



City of Fitchburg
 Planning/Zoning Department
 5520 Lacy Road
 Fitchburg, WI 53711
 (608) 270-4200

CONDITIONAL USE PERMIT APPLICATION (AMENDMENT)

The undersigned owner, or owner's authorized agent, of property herein described hereby applies for a conditional use permit for the following described property:

1. Location of Property:

Street Address: 5515 Nobel Drive, Fitchburg, WI 53711

Legal Description - (Metes & Bounds, or Lot No. And Plat): _____

Lot 1, CSM No.14613, Document No. 5359039

***Also submit in electronic format (MS WORD or plain text) by email to: PLANNING@FITCHBURGWI.GOV

2. Current Use of Property: Existing data center and vacant land for new data center (with back up diesel generators)

3. Proposed Use of Property: Unchanged

4. Proposed Development Schedule: Consistent with OneNeck's data center development schedule

5. Zoning District: I-S Specialized Industrial Division

6. Future Land Use Plan Classification: I-C Industrial Commercial

***Pursuant to Section 22-3(b) of the Fitchburg Zoning Ordinance, all Conditional Use Permits shall be consistent with the currently adopted City of Fitchburg Comprehensive Plan.

***Attach three (3) copies of a site plan which shows any proposed land divisions, plus vehicular access points and the location and size of all existing and proposed structures and parking areas. Two (2) of the three (3) copies shall be no larger than 11" x 17". Submit one (1) pdf document of the entire submittal to planning@fitchburgwi.gov.

Additional information may be requested.

Type of Residential Development (If Applicable): N/A

No. of Dwelling Units by Bedroom: 1 BR 2 BR 3 BR 4 or More

No. Of Parking Stalls: _____

Type of Non-residential Development (If Applicable): Back up diesel generators to support data center

Proposed Hours of Operation: N/A **No. Of Employees:** N/A

Floor Area: N/A **No. Of Parking Stalls:** _____

Sewer: Municipal Private **Water:** Municipal Private

Current Owner of Property: OneNeck Data Center Holdings, LLC (MGE as Authorized Agent)

Address: 5515 Nobel Drive, Fitchburg, WI **Phone No:** 612-345-8970

Contact Person: John Drury (MGE)

Email: jdrury@mge.com

Address: P.O. Box 1231, Madison, WI 53701 1231 **Phone No:** 608-252-7081

Respectfully Submitted By: 

Owner's or Authorized Agent's Signature

**** It is highly recommended that an applicant hold at least one neighborhood meeting prior to submitting an CUP application to identify any concerns or issues of surrounding residents.**

PLEASE NOTE - Applicants shall be responsible for legal or outside consultant costs incurred by the City. Submissions shall be made at least four (4) weeks prior to desired plan commission meeting.

For City Use Only: **Date Received:** _____ **Publish:** _____

Ordinance Section No. _____ **Fee Paid:** _____

Permit Request No. _____

**ADDENDUM TO CONDITIONAL USE PERMIT
APPLICATION (AMENDMENT) OF MGE**

1. Existing CUP. On June 6, 2017, the Plan Commission of the City of Fitchburg approved Madison Gas and Electric Company’s (“MGE”) application for a conditional use permit (the “CUP”) authorizing MGE to install, operate, and maintain up to thirteen (13) backup diesel generators (the “Units”) on property owned by OneNeck IT Solutions, LLC in an I-S Specialized Industrial Zoning District. The CUP was approved with six conditions. Attached hereto as Attachment 1 are copies of a document entitle “Request Details” that memorializes the approval of the CUP and the conditions and MGE’s original CUP application.

2. Requested Amendment to the CUP. Portions of Conditions 2 and 6 of the CUP require Units 4 through 7 to meet a sound standard of 55 dBA at 50 feet. MGE requests that the portion of Conditions 2 and 6 applicable to Units 4-7 be amended to provide as follows:

- Unit 4: Installed in July, 2017, Ordinance 2007-0-08: 58 dBA at 50'
- Units 5-7: Dependent on data center power needs, Ordinance 2007-0-08: 58 dBA at 50'

The following Table A-1 identifies the generators and proposed sound standards:

Table A-1 (Updated 3/20/2018)

Generator Unit	Status	Sound Standard
Unit 1	existing on-site	Ordinance No. 2007-0-08 (60 dBa @50')
Unit 2	existing on-site	Ordinance No. 2007-0-08 (60 dBa @50')
Unit 3	existing on site	Ordinance No. 2007-0-08 (60 dBa @50')
Unit 4	installed July 2017	Ordinance No. 2007-0-08 (58 dBa @50')
Units 5 - 7	dependent on data center power needs dependent on new data center	Ordinance No. 2007-0-08 (58 dBa @50')
Units 8 - 13	development	Ordinance No. 2011-0-14 (par. 5) Ordinance No. 2011-0-08 (par. 5)

This change from 55 dBA to 58 dBA is needed because the manufacturer of the Units and the “package” that encloses and attenuates the Units are not able to meet the sound standard of 55 dBA at 50'.

The requested change is based on and supported by the Sound Modeling Analysis, dated August 14, 2017, performed by Hessler Associates, Inc. (the “Sound Analysis”). A copy

of the Sound Analysis is attached hereto as Attachment 2. MGE commissioned the Sound Analysis in order to fulfill the City's testing requirement specified in paragraph 7 of Ordinance 2007-0-08. Section 3.0 of the Sound Analysis shows the modeling result of 58 dBA at 50 feet under free field conditions.

MGE is not seeking changes to any other condition of the approved CUP. Please be aware that even with the amended 58 dBA at 50 feet sound standard, the Units will still comply with the far afield sound standards required in Ordinance Nos. 2007-0-08 and 2011-0-14.

MGE's conditional use, as amended, will continue to fulfill the general CUP standards specified in Section 22-640(c) of the Zoning Code.

Finally, MGE has discussed the proposed CUP amendment with the Quarry Hill Neighborhood Association and the East Fitchburg Neighborhood Association and neither Association expressed a concern.

Therefore, MGE respectfully requests that its CUP be amended as proposed in this application.

Attachments:

Attachment 1 – Request Details and Original CUP application

Attachment 2 – Sound Analysis

**ATTACHMENT 1
REQUEST DETAILS**

Request Details

Print Date: Wed 06/21/2017

Category: CUP	Location:
Request ID: CU-2155-17	Metes and Bounds:
Decision Date: 6/20/2017	Section:
House Number: 5515	Project Name: OneNeck Data Center - MGE Backup Generators
Street: Nobel Drive	Comments:
Lot:	

Zoning Conditions

- 1 No other permit or approval is waived or deemed satisfied except for the approval provided herein.

 - 2 Approval is based on the submitted application and materials, including the Addendum To Conditional Use Permit Application of MGE, and conditions identified on pages 2 and 3 of the Addendum.

 - 3 Approval is conditioned on Council approval of RZ-2153-17 and CS-2154-17.

 - 4 Any work on site, or the addition of generators prior to building expansion, may require a stormwater management permit.

 - 5 The total number of generators (7 Existing Approved Generators and 6 New Generators) shall not exceed thirteen generators.

 - 6 Sounds levels from backup generators shall meet the following requirements:
 - Unit 1: Existing On-Site, Ordinance No. 2007-O-08: 60 dBA at 50'
 - Unit 2: Existing on-site, Ordinance No. 2007-O-08: 60 dBA at 50'
 - Unit 3: Existing on-site, Ordinance No. 2007-O-08: 60 dBA at 50'
 - Unit 4: Expected install July 2017, Ordinance No. 2007-O-08: 55 dBA at 50'
 - Units 5-7: Dependent on data center power needs, Ordinance No. 2007-O-08: 55 dBA at 50'
 - Units 8-13: Dependent on new data center development, Ordinance No. 2011-O-14 & 2011-O-08: 39 dBA for combined sound from generators and HVAC and 52dB at 125 Hz for combined sound from generators and HVAC at Quarry Hill property line
-

**ATTACHMENT 1
ORIGINAL CUP APPLICATION**



City of Fitchburg
 Planning/Zoning Department
 5520 Lacy Road
 Fitchburg, WI 53711
 (608) 270-4200

CONDITIONAL USE PERMIT APPLICATION

The undersigned owner, or owner's authorized agent, of property herein described hereby applies for a conditional use permit for the following described property:

1. Location of Property:

Street Address: 5515 Nobel Drive, Fitchburg, WI 53711

Legal Description - (Metes & Bounds, or Lot No. And Plat): _____

See attached

***Also submit in electronic format (MS WORD or plain text) by email to: PLANNING@FITCHBURGWI.GOV

2. Current Use of Property: Existing data center and vacant land for new data center (with backup diesel generators)

3. Proposed Use of Property: Backup diesel generators to support data centers

4. Proposed Development Schedule: Consistent with OneNeck's data center development schedule

5. Zoning District: I-S Specialized Industrial District

6. Future Land Use Plan Classification: I-C Industrial Commercial

***Pursuant to Section 22-3(b) of the Fitchburg Zoning Ordinance, all Conditional Use Permits shall be consistent with the currently adopted City of Fitchburg Comprehensive Plan.

