  |


| Calculated (dBA) |  |  |
| :--- | :--- | :--- |
| Equipment | Lmax | Leq |
|  | $-\ldots-1$ | $-\ldots--1$ |
| Grader | 55.5 | 51.5 |
| Grader | 55.5 | 51.5 |
| Grader | 55.5 | 51.5 |
| Grader | 55.5 | 51.5 |
| Grader | 55.5 | 51.5 |
| Dozer | 52.1 | 48.1 |
| Dozer | 52.1 | 48.1 |
| Dozer | 52.1 | 48.1 |
| Dozer | 52.1 | 48.1 |
| Dozer | 52.1 | 48.1 |
| Excavator | 51.2 | 47.2 |
| Excavator | 51.2 | 47.2 |


|  |  | 51.2 | 47.2 |
| :--- | :--- | ---: | ---: |
| Exćavator |  | 51.2 | 47.2 |
| Excavator |  | 51.2 | 47.2 |
| Excavator |  | 46.9 | 42.9 |
| Dump Truck |  | 46.9 | 42.9 |
| Dump Truck |  | 46.9 | 42.9 |
| Dump Truck |  | 46.9 | 42.9 |
| Dump Truck |  | 46.9 | 42.9 |
| Dump Truck | Total | 55.5 | 61.4 |

Roadway Construction Noise Model (RCNM), Version 1.0


Calculated (dBA)

| Equipment | Lmax | Leq |  |
| :--- | :--- | :--- | :--- |
|  |  | $--1 .-1$ | ---17.8 |
| Auger Drill Rig | 54.8 | 47.8 |  |
| Auger Drill Rig | 54.8 | 47.8 |  |
| Auger Drill Rig | 54.8 | 47.8 |  |
| Auger Drill Rig | 54.8 | 47.8 |  |
| Auger Drill Rig | 54.8 | 47.8 |  |
| Auger Drill Rig | 54.8 | 47.8 |  |
|  | Total | 54.8 | 55.6 |

Roadway Construction Noise Model (RCNM), Version 1.0


Results

Calculated (dBA)

| Equipment |  | Lmax | Leq |
| :--- | :---: | :---: | :---: |
|  |  | $--\ldots-7$ | $-\mathbf{- N . 7}$ |
| Impact Pile Driver | 71.7 | 64.7 |  |
| Impact Pile Driver | 71.7 | 64.7 |  |
| Impact Pile Driver | 71.7 | 64.7 |  |
| Impact Pile Driver | 71.7 | 64.7 |  |
| Impact Pile Driver | 71.7 | 64.7 |  |
| Impact Pile Driver | 71.7 | 64.7 |  |
|  | Total | 71.7 | 72.5 |

Roadway Construction Noise Model (RCNM), Version 1.0

| Report date: <br> Case Description: |  | 07/14/2006 |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  |  | Concrete Pouring |  |  |
|  |  | **** Receptor \#9 **** |  |  |
|  |  |  | Baselines | ( dBA ) |
| Description | Land Use | Daytime | Evening | Night |
| NSA 9 | Residential | 43.0 | 43.0 | 40.0 |

Description
Concrete Mixer Truck
Concrete Mixer Truck
Concrete Mixer Truck
Concrete Mixer Truck
Concrete Mixer Truck
Concrete Mixer Truck
Concrete Mixer Truck
Crane
Crane
Crane
Pickup Truck
Pickup Truck
Pickup Truck
Pickup Truck
Pickup Truck
Excavator
Excavator
Dump Truck
Dump Truck
Dump Truck

Equipment

| Impact <br> Device | Usage <br> (\%) | Spec <br> Lmax <br> (dBA) | Actual <br> Lmax <br> (dBA) | Receptor Distance (feet) | Estimated Shielding (dBA) |
| :---: | :---: | :---: | :---: | :---: | :---: |
| No | 40 |  | 78.8 | 1500.0 | 0.0 |
| No | 40 |  | 78.8 | 1500.0 | 0.0 |
| No | 40 |  | 78.8 | 1500.0 | 0.0 |
| No | 40 |  | 78.8 | 1500.0 | 0.0 |
| No | 40 |  | 78.8 | 1500.0 | 0.0 |
| No | 40 |  | 78.8 | 1500.0 | 0.0 |
| No | 40 |  | 78.8 | 1500.0 | 0.0 |
| No | 16 |  | 80.6 | 1500.0 | 0.0 |
| No | 16 |  | 80.6 | 1500.0 | 0.0 |
| No | 16 |  | 80.6 | 1500.0 | 0.0 |
| No | 40 |  | 75.0 | 1500.0 | 0.0 |
| No | 40 |  | 75.0 | 1500.0 | 0.0 |
| No | 40 |  | 75.0 | 1500.0 | 0.0 |
| No | 40 |  | 75.0 | 1500.0 | 0.0 |
| No | 40 |  | 75.0 | 1500.0 | 0.0 |
| No | 40 |  | 80.7 | 1500.0 | 0.0 |
| No | 40 |  | 80.7 | 1500.0 | 0.0 |
| No | 40 |  | 76.5 | 1500.0 | 0.0 |
| No | 40 |  | 76.5 | 1500.0 | 0.0 |
| No | 40 |  | 76.5 | 1500.0 | 0.0 |

## Results

-------
Calculated (dBA)

| Equipment | Lmax | Leq |
| :--- | :--- | :--- |
| Concrete Mixer Truck | 49.3 | 45.3 |
| Concrete Mixer Truck | 49.3 | 45.3 |
| Concrete Mixer Truck | 49.3 | 45.3 |
| Concrete Mixer Truck | 49.3 | 45.3 |
| Concrete Mixer Truck | 49.3 | 45.3 |
| Concrete Mixer Truck | 49.3 | 45.3 |
| Concrete Mixer Truck | 49.3 | 45.3 |
| Crane | 51.0 | 43.0 |
| Crane | 51.0 | 43.0 |
| Crane | 51.0 | 43.0 |
| Pickup Truck | 45.5 | 41.5 |
| Pickup Truck | 45.5 | 41.5 |


| Pickup Truck | 45.5 | 41.5 |  |
| :--- | :--- | :--- | :--- |
| Pickup Truck | 45.5 | 41.5 |  |
| Pickup Truck | 45.5 | 41.5 |  |
| Excavator | 51.2 | 47.2 |  |
| Excavator | 51.2 | 47.2 |  |
| Dump Truck |  | 46.9 | 42.9 |
| Dump Truck |  | 46.9 | 42.9 |
| Dump Truck |  | 46.9 | 42.9 |
|  | Total | 51.2 | 57.2 |

Roadway Construction Noise Model (RCNM), Version 1.0


## Results

Calculated (dBA)

| Equipment. | Lmax | Leq |
| :--- | :---: | :---: |
| Crane | 51.0 | 43.0 |
| Crane | 51.0 | 43.0 |
| Crane | 51.0 | 43.0 |
| Crane | 51.0 | 43.0 |
| Crane | 51.0 | 43.0 |
| Flat Bed Truck | 44.7 | 40.7 |
| Flat Bed Truck | 44.7 | 40.7 |
| Flat Bed Truck | 44.7 | 40.7 |
| Flat Bed Truck | 44.7 | 40.7 |
| Front End Loader | 49.6 | 45.6 |
| Front End Loader | 49.6 | 45.6 |
| Pickup Truck | 45.5 | 41.5 |
| Pickup Truck | 45.5 | 41.5 |
| Pickup Truck | 45.5 | 41.5 |
| Pickup Truck | 45.5 | 41.5 |
|  | 51.0 | 54.4 |

Roadway Construction Noise Model (RCNM), Version 1.0

| Report date: | $07 / 13 / 2006$ |
| :--- | ---: |
| Case Description: | Mechanical |



Equipment

| Description | Impact <br> Device | Usage (\%) | Spec Imax (dBA) | Actual <br> Imax <br> (dBA) | Receptor Distance (feet) | Estimated Shielding (dBA) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Crane | No | 16 |  | 80.6 | 1500.0 | 0.0 |
| Crane | No | 16 |  | 80.6 | 1500.0 | 0.0 |
| Crane | No | 16 |  | 80.6 | 1500.0 | 0.0 |
| Crane | No | 16 |  | 80.6 | 1500.0 | 0.0 |
| Crane | No | 16 |  | 80.6 | 1500.0 | 0.0 |
| Flat Bed Truck | No | 40 |  | 74.3 | 1500.0 | 0.0 |
| Flat Bed Truck | No | 40 |  | 74.3 | 1500.0 | 0.0 |
| Flat Bed Truck | No | 40 |  | 74.3 | 1500.0 | 0.0 |
| Flat Bed Truck | No | 40 |  | 74.3 | 1500.0 | 0.0 |
| Front End Loader | No | 40 |  | 79.1 | 1500.0 | 0.0 |
| Front End Loader | No | 40 |  | 79.1 | 1500.0 | 0.0 |
| Pickup Truck | No | 40 |  | 75.0 | 1500.0 | 0.0 |
| Pickup Truck | No | 40 |  | 75.0 | 1500.0 | 0.0 |
| Pickup Truck | No | 40 |  | 75.0 | 1500.0 | 0.0 |
| Pickup Truck | No | 40 |  | 75.0 | 1500.0 | 0.0 |

Results
-------
Calculated (dBA)

| Equipment | Lmax | Leq |
| :--- | :---: | :---: |
| Crane | 51.0 | 43.0 |
| Crane | 51.0 | 43.0 |
| Crane | 51.0 | 43.0 |
| Crane | 51.0 | 43.0 |
| Crane | 51.0 | 43.0 |
| Flat Bed Truck | 44.7 | 40.7 |
| Flat Bed Truck | 4.4 .7 | 40.7 |
| Flat Bed Truck | 44.7 | 40.7 |
| Flat Bed Truck | 44.7 | 40.7 |
| Front End Loader | 49.6 | 45.6 |
| Front End Loader | 49.6 | 45.6 |
| Pickup Truck | 45.5 | 41.5 |
| Pickup Truck | 45.5 | 41.5 |
| Pickup Truck | 45.5 | 41.5 |
| Pickup Truck | 45.5 | 41.5 |
|  | 51.0 | 54.4 |

