DUFFIELD ASSOCIATES

CONSTRUCTION PHASING ADDENDUM TO AIR QUALITY CONSTRUCTION PERMIT APPLICATION FOR THE WOLF TECHNOLOGY CENTER 1

SCIENCE, TECHNOLOGY, AND ADVANCED RESEARCH CAMPUS NEWARK, DELAWARE

February 2014

Prepared for:

State of Delaware
Department of Natural Resources
and Environmental Control
Division of Air Quality
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On behalf of:

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Prepared by:

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Project No. 8718.CI

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I. INTRODUCTION

This document is an addendum to The Data Centers, LLC's (TDC's) Air Quality Construction Permit Application, dated November 2013, submitted to the State of Delaware, Department of Natural Resources and Environmental Control (DNREC) – Division of Air Quality. As submitted, the Air Quality Construction Permit Application provided details regarding sources of air emissions that will be present at the TDC's facility at the end of construction. On January 17, 2014, TDC received a zoning verification letter for the proposed project from the City of Newark (Zoning Verification). A copy of the Zoning Verification is provided in Appendix A. The Zoning Verification included tables prepared by TDC outlining the phased development of the facility. The tables provided estimates of the sequential growth of facility electricity loads and the sequential installation of electricity generating equipment to meet the growing electricity loads. This addendum provides an explanation of the phased growth of electricity load and generating capacity as illustrated in those tables.

The Zoning Verification also limits the electrical power that the facility is authorized to sell to the public power grid. Per the Zoning Verification, "for sale of the power from the CHP [Combined Heat & Power] to remain incidental and subordinate to the primary use (i.e., the Data Center), the sale of power cannot exceed 30% of the total amount of power needed to operate the Data Center." The necessary power to operate the Data Center was defined as: the IT critical load, the ancillary loads (loads of the physical facility), and the redundant power produced by equipment operated to maintain reliability. The term applied to the necessary power load was "Operating Capacity Required (N+2)." The City's letter further limits the amount of power that can be sold during Phase I of project build-out, defined as construction and equipping of the first data storage building (Module I), to 45 megawatts (MW) and during Phase II, defined as construction and equipping of the second data storage building (Module II), to 71 MW. A contingency was provided whereby the public power grid could request additional power to help them address emergencies.

II. BACKGROUND INFORMATION

As the Air Quality Construction Permit Application details, the CHP will produce electrical power for the facility through a combination of natural gas-fired combustion turbines, reciprocating gas engines, and steam turbines, when completed. Heat generated by fuel combustion in the gas turbines and the gas engines will be converted to steam using heat recovery steam generators (HRSGs). The energy available in the steam will be used to cool the data storage equipment, condition gas turbine inlet air as needed to maintain combustion efficiency, as well as produce electricity in the before mentioned steam turbines.

III. ELECTRICITY DEMAND AND GROWTH

Installation and operation of power generating equipment will be phased and linked to growth of facility electricity loads as illustrated in the tables attached to the Zoning Verification. The facility is planned to be developed in two phases. Each phase is based on construction and build-out of a data storage module. In the context of the project, a module is a large, three story building designed to house 12 data storage pods (pods) and supporting equipment within the second and the third stories of a module. There will be six pods per story.

Initially (Phase I, initial build), the pods are anticipated to each have an IT critical electricity load of approximately 3 MW. The IT loads of the six data pods within the second story are designed to grow incrementally as clients are obtained, up to a maximum of 7 MW per pod. Pods installed within the third story are forecast to remain at the initial 3 MW IT critical load. Based on these expectations, the IT critical load for the initial construction of Module I is forecast to be 36 MW (3 MW per pod times 12 pods). At full build-out, Module I is anticipated to have an IT critical load of 60 MW (six pods at 3 MW and six pods at 7 MW). In essence, the pattern of construction and increasing load development is anticipated to repeat during Phase II, which corresponds to construction of Module II. After full build-out of Module II, the IT critical electrical load for the entire facility is expected to be approximately 112 MW.

Commensurate with the growth in IT critical loads, ancillary loads will increase. These ancillary loads include non-IT electrical demands in the modules, the administration building, the CHP and other portions of the facility. The non-IT electrical loads in Modules I and II are estimated to grow proportionally with the growth of IT critical loads, as they are closely tied to cooling and support of the IT equipment. The CHP loads will grow in proportion to the installation of power producing equipment (gas turbines, gas engines, HRSG, and steam turbines), based on the use of electricity to run steam pumps, condensate pumps, cooling tower fans and similar pieces of equipment coupled to operation of the main power producing equipment. The initial ancillary load is forecast to be approximately 29.2 MW, based on the construction of the first module, the administration building and the CHP, with the CHP containing the power producing equipment noted in the tables. The ancillary load is anticipated to grow to approximately 46.4 MW at full build-out of Module I, and continue to increase through construction and build-out of Module II to 59.6 MW.

IV. SEQUENCE OF POWER GENERATING EQUIPMENT INSTALLATION

Electricity producing equipment will be installed to stay abreast of the growth in electricity load, while maintaining the 100% reliability criteria for the facility. As detailed in the Air Quality Construction Permit Application, the final configuration of the electricity producing equipment installed in the CHP will be seven natural gas-fired turbines coupled to electricity generators, three natural gas-fired reciprocating engines coupled to electricity generators, and three steam turbines coupled to electricity generators. As explained in the

application package, the critical power producing equipment, gas turbines and reciprocating engines, will be operated in an N+2+1 configuration, where N is the number of units required to meet operational power demands (electricity and cooling), "+2" connotes the two other power producing units operated to ensure reliability through redundancy in the event that one or two of the "N" units malfunction, and "+1" connotes a power producing unit held in reserve (normally not operating). The "+1" unit would be operated after an "N" or "+2" unit is taken off-line for maintenance or malfunctions. The tables attached to the Zoning Verification detail the sequence in which power producing equipment will be added to the CHP during facility development to meet electricity and cooling load growth, while maintaining N+2+1 reliability requirements.

The natural gas-fired electricity and heat generating equipment of the CHP are expected to be operated at levels between 50% and 100% of the rated capacities to support good combustion practices and ensure that air emissions are well controlled. To meet the electricity and thermal loads associated with the initial construction associated with Module I, the CHP initially will be equipped with four gas turbines that will have nominal winter condition capacities of 23.2 MW and one gas reciprocating engine that will have a nominal winter conditions capacity of 18.8 MW. The gas reciprocating engine will be equipped for "black start" – it will be able to be started using compressed air. The electricity produced by the reciprocating engine will be sufficient to start the gas turbines.

Two steam turbines and a fifth gas turbine will be installed in the CHP during Phase I, expansion 1. The next and last Phase 1 CHP upgrade is anticipated to occur in conjunction with Phase I, expansion 3, when a third steam turbine would be installed. Therefore, at the conclusion of Phase I, the CHP would have five gas turbines, one gas engine and three steam turbines available for electricity production.

With the construction of Module II (Phase II, initial build), another gas turbine would be added to the CHP, bringing the total to six gas turbines. Another gas reciprocating engine would be added in conjunction with Phase II, expansion 1, bringing the total to two reciprocating engines. The third and last gas reciprocating engine would be installed as part of Phase II, expansion 3. The seventh and final gas turbine would be installed as part of Phase II, expansion 4. These Phase II installations will bring the combined equipment electricity producing capacity to approximately 278.8 MW, which is the value included in the Air Quality Construction Permit Application.