***Attach three (3) copies of a site plan which shows any proposed land divisions, plus vehicular access points and the location and size of all existing and proposed structures and parking areas. Two (2) of the three (3) copies shall be no larger than 11" x 17". Submit one (1) pdf document of the entire submittal to planning@fitchburgwi.gov.

Additional information may be requested.

Type of Residential Development (If Applicable): N/A

No. of Dwelling Units by Bedroom: 1 BR 2 BR 3 BR 4 or More

No. Of Parking Stalls: N/A

Type of Non-residential Development (If Applicable): Backup diesel generators to support data center

Proposed Hours of Operation: See attached **No. Of Employees:** N/A

Floor Area: N/A **No. Of Parking Stalls:** N/A

Sewer: Municipal Private **Water:** Municipal Private

Current Owner of Property: OneNeck Data Center Holdings LLC (MGE as Agent)

Address: 5515 Nobel Drive, Fitchburg, WI 53711 **Phone No:** 612-395-8970

Contact Person: John Drury (MGE)

Email: jdrury@mge.com

Address: P.O. Box 1231, Madison, WI 53701-1231 **Phone No:** 608-252-7081

Respectfully Submitted By: _____

Donald Peterson, MGE

Owner's or Authorized Agent's Signature

**** It is highly recommended that an applicant hold at least one neighborhood meeting prior to submitting an CUP application to identify any concerns or issues of surrounding residents.**

PLEASE NOTE - Applicants shall be responsible for legal or outside consultant costs incurred by the City. Submissions shall be made at least four (4) weeks prior to desired plan commission meeting.

For City Use Only: Date Received: _____ Publish: _____
 Ordinance Section No. _____ Fee Paid: _____
 Permit Request No. _____

**ADDENDUM TO CONDITIONAL USE PERMIT
APPLICATION OF MGE**

This Conditional Use Permit Application (“CUP Application”) is made pursuant to Sections 22-428 and 22-640 of the Fitchburg Zoning Code to allow Madison Gas and Electric Company (“MGE”) to install, operate, and maintain up to thirteen (13) backup diesel generators to support data centers operated on property owned by OneNeck IT Solutions LLC (“OneNeck”) in an I-S Specialized Industrial zoning district.

OneNeck owns Lot 2, Certified Survey Map No. 12188 (Document No. 4328586) (“Lot 2”) and Lot 25, Techlands (Document No. 5083285) (“Lot 25”). OneNeck has submitted applications to rezone Lot 2 from PD Planned Development to I-S (Lot 25 is already zoned I-S) and combine Lots 2 and 25. OneNeck’s rezoning and lot consolidation applications are necessary to allow OneNeck to expand its data center facilities to Lot 25. The consolidated lots are referred to in this Application as the “Proposed New Lot”. This CUP Application is being made concurrently with OneNeck’s applications.

1. Background. OneNeck currently operates a data center on Lot 2 pursuant to Ordinance No. 2007-O-08 (the “2007 Ordinance”). A copy of the 2007 Ordinance is attached as Attachment A. The 2007 Ordinance also authorizes MGE to operate up to seven (7) generators to support the existing data center and to provide generating capacity to MGE’s electric system for the benefit of all MGE customers in the event of emergency or critical situations¹ (“Existing Approved Generators”). Three (3) generators have been placed on Lot 2 and are being operated at the existing data center with the addition of a fourth generator expected to be installed this summer.

MGE is required to operate the generators in compliance with conditions contained in the 2007 Ordinance and the associated Backup Generator Plan of Operation approved by the City’s Plan Commission on March 21, 2017 (the “Plan of Operation”). A copy of the Plan of Operation is attached as Attachment B. The Plan of Operation describes: MGE’s backup generator service program; how the generators are used and operated; the specifications of the generators; expected hours of operation; plans of development; schedule; description of the associated air pollution control operating permit; reporting requirements; compliance with ambient air quality standards; and maintenance, inspection, and monitoring of the generators. The Plan of Operation has been updated each time a new generator has been installed. The Plan of Operation shows MGE is meeting its commitments.

¹ Lot 2 was initially approved in 2007 for thirteen (13) generators. That number was subsequently reduced to seven (7) generators in 2011.

OneNeck intends to rezone Lot 2 from PD to I-S to match the I-S zoning on Lot 25 in preparation for combining the lots. OneNeck's rezoning of Lot 2 is not intended to and should not change how MGE currently maintains and operates the Existing Approved Generators.

OneNeck's new data center will be constructed on Lot 25. In 2011, Lot 25 was rezoned to I-S pursuant to Ordinance No. 2011-O-08 and Ordinance No. 2011-O-14 (collectively the "2011 Ordinances"). Copies of the 2011 Ordinances are attached hereto as Attachment C.

This Application is requesting approval of up to a total of thirteen (13) generators. The six (6) additional generators (the "New Generators") would be operated similarly to the seven (7) Existing Approved Generators. The run time for the existing generators is about 15 hours/year. MGE anticipates no significant change in the run time for the additional generators. Like the existing generators, the additional generators will probably have a nominal capacity of 1500 kW. The additional generators would also be used for utility purposes, in the same manner as the existing ones.

The following Table A-1 identifies the generators and applicable sound standards:

Table A-1

Generator Unit	Status	Sound Standard
Unit 1	existing on-site	Ordinance No. 2007-0-08 (60 dBa @50')
Unit 2	existing on-site	Ordinance No. 2007-0-08 (60 dBa @50')
Unit 3	existing on site	Ordinance No. 2007-0-08 (60 dBa @50')
Unit 4	expected install July 2017	Ordinance No. 2007-0-08 (55 dBa @50')
Units 5 - 7	dependent on data center power needs	Ordinance No. 2007-0-08 (55 dBa @50')
Units 8 - 13	dependent on new data center development	Ordinance No. 2011-0-14 (par. 5)
		Ordinance No. 2011-0-08 (par. 5)

The possible location of generators is shown on Exhibit 1 attached hereto. The final locations of the generators on the Proposed New Lot will be based on the needs of the existing data center and the design and development of the new data center.

2. Proposed Conditions.

MGE proposes that its Application be approved with the following conditions:

- a. Existing Approved Generators shall comply with the applicable conditions of the 2007 Ordinance and the Plan of Operation.

b. New Generators shall comply with the applicable conditions of the 2011 Ordinances and the Plan of Operation.

c. MGE shall update the Plan of Operation each time a generator is installed. The updated Plan of Operation shall be reviewed and approved by the City Plan Commission. Such Plan Commission approval shall not be unreasonably withheld. The Plan of Operation shall fully describe the expected timing, number, and operation of the generators, overall expected hours of operation in both normal years and catastrophic years (catastrophic is those infrequent years in which a natural event, such as an ice storm, or act of terrorism creates a catastrophic disruption to the power grid), emissions compliance, five year WIDNR re-permitting process, and other factors related to generator operation. If Dane County or any area containing the City of Fitchburg becomes an ozone non-attainment area, or any other special air quality designation, then MGE shall consider these generators in its compliance plan and make any necessary adjustments in the operating plan necessary to comply with changes in air quality designation. In addition to the above, the Plan of Operation shall be reviewed and modified as necessary every five years, from the date of approval of the Plan of Operation. The City Plan Commission shall reserve the right to review and approve the plan, or ask for modifications to the Plan of Operation. However, nothing herein contained shall prevent the City in having a dialogue with MGE to resolve any complaints that may be received.

d. The generators shall comply with the sound standards specified in Table A-1 of this Application.

e. In order to help attenuate sound from the generators, if necessary to meet applicable sound standards, MGE may install landscaping (such as trees or swales) and/or construct a building or surround wall for the sole purpose of totally or partially enclosing the New Generators and the Existing Approved Generators.

f. MGE shall be able to install the Existing Approved Generators and New Generators on a schedule that reasonably corresponds to OneNeck's schedule for the development and construction of the new data center.

g. MGE shall obtain and maintain all applicable federal, state, and local approvals and permits necessary to install, maintain, and operate the generators.

h. The total number of generators (Existing Approved Generators and New Generators) located on the Proposed New Lot shall not exceed thirteen (13) generators. The conditional use permit must be amended if more than thirteen (13) generators will be installed.