Roadway Construction Noise Model (RCNM), Version 1.0
Report date:
Case Description:
07/13/2006
Cleanup


Results
Calculated (dBA)

| Equipment | Lmax | Leq |
| :---: | :---: | :---: |
| Crane | 51.0 | 43.0 |
| Crane | 51.0 | 43.0 |
| Dozer | 52.1 | 48.1 |
| Dozer | 52.1 | 48.1 |
| Excavator | 51.2 | 47.2 |
| Excavator | 51.2 | 47.2 |
| Flat Bed Truck | 44.7 | 40.7 |
| Flat Bed Truck | 44.7 | 40.7 |
| Flat Bed Truck | 44.7 | 40.7 |
| Pickup Truck | 45.5 | 41.5 |
| Pickup Truck | 45.5 | 41.5 |
| Pickup Truck | 45.5 | 41.5 |
| Pickup Truck | 45.5 | 41.5 |
| Total | 52.1 | 55.7 |

## APPENDIX 07-2

WETLAND DELINEATION, STREAM ASSESSMENT, AND THREATENED AND ENDANGERED SPECIES HABITAT SURVEY

WETLAND DELINEATION, STREAM ASSESSMENT, AND THREATENED AND ENDANGERED SPECIES HABITAT SURVEY

PROPOSED COAL-FIRED GENERATION FACLITY, MEIGS COUNTY, ORIO

Prepared for:
AMERICAN MUNICIPAL POWER-OHIO, INC.

JOB NO: 14946376
MARCH 2006

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## Acronyms

| ACOE | U.S. Army Corp of Engineers |
| :---: | :---: |
| FAC | Facultative |
| FACU | Facultative Upland |
| FACW | Facultative Wetland |
| GPS | Global Positioning System |
| HHEI | Headwater Habitat Evaluation Index (for streams) |
| NWI | National Wetland Inventory |
| OBL | Obligate |
| ODNR-DNAP | Ohio Department of Natural Resources - Division of Natural Areas and Preserves |
| OEPA | Ohio Environmental Protection Agency |
| ORAM | Ohio Rapid Assessment Method (for wetlands) |
| OWI | Ohio Wetland Inventory |
| PEM | Palustrine Emergent Wetland |
| PEM/PFO | Palustrine EmergentForested Wetland |
| PEM/PSS | Palustrine Emergent/Scrub-Shrub Wetland |
| PHWH | Primary Headwater Habitat |
| POW | Palustrine Open Water Wetland |
| POW/PEM | Palustrine Open Water/Emergent Wetland |
| QHEI | Qualitative Habitat Evaulation Index (for streams) |
| UPL | U.S. Fish and Wildlife Service |
| USFWS |  |

## Glossary

FAC-neutral test - The FAC-neutral test results in a positive secondary indicator of hydrology for a wetland determination when more of the dominant plant species have a wetland indicator category that is wetter than facultative (FAC). The FAC-neutral test considers FAC species (FAC, FAC-, or FAC+) as neutral and does not utilize them. Rather, the abundance of OBL, FACW + , FACW, and FACW- species are weighed against the abundance of UPL, FACU-, FACU, and FACU+ species (OBL + FACW species > FACU + UPL species) to determine whether the vegetation meets the FACneutral test.

Mottles - Spots or streaks of contrasting soil colors which indicate the presence of a seasonal water table zone.

Oxidized Rhizospheres (Root Channels) - A zone around a plant root system in hydric soils that shows staining from oxidation ("rust" stains).

Cowardin Wetland Classification System - The Cowardin system is hierarchical and includes several layers of detail for wetland classification including: a subsystem of water flow; classes of substrate types; subclasses of vegetation types and dominant species; as well as flooding regimes and salinity levels for each system. This system is appropriate for an ecologically based understanding of wetland definition.

Palustrine Wetland System - This system includes all nontidal wetlands dominated by trees, shrubs, persistent emergents, emergent mosses or lichens, and all such wetlands that occur in tidal areas where salinity due to ocean-derived salts is below $0.5 \%$. It also includes wetlands lacking such vegetation, but with all of the following four characteristics: (1) area less than 8 ha ( 20 acres); (2) active wave-formed or bedrock shoreline features lacking; (3) water depth in the deepest part of basin less than 2 m at low water; and (4) salinity due to ocean-derived salts less than $0.5 \%$.

Palustrine Emergent Habitat (PEM) - Wetlands identified as palustrine emergent are characterized by grasslike plants, true grasses, rushes and broad-leaved plants (Cowardin et al., 1979).

Palustrine Emergent/Scrub-Shrub (PEM/PSS) - Wetlands classified as palustrine emergent/scrub-shrub are characterized by grass-like plants, broad-leaved plants, rushes and woody vegetation less than 20 feet high (Cowardin et al., 1979).

Palustrine Emergent/Forested (PEM/PFO) - Wetlands classified as palustrine emergent/forested are characterized by grasslike plants, broad-leaved plants, rushes, and woody vegetation 20 feet tall or taller (Cowardin et al., 1979).

Palustrine Open Water (POW) - Wetlands classified as palustrine open water are shallow, open water plant communities that generally have water depths of less than 6.6 feet ( 2 meters). Submergent, floating and floating-leaved aquatic vegetation including

## Glossary

(continued)
pondweeds, water-lilies, water milfoil, coontail, and duckweeds characterize this wetland type.

Palustrine Open Water/Emergent (POW/PEM) - Wetlands identified as palustrine open water/emergent are shallow, mixed emergent/open water plant communities that generally have water depths of less than 6.6 feet ( 2 meters).

Ohio Rapid Assessment Method (ORAM) - ORAM is a wetland functional assessment that was developed by the Ohio Environmental Protection Agency (OEPA) to determine the ecological "quality" and level of function of a particular wetland in order to meet requirement under Section 401 of the Clean Water Act.

- Category 1 Wetlands - Category 1 wetlands support minimal wildlife habitat, and minimal hydrological and recreational functions, and as wetlands that do not provide critical habitats for, or contain, threatened or endangered species. In addition, Category 1 wetlands are often hydrologically isolated and have some or all of the following characteristics; low species diversity, no significant habitat or wildlife use, limited potential to achieve wetland functions, and/or a predominance of non-native species. These limited quality wetlands are considered to be a resource that has been severely degraded or has a limited potential for restoration, or to be of low ecological functionality.
- Category 2 Wetlands - Category 2 wetlands "...support moderate wildlife habitat, or hydrological or recreational functions," and as wetlands which are "...dominated by native species but generally without the presence of, or habitat for, rare, threatened or endangered species; and wetlands which are degraded but have a reasonable potential for reestablishing lost wetland functions." Category 2 wetlands constitute the broad middle category of "good" quality wetlands, they are equivalent to "warmwater habitat" streams, and can be considered a functioning, diverse, healthy water resource that has ecological integrity and human value. Some Category 2 wetlands are lacking in human disturbance and considered to be naturally of moderate quality; others may have been Category 3 wetlands in the past, but have been disturbed "down to" Category 2 status.
- Category 3 Wetlands - Category 3 have "...superior habitat, or superior hydrological or recreational functions." They are typified by high levels of diversity, a high proportion of native species, and/or high functional values. Category 3 wetlands include wetlands which contain or provide habitat for threatened or endangered species, are high quality mature forested wetlands, vernal pools, bogs, fens, or which are scarce regionally and/or statewide. It is important to stress that a wetland may be a Category 3 wetland because it exhibits one or all of the above characteristics. For example, a forested wetland located in the flood plain of a river may exhibit "superior" hydrologic functions (e.g. flood


## Glossary

(continued)
retention, nutrient removal), but not contain mature trees or high levels of plant species diversity.

Headwater Habitat Evaluation Index (HHEI) - HHEI is a rapid field assessment method for physical habitat that was developed by the OEPA and can be used to predict the biological potential of primary headwater habitat (PHWH) streams.

- Class I PHWH Streams - Class I PHWH Streams are those that have "normally dry channels with little or no aquatic life present" (Davic, 2001). These waterways are usually ephemeral, with water present for short periods of time due to infiltration from snowmelts or rainwater runoff.
- Class II PHWH Streams - Class II PHWH Streams are equivalent to "warm-water habitat" streams. This stream class has a "moderately diverse community of warm-water adapted native fauna either present seasonally or on an annual basis" (Davic, 2001). These species communities are composed of vertebrates (fish and salamanders) and/or benthic macroinvertebrates that are considered pioneering, headwater temporary, and/or temperature facultative species.
- Class III PHWH Streams - Class III PHWH Streams usually have perennial water flow with cool-cold water adapted native fauna. The community of Class III PHWH Streams is comprised of vertebrates (either cold water adapted species of headwater fish and or obligate aquatic species of salamanders, with larval stages present), and/or a diverse community of benthic cool water adapted macroinvertebrates present in the stream continuously (on an annual basis).


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(Continued)

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(follow figures)

## Appendix

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## EXECUTIVE SUMMARY

URS conducted a jurisdictional wetland delineation, stream assessment, and threatened and endangered species survey of an approximately 1,000 -acre site, located in the Letart Falls area, Meigs County, Ohio. AMP Ohio is proposing construction of a 1,000 megawatt (MW), coal fired electric generating facility at the Site along with a coal combustion by-products landfill, and a barge dock and unloading facility. Site delineation and assessment work began November 28, 2005 and was completed December 2, 2005.