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APPENDIX A

CITY OF NEWARK
ZONING VERIFICATION LETTER

PLANNING AND DEVELOPMENT DEPARTMENT
CITY OF NEWARK
220 South Main Street • Newark, Delaware 19711

(302) 366-7030 • Fax (302) 366-7160 • www.cityofnewarkde.us

January 17, 2014

By Electronic Mail Only
M. Richard Beringer, P.E.
Duffield Associates
5400 Limestone Road
Wilmington, Delaware 19809

Re: The Data Centers, LLC's Request for a Zoning Verification – STAR Campus

Dear Mr. Beringer:

This letter relates to the pending request by The Data Centers, LLC ("TDC") for a zoning verification with respect to TDC's proposed data center project (the "Project") on the Science, Technology, and Advanced Research ("STAR") Campus. For purposes of TDC's air permit application to the Delaware Department of Natural Resources and Environmental Control ("DNREC") for the proposed Project, the City of Newark (the "City") hereby verifies zoning in the Science and Technology Campus ("STC")[1] zoning district subject to: (1) the conditions set forth in this letter including the items numbered 1-11 outlined below; and (2) the accuracy of the information submitted by TDC. The City reserves the right to revoke this zoning verification at any time if the conditions outlined herein are not satisfied or if there are material changes to the information upon which this zoning verification is based.

A. Documentation Received From TDC

In connection with TDC's zoning verification request, the City has received and relied upon the following documentation from TDC:

- November 8, 2013 letter from M. Richard Beringer, P.E. and enclosed copy of TDC's November 1, 2013 air permit application to DNREC;
- December 6, 2013 letter from M. Richard Beringer, P.E.;
- Phasing Chart received by the City on or about December 24, 2013;
- December 26, 2013 letter from Richard Forsten, Esquire;

[1] *See* Newark City Code § 32-23.1.

- Revised Phasing Chart received by the City on or about January 10, 2014; and

- January 14, 2014 letter from M. Richard Beringer, P.E. certifying the data and other information set forth in the Revised Phasing Chart.

Enclosed herewith as Exhibit A is a copy of the January 14, 2014 letter and enclosed Revised Phasing Chart from M. Richard Beringer, P.E. certifying the data and other information set forth in the Revised Phasing Chart.

B. Standard for Review of the Zoning Verification Request

As outlined in my November 1, 2013 letter (attached as Exhibit B), a combined heat and power plant ("CHP"), such as the one proposed by TDC as part of the Project, is not a permitted use in the STC zoning district. However, a CHP may nevertheless be permitted in the STC zoning district in certain instances where a CHP constitutes a permitted accessory use. As detailed in the memorandum attached hereto as Exhibit C,[2] in order for the CHP to qualify as an accessory use, TDC must demonstrate that the CHP is and will always be accessory, e.g. customarily incidental and subordinate to the principal use of the property – a data center ("Data Center").

C. The CHP is Customarily Incidental and Subordinate to the Data Center under Applicable Facts Provided and under the Stated Conditions

If all power produced by the CHP were consumed and used by the Data Center itself, the accessory use question would be more straightforward. However, to assure continuous power, TDC seeks to produce a certain amount of additional, redundant power to ensure that power to the Data Center is uninterruptible at all times. TDC seeks to sell the power that it does not necessarily intend to consume to the Delaware Municipal Electric Corporation ("DEMEC").

After careful consideration, the City has determined that for the sale of power from the CHP to remain incidental and subordinate to the primary use (i.e., the Data Center), the sale of excess power cannot exceed 30% of the total amount of power needed to operate the Data Center. This 30% limit, however, cannot be calculated based upon the total amount of power that can theoretically be generated by the CHP. Rather, the 30% sale limitation must be based upon: (1) the IT critical load and ancillary load demands of the Data Center itself; and (2) necessary redundancy power.

On the Revised Phasing Chart received on January 10, 2014 (certified on January 14, 2014), TDC describes the required IT critical load, ancillary load, and the redundancy power as

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[2] Exhibit C is Connolly Gallagher LLP's September 9, 2013 accessory use memorandum (the "Memorandum"), which is incorporated herein by reference.

the "Operating Capacity Required (N+2)." Based upon TDC's representations in the Revised Phasing Chart,[3] the following power sale conditions are placed upon this zoning verification:

1. During Phase I of the Project,[4] the sale of power from the CHP shall be limited to 30% of the Data Center's anticipated "Operating Capacity Required (N+2)" at the end of Phase I and, in no event, shall such amount exceed 45MW (maximum hourly average per year).[5] To be clear, no more than 45MW can be sold at any given time during Phase I.

2. During Phase II of the Project, the sale of power from the CHP shall be limited to 30% of the Data Center's anticipated "Operating Capacity Required (N+2)" at the end of Phase II, and in no event, shall such amount exceed 71MW (maximum hourly average per year).[6] To be clear, no more than 71MW can be sold at any given time during Phase II.

3. If the owner of the Project fails to obtain a certificate of occupancy for a tenant in Phase II of the Project within four (4) years of the date of issuance of the certificate of occupancy for the first tenant in Phase I of the Project, the City shall have the right to reduce or otherwise modify the maximum power sale amounts set forth above as may be necessary to assure adherence to the accessory use standards in the Newark City Code.

For the sale of power from the CHP to be deemed accessory, all power sale numbers are required to stay at or under the limits established above. Otherwise, the proposed sale of power shall not be deemed a permitted accessory use and this zoning verification may be revoked. The owner of the Data Center and CHP (collectively, the "Facility") shall have an on-going obligation to provide the City with any and all material changes to the information and data set

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[3] The data has been certified by a licensed engineer and, as such, the City has relied upon this certification for purposes of making its zoning decision.

[4] Because the Data Center will be built in phases, the amount of power that may be sold from the CHP must be phased as well.

[5] This number is calculated based upon 30% of TDC's stated "Operating Capacity Required (N+2)" at the end of Phase I, which is 149.6MW. The sale of power from the CHP cannot commence until the beginning of Phase I of the Project. For the purposes of this verification, Phase I of the Project shall begin on the date of issuance of the certificate of occupancy by the City of Newark for the first tenant in Phase I of the Project and shall continue until the date upon which the certificate of occupancy is issued for the first tenant in Phase II of the Project.

[6] This number is calculated based upon 30% of TDC's stated "Operating Capacity Required (N+2)" at the end of Phase II, which is 236.8MW. If, through design modifications, the anticipated "Operating Capacity Required (N+2)" during either or both of Phases I and II is lowered, or if the anticipated "Operating Capacity Required (N+2)" is lowered during the air permit review process, the owner of the Project's power sale output shall be governed by the lesser number.

forth in the Revised Phasing Chart including, but not limited to, any changes to the planned phasing of the Data Center, the CHP, or the stated configuration of power generation equipment. Moreover, to the extent necessary, the owner of the Facility shall amend any application previously filed with any governmental body, board or group to reflect data and information consistent with the Revised Phasing Chart or shall provide the City with a Revised Phasing Chart consistent with its submissions to other governmental bodies. Power sale limits set by the City may be lowered based upon any such updated submissions.

In addition, consistent with the representations/promises made by TDC in prior correspondence, the issuance of this zoning verification is also conditioned upon:

4. The Facility being constructed in phases and the incremental installation of the power generation equipment of the CHP consistent with the Revised Phasing Chart.

5. Beginning one month following the issuance of the first tenant certificate of occupancy for Phase I, and until such time as the City requests to the contrary, the owner/operator of the Facility must provide monthly power production reports to the City detailing the amount of power generated by the CHP, the amount of power used on-site by the Data Center (including IT critical load and ancillary load), the power produced for redundancy requirements, the power sold/transferred off-site, and to whom such power was sold/transferred. Such reports will be produced in a form acceptable to the City in its sole discretion. The owner/operator of the Facility will also provide the City copies of any separate power production, power use and power sales reports, and any reports regarding compliance with environmental laws and regulations provided to DNREC.