L:\DOCS\000003\009172\AGREE\3D61258.DOCX
0519171105

3. General Standards. The City Plan Commission should find that, given the proposed conditions, the proposed conditional use fulfills the general standards specified in Section 22-640(c) of the Zoning Code.

(1) **“That the establishment, maintenance, or operation of the conditional use will not be detrimental to or endanger the public health, safety, morals, comfort or general welfare.”** This standard is fulfilled because: (1) MGE will be required to obtain all necessary permits and approvals, and to install, operate, and maintain the generators in compliance with all applicable, federal, state, and local laws, statutes, and regulations; (2) the generators will be required to meet specific sound standards; (3) the proposed use is compatible with the commercial use of the property immediately adjacent to and near the combined new lots; (4) the total number of generators is limited to the number reasonably necessary to meet OneNeck’s anticipated data center needs; and (5) the generators will be operated pursuant to an operational plan approved by the Plan Commission.

(2) **“That the conditional use will not be injurious to the use and enjoyment of other property in the immediate vicinity for the purposes already permitted, nor substantially diminish and impair property values within the neighborhood.”** This standard is fulfilled because: (1) MGE will be required to obtain all necessary permits and approvals, and to install, operate, and maintain the generators in compliance with all applicable, federal, state, and local laws, statutes, and regulations; (2) the generators will be required to meet specific sound standards; (3) the proposed use is compatible with the commercial use of the property immediately adjacent to and near the new combined lots; and (4) the total number of generators is limited to the number reasonably necessary to meet OneNeck’s data center needs; and (5) the generators will be operated pursuant to an operational plan approved by the Plan Commission. Additionally, the proposed use enhances the commercial nature of the neighborhood by allowing OneNeck to expand and use vacant property that is appropriate for commercial use. Finally, property values within the neighborhood will not be substantially diminished or impaired because of the sound standards and operational plan requirements.

(3) **“That the establishment of the conditional use will not impede the normal and orderly development and improvement of the surrounding property for uses permitted in the district.”** This standard is fulfilled because properties adjacent to and near the Proposed New Lot have been, or are intended to be, developed for commercial uses.

(4) **“That adequate utilities, access road, drainage and/or necessary facilities have been or are being provided.”** This standard is fulfilled because the Proposed New Lot is served by existing electric, gas, water, and sewer

L:\DOCS\000003\009172\AGREE\3D61258.DOCX
0519171105

facilities. The generators will not result in an appreciable increase in the type or amount of traffic on public streets. The generators will not significantly change drainage in the area.

(5) **“That adequate measures have been or will be taken to provide ingress and egress so designed as to minimize traffic congestion in the public streets.”** This standard is fulfilled because ingress and egress to the generators will be over property owned by OneNeck. The generators will not result in an appreciable increase in the type or amount of traffic on public streets.

(6) **“That the conditional use shall, in all other respects, conform to the applicable regulations of the district in which it is located.”** This standard is fulfilled because MGE will be required to obtain all necessary permits and approvals, and to install, operate, and maintain the generators in compliance with all applicable, federal, state, and local laws, statutes, and regulations.

Attachments:

Attachment A – 2007 Ordinance

Attachment B – Plan of Operation

Attachment C – 2011 Ordinances

Exhibit 1 – Intended Expansion Area Site Diagram

L:\DOCS\000003\009172\AGREE\3D61258.DOCX
0519171105

ATTACHMENT A

2007 Ordinance

COPY
Signed and
notarized

Ordinance No. 2007-O-08
Amending Planned Development District
General Implementation Plan and
Issuing Planned Development District
Specific Implementation Plan for
Office Building and Data Center.

Return to: City Clerk
5520 Lacy Road
Fitchburg, WI 52711
Parcel No.: 06091524312
06091524323
06091524334

Legal Description: Lots 22, 23 & 24 First Addition to Fitchburg Technology Campus

Plan Commission
Initiated By

Thomas D. Hovel
Drafted By

3/13/2007
Date

ORDINANCE NO. 2007-O-08
ZONING ORDINANCE AMENDMENT
AMENDING GENERAL IMPLEMENTATION PLAN and ISSUING SPECIFIC
IMPLEMENTATION PLAN FOR ALL or PARTS OF LOTS 22, 23, & 24 FIRST
ADDITION TO FITCHBURG TECHNOLOGY CAMPUS,

WHEREAS, pursuant to Fitchburg Ordinance No. 87-0-06, Section 3, Zoning District Maps were adopted within the corporate limits of the City of Fitchburg until expressly altered by the City Council, and

WHEREAS, Fitchburg Technology Campus LLC has submitted an application (RZ-1650-07) to amend the Planned Development District General Implementation Plan (PDD-GIP) and to issue Planned Development District Specific Implementation Plan (PDD-SIP) for all or parts of lots 22, 23, and 24 First Addition to Fitchburg Technology Campus to allow an office building and a data center, and

WHEREAS, this proposal (RZ-1650-07) requests an office building of approximately 43952 sq ft on one lot, and a data center on another lot to be constructed in up to three phases totaling approximately 51543 sq ft., and

WHEREAS, the Plan Commission considered the request to grant PDD-GIP zoning and issue the SIP on 3/20/2007, has reviewed the application according to the standards outlined in

the ordinance, and has determined that the request, in conjunction with the proposed conditions, meets said criteria, and the Plan Commission has recommended approval, with conditions.

NOW THEREFORE the Common Council of the City of Fitchburg, Dane County, Wisconsin does ordain that:

(A) PDD-GIP zoning, originally approved by Ordinance 2002-O-26 is hereby amended in accord with the submitted information dated 03/06/2007, letter of 3/12/2007 requesting amendments to the PDD-GIP, letter of 3/16/2007 and attachments for MGE, Cummins letter of 3/19/2007, and Cowan memorandum of 3/19/2007; (Note: Certified Survey Map request CS-1651-07, proposed CSM, is referred to in parts of this approval, but is subject to a separate approval.) subject to the following conditions:

1. Parking stalls for the data center parcel (lot 2 of the proposed CSM), as identified in the letter of 3/12/2007 is six total stalls. If there is a change in use of all or part of this site, then stalls shall be provided in accord with the 3.0 to 4.0 per 1,000 sq ft standard in place at the creation of the original General Implementation Plan which was approved by Ordinance 2002-O-26. The six stall requirement is only for the data center, and its additional two phases as identified in the submitted plans.

2. Lot 2 is hereby approved to have a one story structure, and lots 1 and 2 are hereby approved to be treated together as to Impervious Surface Ratio and Floor Area Ratio.

Lot	FAR	ISR
1	.364	.722
2	.293	.509
Combined	.322	.595

Applicant shall record restrictions on lots 1 and 2, and make clear to all potential lot purchasers and users that the impervious surface ratio is combined for both lots (proposed CSM lots 1 and 2) and no additional development is permissible in order to remain below the 60% maximum impervious surface level. A related open space ratio of .278 for lot 1 and .491 shall be established for proposed lots 1 and 2, respectively.

3. Applicant shall record, after this City approval, a restriction noting that the property lines associated with lots 1, 2 and 3 of the proposed CSM may have sound levels exceeding 65dB.

4. Applicants shall provide for the City approval, and then execute and record, a storm water maintenance agreement for the infiltration basins and private storm water facilities for lots 1 and 2 of the proposed CSM. Easements shall be put in place as necessary to accommodate the joint storm water system(s) proposed to serve proposed lots 1 and 2.