Twenty-one wetlands, including 5 different Cowardin wetland types were identified within the project study area, including 14 palustrine emergent wetlands, 2 palustrine emergent/scrub-shrub wetlands, 2 palustrine emergent/forested wetlands, 1 palustrine open water wetland, and 2 palustrine open water/emergent wetlands. Identified wetlands were evaluated utilizing ORAM v5.0 qualitative evaluation method for categorizing wetlands. The ORAM scores for the wetlands indicated the following: 5 Category 1 emergent wetlands, 1 Category 1 wetland with emergent and forested components, 9 Category 2 emergent wetlands, 2 Category 2 wetlands with emergent and scrub-shrub components, 1 Category 2 wetland emergent and forested components, 1 Category 2 open water wetland, and 2 Category 2 mixed emergent/open water wetlands. No Category 3 wetlands were identified during the November and December field investigation.

Sixty-seven primary headwater habitat evaluations (HHED) were conducted on the streams identified within the limits of the study area. The survey identified the following HHEI stream classes: 23 Class I streams, 7 Modified Class I streams, 19 Class II streams, 7 Modified Class II streams, and 11 Class III streams.

ODNR-DNAP reported 10 records of rare or endangered species within 5 miles of the Site. Of these ten species records, ODNR identified records of the Eastern Spadefoot Toad (Scaphiopus holbrookii) and the Common Prickly Pear (Opuntia humifusa) in the immediate project vicinity. The USFWS literature review indicated that the proposed project is located within the range of the federally endangered Indiana bat (Myotis sodalis) and three federally endangered species of mussels. These mussel species include the pink mucket pearly mussel (Lampsilis orbiculata), the fanshell mussel (Cyprogenia stegaria), and the sheepnose mussel (Plethobasus cyphyus). None of theses species of concern were identified during the November and December field investigation. However, potential habitat for the Indiana Bat, Eastern Spadefoot Toad, and several
aquatic species of concern were identified during the field investigation. URS recommends additional species-specific studies regarding these individuals prior to any development activities.

## EXECUTIVE SUMMARY TABLE OF WETLANDS AT THE AMERICAN MUNICIPAL POWER-OHIO (AMP-OHIO) LETART FALLS, OHIO PROPOSED COAL FIRED GENERATION POWER PLANT SITE

|  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| afs-wl | PEM | 0.06 | 8 (1) | No | sandy loam | 1 | 3A |
| an-w1 | PEM/PSS | 0.18 | 38 (2) | LaB/LaD | silty clay | 8 | 3B |
| bm-w1 | PEM | 0.07 | 27 (1) | UgD | silty loam | 39 | 3 C |
| bm-w2 | PEM | 0.33 | 35 (2) | UgE | silty loam | 40 | 3 C |
| bm-w3 | PEM | 0.18 | 39 (2) | UgD/UgE | silty loam | 41 | 3 C |
| bm-w4 | POW/PEM | 0.07 | 43 (2) | UgE | silty clay loam | 53 | 3 C |
| bm-w 5 | PEM | 0.27 | 38 (2) | UgD | silty loam | 54 | 3 C |
| c-1 | PEM | 0.02 | 24 (1) | UgD/UgE | loam | 29 | 3 C |
| c-2 | PEM | 0.04 | 37 (2) | UgD | sandy silty loam | 33 | 3 C |
| c-3 | PEM | 0.01 | 32.5 (2) | UgE | silt | - | 3 C |
| c-4 | PEM | 0.02 | 23 (1) | UgD | silty clay | 35 | 3C |
| d-1 | PEM | 0.03 | 39.5 (2) | UgD | silty clay | 43 | 3 C |
| d-2 | PEM | 0.15 | 38 (2) | UgD | loam | 44 | 3 C |
| d-3 | PEM/PFO | 0.11 | 27 (1) | UgD/UgE | loam | 45 | 3 C |
| d-4 | PEM/PFO | 0.07 | 44 (2) | UgD/UgE | clay loam | 46 | 3 C |
| d-5 | PEM | 0.02 | 37 (2) | UgE | silty clay loam | 47 | 3 C |
| d-6 | POW/PEM | 0.10 | 32 (2) | UgE | silty clay | 49 | 3C |
| w-1 | PEM/PSS | 0.07 | 44 (2) | UgE | silty clay loam | 14 | 3 C |
| w-2 | PEM | 0.18 | 21 (1) | LaD | sandy loam | - | 3B |
| wb-1 | POW | 0.18 | 43.5 (2) | UgE | clay | 25 | 3B |
| wb-2 | PEM | 0.09 | 33.5 (2) | LaD | silty clay | $1{ }^{-}$ | 3B |
| Total wetland acreage** |  | 2.25 |  |  |  |  |  |

* soil mapped at wetland location
** total is combined acreage of each wetland type: 1.47 acres (PEM); 0.25 acres (PEM/PSS); 0.17 acres
(POW/PEM); 0.18 acres (PEM/PFO); and 0.18 acres (POW).


## SUMMARY TABLE OF HEADWATER STREAMS AT THE SITE

| Stream Identifier | HHEI Score | HHEI Class | Stream Identifier | HHEI <br> Score | HHEI Class |
| :---: | :---: | :---: | :---: | :---: | :---: |
| an-s1 | 42 | Class II | bs-9 | 13 | Class I |
| as-sl | 41 | Modified Class II | bs-10 | 54 | Class II |
| as-s2 | 41 | Modified Class II | bs-11 | 55 | Class III |
| bm-s1 | 32 | Class II | bs-12 | 43 | Class II |
| bm-s2 | 11 | Class I | bs-13 | 86 | Class III |
| bm -s3 | 11 | Class I | bs-14 | 49 | Class II |
| bm-s4 | 12 | Class I | bs-15 | 40 | Class II |
| bm -s5 | 21 | Class I | bs-16 | 47 | Class II |
| bm-s6 | 41 | Class II | cs-1 | 25 | Class I |
| bm-s7 | 17 | Class I | cs-1-2 | 69 | Class III |
| bm-s8 | 11 | Class I | cs-2 | 42 | Class II |
| bm-s9 | 53 | Class II | cs-3-1 | 47 | Class II |
| bm-s10 | 16 | Class I | cs-3-2 | 58 | Class III |
| bra-s11 | 23 | Class I | cs-4 | 34 | Modified Class II |
| bm-s12 | 36 | Class II | cs-4-2 | 77 | Class III |
| bm-s 13 | 81 | Class III | cs-5-2 | 23 | Modified Class I |
| bm-s14 | 55 | Class III | cs-6 | 21 | Class I |
| bm-s15 | 23 | Class I | ds-1-5 | 45 | Modified Class II |
| bm-s16 | 40 | Class II | ds-1-11 | 22 | Class I |
| bm-s 17 | 35 | Class II | ds-2-2 | 40 | Class II |
| bm-s 18 | 24 | Class I | ds-2-5 | 59 | Class III |
| bm-s19 | 24 | Class I | ds-2-10 | 52 | Class III |
| bm-s20 | 33 | Class II | ds-3a | 17 | Modified Class I |
| bm-s21 | 23 | Class 1 | ds-3b | 17 | Modified Class I |
| bs-1 | 28 | Modified Class I | ds-3c | 17 | Modified Class I |
| bs-1-2 | 40 | Modified Class II | ds-4 | 31 | Modified Class II |
| bs-1-3 | 29 | Modified Class I | s-1 | 27 | Class I |
| bs-2 | 48 | Modified Class II | s-2 | 68 | Class III |
| bs-2-2 | 43 | Class II | s-3 | 81 | Class III |
| bs-3 | 23 | Class I | s-4 | 37 | Class II |
| bs-4 | 15 | Class I | s-5 | 64 | Class II |
| $\mathrm{bs}-5$ | 19 | Class I | s-6 | 12 | Class I |
| bs-6 | 11 | Class I | s-7 | 12 | Class I |
| bs-8 | 16 | Modified Class I |  |  |  |

# Wetland Delineation, Stream Assessment, and Threatened and Endangered Species <br> Habitat Survey, Proposed AMP-Ohio Coal Fired Generation Power Plant Site, Meigs County, Ohio 

### 1.0 INTRODUCTION

American Municipal Power - Ohio, Inc. (AMP-Ohio) is proposing to construct a nominal 1,000 MW coal-fired electric generating plant in the Letart Falls area of Meigs County, Ohio. A project vicinity map is provided as Figure 1. AMP-Ohio retained URS to conduct a wetland delineation, stream assessment, and a threatened and endangered species habitat survey of the proposed development site. Section 404 of the Clean Water Act requires authorization from the Secretary of the Army, acting through the ACOE, for the discharge of dredged or fill material into all waters of the United States. As a consequence of direct connection or adjacency to surface drainageways to the Ohio River, all wetlands delineated at the project site are considered non-isolated. Data from this report will be used to support an Application to the Ohio Power Siting Board for a Certificate of Environmental Compatibility and Public Need, address U.S. Army Corps of Engineers (ACOE) 404 permitting, and Ohio Environmental Protection Agency (Ohio EPA) 401 Water Quality Certification permitting.

### 2.0 METHODS

The project area was investigated for the presence of wetlands using the procedures outlined in the U.S. Army Corps of Engineers (ACOE) Wetlands Delineation Manual (1987 Manual) (Environmental Laboratory, 1987). This procedure is utilized nationwide for determining the location of wetland areas and in delineating wetland extents. Completed ACOE wetland delineation forms are provided in Appendix A. In addition, URS prepared a functional wetland analysis for each delineated wetland on the site using the regionally specific Ohio Rapid Assessment Method (ORAM) version 5.0, 2001, (ORAM v5.0 Manual) qualitative wetland evaluation forms. These forms were used to develop a numbered category for each of the project wetland areas. These categories provide a qualitative measure of the ecological quality and level of function of a particular wetland. Completion of ORAM forms is required in Ohio under Section 401 of the Clean Water Act. Completed ORAM forms are provided in Appendix B.

The perennial, intermittent, and ephemeral stream channels within the property boundaries were assessed based upon Ohio EPA Headwater Habitat Evaluation Index (HHEI) procedures as detailed in Field Evaluation Manual for Ohio's Primary Headwater Habitat Streams, version 1, 2002. The HHEI provides a method for assessing streams, in a manner similar to the ORAM forms for wetlands, under the same Section 401 regulatory program. Completed HHEI forms are included in Appendix C.