6. The owner/operator of the Facility may not sell any power in excess of the maximum power sale amounts set forth herein without the advance consent of the City; the City shall only consider such a request by the owner/operator of the Facility in the event of a crisis or casualty (i.e., hurricane, earthquake, or other similar disaster).

7. The Facility must have a single owner at all times.

8. The owner/operator of the Facility is prohibited from selling, transferring or otherwise providing power to any third party user directly, and shall only sell, transfer, or otherwise provide power, if at all, to the City, DEMEC, or Delmarva Power, or any of their successors in interest, and shall only export power through an interconnection with the regional electric grid operator PJM Interconnection or any of its successors in interest, to third parties not residing in the City's electric service territory.

9. The Project must comply with all other applicable zoning code provisions, site plan requirements and building code requirements as they may exist presently or in the future including, but not limited to, the requirement that the Data Center and the CHP are located on a single parcel of land, and the owner/operator of the Facility is

required to comply with all other current and future laws and requirements of the City.

10. All zoning conditions including, but not limited to, the maximum amounts established herein for the sale of power, are enforceable conditions of this zoning verification, and as such, shall be incorporated into the Clean Air Act Permit, which requires said zoning verification.

11. The City may revoke this zoning verification for breach of any of the conditions set forth herein upon thirty (30) days' written notice to the owner/operator of the Facility. Revocation of the zoning verification by the City shall be deemed a material and enforceable violation of the air permit.

D. Conclusion

The issuance of this zoning verification letter relates solely to the qualification of the CHP as an accessory use to the Data Center and the proposed sale of power from the CHP. This zoning verification is expressly conditioned upon compliance with the limitations in this letter including the items numbered 1-11 above. This zoning verification is based upon the present requirements of the Newark City Code. This conditional verification relates to the current zoning of the property only and in no way certifies that the Project and/or the Facility meet all statutory and regulatory requirements of the City.

This letter is a final decision on TDC's request for a zoning verification. If you have any questions, please feel free to contact me.

Sincerely,

Maureen Feeney Roser

Maureen Feeney Roser
Director of Planning and Development

cc: Richard Forsten, Esq. (by electronic mail)
Carol Houck, City Manager (by electronic mail)
Bruce Herron, Esq. (by electronic mail)
Max B. Walton, Esq. (by electronic mail)

Exhibit A

DUFFIELD
ASSOCIATES

5400 Limestone Road
Wilmington, DE 19808
Phone: 302.239.6634
Fax: 302.239.8485
duffnet.com

January 14, 2014

By Electronic Mail and Regular Mail

Ms. Maureen Feeney Roser
Director of Planning and Development
City of Newark
220 South Main Street
Newark, DE 19711

Re: Project No. 8718.CI
Request for Zoning Verification
Response to January 10, 2014 Letter
Application No. 8718 (The Data Centers LLC – Wolf 1 CHP)

Dear Ms. Roser:

This letter responds to the City of Newark letter, dated January 10, 2014, issued in response to the Duffield Associates, Inc. request for zoning verification regarding The Data Centers, LLC (TDC) project for a self-powered data center to be located at the University of Delaware Science, Technology and Advanced Research (STAR) Campus, in the City of Newark, Delaware. This letter serves to certify that the chart attached to the City's letter (copy enclosed) sets forth reasonably accurate estimates of the electrical power that the facility, configured as indicated in the chart, will need to produce at various stages of project development to power and support the data servers and other equipment that are part of the facility. These estimates are based upon and consistent with industry and government published information for a project of this design and size, and are the estimates that TDC is relying upon to guide their design. In addition, the charts set forth the planned equipment configuration for each phase of the project as it is constructed. As the City of Newark is aware from prior correspondence, reliability criteria drives the "N+2" power generation configuration and that configuration will result in the generation of electrical power in excess of the facility loads.

Please contact us at (302) 239-6634, if you have questions regarding the information provided in the enclosure.

Very truly yours,

DUFFIELD ASSOCIATES, INC.

M. Richard Beringer

M. Richard Beringer, P.E., LEED AP
Senior Environmental Consultant

MRB:bac
WORD/8718CI.0114-City of Newark TDC Zoning Verification.COR

Enclosure: City of Newark Letter dated January 10, 2014

	Phase I					Phase II					
	Initial Build	Expansion 1	Expansion 2	Expansion 3	Expansion 4	Initial Build	Expansion 1	Expansion 2	Expansion 3	Expansion 4	
Operating Requirements	**3MW**	**4MW**	**5MW**	**6MW**	**7MW**	**3MW**	**4MW**	**5MW**	**6MW**	**7MW**	**Notes**
IT Critical Load (N)	36.0	42.0	48.0	54.0	60.0	90.0	96.0	102.0	108.0	112.0	Amount of electricity allocated for Critical IT Equipment
Ancillary Load (N)	29.2	31.9	36.5	45.0	46.4	48.8	50.6	53.4	57.8	59.6	Pumps, Fans, lights, etc, needed to support critical data center and CHP equipment
Redundant Capacity (+2)	23.2	43.2	43.2	43.2	43.2	46.4	65.2	65.2	65.2	65.2	Redundant online power required to avoid data center outages in case of electrical generation equipment failure
Maintenance Capacity (+1)	23.2	23.2	23.2	42.0	42.0	23.2	42.0	23.2	42.0	42.0	Offline equipment that can be brought online to replace failed equipment or equipment that needs to go down for maintenance or upgrade
Operating Capacity Required (N+2)	**88.4**	**117.1**	**127.7**	142.2	**149.6**	**165.2**	**191.8**	**220.6**	**231.0**	**236.8**	Amount of electrical power that is required to run the data center and provide redundancy as needed. Should be basis for external sales of power.
Required Equipment Capacity	**111.6**	**140.3**	**150.9**	**184.2**	**191.6**	**208.4**	**253.8**	**243.8**	**273.0**	**278.8**	

	Initial Build	Expansion 1	Expansion 2	Expansion 3	Expansion 4	Initial Build	Expansion 1	Expansion 2	Expansion 3	Expansion 4
	3MW	**4MW**	**5MW**	**6MW**	**7MW**	**3MW**	**4MW**	**5MW**	**6MW**	**7MW**
Installed Equipment	**Phase I**					**Phase II**				
gas turbine	4	5	5	5	5	6	6	6	6	7
gas engine	1	1	1	1	1	1	2	2	3	3
steam turbines	0	2	2	3	3	3	3	3	3	3
	5.0	**8.0**	**8.0**	**9.0**	**9.0**	**10.0**	**11.0**	**11.0**	**12.0**	**13.0**
Max Equipment Capacity										
gas turbine	92.8	116.0	116.0	116.0	116.0	139.2	139.2	139.2	139.2	162.4
gas engine	18.8	18.8	18.8	18.8	18.8	18.8	37.6	37.6	56.4	56.4
steam turbines	0.0	40.0	40.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0
	111.6	**174.8**	**174.8**	**194.8**	**194.8**	**218.0**	**236.8**	**236.8**	**255.6**	**278.8**

Equipment Counts and Capacities by Expansion & Phase

Phase I Initial Build (1st Module 3MW per Pod 12 Pods)

		Equipment Counts				Equipment Capacities			
Phase I 3MW Initial Configuration	**Individual Equip Capacity**	**total equip**	**N**	**2**	**1**	**N**	**2**	**1**	**Total Capacity**
gas turbine	23.20	4	2	1	1	46.4	23.2	23.2	92.8
gas engine	18.80	1	1	0	0	18.8	0.0	0.0	18.8
steam turbines	20.00	0	0	0	0	0.0	0.0	0.0	0.0
		5	**3**	**1**	**1**	**65.2**	**23.2**	**23.2**	**111.6**