(B) PDD-SIP zoning is granted for lots 1 and 2 of the proposed Certified Survey Map, CS-1651-07, which is mainly, but not fully lots 23 and 24 of the First Addition to the Fitchburg Technology Campus, subject to the following conditions:

1. No other permit or approval is waived or deemed satisfied except for the approvals herein conditionally granted. Lot 1 of the proposed CSM is for an office building of approximately 43,252 total sq ft on two levels and 143 parking stalls. Lot 2 of the proposed CSM is for a data center (to be constructed in up to three phases), a NOC (operations center) and chiller buildings at an approximate total square footage of 51,543.

F:\DEPTMNTS\COUNCIL\LD\refnce\007\007-O-08.doc

2. Approval is based on the submitted plans except as may be amended by the conditions that are placed by this action or under architectural and design review. Submitted plans and documents include the following: (A) Plans for the project dated 03/06/2007. (B) Information submitted with the application which includes: (a) Cover letter of 2/20/2007; (b) Environmental Sound Analysis dated 2/6/2007; (c) Memorandum from Hankard Environmental dated 2/20/2007. (d) 3/16/2007 letter from MGE and related attachments, (d) Cummins letter of 3/19/2007, and (e) Cowen memorandum of 3/19/2007.
3. Generators for the data center, to be located on lot 2 of the proposed CSM, if used at any time to feed into the electrical power grid, (that is not solely used for backup generation purposes), shall meet or exceed all air quality regulations that are in place by either the Wisconsin Department of Natural Resources (WDNR), federal government or other government agency. Madison Gas and Electric (MGE) or their assign, shall use the model specified by WDNR (currently AERMOD) in determining that National Ambient Air Quality Standards are met, and shall provide a letter or permit issued by the air quality section of the WDNR that the generators, or combination of generators meets such National Ambient Air Quality Standards. The permit or letter shall be provided to the City Planning office prior to use of any generator(s) for non-building backup generation. The data center anticipates three (3) generators with phase 1, five (5) additional generators with phase 2, and an additional five (5) generators with phase 3 for a total of thirteen (13) generators. In no case shall the number of generators exceed 13 nor shall any one generator exceed a rating of 1500 Kw standby (with a rating of 1250 Kw prime) in size. A new letter or permit shall be required to show that the modeling and any and all applicable WDNR and/or federal regulations will be met for each phase of the project, therefore separate modeling is required for each phase, and the modeling shall also use the current generator(s) or other air permit sources in place on site or in the general vicinity. General vicinity shall be determined by WDNR in accord with standard rules of procedure for air quality analysis. If units are exchanged or replaced new modeling may be required. In no case shall any generator exhaust stack elevation be greater than the elevation at the top of the mechanical penthouse.
4. MGE shall prepare a plan of operation, for review and approval by the City Plan Commission. A revised plan shall be submitted prior to each phase of the data center. Such approval shall not be unreasonably withheld. For phase 1, the plan shall be approved prior to the generators being used for MGE grid operation, although the generators may be in place and used for building back up generation. For the two additional phases the revised plan shall be approved prior to any permit being issued to allow building construction for that phase. The plan of operation shall fully describe the expected timing, number, and operation of the generators, overall expected hours of operation in both normal years and catastrophic year (catastrophic is those infrequent years in which a natural event, such as an ice storm, or act of terrorism creates a catastrophic disruption to the power grid), emissions compliance, procedure for annual certification of compliance, five year WDNR re-permitting process, and other factors related to generator operation. This is to assist MGE in meeting their statement that "MGE realizes the importance of addressing the concerns and needs of all parties and is committed to providing an acceptable and responsible option." (from undated information beginning with: "Subject: Response to question from Fitchburg Planning Staff on MGE operation of Back-Up Generator Service..."). Undated information (termed "Data Center Backup Generation and Use") supplied by Madison Gas and Electric indicates that the average annual hours of operation per generator is currently 17 hours annually. If Dane

F:\DEPTMNTS\COUNCIL\Ordinance\2007\2007-O-08.doc

L:\DOCS\000003\009172\AGREE\3D61258.DOCX
0519171105

County or any area containing the City of Fitchburg becomes an ozone regulation zone or any other special air quality designation, then MGE shall consider these generators in its compliance plan and make any necessary adjustments in the operating plan necessary to comply with changes in the air quality designation. In addition to the above, the plan of operation shall be reviewed and modified as necessary every five years, from the date of approval of the original operation plan. The City Plan Commission shall reserve the right to review and approve the plan, or ask for modifications to the plan of operation. However, nothing herein contained shall prevent the City in having a dialogue with MGE for MGE to resolve any complaints that may be received.

5. The overall General Implementation Plan requires that the full Fitchburg Technology Campus not exceed 697,347 sq ft of research use, and 324,586 of office uses. The data center's (to be located on proposed lot 2) 51,543 sq ft even though it is not a research use will, due to its low traffic generation expectations, be considered for overall square footage calculations a research use. The office building (to be considered on proposed lot 1) will tentatively have an allocation of 21,976 sq ft of office (proposed Berbee use) and 21,976 sq ft of potential future research in what is currently un-leased space. If research uses do not locate in the current un-leased space, then this space shall be calculated against the overall office calculation.
6. The air handlers and chillers shall be tested (and maintained) to assure that they meet the respective manufacturer specifications provided as a basis for the sound modeling in the Cowen memorandum of 3/19/2007. The applicant, or its assign, shall provide the testing by a recognized firm acceptable to the City Planning Staff. If the equipment does not meet manufacturer specifications, the applicant shall bring the equipment into compliance before being permitted to operate the equipment or facility. Applicant shall implement, and maintain, the measures for the air handlers and chillers in order to achieve sound attenuation as noted in the Cowan memorandum of 3/19/2007.
7. The proposed phase one generators (total of three) shall be tested (and maintained) to assure that they meet the MGE specified 60 dBA at 50 feet in any direction, under free field condition, from the source. The applicant, or its assign, shall provide the testing by a recognized firm acceptable to the City Planning Staff. If the equipment does not meet the MGE and manufacturer specifications (such as 60 dBA at 50' in any direction free field condition) the equipment shall be brought into compliance before being allowed to operate. The remaining ten generation units to be installed, beyond the first three for phase one, shall meet a 55dBA standard at 50' (free field condition) from the source.

(C) This approval shall not take effect until the certified survey map (CS-1651-07) is approved and recorded, and signatures provided on this document and the ordinance recorded, and published which ever occurs last. However, in accord with section 22.92 of the zoning code, the owner shall consent within 30 days of the date of adoption for the PDD-GIP and PDD-SIP zoning to take effect.

(D) Applicant shall pay cost of publication to avoid a two Council meeting approval process.

F:\DBPTMNTS\COUNCIL\Ordinances\2007\2007-O-08.doc

The above and foregoing ordinance was duly adopted by the Common Council of the City of Fitchburg, at a regular meeting held on the 27th day of March, 2007.

Tanya O'Malley
Tanya O'Malley, Acting City Clerk

Approved: 4-9-07

Thomas Clauder
Thomas Clauder, Mayor

STATE OF WISCONSIN)ss.
COUNTY OF DANE

Personally came before me this 9th day of April, 2007, the above named Tanya O'Malley, and Thomas Clauder to me known to be the Acting City Clerk and Mayor (respectively) of the City of Fitchburg, and the persons who executed the foregoing instrument and acknowledged the same.

Lisa M. Schulz
Notary Public, State of Wisconsin

Printed Name of Notary Public Lisa M Schulz
My Commission Expires: 4/26/2009

Consent of the Property Owner

[Signature] Date: 4-9-07

Personally came before me this 19th day of April, 2007, the above named

Scott E Kelly to me known to be President of Fitchburg

Technology Campus LLC and the person who executed the foregoing instrument and acknowledged the same.