The project area was investigated for the presence of threatened and endangered species habitat by qualified URS biologists with appropriate knowledge of habitat requirements for species of concern likely to be found within the project area. The survey was conducted primarily for identification of USFWS and ODNR species of concern potentially present in the project area.

### 2.1 U.S. ARMY CORPS OF ENGINEERS WETLAND DELINEATION PROCEDURE

Prior to starting the field survey, URS reviewed the Soil Survey of Meigs County, Ohio, the National Wetland Inventory (NWI) map of New Haven, Ohio and the USGS 7.5 minute topographic map of New Haven, Ohio. URS utilized 2004 color digital aerial photographs purchased from the USDA Aerial Photography Field Office as a base map for the project, which was set up in ArcView Geographic Information System (GIS) software. A Trimble Global Positioning System (GPS) unit with sub-meter accuracy was calibrated and a database established such that the results could be directly exported to the ArcView base map and used to gather the data points for the wetland delineation. After the pre-field work was completed and verified, URS biologists conducted a field wetland delineation of the project area from November 28 to December 2, 2005.

Suspect wetland areas were identified based upon the plant community assessment procedure outlined in the routine onsite determination method of the 1987 Manual. The pedestrian site reconnaissance included identifying the vegetation communities, soils identification, a geomorphologic assessment of hydrology, and notation of visible disturbance. Wetland boundaries were identified through close examination of site vegetation, soils, and hydrology, and were identified with flagging tape. The positions of the wetland boundary points were recorded using a GPS unit at intervals where one or more of these wetland indicators changed to an upland character. The delineated wetland areas were plotted on a geo-referenced digital aerial photograph of the site and printed at
a scale clearly showing wetland locations and extents in the project area (Figures 3A through 3C). Completed ACOE wetland delineation forms for each test plot are provided in Appendix A.

Soils: The Soil Survey of Meigs County, Ohio was reviewed prior to fieldwork to identify any areas of mapped hydric soils and/or areas of non-hydric soils with unmapped hydric inclusions (Soil Conservation Service, 2001). No local or national hydric soils were mapped at the proposed development site. During the field investigations, soils were examined using a shovel or hand auger to extract soil facings. These facings were examined for hydric soil characteristics just below the A-horizon (at the top of the Bhorizon), usually between 8 and 18 inches below the ground surface. Some of the more important field indicators examined included the hue, value and chroma of the matrix (e.g., 10YR 6/1) and mottles (e.g., 10YR 5/6) of moist soils determined by using a Munsell Soil Color Chart (Kollmorgen Corporation, 1988). Generally, mottled soils with a matrix chroma of two or less or unmottled soils with a matrix chroma of one or less are considered to exhibit hydric soil characteristics (Environmental Laboratory, 1987). In sandy soils, mottled soils with a matrix chroma of three or less or unmottled soils with a matrix chroma of two or less are considered to exhibit hydric soil characteristics.

Hydrology: The 1987 Manual requires that an area be inundated or saturated to the surface for an absolute minimum of 5 percent of the growing season (areas saturated between 5 percent and 12.5 percent of the growing season may or may not be wetlands, while areas saturated over 12.5 percent of the growing season fulfill the hydrology requirements for wetlands). The 1987 Manual and recent ACOE guidance state that the growing season can be approximated by the number of days between the average (five years out of ten) date of last $28^{\circ} \mathrm{F}$ air temperature in the spring, and the average date of first $28^{\circ} \mathrm{F}$ air temperature in the fall (Environmental Laboratory, 1987; U.S. Army Corps of Engineers, 1992). The Soil Survey of Meigs County, Ohio states that in an average year, this period lasts from April 25 to October 19, or 176 days (Soil Conservation Service, 1981). Therefore in Meigs County, 5 percent of the growing season equates to approximately 9 days.

URS examined the soils and ground surface for evidence of wetland hydrology in lieu of detailed hydrological data that was not available. This is an acceptable approach according to the 1987 Manual. Evidence indicating wetland hydrology typically includes primary indicators such as standing water, saturated soils, water marks on trees, drift
lines, sediment deposits and wetland drainage patterns; and secondary indicators such as oxidized root channels within the upper 12 inches, buttressed trunks and water-stained leaves. Additional secondary indicators of hydrology include soil survey data (e.g. high water table listed for the confirmed soil type) and a positive FAC-neutral test (see below) (U.S. Army Corps of Engineers, 1992).

Vegetation: Dominant vegetation for each plant community was assessed by estimating dominant species in the tree, sapling, shrub, herb and woody vine strata. The top dominants were visually estimated for each stratum. The indicator status of each dominant species was then assessed. An indicator status of obligate wetland (OBL), facultative wetland (FACW), facultative (FAC), facultative upland (FACU) and/or upland (UPL) has been assigned to each plant species on the National List of Plant Species that Occur in Wetlands: Ohio. Three facultative categories (FACW, FAC and FACU) may be subdivided by (+ [wetter]) and (- [drier]) modifiers. An area has hydrophytic vegetation when, under normal circumstances, more than 50 percent of the composition of the dominant species from all strata are OBL, FACW and/or FAC (excluding FAC-) species. An area has non-hydrophytic vegetation when 50 percent or more of the composition of the dominant species from all strata are FAC-, FACU and/or UPL species.

A FAC-neutral test was performed on each data set. This test considers all FAC species (including FAC- and FAC+) as neutral and compares the number of dominant species wetter than FAC (i.e., OBL, FACW) against the number of dominant species drier than FAC (i.e., FACU, UPL). A positive result of this test (i.e., when considered species wetter than FAC outnumber considered species drier than FAC) is considered a secondary sign of hydrology.

Areas that meet the three criteria of hydric soils, wetland hydrology and hydrophytic vegetation are considered wetlands. Wetland boundaries are placed where one or more of these criteria give way to upland characteristics. The locations, approximate extents, and acreages of the wetlands identified within the project area are provided in Figures 3A through 3C. Completed ACOE wetland delineation forms and soil profiles for each test plot are provided in Appendix A. Color photographs were taken of representative sites delineated during the field survey and are provided in Appendix D .

### 2.2 OHIO RAPID ASSESSMENT METHOD (ORAM) V5.0 FOR WETLANDS

ORAM wetland functional assessment was developed to determine the ecological "quality" and level of function of a particular wetland in order to meet requirements under Section 401 of the Clean Water Act. Wetlands are scored on the basis of hydrology, upland buffer, habitat alteration, special wetland communities, and vegetation communities. Each of these subject areas is further divided into sub-categories under ORAM v5.0 resulting in a score that describes the wetland using a range from 0 (low quality and high disturbance) to 100 (high quality and low disturbance). Wetlands scored from 0 to 29.9 are grouped into "Category 1 ", 30 to 59.90 are "Category 2 " and 60 to 100 are "Category 3". Transitional zones exist between "Categories 1 and 2" from 30 to 34.9 and between "Categories 2 and 3 " from 60 to 64.9. However, according to the OEPA, if the wetland score falls into the transitional range, it must be given the higher Category unless scientific data can prove it should be in a lower category (Mack, 2001). Completed ORAM forms for the wetlands that were delineated during the field survey are provided in Appendix B. The ORAM scores for the wetlands that were delineated in the project area are discussed in Section 3.2 of this report.

Category 1 Wetlands: Category 1 wetlands support minimal wildlife habitat, and minimal hydrological and recreational functions, and as wetlands that do not provide critical habitats for, or contain, threatened or endangered species. In addition, Category 1 wetlands are often hydrologically isolated and have some or all of the following characteristics; low species diversity, no significant habitat or wildlife use, limited potential to achieve wetland functions, and/or a predominance of non-native species. These limited quality wetlands are considered to be a resource that has been severely degraded or has a limited potential for restoration, or to be of low ecological functionality.

Category 2 Wetlands: Category 2 wetlands "...support moderate wildlife habitat, or hydrological or recreational functions," and as wetlands which are "...dominated by native species but generally without the presence of, or habitat for, rare, threatened or endangered species; and wetlands which are degraded but have a reasonable potential for reestablishing lost wetland functions." Category 2 wetlands constitute the broad middle category of "good" quality wetlands, they are equivalent to "warmwater habitat" streams, and can be considered a functioning, diverse, healthy water resource that has ecological integrity and human value. Some Category 2 wetlands are lacking in human disturbance
and considered to be naturally of moderate quality; others may have been Category 3 wetlands in the past, but have been disturbed "down to" Category 2 status.

Category 3 Wetlands: Wetlands that are assigned to Category 3 have "...superior habitat, or superior hydrological or recreational functions." They are typified by high levels of diversity, a high proportion of native species, and/or high functional values. Category 3 wetlands include wetlands which contain or provide habitat for threatened or endangered species, are high quality mature forested wetlands, vernal pools, bogs, fens, or which are scarce regionally and/or statewide. It is important to stress that a wetland may be a Category 3 wetland because it exhibits one or all of the above characteristics. For example, a forested wetland located in the flood plain of a river may exhibit "superior" hydrologic functions (e.g. flood retention, nutrient removal), but not contain mature trees or high levels of plant species diversity.

The wetlands within the project area were categorized based on detailed field evaluations. The ORAM method is designed to evaluate the entire wetland, not just the portion of the wetland within a particular project area. The ORAM method scores wetland areas to reflect the quality of the entire wetland.

### 2.3 OHIO HEADWATER HABITAT EVALUATION INDEX (HHEI) FOR STREAMS

The stream assessment was conducted using the method described in the Ohio EPA's Field Evaluation Manual for Ohio's Primary Headwater Habitat Streams, version 1, 2002. HHEI forms for each perennial, intermittent, and/or ephemeral stream channel within the property boundaries are provided in Appendix C. HHEI stream locations within the property boundaries are included on Figures 3A through 3C.