Phase I Expansion 1 (1st Module 4MW per Pod 12 Pods)

		Equipment Counts				Equipment Capacities			
Phase I 4MW Expansion 1 Config	**Individual Equip Capacity**	**total equip**	**N**	**2**	**1**	**N**	**2**	**1**	**Total Capacity**
gas turbine	23.20	5	3	1	1	69.6	23.2	23.2	116.0
gas engine	18.80	1	1	0	0	18.8	0.0	0.0	18.8
steam turbines	20.00	2	1	1	0	20.0	20.0	0.0	40.0
		8	**5**	**2**	**1**	**108.4**	**43.2**	**23.2**	**174.8**

Expansions are based upon 2nd floor pods having capacity to go to 7 MW per pod while 3rd floor pods have ability to go to 3MW per pod

Phase I Expansion 2 (1st Module 5MW per Pod 12 Pods)									
	Equipment Counts					Equipment Capacities			
Phase I 5MW Expansion 2 Config	**Individual Equip Capacity**	**total equip**	**N**	**2**	**1**	**N**	**2**	**1**	**Total Capacity**
gas turbine	23.20	5	3	1	1	69.6	23.2	23.2	116.0
gas engine	18.80	1	1	0	0	18.8	0.0	0.0	18.8
steam turbines	20.00	2	1	1	0	20.0	20.0	0.0	40.0
		8	**5**	**2**	**1**	**108.4**	**43.2**	**23.2**	**174.8**

Phase I Expansion 3 (1st Module 6MW per Pod 12 Pods)									
	Equipment Counts					Equipment Capacities			
Phase I 6MW Expansion 3 Config	**Individual Equip Capacity**	**total equip**	**N**	**2**	**1**	**N**	**2**	**1**	**Total Capacity**
gas turbine	23.20	5	3	1	1	69.6	23.2	23.2	116.0
gas engine	18.80	1	0	0	1	0.0	0.0	18.8	18.8
steam turbines	20.00	3	2	1	0	40.0	20.0	0.0	60.0
		9	**5**	**2**	**2**	**109.6**	**43.2**	**42.0**	**194.8**

Phase I Expansion 4 (1st Module 7MW per Pod 12 Pods)									
	Equipment Counts					Equipment Capacities			
Phase I 7MW Expansion 4 Config	**Individual Equip Capacity**	**total equip**	**N**	**2**	**1**	**N**	**2**	**1**	**Total Capacity**
gas turbine	23.20	5	3	1	1	69.6	23.2	23.2	116.0
gas engine	18.80	1	0	0	1	0.0	0.0	18.8	18.8
steam turbines	20.00	3	2	1	0	40.0	20.0	0.0	60.0
		9	**5**	**2**	**2**	**109.6**	**43.2**	**42.0**	**194.8**

Phase II Initial Build (2nd Module 3MW per Pod 12 Pods)									
	Equipment Counts					Equipment Capacities			
Phase II 3MW Initial Configuration	**Individual Equip Capacity**	**total equip**	**N**	**2**	**1**	**N**	**2**	**1**	**Total Capacity**
gas turbine	23.20	6	3	2	1	69.6	46.4	23.2	139.2
gas engine	18.80	1	1	0	0	18.8	0.0	0.0	18.8
steam turbines	20.00	3	3	0	0	60.0	0.0	0.0	60.0
		10	**7**	**2**	**1**	**148.4**	**46.4**	**23.2**	**218.0**

Phase II Expansion 1 (2nd Module 4MW per Pod 12 Pods)									
	Equipment Counts					Equipment Capacities			
Phase II 4MW Expansion 1 Config	**Individual Equip Capacity**	**total equip**	**N**	**2**	**1**	**N**	**2**	**1**	**Total Capacity**
gas turbine	23.20	6	3	2	1	69.6	46.4	23.2	139.2
gas engine	18.80	2	1	1	0	18.8	18.8	0.0	37.6
steam turbines	20.00	3	3	0	0	60.0	0.0	0.0	60.0
		11	**7**	**3**	**1**	**148.4**	**65.2**	**23.2**	**236.8**

Phase II Expansion 2 (2nd Module 5MW per Pod 12 Pods)									
Phase II 5MW Expansion 2 Config	**Individual Equip Capacity**	**total equip**	**N**	**2**	**1**	**N**	**2**	**1**	**Total Capacity**
gas turbine	23.20	6	3	2	1	69.6	46.4	23.2	139.2
gas engine	18.80	2	1	1	0	18.8	18.8	0.0	37.6
steam turbines	20.00	3	3	0	0	60.0	0.0	0.0	60.0
		11	**7**	**3**	**1**	**148.4**	**65.2**	**23.2**	**236.8**

Phase II Expansion 3 (2nd Module 6MW per Pod 12 Pods)									
Phase II 6MW Expansion 3 Config	**Individual Equip Capacity**	**total equip**	**N**	**2**	**1**	**N**	**2**	**1**	**Total Capacity**
gas turbine	23.20	6	3	2	1	69.6	46.4	23.2	139.2
gas engine	18.80	3	1	1	1	18.8	18.8	18.8	56.4

Expansions are based upon 2nd floor pods having capacity to go to 7 MW per pod while 3rd floor pods have ability to go to 3MW per pod

steam turbines	20.00	3	3	0	0	60.0	0.0	0.0	60.0
		12	7	3	2	148.4	65.2	42.0	255.6

Phase II Expansion 4 (2nd Module 7MW per Pod 12 Pods)

Phase II 7MW Expansion 4 Config	Individual Equip Capacity	total equip	N	2	1	N	2	1	Total Capacity
gas turbine	23.20	7	4	2	1	92.8	46.4	23.2	162.4
gas engine	18.80	3	1	1	1	18.8	18.8	18.8	56.4
steam turbines	20.00	3	3	0	0	60.0	0.0	0.0	60.0
		13	8	3	2	171.6	65.2	42.0	278.8

Expansions are based upon 2nd floor pods having capacity to go to 7 MW per pod while 3rd floor pods have ability to go to 3MW per pod

End of Phase Data

Equipment Counts and Capacities by Phase

Counts are by phase	Equipment Counts					Equipment Capacities			
Phase I configuration	Individual Equip Capacity	total equip	N	2	1	N	2	1	Total Capacity
gas turbine	23.20	5	2	2	1	46.4	46.4	23.2	116.0
gas engine	18.80	1	0	0	1	0.0	0.0	18.8	18.8
steam turbines	20.00	3	3	0	0	60.0	0.0	0.0	60.0
						106.4	46.4	42.0	194.8

	Equipment Counts					Equipment Capacities			
Phase II Configuration	Individual Equip Capacity	total equip	N	2	1	N	2	1	Total Capacity
gas turbine	23.2	2	2	0	0	46.4	0.0	0.0	46.4
gas engine	18.8	2	1	1	0	18.8	18.8	0.0	37.6
steam turbines	20	0	0	0	0	0.0	0.0	0.0	0.0
						65.2	18.8	0.0	84.0

	Equipment Counts					Equipment Capacities			
Final Project Configuration	Individual Equip Capacity	total equip	N	2	1	N	2	1	Total Capacity
gas turbine	23.2	7	4	2	1	92.8	46.4	23.2	162.4
gas engine	18.8	3	1	1	1	18.8	18.8	18.8	56.4
steam turbines	20	3	3	0	0	60.0	0.0	0.0	60.0
						171.6	65.2	42.0	278.8