Kaya Seidl
Notary Public, State of Wisconsin

Printed Name of Notary Public Kaya Seidl
My Commission Expires: 11-23-08

Consent of Mortgage Holder:
James H. Wagenbaur Date: 4/2/07
Mortgage Holder
Personally came before me this 20th day of April, 2007, the above named
James H. Wagenbaur to me known to be the President
of Paul Bank and the person who executed the foregoing instrument and
acknowledged the same.
Lori B. Mahon
Notary Public, State of Wisconsin
Printed Name of Notary Public Lori B. Mahon
My Commission Expires: 10-07-07

F:\DEPTMNTS\COUNCIL\Ordinance\2007\O-08.doc

ATTACHMENT B

Plan of Operation

**BACKUP GENERATOR PLAN OF OPERATION
FOR ONENECK DATA CENTER**

Prepared by: Madison Gas and Electric Company

Submitted to the City of Fitchburg Plan Commission
March 21, 2017

Date of Plan Commission Approval: March 21, 2017

Data Center Location: 5515 Nobel Drive, Fitchburg, Wisconsin
(Lot 23, First Addition to Fitchburg Technology Campus)

L:\DOCS\000003\009172\VAGREF3D61258.DOCX
0519171105

Table of Contents

1. Introduction.....	1
2. Description of the Backup Diesel Generator Operation and Use	1
2.1 Overview of Backup Generator Use for MGE.....	3
3. Expected Hours of Operation	6
4. Phase of Development Schedule.....	6
5. Air Pollution Control Operation Permit.....	7
6. Reporting Requirements	7
7. Compliance With Ambient Air Quality Standards	8
8. City of Fitchburg Plan Commission Review	9
9. Maintenance, Inspection, and Monitoring	10
9.1 Diesel Engine Generators	10
9.2 Exhaust Aftertreatment Systems	10
10. Submission and Signature Page	12
Appendix	
Form 1, Monthly Planned Maintenance Inspection for Generator Systems Form	
Form 2, Monthly Facility Inspection Checklist Form	
Form 3, Annual Planned Maintenance Inspection for Generator Systems Form	
Form 4, Generator Commissioning Form	
Form 5, Generator Remote Monitoring - Status and Alarm Points	

L:\DOCS\000003\009172\VAGREE\3D61258.DOCX
0519171105

1. Introduction

Madison Gas and Electric Company (MGE) has prepared this Plan of Operation (Plan) for the backup generators installed at the ONENECK (formerly Team Technologies) Data Center in Fitchburg, Wisconsin. This Plan is being submitted in accordance with City of Fitchburg Ordinance No. 2007-O-08 approved on April 19, 2007, and supplements the letter from John Drury to Tom Hovel, dated February 14, 2011.

The Plan addresses proposals that were submitted by MGE and ONENECK (formerly TEAM Technologies) and approved by the City of Fitchburg Plan Commission and Common Council for Phase I of the planned development. As additional phases of the Data Center are developed, MGE will revise this Plan to address the additional backup generators in Phases II and III of the planned development. This revision of the Plan incorporates changes regarding the addition of the Phase II generator to the facility.

2. Description of the Backup Diesel Generator Operation and Use

The diesel generators that were installed at the ONENECK Data Center are part of MGE's Backup Generator Service (BGS) program. These generators operate under a tariff rate on file with the Public Service Commission of Wisconsin (PSCW).

The BGS generators installed for Phase I of the Data Center include three Cummins-Onan 1,500-kilowatt (kW) (standby rating) diesel generators. The general specifications of these generators are summarized below.

-1-

L:\DOCS\000003\009172\AGREE\3D61258.DOCX
0519171105

14

Specifications for the Phase I Diesel Generators at the ONENECK Data Center

Manufacturer	Cummins-Onan Corporation
Model Number	1500DFLE
Generator Output	1,500 kW, 3-phase, 480 volts
Engine Manufacturer	Cummins
Engine Model No.	KTA50-G9
Engine Type	4-cycle, 16-cylinder diesel (compression ignition), turbocharged, and aftercooled
Engine Displacement	3,067 cubic inches
Engine Horsepower	2,220 (standby rating)
Fuel Type	ASTM D975 No. 2 distillate oil
Fuel Consumption	103.6 gallons per hour (maximum)
Emissions Control	Turbocharging, aftercooling, variable timing

MGE equipped each diesel generator with a Universal Acoustic & Emissions Technologies Diesel Oxidation Catalyst (DOC) system in February 2015. The DOC is a single-stage device comprised of one or more substrates coated with catalytic material which promotes oxidation of carbon monoxide, hydrocarbons, and particulate matter in the exhaust gas entering the DOC. The DOC was specifically designed to meet the National Emission Standards for Hazardous Air Pollutants (NESHAP) Reciprocating Internal Combustion Engine (RICE) requirements for stationary diesel engines.

The BGS generator proposed for Phase II of the Data Center includes one Cummins-Onan 1,500-kilowatt (kW) (standby rating) diesel generator. The general specifications for this generator are summarized below.

Specifications for the Phase II Diesel Generator at the ONENECK Data Center

Manufacturer	Cummins Inc.
Model Number	QSK50-G8
Generator Output	1,500 kW, 3-phase, 480 volts
Engine Manufacturer	Cummins Inc.
Engine Model No.....	QSK50-G8
Engine Type.....	4-cycle, 16-cylinder diesel
Engine Displacement	3,067 cubic inches
Engine Horsepower.....	2,220 (standby rating)
Fuel Type	ASTM D975 No. 2 distillate oil with USLD
Fuel Consumption.....	104.9 gallons per hour (maximum)
Emissions Control.....	Diesel Particulate Filter, Selective Catalytic Reduction
Emission Level.....	Tier 4 certified

The capacity of the generators is based on the engineering design and specification requirements of ONENECK. All of the generators in MGE's BGS program are permitted through the Wisconsin Department of Natural Resources (WDNR).

2.1 Overview of Backup Generator Use for MGE

MGE's BGS program is designed to meet the needs of customers with higher-than-average electric reliability requirements, and also to provide generating capacity to MGE's electric system for the benefit of all customers in emergency and critical situations. The generators at the ONENECK Data Center are 4 of approximately 55 generators currently in the MGE BGS fleet. These generators are located throughout MGE's electric service area and may be dispatched to address system reliability issues of the electric grid.

MGE operates the BGS generators for only two purposes: to maintain electric system reliability and for monthly scheduled generator maintenance and testing. The BGS fleet serves a crucial role in supporting electric system reliability for the greater Madison area in the event of disruptions in the power grid and regional power limitations. These situations can be caused by extreme weather, isolated storms, electrical equipment failures, power plant outages, and similar events.

This kind of system instability can be addressed by running the generation support from the BGS fleet. These types of events can happen very suddenly, at any time of day, and with little or no notice to the customer. In the event of a catastrophic situation affecting the power grid, such as an ice storm, tornado, act of vandalism, or similar event, the generators could run up to the maximum allowable use under the WDNR-issued operation permits for the generators. This catastrophic type of event is extremely rare and has not been seen in the 18 years the BGS program has been available.

MGE's preventative maintenance program and the WDNR's air permit compliance requirements call for the units to be started, tested, and inspected on a monthly basis. These monthly tests, performed during normal business hours by a qualified technician, require each generator to run for approximately one-half hour. The specified engine and generator readings are logged and recorded (see the attached inspection log). These regular tests and inspections are intended to ensure the units are operating properly, safely, and in conformance with emission limits.

The following table shows the nine-year history of operation for the Phase I units. The hours of operation are categorized as follows:

1. Customer Distribution Outage
2. Customer Request
3. System Reliability
4. Generator Maintenance and Testing

A majority of the run time is attributed to the purpose of required monthly maintenance and ensuring environmental permit compliance.