Regulatory activities under the Clean Water Act provide authority for states to issue water quality standards and "designated uses" to all waters of the U.S. upstream to the highest reaches of the tributary streams. In addition, the Federal Water Pollution Control Act of 1972 and its 1977 and 1987 amendments require knowledge of the potential fish or biological community that can be supported in a stream or river, including upstream headwaters. The Ohio EPA Qualitative Habitat Evaluation Index (QHEI) is designed to provide a qualitative measure of habitat that generally corresponds to those physical factors that affect fish communities and which are generally important to other aquatic life (e.g., macroinvertebrates). However, for extreme headwater habitats, or "primary
headwater habitats" (PHWH), the limitations of the scoring indices from QHEI do not accurately reflect the habitat used in streams. The HHEI is a rapid field assessment method for physical habitat that can be used to predict the biological potential of most PHWH streams. HHEI was developed using many of the same techniques as used for QHEI, but has criteria specifically designed for headwater habitats. To use HHEI, the stream must have a "defined bed and bank, with either continuous or periodical flowing water, with watershed area less than or equal to $1.0 \mathrm{mi}^{2}(259 \mathrm{ha})$, and a maximum depth of water pools equal to or less than 15.75 inches $(40 \mathrm{~cm})$."

Streams are scored on the basis of channel substrate composition, bankfull width, and maximum pool depth. Assesed areas result in a score ( 0 to 100) that is converted to a specific PHWH stream class. Streams that are scored from 0 to 29.9 are typically grouped into "Class I PHWH Streams", 30 to 69.9 are "Class II PHWH Streams", and 70 to 100 are "Class III PHWH Streams". Technically, a stream can score relatively high, but actually belong a lower class, and vice-versa. According to the OEPA, if the stream score falls into a class and the scorer feels that based on site observations that score does not reflect the actual stream class, a decision-making flow chart can be used to determine appropriate PHWH stream class using the HHEl protocol (Davic, 2001). Completed HHEI forms for the PHWH stream assessments that were performed during the field survey are provided in Appendix C. The HHEI score for the streams that were assessed in the project area are discussed in Section 3.3 of this report.

Class I PHWH Streams: Class I PHWH Streams are those that have "normally dry channels with little or no aquatic life present" (Davic, 2001). These waterways are usually ephemeral, with water present for short periods of time due to infiltration from snowmelts or rainwater runoff.

Class 11 PHWH Streams: Class II PHWH Streams are equivalent to "warm-water habitat" streams. This stream class has a "moderately diverse community of warm-water adapted native fauna either present seasonally or on an annual basis" (Davic, 2001). These species communities are composed of vertebrates (fish and salamanders) and/or benthic macroinvertebrates that are considered pioneering, headwater temporary, and/or temperature facultative species.

Class III PHWH Streams: Class III PHWH Streams usually have perennial water flow with cool-cold water adapted native fauna. The community of Class III PHWH Streams
is comprised of vertebrates (either cold water adapted species of headwater fish and or obligate aquatic species of salamanders, with larval stages present), and/or a diverse community of benthic cool water adapted macroinvertebrates present in the stream continuously (on an annual basis).

The streams within the project area were categorized based on detailed field evaluations. The HHEI is designed to evaluate either the entire PHWH or a portion of the stream within a particular project area. The HHEI method scores PHWH to reflect the potential biological community of the entire stream.

### 2.4 THREATENED AND ENDANGERED SPECIES HABITAT SURVEY

The study area was investigated for the presence of threatened and endangered species habitat by qualified URS biologists with appropriate knowledge of habitat requirements for species of concern likely to be found within the project vicinity. The survey was conducted primarily for the identification of endangered, threatened, and rare species documented in Meigs County, Ohio by the Ohio Department of Natural Resources Division of Natural Areas and Preserves (ODNR-DNAP) and the United States Fish and Wildlife Service (USFWS). The survey also included a consideration of general habitat types, habitat suitability with regard to species of concern, and the dominant species in each habitat type. A copy of the state agency response is included in Appendix E.

### 3.0 RESULTS

### 3.1 U.S. ARMY CORPS OF ENGINEERS WETLAND DELINEATION PROCEDURE

The extent and locations of wetlands in the study area generally correlated with predictions based upon the preliminary soils evaluation, a review of USGS topographic contours for the site vicinity, aerial photography, and the NWI and OWI map review. Several wetlands, not identified as NWI or OWI wetlands, were field delineated, particularly in the eastern half of the project area. The field wetland delineation conducted after the preliminary literature review, identified twenty-one wetlands, totaling 2.25 acres, within the project study area. Three ponds were also identified within the limits of the project area.

### 3.1.1 Preliminary Soils Evaluation

According the Soil Survey of Meigs County, Ohio, (Soil Conservation Service, 2001), and the National and Meigs County hydric soils list, no mapped hydric units are within the property boundaries of the project site. Six soil types are mapped within the limits of the study area and include Cidermill silt loam (CkA, CkB), Conotton gravelly loam (CnC), Gallipolis silt loam (GbB), Lakin loamy fine sand (LaB, LaC, LaD, LaE), Nolin silt loam (No), Omulga silt loam (OmB, OmC), Taggart silt loam (TaA), and Upshur-Gilpin complex (UgC2, UgD, UgE). None of these soils are listed as hydric on the National, State, or County lists. Details of soil types are discussed as follows:

## Cidermill silt loam; 0-2 percent and 2-6 percent slopes (CkA, CkB)

The Cidermill series consists of very deep, well drained soils that formed in a mantle of silty material 24 to 40 inches thick and in the underlying stratified glacial outwash deposits on treads on stream terraces. The surface layers of this soil are friable and the subsoil is blocky in structure but remains friable to considerable depth. Permeability is moderate in the upper part of the solum and moderately rapid in the lower part of the solum and rapid in the substratum. Slope ranges from 0 to 6 percent. Cidermill soils are important for cropland.

## Conotton gravelly loam; 6-12 percent slopes (CnC)

The Conotton series consists of very deep, well-drained soils formed in Wisconsinan age stratified outwash deposits. These soils are on outwash plains, stream terraces, kames, eskers, and beach ridges. The surface and subsoil layers of this soil are friable and the blocky in structure. The surficial and subsoil layers of this soil are friable. The structure of the surficial layer is weak to medium granular, while the subsoil's structure is moderate to medium subangular blocky. Permeability is rapid. Slope ranges from 0 to 50 percent. Most areas with slopes of less than 12 percent are cleared and used for general farming, specialty crops, or pasture.

## Gallipolis silt loam; 2-6 percent slopes (GbB)

The Gallipolis series consists of very deep, moderately well drained soils formed on terraces in the Ohio River valley and along smaller streams. The surface layer of this soil friable. The subsoil layer is firm with some mottling occurring within the series. Most
areas dominated by Gallipolis soils are used for cultivated crops. Permeability is moderately slow and available water capacity is high. Erosion is a hazard if the soils are plowed.

Lakin loamy fine sand; 1-6 percent, 6-12 percent, 12-18 percent slopes (LaB, LaC, LaD)

The Lakin series consists of very deep, excessively drained soils formed in coarse textured eolian or water-laid materials. Lakin soils are located dominantly on the leeward side of major stream valleys. The surface and subsoil layers of this soil have very weak fine granular structures; and are very friable. These soils are excessively drained and the potential for surface runoff potential is negligible to low. Permeability is rapid. Slope ranges from 0 to 40 percent.

## Nolin silt loam (No)

This deep, nearly level, well-drained soils is found on narrow floodplains. Most areas of this soil are limited to long, narrow bands of 10 to 100 acres. Typically the surface layer is brown, friable silt loam about 9 inches thick. The subsoil is dark, yellowish brown friable silt loam about 31 inches thick. The substratum to a depth of about 80 inches is dark yellowish brown friable loam, sandy loam and silt loam. The soil is subject to brief, frequent floods from February to May in most years. Most areas are used for cultivated crops.

## Omulga silt loam; 2-6 percent and 6-12 percent slopes (OmB, OmC)

The Omulga series consists of very deep, moderately well drained soils formed in loess, colluvium, or old alluvium, and in most areas by underlying lacustrine sediments. These soils are on valley fills in abandoned preglacial drainage systems in the Allegheny Plateau that lack glacial influence. Permeability is moderate above the fragipan and slow in the fragipan. Slopes range from 0 to 15 percent. Soils are friable with the surface layer having weak, fine granular structure and the subsoil layer weak, fine, subangular, blocky structure.

## Taggart silt loam, 0 to 2 percent slopes (TaA)

This deep, nearly level, somewhat poorly drained soil is found on terraces overlooking the Ohio River and smaller streams. Typically the surface layer is dark, grayish brown,
friable silt loam about 8 inches thick. The subsoil is about 64 inches thick. The upper part is brown, mottled, friable silt loam and silty clay loam. The lower part is yellowish brown, mottled firm silty clay loam. In some areas the subsoil has more clay.

## Upshur-Gilpin complex; 8-15 percent slopes, eroded; 15-25 percent and 25-50 percent slopes (UgC2, UgD, UgE)

The Upshur-Gilpin complex series consists of very deep to moderately deep, well-drained soils formed in residium derived from siltstone, sandstone, and shale. They are typically located on strongly sloping or steep uplands (ridgetops and hillsides). The Upshur soil portion has a friable, surface layer and moderate-fine, granular structure. The subsoil has moderate-medium subangular blocky structure and is firm. The surface layer of the Gilpin soil portion is weak-fine granular structure and friable. The subsoil has weak-fine and medium subangular blocky structure and is friable.

Based upon the preliminary soil evaluation, wetland conditions are not expected to exist on the project study site and in the surrounding vicinity. None of the soils exhibit hydric components and the hydrology does not capture substantial amounts of water on a seasonal or yearly basis.

### 3.1.2 National Wetland Inventory (NWI) Map Review

NWI wetlands are areas of potential wetland that have been identified from USFWS aerial photograph interpretation which have typically not been confirmed by field investigation. Forested and heavy scrub/shrub wetlands are often not shown on NWI maps as foliage effectively hides the visual signature that indicates the presence of standing water and moist soils from an aerial view. As a result NWI maps do not show all the wetlands found in a particular area nor do they necessarily provide accurate wetland boundaries. NWI maps are useful for providing indications of potential wetland areas, which are often supported by soil mapping and hydrologic predictions, based upon topographical analysis using USGS topographic maps.