Exhibit B

NEWARK DELAWARE
Committed to Service Excellence

PLANNING AND DEVELOPMENT DEPARTMENT
CITY OF NEWARK
220 South Main Street • Newark, Delaware 19711

(302) 366-7030 • Fax (302) 366-7160 • www.cityofnewarkde.us

November 1, 2013

By Electronic Mail

Mr. Rick Beringer, PE
Duffield Associates
5400 Limestone Road
Wilmington, DE 19808

Re: City of Newark's Response At A Request for Zoning Verification Application No. 8718 (The Data Center LLC- Wolf I CHP)

Dear Mr. Beringer:

On behalf of the City of Newark ("Newark" or "City"), I write in conjunction with The Data Center LLC's ("Data Center") request for a zoning verification for a gas fired power plant at the former Chrysler site, now known as the STAR Campus. The property is located in the City's Science and Technology Campus zoning district ("STC"). Power plants are not a permitted use in the STC zoning district. However, a power plant might qualify as a permitted accessory use in the district, so long as the power plant is customarily incidental and subordinate to the primary use – e.g. a data center. *See* Newark City Code § 32-23.1(a)(13).[1]

Please be advised that, at this time, Newark is unable to provide a zoning verification that the proposed power plant (for which the air permit is sought) is a permitted use in the STC zoning district. The City has not received any finalized plans, applications, or specifications regarding the project. Without specifications and concrete proposals from the owners, the City cannot determine whether the power plant qualifies as a permitted accessory use.

To date, Newark has received conflicting and inconsistent statements from individuals representing the Data Center regarding the scope and/or intended uses for the power plant and the project as a whole. For example, in a September 3, 2013 public presentation at the George Wilson Community Center in Newark, representatives of the Data Center stated that the power plant would be designed to produce 248MW of power, of which 200MW would be used by the

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[1] An accessory use is defined by the Newark City Code as "[a] use customarily incidental and subordinate to the principal use or building and located on the same lot with such principal use or building." Newark City Code § 32-4(a)(2),

proposed data center, with the remaining 48MW of power being sold back to the Delaware Municipal Electric Corporation ("DEMEC"). Data Center representatives also stated that up to 30% of the total power generated by the power plant would be sold back as excess. Prior to the September meeting, however, the Data Center represented to City officials that only 10% of the excess power would be sold and the remaining power produced would be used by its customers.

Just yesterday, the City (for the first time) received a copy of the Data Center's request for a grant from the Delaware Economic Development Office ("DEDO") dated April, 2013. Statements in the DEDO application appear to demonstrate the power plant may not be accessory to the primary use. Rather, the DEDO application states that "the power plant *runs independently of the data center* so it's [sic] economic viability is only tied to the cost of natural gas (NG) and the national grid energy costs." (emphasis supplied). If the power plant runs "independently" from the data center, the proposed power plant may not qualify as an accessory use in the STC zoning district.

The recently received DEDO application also states that the owners/lessors will apply for a 100MW interconnection to the PJM grid, and that they intend to sell up to 90MW of the excess power to Newark. This appears to be contrary to the representations made at the September 3, 2013 public meeting. Although there are a number of conflicting statements in the air permit application, it appears that the owners/lessors are seeking an air permit for generation of 279 MW of power. At least as of September 3, 2013, the Data Center advised the City (and the public) that only 248MW of power would be generated. These are just a few examples of what appears to be unsettled proposals regarding the proposed power plant and the data center project as a whole.

To reiterate, the proposed power plant only qualifies as a permitted use in the STC zoning district if it is "customarily incidental and subordinate to the principal use." Newark City Code § 32-4(a)(2); Newark City Code § 32-23.1(a)(13). Without having formal plans and a concrete proposal from the owners/lessors about the proposed data center and the power plant, the City is unable to determine whether the proposed power plant is a permitted use in the STC zoning district. Based upon statements made by the president and CEO of the Data Center at a presentation to the University of Delaware faculty on October 15, 2013, plans will not be formalized until late March or early April 2014. Unless and until the owners/lessors submit formalized and concrete plans to the City for the intended uses at the site, and can demonstrate compliance with applicable City zoning laws, the City cannot provide a zoning verification for the air permit application. We look forward to receiving the necessary information to resolve this matter in the near future.

If you have any questions, please feel free to contact me.

Sincerely,

Maureen Feeney Roser
Director of Planning and Development

Cc: Carol Houck, City Manager (by electronic mail)
Bruce Herron, Esq., City Solicitor (by electronic mail)
Paul Foster, PE, DNREC (by electronic mail)
Michael Bednar, The Data Centers, LLC (electronic mail)

Exhibit C

CONNOLLY
GALLAGHER

MEMORANDUM

To: Carol Houck, City Manager
Bruce Herron, Esq., City Solicitor

Privileged & Confidential

From: Max B. Walton, Esq., Special Counsel

CC: Mayor and Council

Date: September 9, 2013

RE: Proposal by Data Center LLC

Question Presented

Is a power plant a permitted accessory use for a 900,000 square foot data center in the City of Newark's ("City") Science and Technology Campus ("STC") zoning district?[1]

Short Answer

Whether a power plant is an accessory use for a 900,000 square foot data center is largely a question of fact – and all of the facts regarding the power plant and the data center as a whole are unknown at this time because no application has been submitted to the City. Based upon our initial understandings and assumptions regarding the proposed data center and power plant, and assuming the assumptions discussed below are correct, the proposed power plant would likely be deemed as a permitted accessory use for the data center by a reviewing court.

Assumptions And Documents Reviewed

For purposes of this memorandum, our examination of documents has been limited to the examination of executed or conformed counterparts, or copies otherwise proved to our satisfaction, of the following:

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[1] In this memorandum, we only address whether the proposed power plant is a permitted accessory use under the City of Newark Code. We do not express any view on whether the data center and associated power plant complies with other Federal, State or local laws, regulations, or ordinances. We further assume that the data center buildings, exclusive of the proposed power plant, total 900,000 square feet.

(a) EPA CHP Report: The Role of Distributed Generation and Combined Heat and Power (CHP) Systems in Data Centers (August, 2007);

(b) EPA CHP Report: Combined Heat and Power; Energy Savings and Energy Reliability for Data Centers (October, 2008);

(c) ICF International Report: Opportunities for Combined Heat and Power in Data Centers; Table 20: CHP Installations in Data Centers and Communications Facilities (March, 2009);

(d) The Data Centers, LLC Article: The Perfect Complement: Data Center + CHP Plant; Going off the Grid: Delaware Data Center Will Generate Its Own Power (2012);

(e) Memo to Bruce Herron, City Solicitor, from Maureen Feeney Roser re: Science and Technology Campus District Zoning Interpretation (July 24, 2012);

(f) Information Week Article: Modern Manhattan Data Center's Secret: Gas Turbines (October 9, 2012);

(g) ASME Article: Taking Data Centers Off the Grid (December 2012);

(h) Documents from the City of Newark: Delaware Municipal Electric Corporation Letter; E-mails from Carol Houck; The Data Centers, LLC Project Summary (2013);

(i) The New York Times Article: Landlords Double as Energy Brokers (May 13, 2013);

(j) Information Week Article: EBay's Secret Data Center Efficiency Weapon: Fuel Cells (June 24, 2013);

(k) E-mails from Carol Houck, City of Newark (July 8, 2013);

(l) Memo to Mayor and Council, City of Newark from Bruce C. Herron re: STAR Campus -- Data Storage Facility and Electric Generator (July 10, 2013);

(m) Delawareonline Article: Newark Airs Concerns Over Planned Data Center at Chrysler Site (July 22, 2013);

(n) Community Information Session Presentation Site Drawing: The Data Center (TDC) Proposed Project for the UD Star Campus;

(o) Wolf Technology Center Power Point Presentation; and

(p) Certain Confidential and/or Privileged Documents Received from the City.