HISTORY OF OPERATION FOR PHASE I UNITS

Historical Run Time (Hours) -- DG43						
A	B	C	D	E	F	G
1	Year	Customer Distribution Outage	Customer Request	System Reliability	Testing and Maintenance	Total Hours
2	2008	-	-	-	13.02	13.02
3	2009	-	-	-	11.12	11.12
4	2010	-	-	2.05	8.43	10.48
5	2011	-	-	2.60	7.72	10.32
6	2012	12.67	-	3.22	12.48	28.37
7	2013	-	11.90	-	8.67	20.57
8	2014	-	7.87	2.10	13.51	23.48
9	2015	-	0.37	0.77	12.37	13.51
10	2016	5.02	-	1.75	8.38	15.15

Historical Run Time (Hours) -- DG44						
A	B	C	D	E	F	G
1	Year	Customer Distribution Outage	Customer Request	System Reliability	Testing and Maintenance	Total Hours
2	2008	-	-	-	10.52	10.52
3	2009	-	-	-	9.83	9.83
4	2010	-	-	2.05	8.50	10.55
5	2011	-	-	3.32	7.73	11.05
6	2012	12.67	-	3.22	12.61	28.50
7	2013	-	11.90	-	8.75	20.65
8	2014	-	7.87	2.10	13.20	23.17
9	2015	-	0.37	0.77	12.63	13.77
10	2016	5.02	-	1.75	8.40	15.17

Historical Run Time (Hours) -- DG45						
A	B	C	D	E	F	G
1	Year	Customer Distribution Outage	Customer Request	System Reliability	Testing and Maintenance	Total Hours
2	2008	-	-	-	9.28	9.28
3	2009	-	-	-	9.08	9.08
4	2010	-	-	2.05	8.43	10.48
5	2011	-	-	3.32	7.71	11.03
6	2012	12.67	-	3.22	11.46	27.35
7	2013	-	11.92	-	8.60	20.52
8	2014	-	7.87	2.10	13.15	23.12
9	2015	-	0.37	0.77	12.68	13.82
10	2016	5.02	-	1.75	8.37	15.14

-5-

L:\DOCS\000003\009172\AGREE\3D61258.DOCX
0519171105

3. Expected Hours of Operation

The generator proposed for Phase II is expected to operate in a manner consistent with historic operation of the ONENECK Phase I generators. Participants at the Committee of the Whole meeting held at Berbee Corporation on February 7, 2007, requested the proposed Phase I generators be operated as a group when dispatched for support of the electric grid. MGE will continue to operate and test the units as one group, but reserves the right to operate them separately for troubleshooting purposes.

MGE expects to operate the proposed Phase II generator in a manner consistent with its experience in running the Phase I units at the facility. In other words, MGE expects to run the unit approximately 11 hours per year for maintenance and compliance testing and 22 hours for reliability purposes. However, it is important to note these predictions are based on the average of the last nine years in which no major system disruptions or other significant system instability occurred.

4. Phase of Development Schedule

The following table contains the anticipated number of backup generators to be installed by phase of development and/or data center power need, generator output ratings, and sound rating specifications.

	Phase I	Phase II	Phase III
Number of Generators	3 Generators	1 Generator	3 Generators
Rated Output	1,500 KW Standby (1,250 KW Prime)	1,500 KW Standby (1,250 KW Prime)	1,500 KW Standby (1,250 KW Prime)
Sound Rating	60 dBa at 50 Feet	55 dBa at 50 Feet	55 dBa at 50 Feet

Note: Originally 13 units were proposed for all three phases of Data Center construction. ONENECK changed the TIER rating of the Data Center from a Tier IV to a Tier III, requiring only seven backup generators for all three phases.

5. Air Pollution Control Operation Permit

The WDNR issues Air Pollution Control Operation Permits for sources of air pollution, as required by Chapter NR 407, Wisconsin Administrative Code, and Title V of the Clean Air Act. The diesel generators located at ONENECK are permitted as non-Part 70 synthetic minor sources under the WDNR's air permit programs in 407, Wisconsin Administrative Code. In accordance with NR 407.09(1)(b)2., the term of an operation permit is five years. Under ss.285.66(3)(a), Wis. Stats., and NR 407.04(2), Wisconsin Administrative Code, a renewal application must be submitted at least six months but not more than 18 months prior to the expiration date of the current permit. A source may not operate after an operation permit expires unless a timely and complete application for renewal of the operation permit has been submitted to the WDNR.

The three Phase I generators are considered existing non-emergency compression ignition generators under 40 CFR 63, Subpart ZZZZ, because each generator was manufactured and installed prior to June 12, 2006, is diesel fuel fired, and is not going to be operated as a limited-use or emergency generator as defined in 40 CFR 63, Subpart ZZZZ. Applicable requirements under 40 CFR 63, Subpart ZZZZ, are incorporated into the operation permit.

These generators are minor sources under the WDNR's Prevention of Significant Deterioration (PSD) program in NR 405, Wisconsin Administrative Code, and are not subject to the nonattainment area New Source Review (NSR) programs in NR 405, Wisconsin Administrative Code.

6. Reporting Requirements

MGE must periodically prepare written compliance reports in accordance with the terms in the operation permit NR 439.03(1)(c), Wisconsin Administrative Code, which requires that after an operation permit has been issued, the responsible official for the source shall certify the source's compliance status with the operation permit at least annually.

-7-

L:\DOCS\000003\009172\AGREE3D61258.DOCX
0519171105

20

L:\DOCS\000003\009172\DOCS\3FZ1862.DOCX
0306181614

26

NR 439.08 requires the certification of compliance must include the following information:

1. Identification of each permit term or condition.
2. The compliance status with respect to each term or condition.
3. Information on whether compliance was continuous or intermittent.
4. The methods used for determining the compliance status.

All certifications must be submitted to the WDNR, and each report must be certified by a responsible official as to its truth, accuracy, and completeness. The responsible official is required to sign the certification of compliance with the following statement:

"Based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete."

City of Fitchburg Planning shall have access to appropriate records including the annual certification of compliance to assist in verifying compliance with the air pollution control permits.

7. Compliance With Ambient Air Quality Standards

These diesel generators are permitted as transportable sources in the current operation permit. Transportable sources may be relocated within the state according to the requirements in NR 406.15, Wisconsin Administrative Code. To relocate these generators, MGE must provide written notice to the WDNR at least 20 days prior to the relocation. The notice must include a plot plan showing the layout of the site, location of buildings, other air emission sources, schools, residences, and public places in the vicinity of the proposed new site. This permit condition is required under s. 285.65(3), Wisconsin Statutes, and is necessary to provide the information needed for the WDNR to conduct a dispersion modeling analysis of the relocated unit.

-8-

L:\DOCS\000003\009172\AGREE\3D61258.DOCX
0519171105

21

L:\DOCS\000003\009172\DOCS\3FZ1862.DOCX
0306181614

27

The WDNR also requires permitted air emission sources to ensure their compliance with National Ambient Air Quality Standards (NAAQS). Sources which obtain individual permits must conduct a dispersion modeling analysis to demonstrate that emissions will not cause nor contribute to violations of any NAAQS or applicable PSD increment. WDNR performs the air quality analysis when proposing a general or registration permit. However, the source receiving such a permit may need to conduct its own dispersion modeling in some limited situations.

The Clean Air Act established NAAQS to protect, among other things, public health including the health of "sensitive" populations such as asthmatics, children, and the elderly. PSD increments have been set to prevent the deterioration of air quality in areas which are in attainment for the national standards. NAAQS have been set for carbon monoxide, nitrogen dioxide, particulate matter less than 2.5 microns, particulate matter less than 10 microns in size, sulfur dioxide, lead, and ozone. When required, WDNR staff generally direct that modeling analyses be conducted according to the U.S. Environmental Protection Agency's *Guideline on Air Quality Models* in 40 CFR Part 51, Appendix W, and the WDNR's *Dispersion Modeling Guidelines* (February 2007).

MGE will provide a copy of any dispersion modeling analysis associated with the air permits issued for the TEAM Technologies Data Center diesel generators to the City of Fitchburg to be included in the Plan. This analysis will serve as verification that MGE's generators will not cause nor contribute to an exceedance of any NAAQS or applicable PSD increment.

8. City of Fitchburg Plan Commission Review

MGE will submit for approval to the Plan Commission a revised plan of operation prior to each additional phase. Every five years, beginning from the date this Plan was approved, MGE will review this Plan and modify if necessary. At the five-year review, the Plan Commission reserves the right to review and approve the Plan.

9. Maintenance, Inspection, and Monitoring

MGE operates and maintains the diesel engine generators and associated pollution control equipment in a manner consistent with safety and good air pollution control practices for the purpose of minimizing emissions.

9.1 Diesel Engine Generators

The generators go through an in-depth commissioning and installation inspection upon completion of installation. The generators installed at the Data Center are included in MGE's monthly preventive maintenance and inspection program. A detailed inspection of the primary generator components is performed on an annual basis. Major engine tune-ups are performed every two years on the generators by the manufacturer.

The maintenance and inspections of the units are performed by the manufacturer's representatives to standards and schedules determined by the manufacturer and MGE. This work covers all components including the engine, generator, switches, fuel tanks, and the sound-attenuated enclosure.

Monitoring of several key status points on the generators is performed 24 hours per day, 365 days per year by MGE Systems Operations staff.