According to the National Wetlands Inventory (NWI) map of the New Haven, West Virginia-Ohio quadrangle, eight NWI wetlands were identified within the project study area, as shown on Figure 2. Three of these NWI wetlands are identified as Palustrine, Unconsolidated Bottom, Permanently Flooded, Diked/Impounded (PUBHh). One area was designated as Palustrine, Unconsolidated Bottom, Intermittently Exposed,

Diked/Impounded (PUBGh). Two NWI wetland areas were classified as Palustrine, Scrub/Shrub, Broad-Leaved Deciduous, Seasonally Flooded, Partially Drained/Ditch (PSS1Cd). The remaining two areas were classified as Palustrine, Emergent, Seasonally Flooded, Partially Drained/Ditch (PEMCd) and Palustrine, Emergent, Semipermanently Flooded, Partially Drained/Ditch (PEMFd) (U.S. Fish \& Wildlife Service).

The following describes the NWI Wetland classification of the NWI wetlands located at the site. The naming convention follows that found in; Classification of Wetlands and Deepwater Habitats of the United States, 1979, by Cowardin, Lewis M. et al.
( $\boldsymbol{P}$ ) Palustrine - The Palustrine System includes all nontidal wetlands dominated by trees, shrubs, emergents, mosses or lichens, and all such wetlands that occur in tidal areas where salinity due to ocean derived salts is below 0.5 ppt . Wetlands lacking such vegetation are also included if they exhibit all of the following characteristics:

1) Are less than 8 hectares ( 20 acres);
2) Do not have an active wave-formed or bedrock shoreline feature;
3) Have at low water a depth less than 2 meters ( 6.6 feet) in the deepest part of the basin;
4) Have salinity, due to ocean-derived salts, of less than 0.5 ppt .

The limitation of a Palustrine System is that they are bounded by upland or by any of the other systems.

Class - Class describes the general appearance of the habitat in terms of either the dominant fife form of the vegetation or the physiography and composition of the substrate. Life forms (e.g. trees, shrubs, emergents) are used to define classes because they are easily recognizable, do not change distribution rapidly, and have traditionally been used to classify wetlands.
(UB) Unconsolidated Bottom - Unconsolidated Bottom wetlands include all wetlands and deepwater habitats with at least $25 \%$ cover of particles smaller than stones (less than $6-7 \mathrm{~cm}$ ), and a vegetative cover less than $30 \%$.
(SS1) Scrub/Shrub Broad Leaved Deciduous - Scrub/Shrub wetlands include all wetlands and deepwater habitats with at least $25 \%$ cover of particles smaller than stones (less than $6-7 \mathrm{~cm}$ ), and a vegetative cover less than $30 \%$.
(EM) Emergent - Emergent wetlands include all wetlands and deepwater habitats with at least $25 \%$ cover of particles smaller than stones (less than $6-7 \mathrm{~cm}$ ), and a vegetative cover less than $30 \%$.
(C) Seasonally Flooded - Seasonally flooded indicates that water covers the land surface throughout the year in all years.
(F) Semipermanently Flooded - Semipermanently flooded indicates that water covers the land surface throughout the year in all years.
(G) Intermittently Exposed - Intermittently Exposed indicates that water covers the land surface throughout the year in all years.
(H) Permanently Flooded - Permanently Flooded indicates that water covers the land surface throughout the year in all years.
(d) Partially Drained/Ditch - Partially Drained/Ditch indicates that the wetland was created or modified by a man-made barrier or dam, which obstructs the inflow or outflow of water.
(h) Diked/Impounded - Diked / Impounded indicates that the wetland was created or modified by a man-made barrier or dam which obstructs the inflow or outflow of water.

### 3.1.3 Delineated Wetlands

The field wetland delineation identified 21 wetlands, totaling 2.25 acres, within the project study area. The location and approximate extents of these wetlands are shown on Figures 3A through 3C. Copies of the ACOE wetland delineation data sheets for these wetlands are provided in Appendix A. Selected color photographs are provided in Appendix D. A comprehensive list of wetland and upland plant species in the vicinity of the study site is shown in Table 3.

By definition, the hydrologic regime of a wetland ranges from irregularly inundated or saturated (5 percent to 12.5 percent of the growing season) to seasonally inundated or
saturated ( $>12.5$ percent to 25 percent of the growing season) (Environmental Laboratory, 1987). As quantitative data were not available for any of the delineated wetlands, URS utilized the method described in the 1987 Manual that consists of a pedestrian site reconnaissance including identifying the vegetation communities, soils identification, a geomorphologic assessment of hydrology, and notation of disturbance. To determine the wetland boundaries, the site vegetation, soils and hydrology were closely examined. Summary information for each delineated wetland is presented below.

Wetland AFS-W1: This 0.06-acre palustrine emergent wetland (PEM) was identified in the extreme southwest portion of the study area, adjacent to the east of the Ohio River and immediately north of River Front Road. The ORAM score for this wetland was $8 / 100$, which is indicative of a Category 1 , or low quality wetland.

The plant community of this wetland consisted of the broadleaf cattail (Typha latifolia), wool-grass (Scirpus cyperinus), Frank's sedge (Carex frankii), soft rush (Juncus effusus), reedcanary grass (Phalaris arundinacea), and silver maple (Acer saccharinum) saplings.

Secondary hydrology indicators observed within this wetland were oxidized rhizospheres in the upper 12 inches of the soil core and a positive FAC-neutral test. Soils were observed to be a sandy loam of $10 \mathrm{YR} 4 / 3$ in the A horizon ( $0-4$ inches) and a sandy loam of $10 \mathrm{YR} 5 / 1$ with 10YR $4 / 2$ mottles in the $\mathbf{B}$ horizon ( $4-16$ inches). Hydric soil indicators for this wetland were low-chroma colors in the soil core and mottling.

Wetland $A N$-W1: This 0.18 acre predominantly palustrine emergent wetland, with scrubshrub components (PEM/PSS), was identified adjacent to the west of Township Highway 95 and south of Stream BS-10. The ORAM score for this wetland was $38 / 100$, which is indicative of a Category 2 , or moderate quality wetland.

The herbaceous plant community of this wetland consisted of shallow sedge (Carex lurida), tussock sedge (Carex stricta), soft rush, and white grass (Leersia virginica). The less dominant scrub-shrub layer was characterized by box elder (Acer negundo), Witherod Viburnum (Viburnum cassinoides), and multiflora rose (Rosa multiflora).

Hydrology indicators observed within this wetland were inundation, saturation in the upper 12 inches of the soil profile, oxidized rhizospheres in the upper 12 inches of the soil core, water-stained leaves, and a positive FAC-neutral test. Soils were observed to be silty clay with a matrix of $2.5 \mathrm{Y} 4 / 1$ and $5 \mathrm{Y} 4 / 1$, respectively. Few and faint mottling of
color 7.5Y4/6 was observed in the B horizon. Hydric soil indicators for this wetland were mottling and low chroma-colors in the soil core.

Wetland BM-WI: This 0.07 acre palustrine emergent wetland (PEM) was identified east of Township Highway 96 and immediately southwest of Stream BM-S4. The ORAM score for this wetland was $27 / 100$, which is indicative of a Category 1 , or low to moderate quality wetland.

This emergent wetland plant community consisted of purple leaf willowherb (Epilobium coloratum), seedbox (Ludwigia alternifolia), sedges (Carex spp.), ricecut grass (Leersia oryzoides), and the sensitive fern (Onoclea sensibilis). Primary hydrology indicators observed within this wetland area included inundation, saturation in the upper 12 inches, and drainage patterns in the wetland. Secondary hydrology indicators observed within this wetland included oxidized mizospheres in the upper 12 inches of the soil core, waterstained leaves, and a positive FAC-neutral test. Soils were observed to be a silt loam with a matrix of $10 \mathrm{YR} 4 / 3$ and $2.5 \mathrm{Y} 4 / 1$, respectively. Few and faint mottling of color 10YR5/8 was observed in the A and B horizons. Hydric soil indicators for this wetland included low-chroma colors and mottling.

Wetland BM-W2: This 0.33-acre palustrine emergent fringe wetland (PEM) was identified northeast of Wetland BM-W1. The ORAM score for this wetland was $35 / 100$, which is indicative of a Category 2 , or moderate quality wetland.

The plant community in this emergent wetland consisted of ricecut grass, soft rush, woolgrass, and reedcanary grass. Primary hydrology indicators that were observed in this wetland area were inundation, saturation in the upper 12 inches, and drainage patterns in the wetland. Secondary hydrology indicators were limited to a positive FAC- neutral test.

Soils were observed with a matrix of $2.5 \mathrm{Y} 5 / 3$ and $2.5 \mathrm{Y} 5 / 2$ with $10 \mathrm{YR} 3 / 6$ mottling. Hydric soil indicators for this wetland included low-chroma colors and mottling.

Wetland BM-W3: This 0.18 -acre palustrine emergent fringe wetland (PEM) was identified along the perimeter of the pond located east of Township Highway 96 and northeast of Stream BM-S4. The ORAM score for this wetland was $39 / 100$, which is indicative of a Category 2 , or moderate quality wetland.

This emergent wetland plant community consisted woolgrass, soft rush, slender rush (Juncus tenuis), longhair sedge (Carex camosa), broadleaf cattail, and blunt spikerush (Eleocharis obtusa). Hydrology indicators that were observed in this wetland were saturation and oxidized rhizospheres in the upper 12 inches of the soil profile and a positive FAC-neutral test. Soils were observed with a matrix chroma of $/ 3$ and $/ 1$, with common and distinct mottling throughout the soil core, as indicated on the ACOE wetland delineation data sheets provided in Appendix A.