For purposes of this memorandum, with the exception of the items listed in footnote 12, we have not reviewed any documents other than the documents listed in paragraphs (a) through

(p) above and applicable statutes and case law. In particular, we have not reviewed any document (other than the documents listed in paragraphs (a) through (p) above) that is referred to in or incorporated by reference into any document reviewed by us. We have assumed that there exists no provision in any document that we have not reviewed that is inconsistent with the conclusions stated herein. We have conducted a very limited independent factual investigation of our own (limited to footnote 12 below) and have relied primarily upon the foregoing documents, the statements and information set forth therein and/or provided by the City and the additional matters recited or assumed herein, all of which we have assumed to be true, complete and accurate in all material respects. Because there has been no formal application submitted to the City, we assume (without verifying) certain facts relating to the size, type, and uses of the power plant at the proposed data center obtained from publicly available sources.

With respect to all documents examined by us, we have assumed that (i) all signatures on documents examined by us are genuine, (ii) all documents submitted to us as originals are authentic, and (iii) all documents submitted to us as copies conform with the originals of those documents. Our conclusions are rendered only with respect to Delaware laws, rules, regulations and orders thereunder that are currently in effect and based upon the limited information known regarding the proposed use. If additional factual information comes to light contrary to the facts presently assumed and understood, a change in facts or circumstances may alter the conclusions stated herein.

Statement Of Currently Known Facts

Following the University of Delaware's acquisition of the former Chrysler site, in 2011, the City adopted the new STC zoning district and applied the new zoning district to the site. This site is now known as the University of Delaware's Science, Technology, and Advanced Research Campus ("STAR Campus").

The University is in the process of developing and leasing the site for various educational and other uses. The present issue relates to the University of Delaware's lease of a 43-acre parcel on the STAR Campus to Data Center, LLC for the construction and operation of a 900,000 square foot data center ("Data Center"). The proposed Data Center will provide huge banks for computer storage for various companies and will provide a number of other jobs and amenities for the City.[2] We are advised that the Data Center will utilize certain new technology which will make the center attractive to customers.

We understand that the Data Center will require enormous amounts of power for its operation – and power interruptions cannot occur.[3] According to an article formerly on the Data

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[2] At a September 3, 2013 public presentation at the George Wilson building, the owners represented that the Data Center buildings will contain primarily computers, electronic equipment, servers, switches, and routers.

[3] According to the U.S. Environmental Protection Agency Combined Heat and Power Partnership, in a publication entitled *The Role of Distributed Generated and Combined Heat and Power (CHP) Systems in Data Centers* (August 2007), "[a] continuous supply of premium power

Center LLC's website, the Data Center "will use more electrical power than the City of Newark."[4] To meet this demand for power required by the Data Center, the owners have proposed to construct a 248 megawatt power plant at the site to ensure a constant supply of power. While no plans for the plant have been submitted to the City, published reports state that the proposed power plant "consists of a proprietary configuration of natural gas turbines, steam turbines and gas engines, with two independent natural gas supply lines on site to provide the reliability to deliver uninterrupted, fault tolerant power to the data center." At a public presentation on September 3, 2013, the Data Center owners stated that the power producing facility will contain seven gas turbines and three engines – and power will be generated via natural gas and steam.[5]

Based on representations of the owner, the proposed power plant will supply 100% of the power for the Data Center, including redundancy power (e.g. backup power). It is anticipated that approximately 20% of the total power generated[6] (the backup power) will be sold back to the City (through the Delaware Municipal Electric Corporation ("DEMEC")), and a substation will be constructed to handle the supply of excess power. A crude and very preliminary drawing illustrates that the proposed power plant will occupy approximately 1/3 of the area of the lot covered by both phases of the data center buildings.

Questions have been raised whether the construction of a power plant for the Data Center is permitted in the STC district. While the Data Center itself is a permitted use in the district (*see* Newark City Code § 32-23.1(a)(5)), the STC district does not expressly permit (or prohibit) power plants and/or power generating facilities like the power plant proposed to support the Data Center. The STC district, however, permits "[a]ccessory uses and accessory buildings." Newark City Code § 32-23.1(a)(13). Thus, even though power plants are not permitted uses in the STC district, if the power plant qualifies as an accessory use to the Data Center, the power plant is a permitted use.

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is essential to all data centers to avoid equipment downtime . . . . the cost of being offline, even for a short period, can run well into the millions of dollars." *Id.* at p. 4. The report notes that losses for power outages or lapses in power quality can range as high as $30 million per minute for data center operations during peak periods. *Id.* at 10.

[4] According to a *New York Times* article, a similar data center operated by Quality Technology Services uses roughly the amount of electric needed to power 15,000 homes.

[5] City officials have confirmed that the City is not equipped to supply the power necessary for the proposed Data Center's needs.

[6] It is unclear at this time exactly how much redundancy power will be sold back to the electrical grid – as the documents provided contain varying percentages. In a power point presentation, the Data Center represents that 112 MW will be used for critical load, 88 MW will be used for cooling, lighting, etc., and 48 MW will be used for redundancy (approximately 24%).

Discussion

A. Standard Of Review

To determine whether the proposed power plant is an accessory use, we interpret the meaning of the City's zoning ordinance and apply well-settled canons of statutory construction.

"The primary goal of statutory construction is to 'ascertain and give effect to the intent of the legislature.'" *Acadia Brandywine Town Center, LLC v. New Castle County,* 879 A.2d 923, 927 (Del. 2005) (citing *Director of Revenue v. CNA Holdings, Inc.*, 818 A.2d 953, 957 (Del. 2003)). Intent is determined by the plain language of the statute, and absent ambiguity, "there is no room for judicial interpretation and 'the plain meaning of the statutory language controls.'" *PHL Variable Ins. Co. v. Price Dawe 2006 Ins. Trust*, 28 A.3d 1059, 1070 (Del. 2011); *Chase Alexa, LLC v. Kent County Levy Court*, 991 A.2d 1148, 1152 (Del. 2009) (same).[7]

The statute is only "ambiguous if it is susceptible of two reasonable interpretations." *PHL Variable Insurance Co.*, 28 A.3d at 1070. In the context of land regulations, "if there are two reasonable interpretations of the statute, the interpretation that favors the landowner controls." *Chase Alexa LLC*, 991 A.2d at 1152. The Delaware Supreme Court has made clear that if there is "any doubt as to the correct interpretation [of a zoning statute], that doubt must be resolved in favor of the landowner." *Dewey Beach Ent., Inc. v. Board of Adjustment of the Town of Dewey Beach*, 1 A.3d 305, 310 (Del. 2010). A statute will also be construed in a manner as to avoid an absurd result. *Doroshow, Pasquale, Krawitz & Bhaya v. Nanticoke Mem. Hosp., Inc.*, 36 A.3d 336, 343 (Del. 2012) (quoting *Moore v. Wilm. Hous. Auth.*, 619 A.2d 1166, 1173 (Del. 1993) ("We read statutes by giving language its reasonable and suitable meaning while avoiding 'patent absurdity.'")).

B. The Accessory Use Provisions In The Newark City Code

An accessory use of land is by definition one that is not expressly permitted by the zoning ordinance itself. 101A C.J.S. *Zoning and Land Planning* § 144 (2013). As such, "[e]ach accessory use case must be decided on its own particular facts." *Wiggin v. Mummert*, 1992 WL 113455, at *5 (Del. Ch.); 101A C.J.S. *Zoning and Land Planning* § 144 (2013) ("whether a particular use of property qualifies as an accessory use is ordinarily a question of fact . . ."). Consequently, an accessory use for one property may not qualify as an accessory use for another. Thus, we apply the plain meaning of the statute to the facts at hand to determine whether the proposed power plant is an accessory use to the Data Center pursuant to Newark City Code § 32-23.1(a)(13).