Regularly scheduled maintenance, inspections, and monitoring of the generator systems ensure the generators perform as designed, operate safely, and comply with diesel engine emissions regulations.

9.2 Exhaust Aftertreatment Systems

The Phase I generators utilize an oxidation catalyst aftertreatment system to reduce emissions. The catalyst should not require regular maintenance if the exhaust gas remains clean of elements that can potentially block the catalyst face or mask the catalyst material. Both face-blocking and masking can result in decreased emission reduction performance and an increase in backpressure. The

catalyst will be removed and cleaned if the pressure drop across the catalyst increases by more than 2 inches of water from the baseline differential pressure value.

The Phase II generator aftertreatment system utilizes selective catalytic reduction (SCR) technology and a diesel particulate filter to reduce emissions from the Phase II generator. MGE will follow the maintenance schedule recommended by the manufacturer in the Exhaust Aftertreatment System Owner's Manual. The schedule identifies preventative maintenance activities recommended to ensure optimum performance of the system.

The aftertreatment systems are continuously monitored to ensure proper operation. If a fault condition is detected, the system is configured to alert the MGE Systems Operation Center (SOC) operator of the event. The SOC operator will follow the established alarm response protocol as dictated by the fault condition.

The maintenance, inspections, monitoring, and commissioning activities are documented on the following forms.

Form 1, Monthly Planned Maintenance Inspection for Generator Systems Form
Form 2, Monthly Facility Inspection Checklist Form
Form 3, Annual Planned Maintenance Inspection for Generator Systems Form
Form 4, Generator Commissioning Form
Form 5, Generator Remote Monitoring - Status and Alarm Points

10. Submission and Signature Page

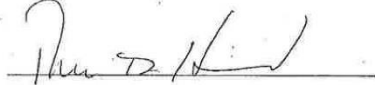
The Operating Plan is submitted by:



Donald D. Peterson, P.E.
Assistant Vice President - Strategic Products and Services

4-26-17
Date

Approved by the City of Fitchburg:



Signature

4/28/17
Date

ATTACHMENT C

2011 Ordinances

Plan Commission
Initiated by

Planning/Zoning
Drafted by

Plan Commission
Referred to

June 21, 2011
Date

**ORDINANCE NO. 2011-O-14
ZONING ORDINANCE AMENDMENT
APPROVING REZONING REQUEST RZ-1900-11 FOR LOT 3 CSM 12188**

WHEREAS, pursuant to Fitchburg Ordinance No. 87-0-06, Section 3, Zoning District Maps were adopted within the corporate limits of the City of Fitchburg until expressly altered by the City Council, and

WHEREAS, the Plan Commission of the City has recommended approval of the rezoning request RZ-1900-11, submitted by Chris Armstrong, Agent for Tech Lands LLC, with conditions, following a public hearing held on June 21, 2011, and

NOW THEREFORE the Common Council of the City of Fitchburg, Dane County, Wisconsin does ordain that:

- (1) The Zoning district maps of the City of Fitchburg shall be amended to include in the I-S (Specialized Industrial) District property fully described as:

Lot 3, Certified Survey Map Number 12188, as recorded in Volume 75 of Certified Survey Maps, on Pages 168-170, as Document Number 4328586, Dane County Registry, located in the Southwest Quarter (SW ¼) of the Northwest Quarter (NW ¼) of Section 15, Township 06 North, Range 09 East, City of Fitchburg, Dane County, Wisconsin. Containing 152,721 square feet or 3.506 acres more or less.

- (2) No other permit or approval is waived or deemed satisfied except for the approval herein provided.
- (3) Sound from the mechanical equipment serving each building, excluding backup generators, as defined in point #6, shall not exceed 42.5 dBA at the Quarry Hill property line using free-field calculations, to be developed in cooperation with the developer, Quarry Hill Neighborhood Association, and the City, to be administered by the City and incorporated into the agreement.
- (4) The developer may, at the developer's expense, hire a sound consultant to utilize more in-depth acoustic analysis than that employed by the City (e.g., to model sound walls or other sound reduction techniques) so that sound shall not exceed 42.5 dBA at the Quarry Hill property line. A compliance test is required, at developer expense.

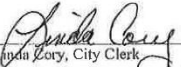
L:\DOCS\000003\009172\AGREE\3D61258.DOCX
0519171105

(5) Telecom (data centers) shall meet the same sound criteria as the TEAM Data Center approved by the City in 2007. Electric grid backup generators are permitted if they satisfy the criteria below. A sound analysis and compliance test are required, at developer expense.

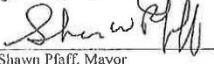
- 39 dBA for combined sound from generators and HVAC
- 35 dBA for HVAC only
- 41 dB at 125 Hz for HVAC only
- 52 dB at 125 Hz for combined sound from generators and HVAC

(6) Each building may have a single backup generator as permitted use as long as it is not connected to the utility electric grid.

The above and foregoing ordinance was duly adopted by the Common Council of the City of Fitchburg, at a regular meeting held on the 28th day of June, 2011.


Linda Cory, City Clerk

Approved: *July 5, 2011*


Shawn Pfaff, Mayor

Plan Commission
Initiated by

Planning/Zoning
Drafted by

March 14, 2011
Date

*1/10/11
Wanda Lee
5/14/11*

ORDINANCE NO. 2011-O-08
ZONING ORDINANCE AMENDMENT
APPROVING REZONING PORTION OF RZ/CU-1891-11 FOR A PORTION OF
OUTLOT 7 FITCHBURG TECHNOLOGY CAMPUS - FIRST ADDITION

WHEREAS, pursuant to Fitchburg Ordinance No. 87-0-06, Section 3, Zoning District Maps were adopted within the corporate limits of the City of Fitchburg until expressly altered by the City Council, and

WHEREAS, the Plan Commission of the City has recommended approval of the rezoning portion of request RZ/CU-1891-11, submitted by Chris Armstrong, agent for Tech Lands LLC, with conditions, following a public hearing held on March 15, 2011

NOW THEREFORE the Common Council of the City of Fitchburg, Dane County, Wisconsin does ordain that:

- (1) The Zoning district maps of the City of Fitchburg shall be amended to include in the I-S (Specialized Industrial) District property fully described as:

Part of Outlot 7, First Addition to Fitchburg Technology Campus, as recorded in Volume 58-025A of Plats on Pages 135-139, as Document Number 3708613, Dane County Registry, located in the SE ¼ of the NW ¼ and the SW ¼ of the NE ¼ of Section 15, Township 06 North, Range 09 East, City of Fitchburg, Dane County, Wisconsin, described as follows:
Commencing at the West quarter corner of said Section 15; thence N87°05'21"E along the south line of the NW ¼ of said Section 15, 1330.53 feet to the southwest corner of said Outlot 7 and the Point of Beginning; thence N00°06'12"E along the west line of said Outlot 7, 777.62 feet to the southeast corner of Lot 21, First Addition to Fitchburg Technology Campus; thence N57°31'51"E, 168.20 feet; thence N33°11'35"W, 258.19 feet to the west line of said Outlot 7 and the most southerly corner of Outlot 3, Fitchburg Technology Campus as recorded in Volume 58-011A of Plats, on Pages 58-61, as Document Number 3627922, Dane County Registry; thence N00°06'12"E along the west line of said Outlot 7, 242.50 feet to the northwest corner thereof; thence N86°59'36"E along the north line of said Outlot 7, 337.04 feet; thence S05°26'04"E, 75.07 feet; thence N86°59'36"E, 195.96 feet to a point of non-tangential curvature; thence Southeasterly, 83.67 feet along the arc of a curve to the left, having a radius of 100.00 feet and a long chord bearing S69°02'18"E, 81.25 feet to the point of tangency thereof; thence N86°59'36"E, 537.57 feet; thence S00°13'52"W, 426.62 feet; thence S89°46'08"E, 334.77 feet; thence N00°13'52"E, 154.60 feet to the northerly line of said Outlot 7; thence N86°59'37"E along said northerly line of Outlot 7, 467.81 feet to a northeasterly corner thereof; thence S00°11'05"W along the east line of said Outlot 7, 935.06 feet to the southeast corner thereof; thence S87°29'05"W along the south line of said Outlot 7, 624.85 feet; thence S87°05'21"W along the south line of said Outlot 7, 1329.75 feet to the southwest corner thereof and the Point of Beginning.
Said parcel contains 2,124,506 square feet or 48.77 acres more or less.