Wetland BM-W4: This 0.07 -acre palustrine emergent, open-water wetland (POW/PEM) was identified along the extreme eastern portion of the study area, east of Wetland BMW3 and south of Stream BM-S10. The ORAM score for this wetland was 43/100, which is indicative of a Category 2 , or moderate quality wetland.

The plant community of this wetland consisted of shallow sedge, tussock sedge, ricecut grass, woolgrass, white turtlehead (Chelone glabra), purple leaf willowherb, broadleaf cattail, and narrowleaf cattail (Typha angustifolia). Primary hydrology indicators observed within this wetland area were inundation, saturation in the upper 12 inches, water marks, and drainage patterns in the wetland. Secondary hydrology indicators included water-stained leaves and a positive FAC-neutral test.

Soils were observed to have a matrix chroma of $/ 2$ with few and faint mottles of color 10YR3/6 throughout the soil core. Hydric soil indicators for this wetland were lowchroma colors and mottling.

Wetland BM-W5: This 0.18 -acre palustrine emergent wetland (PEM) was identified east of Township Highway 96, at the headwater of Stream BM-S13. The ORAM score for this wetland was $38 / 100$, which is indicative of a Category 2 , or moderate quality wetland.

The herbaceous plant community of this wetland area included white grass, water purslane (Ludwigia palustris), arrow tearthumb (Polygonum sagittatum), sensitive fern, shallow sedge, seedbox, reedcanary grass, soft rush, tussock sedge, and common fox sedge (Carex stipata). The woody component of this wetland plant community was limited to buttonbush (Cephalanthus occidentalis) and black willow (Salix nigra).

Hydrology indicators observed within this wetland were inundation, saturation and oxidized rhizospheres in the upper 12 inches, drainage patterns in the wetland, and a
positive FAC-neutral test. Soils were observed to be a silt loam and clay loam of chroma $13, / 2$, and $/ 1$ with few, faint, and distinct mottling of $10 \mathrm{YR} 6 / 8$ and $7.5 \mathrm{YR} 5 / 8$. Hydric soil indicators for this wetland were low-chroma colors and mottling.

Wetland C-1: This 0.02-acre palustrine emergent wetland (PEM) was identified southwest of Stream CS-1. The ORAM score for this wetland was $24 / 100$, which is indicative of a Category 1, or low quality wetland.

The plant community of this emergent wetland consisted of arrow tearthumb, common cocklebur (Xanthium strumarium), deer-tongue (Dichanthelium clandestinum), soft rush, softstem bulrush (Scirpus validus), sedges, reedcanary grass, and box elder shrubs. Hydrology indicators observed within this wetland area included oxidized rhizospheres in the upper 12 inches and a positive FAC-neutral test. The depth to free water in the soil pit and to saturated soil conditions were observed to be greater than 14 inches in depth.

Soils were observed to be loam and clay of chroma $/ 2$ and / 1 with few and distinct mottles of $7.5 \mathrm{YR} 3 / 4$. Hydric soil indicators for this wetland were low-chroma colors and mottling.

Wetland C-2: This 0.04-acre palustrine emergent wetland (PEM) was identified west of Township Highway 96, at the headwater of Stream CS-5-2. The ORAM score for this wetland was $37 / 100$, which is indicative of a Category 2 , or moderate quality wetland.

This emergent wetland plant community consisted of reedcanary grass, Frank's sedge, soft rush, aarow tearthumb, deer-tongue, spotted joe-pye weed (Eupatorium maculatum), and Canada goldenrod (Solidago canadensis). Primary hydrology indicators observed within this wetland area included inundation, saturation in the upper 12 inches, sediment deposits, and drainage patterns in the wetland. Secondary hydrology indicators for this wetland were limited to oxidized rhizospheres in the upper 12 inches and a positive FACneutral test. The depth to surface water was observed to be 1 inch.

Soils were observed to be a sandy silt loam with a matrix of Gley $13 / 10$ Y. Hydric soil indicators for this wetland were gleyed colors.

Wetland C-3: This 0.01-acre palustrine emergent wetland (PEM) was identified west of Township Highway 96 and north of Wetland C3. The ORAM score for this wetland was $32.5 / 100$, which is indicative of a Category 2 , or low to moderate quality wetland.

The plant community of this wetland area included Frank's sedge, deer-tongue, shallow sedge, soft rush, multiflora rose, and the American sycamore (Platanus occidentalis). Hydrology indicators observed within this wetland area included inundation, saturation and oxidized rhizospheres in the upper 12 inches, sediment deposits, and drainage patterns in the wetland. The depth to surface water was observed to be 1 inch.

Soils were observed to be a silt of chroma $/ 6$ and $/ 2$ with many and distinct mottles of 7.5YR 4/5. Hydric soil indicators for this wetland were low-chroma colors, mottling, and concretions.

Wetland C-4: This 0.02 -acre palustrine emergent wetland (PEM) was identified adjacent to the west of Township Highway 96 and east of Wetland C3. The ORAM score for this wetland was $23 / 100$, which is indicative of a Category 1 , or low quality wetland.

Frank's sedge, arrow tearthumb, soft rush, purple leaf willowherb, and ironweed (Vernonia gigantea) dominanted this palustrine emergent wetland area. Hydrology indicators observed within this wetland included inundation, saturation in the upper 12 inches, sediment deposits, drainage patterns in the wetland, and a positive FAC-neutral test. The depth of surface water was observed to be 1 inch.

Soils were observed to be silty clay of chroma $/ 2$ with few and distinct mottles of gley 1 2.5/5G. Hydric soil indicators for this wetland were low-chroma colors, mottling, and a sulfidic odor.

Wetland D-1: This 0.03 -acre palustrine emergent wetland (PEM) was identified slightly northwest of Wetland D-2. The ORAM score for this wetland was $39.5 / 100$, which is indicative of a Category 2 , or moderate quality wetland.

This emergent wetland plant community consisted of soft rush, shallow sedge, flat-topped goldenrod (Solidago nitida), Canada goldenrod, small-flowered agrimony (Agrimonia parviflora), ironweed, spotted joe-pyeweed, softstem-bulrush (Scirpus validus), and devil's beggars tick (Bidens frondosa). The woody component of this Category 2 wetland was limited to the American sycamore. Hydrology indicators observed within this wetland included drainage patterns in the wetland, oxidized rhizospheres in the upper 12 inches, and a positive FAC-neutral test. The depth to free water in pit and to saturated soil was observed to be greater than 20 inches.

Soils were observed to be silty clay and clay of chroma $/ 4$ and $/ 2$ with common and faint mottles of 10YR4/5. Hydric soil indicators for this wetland were low-chroma colors and mottling.

Wetland D-2: This 0.15-acre palustrine emergent wetland (PEM) was identified northwest of Stream DS-1-11 and west of Township Highway 96. The ORAM score for this wetland was $38 / 100$, which is indicative of a Category 2 , or moderate quality wetland.

The vegetation in this emergent wetland consisted of flat-topped goldenrod, spotted joepyeweed, ironweed, sedges, yellow nutsedge (Cyperus esculentus), soft rush, smallflowered agrimony, and softstem bulrush. Hydrology indicators observed within this wetland included drainage patterns in the wetland, oxidized rhizospheres in the upper 12 inches, and a positive FAC-neutral test. The depth to free water in pit and to saturated soil was observed to be greater than 18 inches.

Soils were observed to be loam and loamy clay of chroma $/ 3$ and $/ 2$ with few and distinct mottles of 10YR4/6. Hydric soil indicators for this wetland were low-chroma colors and mottling.

Wetland D-3: This 0.11-acre palustrine emergent wetland with a forested component (PEM/PFO) was identified immediately south of Stream DS-1-11. The ORAM score for this wetland was $38 / 100$, which is indicative of a Category 2, or moderate quality wetland.

The vegetation in this mixed emergent and forested wetland community consisted of reedcanary grass, deer-tongue, Canada goldenrod, sedges, multiflora rose, spotted joepyeweed, sensitive fern, small-flowered agrimony, and the American sycamore. Hydrology indicators observed within this wetland included drainage patterns in the wetland, oxidized root channels in the upper 12 inches, and a positive FAC-neutral test. The depth to free water in pit and to saturated soil conditions was observed to be greater than 16 inches.

Soils were observed to be loam and loamy clay of chroma $/ 4$ and $/ 2$ with common and distinct mottles of $7.5 \mathrm{YR} 4 / 6$. Hydric soil indicators for this wetland were low-chroma colors and mottling.

Wetland D-4: This 0.07 -acre palustrine emergent/forested wetland (PEM/PFO) was identified southeast of Wetland D-3. The ORAM score for this wetland was 44/100, which is indicative of a Category 2, or moderate quality wetland.

The vegetation in this mixed palustrine emergent and forested wetland community consisted of soft rush, woolgrass, American sycamore, spotted joe-pyeweed, Alleghany blackberry (Rubus allegheniensis), deer-tongue, sedges, and sensitive fern. Hydrology indicators observed within this wetland included drainage patterns in the wetland, oxidized root channels in the upper 12 inches, and a positive FAC-neutral test. The depth to free water in pit and to saturated soil conditions was observed to be greater than 14 inches.

Soils were observed to be clay loam with a matrix of $10 Y R 6 / 2$ in the $A$ and $B$ horizons. Many, distinct mottling of color 7.5YR5/6 was observed in the A horizon and common, distinct mottling of color $7.5 \mathrm{YR} 5 / 8$ was observed in the B horizon. Hydric soil indicators for this wetland were low-chroma colors and mottling.

Wetland D-5: This 0.02-acre palustrine emergent wetland (PEM) was identified immediately west of Stream DS-2-5. The ORAM score for this wetland was 37/100, which is indicative of a Category 2 , or moderate quality wetland.

The plant community of this wetland consisted of reedcanary grass, deer-tongue, soft rush, yellow nutsedge, sedges, small-flowered agrimony, and Japanese honeysuckle (Lonicera japonica). Primary hydrology indicators observed within this wetland area were inundation and saturation in the upper 12 inches, while secondary hydrology indicators were limited to a positive FAC-neutral test.