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[7] Statutory definitions are also important. It is well settled that "where a zoning ordinance has expressly defined the meaning of the term . . . the stated definition is controlling." *Hayward v. Gaston*, 542 A.2d 760, 768 (Del. 1988). If the term is not defined, a Court is required to "look to the commonly accepted meaning of the term." *Dahl v. State*, 926 A.2d 1077, 1083 (Del. 2007); *Gow v. Director of Revenue*, 556 A.2d 190, 193 (Del. 1989) ("The general rule is that where a statutory term is not defined by the statute, the rules of construction require that the term be given its ordinary meaning.").

An accessory use is defined by the Newark City Code as "[a] use customarily incidental and subordinate to the principal use or building and located on the same lot with such principal use or building." Newark City Code § 32-4(a)(2).[8] Because the proposed power plant will be constructed on the same lot as the Data Center, to be a permitted accessory use, the proposed power plant use must be "customarily incidental and subordinate" to be permitted in the STC district.

1. The Meaning Of Customarily Incidental And Subordinate

"[C]ustomarily" as that phrase is used in the context of accessory uses means "a recognized mode of activity in the field, although it need not be the more prevalent one." 101A C.J.S. *Zoning and Land Planning* § 144 (2013). To determine whether a proposed use is "customary," Delaware courts review the proposed use on a statewide basis, but there is no "absolute requirement that an accessory use be common in the area and universally considered unobjectionable." *The Commissioners of Bellefonte v. Coppola*, 453 A.2d 457, 461 (Del. 1982). However, under the "customary" prong of the accessory use test, Delaware Courts have closely scrutinized "whether the proposed use is commonly, habitually and by long practice been established as reasonably associated with the primary use." *McKinney v. Kent County Board of Adjustment*, 1995 WL 109032, at *4 (Del. Super. Ct.), *aff'd*, 673 A.2d 1199, 1204 (Del. 1996). Courts have required that a "significant percentage of like principal uses in the area have accessory uses of the nature and extent in question," or that the use is a "recognized mode of activity in the field." 2 Rathkopf's *The Law of Zoning And Planning* § 33:3 (4th ed. 2013). Even if the use is "incident to only a small percentage of similar principal use[s], it may nevertheless be found to be 'customary.'" *Id.* To decide whether a use is customary, Courts are not required to limit inquiry to a mere mathematical count. 101A C.J.S. *Zoning and Land Planning* § 144 (2013).

To be incidental[9] and subordinate,[10] the accessory use "must have a reasonable relationship or connection with the primary use." *Wiggin*, 1992 WL 113455, at *5; 101A C.J.S. *Zoning and Land Planning* § 144 (2013) (same); *Drummey v. Town of Falmouth Zoning Board of Appeals*, 2013 WL 3205142, at *11 (Mass. App.) (same).[11] Stated differently, the accessory

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[8] The Delaware Supreme Court has held that this language, stated differently, means that "the accessory use must be one habitually associated with and subordinate to the functioning" of the principal use. *Di's Inc. v. McKinney*, 673 A.2d 1199, 1204 (Del. 1996); *see also Application of Emmett S. Hickman Co.*, 108 A.2d 667, 671 (Del. 1954).

[9] Incidental is defined as "[d]epending upon or pertaining to something else as primary; something necessary, appertaining to or depending upon another which is termed the principal; something incidental to the main purpose." Henry C. Black, *Black's Law Dictionary*, 388 (5th Abr. ed. 1983).

[10] Subordinate means submissive to or falling under the control of the primary use. *Stone Mill Properties, L.P. v. Board of Adjustment of New Castle County*, 1992 WL 91164, at *3 (Del. Super. Ct.); http://www.merriam-webster.com/dictionary/subordinate.

[11] Various definitions of "incidental and subordinate" have been proffered to the City by members of the public in the record provided for this review of the Data Center. Even though the proffered definitions conflict with the judicial interpretation of the meaning of incidental and

use may not be the principal use of the property. 101A C.J.S. *Zoning and Land Planning* § 144 (2013). It must be dependent upon or pertain to the principal use of the land. *Id.*; *Drummey*, 2013 WL 3205142, at *11.

Because a determination of whether a proposed accessory use is permissible is a largely fact based inquiry, the phrase "customarily incidental" should be interpreted by invoking an objective reasonable person standard, with consideration of how frequently the proposed use is found in association with the primary use, the applicant's particular circumstances, the zoning ordinance and the indications therein as to the governing body's intent regarding the intensity of land use appropriate to the particular district, as well as the surrounding land conditions and any other relevant information, including general experience and common understanding to reach a conclusion whether a reasonable person could consider the use in question to be customarily incidental. *Northampton Area School Dis.* v. *Zoning and Hearing Bd. of the Tp. of Lehigh*, 64 A.3d 1152, 1156 (Pa. Cmmw. 2013) (quoting *Hess v. Warwick Tp. Zoning Hearing Bd.*, 977 A.2d 1216, 1244 (Pa. Cmmw. 2009)).

2. The Power Plant Qualifies As An Accessory Use To The Data Center

Based upon the plain meaning of the "accessory use" definition in the Newark City Code, and based upon the facts presently assumed, the proposed power plant likely qualifies as a permitted accessory use. As noted by the publications reviewed, having a reliable power source is mission critical for a Data Center operation. *See supra* n. 3. As such, numerous Data Centers across the country have individual power plants to handle the need for the massive amounts of power – demonstrating that the use of power plants in connection with Data Centers is a common and customary practice in the field.[12] 2 Rathkopf's *The Law of Zoning And Planning* § 33:3 (4th ed. 2013). While not all data centers have power plants, based upon the facts currently known, a power plant is a use that is customarily a component of a Data Center and therefore likely qualifies as a customary use under the Newark City Code's definition of "accessory use."[13]

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subordinate, these definitions at best create an ambiguity in the meaning. If ambiguity in the language is present, that ambiguity in the zoning ordinance must be construed in favor of the free use of land. *Dewey Beach Ent., Inc.*, 1 A.3d at 310.

[12] We are advised (but have not verified) that all large scale data centers have some form of backup power generation capacity. Online research has revealed that data centers in Burlingame, CA, Concord, CA, Fresno, CA, La Jolla, CA, San Dimas, CA, San Ramon, CA, Sunnyvale, CA, Warner Robbins, GA, Bozeman, MT, Omaha, NE, Basking Ridge, NJ, Neptune, NJ, Garden City, NY, Ontario, CA, Pomona, CA, Newington, CT, Cheyenne, WO, Salt Lake City, UT, and New York, New York are associated with power generating facilities. We note that the owners have represented that this will be the first "off the grid" Data Center. While the lack of a connection to the grid is unique, the pertinent question is whether power generating facilities (such as power plants) are reasonably associated with the primary data center use and are a recognized mode of activity in the field of large scale data centers.