L:\DOCS\000003\009172\AGREE\3D61258.DOCX
0519171105

- (2) No other permit or approval is waived or deemed satisfied except for the approval herein provided.
- (3) Sound from the mechanical equipment serving each building, excluding backup generators, as defined in point #7, shall not exceed 42.5 dBA at the Quarry Hill property line using free-field calculations, to be developed in cooperation with the developer, Quarry Hill Neighborhood Association, and the City, to be administered by the City and incorporated into the agreement.
- (4) The developer may, at the developer's expense, hire a sound consultant to utilize more in-depth acoustic analysis than that employed by the City (e.g., to model sound walls or other sound reduction techniques) so that sound shall not exceed 42.5 dBA at the Quarry Hill property line. A compliance test is required, at developer expense.
- (5) Telecom (data centers) shall meet the same sound criteria as the TEAM Data Center approved by the City in 2007. Electric grid backup generators are permitted if they satisfy the criteria below. A sound analysis and compliance test are required, at developer expense.
 - 39 dBA for combined sound from generators and HVAC
 - 35 dBA for HVAC only
 - 41 dB at 125 Hz for HVAC only
 - 52 dB at 125 Hz for combined sound from generators and HVAC
- (6) Telecom (data centers) and Pilot plats are conditional uses on the north side of Nobel Drive.
- (7) Each building may have a single backup generator as permitted use as long as it is not connected to the utility electric grid.
- (8) This rezone shall take effect upon passage of the City of Fitchburg Farmland Preservation Plan by the Dane County Board, or city publication, whichever occurs last, unless the developer opts to pay the conversion fee in which case it shall be paid within 60 days of Council approval, although the zoning shall not take effect unless the conversion fee is paid.

The above and foregoing ordinance was duly adopted by the Common Council of the City of Fitchburg, at a regular meeting held on the 22nd day of March, 2011.


Linda Zory, City Clerk

Published: March 29, 2011


Jay Allen, Mayor

ATTACHMENT 2 SOUND ANALYSIS



TECHNICAL MEMORANDUM

Title: Sound Emissions Analysis

Project: OneNeck Data Center Expansion, New EDG

Test Location: Fitchburg, WI

Prepared For: Madison Gas and Electric Company

Prepared By: David M. Hessler, P.E., INCE

Revision: A

Issue Date: 8/14/17

Reference No: TM-2060-072417-A

Attachments: **Plot 1** Sound Contour Map of Facility with Additional Gen Set
Table T-2060-060917-B Source Sound Power Level Derivations

1.0 Introduction

A noise model of the OneNeck Data Center in Fitchburg, WI has been developed to evaluate the future sound emissions of the facility at the nearest potentially sensitive noise receptors after the addition of one new emergency diesel generator unit, which is associated with a planned expansion of the facility. Due to concerns about possible community noise impacts, the sound emissions from the expansion project at the nearest neighbors have been severely restricted by the City of Fitchburg. In order to accurately determine whether the applicable, rather demanding limits will be met, a special factory shop test was carried out to measure the actual sound emissions from new low noise generator package prior to it being shipped to the site. The measured sound power level of this unit was then used as the input to a noise model of the data center, which calculates the far field sound emissions from the new unit along with the existing cooling towers on the roof of the facility.

In general, the modeling indicates that the new engine package is sufficiently quiet that the City noise limits will be met with a significant safety margin at all design points.



2.0 Permissible Community Sound Levels

It is our understanding that the sound emissions associated with the OneNeck Data Center expansion project are limited by the City of Fitchburg as a condition of the permit to no more than an overall sound level of 37 dBA at the nearest residences and that the sound emissions from the project are also limited to no more than 52 dB in the 125 Hz full octave band. This latter limit is aimed at minimizing the perceptibility of the diesel engine firing frequency tone, which normally occurs at or near this frequency.

3.0 Modeling Methodology

The plant has been modeled in three dimensions using the Cadna/A[®] software program, which was developed specifically for power generation and industrial applications. Once the physical structures of the facility are created, the model is populated with noise sources, represented as points, areas or lines as appropriate. The sound pressure level at any point of interest is calculated from the sum of all individual sources in strict accordance with ISO 9613-2 *Acoustics – Attenuation of sound during propagation outdoors*. A mid-range ground absorption coefficient, A_g , of 0.5 has been assumed for the entire model space.

Much more important than the modeling software, however, are the source input levels. In this case, the sound power level of new diesel generator was obtained through direct field measurements of the unit, which was tested at the factory in March and June of this year. The first test in March, which was witnessed by a representative from the City of Fitchburg, showed that the design had serious shortcomings and was generating unacceptable sound levels well in excess of the 55 dBA at 50 ft. target performance. Following this test substantial modifications were made to the unit to enclose the exposed exhaust piping and SCR's on top of the unit for noise containment purposes. Once this modification was completed the unit was retested and exhibited dramatically better performance not only in terms of its overall sound pressure level at 50 ft. (58 dBA) but also in terms of its firing frequency noise at 125 Hz, which was substantially reduced to the point where it would not qualify as a prominent discrete tone per ISO 1996-2¹ even at the relatively short distance of 50 ft. Since tones become rapidly less pronounced and less audible with distance, one would expect this sound to be insignificant in terms of potential community disturbance at the receptor distances of relevance to the Fitchburg site, which at a minimum are on the order of 800 to 1200 feet.

With specific regard to the expansion project, the only other sources of any potential far field significance within the facility as a whole are the five existing cooling towers on the roof of the data center. Other air handling equipment is either inside the building or produces negligible sound emissions. Measurements were taken of the cooling tower inlet and fan exhaust sound levels and

¹ ISO 1996-2:2017(E), *Acoustics – Description, measurement and assessment of environmental noise - Part 2 Determination of sound pressure levels*, Annex K, *Objective method for assessing the audibility of tones in noise – Survey method*, 2017.



developed into sound power level inputs for the model. There is a visual screen of louvers on the parapet immediately to the west of these towers but, because it has no acoustical effect, it has been omitted from the noise model.

The derivations of all input sound power levels are shown in **Table T-2060-060917-B** (attached).

4.0 Modeling Results

The sound emissions within the site environs out to the nearest houses - with the new diesel generator operating at full load along with all five of the existing cooling towers - are illustrated in **Plot 1**. A 3-D view of the model space is shown in the upper left corner. The sound contours are taken out only as far as 45 dBA essentially because that's roughly the point in this kind of semi-urban environment where facility noise could be expected to largely fade into the background and become insignificant. The nearest potentially sensitive residential areas are indicated as Design Points 1 and 2, to the west and north of the site, respectively. The specific model results at these locations relative to the City noise limits are summarized in the table below.

Table 4.0.1
Expected Sound Levels from the Expansion Project Relative to City Noise Limits

Location	Expected Overall Facility Sound Level, dBA	City of Fitchburg Limit, dBA	Expected Facility Sound Level at 125 Hz, dB	City of Fitchburg Limit at 125 Hz, dB
DP-1 Nearest Homes to the West	34	37	39	52
DP-2 Nearest Homes to the North	30		37	

These results indicate that the facility will comply with the City noise restrictions with a significant margin of safety. It is important to note that the modeled scenario does not represent the normal day to day operating mode of the facility and this unit will only be run for brief periods during the day for monthly exercise/testing or when an actual emergency occurs and the electric grid in the entire area is down.

5.0 Conclusions

A detailed noise model of the OneNeck Data Center Expansion Project has been developed using first-hand measurements of the all the relevant noise sources as inputs. In particular, the first low noise diesel generator package to be built for the project has been field tested at the factory. This testing at first identified significant shortcomings in the design, which led to modifications. Subsequent testing indicated that these modifications were highly effective and that the sound



Hessler Associates, Inc.
WORLDWIDE CONSULTING IN ENGINEERING ACOUSTICS

emissions from this and potential future units will be appropriate to the project circumstances. Noise modeling shows that the City of Fitchburg noise limits that have been incorporated in the project permit will be met when the new unit is running at 100% load. During normal circumstances, this unit will not be operating at all. Generator noise will only be present during brief monthly test runs or when electric power is lost to the entire area. Consequently, we would anticipate no adverse community noise impact from the project.