Soils were observed to be a silty clay loam and clay loam with matrix colors of 10YR4/2 and $10 \mathrm{YR} 6 / 2$, respectively. Common and distinct mottling of color 10YR5/6 was observed in the A horizon, while many and few mottling of color 10YR5/6 was observed in the $B$ horizon. Hydric soil indicators for this wetland were low-chroma colors, concretions, and mottling.

Wetland D-6: This 0.01 -acre palustrine open water/emergent wetland (POW/PEM) was identified southeast of Stream DS-4. The ORAM score for this wetland was 32/100, which is indicative of a Category 2, or moderate quality wetland.

The plant community of this open water wetland consisted of Potamogeton spp., narrowleaf cattail, soft rush, black willow, and sedges. Hydrology indicators observed within this wetland area were inundation, saturation in the upper 12 inches of the soil core, and a positive FAC-neutral test. The depth of surface water was observed to be greater than 1 foot. Soils were observed to be a silty clay of chroma $/ 6$ and $/ 2$ with many and faint mottles of color 5Y4/4. Hydric soil indicators for this wetland were low-chroma colors, mottling, and a sulfidic odor.

Wetland W-1: This 0.07-acre palustrine emergent/scrub-shrub wetland (PEM/PSS) was identified southwest of Streams S-6 and S7. The ORAM score for this wetland was $44 / 100$, which is indicative of a Category 2 , or moderate quality wetland.

The plant community in this mixed emergent/scrub-shrub wetland consisted of box elder shrubs, soft rush, Alleghany blackberry, sedges, and spotted touch-me-not (Impatiens capensis). Hydrology indicators observed within this wetland area were inundation, saturation and oxidized rhizospheres in the upper 12 inches, drainage patterns in the wetland, and a positive FAC-neutral test. The depth of surface water was observed to be approximately $1 / 2$ inch.

Soils were observed to be a silty clay loam with matrix colors of $10 \mathrm{YR} 4 / 2$ and 10YR6/1, respectively. Common and distinct mottling of color 2.5YR4/6 was observed in the A horizon, while many and prominent mottling of color 2.5YR3/6 was observed in the B horizon. Hydric soil indicators for this wetland were low-chroma colors and mottling.

Wetland W-2: This 0.18 acre palustrine emergent wetland (PEM) was identified southwest of Streams S-11 and S12, and adjacent and to the east of Wetland AN-W1. The ORAM score for this wetland was $21 / 100$, which is indicative of a Category 1 , or low quality wetland.

This emergent wetland plant community consisted of spotted touch-me-not, sedges, creeping jenny (Lysimachia nummularia), purple leaf willowherb, Canada goldenrod, multiflora rose, and box elder shrubs. Hydrology indicators observed within this wetland area were inundation, saturation in the upper 12 inches, and a positive FAC-neutral test.

Soils were observed to be a sandy loam with matrix colors of $10 \mathrm{YR} 2 / 2$ and 10YR3/1, respectively. Hydric soil indicators for this wetland were low-chroma colors in the soil core.

Wetland WB-1: This 0.18 -acre palustrine open water wetland (POW) was identified south of Stream BS-1 and north of BS-1. The ORAM score for this wetland was $43.5 / 100$, which is indicative of a Category 2 , or moderate quality wetland.

The plant community of this open water wetland consisted of soft rush and box elder shrubs. Hydrology indicators observed within this wetland area were inundation, saturation in the upper 12 inches of the soil core, water-stained leaves, and a positive FAC-neutral test.

Soils were observed to be clay with a matrix color of $7.5 \mathrm{YR} 4 / 2$. Many and distinct mottling of color 7.5YR $4 / 4$ was observed throughout the soil core. Hydric soil indicators for this wetland area were low-chroma colors, mottling, and a sulfidic odor.

Wetland WB-2: This 0.09-acre palustrine emergent wetland (PEM) was identified northeast of Streams BS-8 and BS-9. The total area of this wetland is 0.09 acre. The ORAM score for this wetland was $33.5 / 100$, which is indicative of a Category 2, or low to moderate quality wetland.

The plant community of this emergent wetland consisted of shallow sedge, tussock sedge, spotted touch-me-not, woolgrass, and spotted ladysthumb (Polygonum persicaria). Hydrology indicators observed within this wetland area were saturation and oxidized rhizospheres in the upper 12 inches of the soil core, drainage patterns in the wetland, water-stained leaves, and a positive FAC-neutral test.

Soils were observed to have a matrix color of $10 \mathrm{YR} 5 / 3$ and $10 \mathrm{YR} 4 / 2$ with many and distinct mottles of 5YR4/6. Hydric soil indicators for this wetland were low-chroma colors and mottling.

### 3.1.4 Wetland Habitat Description

Wetland Habitat Descriptions: The wetlands identified within the project area are classified as one of the following types (per the classification system developed by Cowardin et al., [1979]):

- Palustrine Emergent (PEM) (14 wetlands, totaling 1.47 acres)
- Palustrine Emergent/Scrub-Shrub (PEM/PSS) (2 wetlands, totaling 0.25 acres)
- Palustrine Emergent/Forested (PEM/PFO) (2 wetlands, totaling 0.18 acres)
- Palustrine Open Water (POW) (1 wetland, totaling 0.18 acres)
- Palustrine Open Water/Emergent (POW/PEM) (2 wetlands, totaling 0.17 acres)

Each identified wetland habitat is discussed below. The wetland habitat description given below identifies the dominant observed species by common name with Region 1 indicator status (Reed, 1988) following in parentheses. The scientific names of these species are described above in Section 3.1.3. Also described is the observed hydrologic regime. Individual wetland and upland test plot data forms given in Appendix A provide the field support for the wetland/upland boundary determinations.

Palustrine Emergent Habitat (PEM): Wetlands identified as palustrine emergent are characterized by grasslike plants, true grasses, rushes and broad-leaved plants (Cowardin et al., 1979). These areas are dominated by persistent herbaceous wetland vegetation such as broadleaf and narrowleaf cattails (OBL), woolgrass (FACW+), sedges (FAC-OBL), reedcanary grass (FACW), soft rush (FACW), purple leaf willowherb (OBL), seedbox (FACW), ricecut grass (OBL), sensitive fern (OBL), slender rush (FACW), blunt spikerush (OBL), white turtlehead (OBL), arrow tearthumb (OBL), whitegrass (FACW), water purslane (OBL), common cocklebur (FAC), deer-tongue (FAC), soft-stem bulrush (FACW), spotted joe-pye weed (FAC), ironweed (FAC), flat-topped goldenrod (FAC), devil's beggars tick (FACW), yellow nutsedge (FACW), small-flowered agrimony (FAC), and spotted ladysthumb (FACW). The hydrologic regime of these wetlands ranges from irregularly inundated or saturated ( $\geq 5$ percent- 12.5 percent of the growing season) to seasonally inundated or saturated ( $>12.5$ percent- 25 percent of the growing season) (Environmental Laboratory, 1987).

Field investigations identified fourteen wetlands, totaling 1.47 acres, as PEM. The locations of these wetlands (AFS-W1, BM-W1, BM-W2, BM-W3, BM-W5, C-1, C-2, C3, C-4, D-1, D-2, D-5, W-2, WB-2) are shown on Figures 3A and 3C. These wetlands occur on soils that meet the hydric soil criterion, while also revealing primary and/or secondary hydrology indicators and a dominance of hydrophytic vegetation.

Palustrine Emergent/Scrub-Shrub (PEM/PSS): Wetlands classified as palustrine emergent/scrub-shrub are characterized by grass-like plants, broad-leaved plants, rushes and woody vegetation less than 20 feet high (Cowardin et al., 1979). The dominant herbaceous and woody plants that were observed in the wetland located onsite include


[^0]:    ${ }^{1}$ The average sound levels were calculated by combining the sound levels using the following equation: $\quad L_{\text {ap }}=10 \log \left(\left(\sum_{n=1}^{i} 10{ }^{\log (n) / 40}\right)\right)$ and dividing by the number of measurements taken.

[^1]:    1 The average octeve band sound pressure levels ( Hz ) were calculated by using straighl averages. The average sound pressure levels (dBA) were calcuilated by combining the sound tevels using the folkwing equation: $L_{4}=10 \log \left(\left(\sum_{10} 10 \mathrm{~cm}^{\text {the }}\right.\right.$ ) $)$ and dividing by the number of measurements laken.

[^2]:    ${ }^{1}$ The average octave band sound presture fevels; (Hz) were calculated toy using straight averages. The average scund pressure levels (dBA) were catrulated by combining the socund levels using the following equation: $L_{*}=10$ iog $\left(\left(\sum_{n=1}^{i} 10^{\text {tad }}\right.\right.$ ( $n$ ) /r $)$ and dividing by the number of measuraments taken.

[^3]:    1 The evarage octave band sound pressure levels ( Hz ) were calculated by using straight avarages. The average sound pressure levels (daA) were calculated by combining the sound levels using the following equation:
    

[^4]:    1 The average octave band sound pressure leyels ( Hz ) were caiculated by using straight averages. The average sound pressure levels (dBA) were calculated by combining the sound levels using the following equation: $L_{\mathrm{em}}=10 \log \left(\left(\sum_{n} 10^{L_{\mathrm{my}}}\right.\right.$ (-)/\%$)$ ) and dividing by the number of measunements taken.

[^5]:    ${ }^{1}$ The average octave band sound pressure levels, (hz) were calculated by using straight averages. The average sound pressure levets (dBA) were calculated by combining the sound levels using the following equation: $L_{N}=10 \log \left(\left(\sum_{i=1}^{1} 10^{c e s}(n)\right.\right.$ ) $\left.\left.{ }^{10}\right)\right)$ and dviding by the number of measurements taken.

[^6]:    ${ }^{1}$ The average oclave band sound pressure levels (Hz) were calculated by using straight averages. The average sound prassure levels (dBA) were cakealated by combining the sound levels using the
    