[13] In *Commissioners of Bellefonte*, 453 A.2d at 461, the Delaware Supreme Court held that the "use" in question should be reviewed in a statewide context. *See also Sawers v. New Castle County Board of Adjustment*, 1988 WL 25370, at *6 (Del. Super. Ct.). Both cases relate to whether certain proposed home based occupations (golf club repair business and a conversion of

The power plant, as represented, also appears to be incidental and subordinate to the Data Center use. As presented, power plant will not be the primary use of the property – the principal use of the property will be the storage of data at the Data Center. The power plant will be smaller and apparently will occupy approximately 1/3 of the space required for the 900,000 square foot Data Center based upon the preliminary drawings provided. The power plant has a reasonable connection to the primary use (the Data Center) because approximately 80% of the power generated by the power plant will be used by the Data Center operation.[14] We note that the owner's representation at the public meeting stating that less than 30% of its revenue will be generated from the sale of redundancy power makes it a closer call on whether the proposed power plant is subordinate to the Data Center. However, on balance, the power plant use likely remains submissive to and falls under the control of the primary use because a sizeable majority of the power generated will be used and consumed by the power needs of the Data Center, thereby creating a reasonable relationship and connection to the primary use.[15]

Thus, under the plain language of the "accessory use" definition in the Newark City Code as applied to the facts currently known, and under the applicable case law, the power plant likely qualifies as an accessory use for the Data Center.[16]

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a barn into storage space) constitute an accessory use. Because, to our knowledge, there are few data centers of this type located in Delaware, we believe that the Delaware Supreme Court would not confine its review of customarily incidental uses to uses existing in the State. Instead, we believe that the Court would likely look at the use of power plants for data centers in the industry as a whole.

[14] We understand that the Data Center buildings will be built in two phases. Based upon representations made at the September 3, 2013 informational meeting, we understand that the power plant will initially be sized to provide power for phase 1 of the project, and will be expanded at a later time to add additional power generating capacity for phase 2. It was also represented that phase 1 will take 2-3 years to complete, and phase 2 will be complete in 5-6 years. If the power plant is initially built to fully service both phases, and the future construction of phase 2 of the Data Center were substantially delayed, the conclusions stated herein might change because a power plant of that size might not be subordinate to the Data Center use. For this memorandum, we assume that both phases of the Data Center will be timely built and that approximately 80% of the power generated will be used for the Data Center's own use.

[15] If the Data Center went out of business, the power plant could not thereafter become a stand alone use as an electric producer without a zoning change. Indeed, when an accessory use attains such magnitude as to no longer be incidental to the principal use, it loses its status as an accessory use. 2 Rathkopf's *The Law of Zoning And Planning* § 33:3 (4th ed. 2013). In addition, if the facts and circumstances change and it is shown that the Data Center is not the primary use of the property (and the selling of power is the primary use), the power plant would be prohibited in the STC district.

[16] Some have argued that if the power plant for the Data Center is subordinate or incidental to the Data Center, a landfill built for the use of the Data Center might also qualify as an accessory use. To qualify as an accessory use, the use must be dependent upon the principal use of the property – and the Data Center's operation would not be dependent on a landfill. *See McKinney*, 1995 WL 109032, at *4 (holding that a shopping center is not an accessory use to a

3. Other Courts Have Reached The Same Conclusion

In a similar case, the District of Columbia Court of Appeals in the case of *Citizens Coalition v. District of Columbia Bd. of Zoning Adjustment*, 619 A.2d 940 (D.C. App. 1993) held that a power plant constituted a permissible accessory use. In *Citizens Coalition,* Georgetown University sought to build a fifty-six megawatt co-generator on its campus. *Id.* at 942. The power generated by the facility would be sold, pursuant to a power purchase agreement, to the Potomac Electric Power Company ("PEPCO"), and the power plant was to be constructed and operated by Dominion Energy, Inc. ("Dominion"). *Id.* The Board of Zoning Appeals granted a special exception for the power plant, and held that the cogeneration facility constituted an accessory use of the University. *Id.* at 944.

On appeal, the principal issue was whether the power plant constituted an accessory use, which is defined under the applicable code as "a use customarily incidental and subordinate to the principal use, and located on the same lot with the principal use." *Id.* at 947. Even though the electric generated by the power plant would not be used directly by the University and surplus energy would be sold, the Court held that:

> . . . the accessory use, i.e. the proposed facility, is attendant and reasonably related to the principal use which is the function and operation of a University as it contributes to the health and well being of its students and the Hospital patients and personnel.

Id. at 954.

The Court went on to hold that the construction of the co-generation facility to serve the University's utility needs was incidental and subordinate to the University's operations and thereby constituted a permitted accessory use. *Id.* There, as here, under the applicable facts, a power generating facility qualified as a permitted accessory use under the zoning code.

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mobile home park); *Wiggin*, 1992 WL 113455, at *5 (holding that towing and storage of vehicles that are beyond repair have no reasonable relationship or connection to the operation of a service station). The Data Center use is dependent on large amounts of power – power that the City is unable to generate at this time under its current generation capacity.

4. A Different Conclusion Would Likely Yield A Result Contrary To Legislative Intent

The "golden rule of statutory interpretation . . . is that unreasonableness of the result produced by one among possible interpretations . . . is reason for rejecting that interpretation in favor of another which would produce a reasonable result." *Delaware Bay Surgical Services P.C. v. Swier*, 900 A.2d 646, 652 (Del. 2006). Consequently, an interpretation of the statutory provisions contrary to legislative intent must be rejected. *Id.*

In the STC district, data centers are a permitted use. Newark City Code § 32-23.1(a)(5) (permitting technologically dependent or computer based facilities that are dedicated to the processing of data or the analysis of information). Consequently, the presumed legislative intent is to allow the proposed Data Center in this district. We are advised that the City cannot (at this time) supply the power necessary for the operation of the Data Center on this particular site. It would be an absurd result indeed if the City Council permitted data centers but at the same time forbid the power generation required for the permitted data center use. By expressly permitting accessory uses in this district, the City Council presumably foresaw that accessory uses (like a power plant) might be needed for a data center type use in this district. Because a contrary interpretation of the accessory use provision in the code would effectively foreclose a large Data Center use, the reasonable interpretation of the accessory use definition is to allow the power plant as an accessory use for the Data Center.[17] A different interpretation under the assumed facts presented would be contrary to the presumed legislative intent and should be rejected.

Conclusion

Based on and subject to the foregoing, the qualifications and analysis set forth above, and to the further qualification that there is no definitive Delaware judicial authority confirming the correctness of the analysis, it is our conclusion that, in connection with the question of whether a power plant constitutes an accessory use in the STC district for the proposed Data Center, a Delaware Court exercising jurisdiction, in a properly briefed, argued and presented case and exercising reasonable judgment and discretion after full consideration of all relevant factors, would conclude that the power plant for the Data Center is a permitted accessory use.

While we believe that our views set forth herein are supported by sound analysis of existing law, we found no Delaware reported cases containing all the material facts and circumstances applicable to the proposed power plant for the Data Center. In rendering our views herein, we have thus relied on cases discussing certain of the facts and circumstances that are present in the factual situation presented and on cases discussing accessory uses more generally. We also note that the Court of Chancery has broad equitable powers which may allow for equitable or injunctive relief or other remedies. Consequently, the view set forth herein is not a guarantee of outcome or result. The foregoing memorandum is expressly subject to there being no material fact that has not been communicated to us, and that all the foregoing facts have been

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[17] "Incidental uses have always been authorized where they are customary and do no violence to the plain intent of the statute or ordinance." *Application of Emmett S. Hickman Co.*, 108 A.2d at 670.

accurately represented to us as represented herein and on which we have relied as the source of our information and assumptions.

We express no view as to the law of any jurisdiction other than Delaware, and we express no view as to any issue not expressly addressed herein, including, without limitation, any issue regarding: (1) whether the power plant is separately permitted pursuant to Newark City Code § 32-23.1(a)(10); (2) whether the City of Newark's zoning authority applies to this project; or (3) whether the power plant may be a permitted use under other applicable law. This memorandum is limited to the effect of the present state of the laws of the State of Delaware and the City of Newark, insofar as they relate to the issues specifically addressed herein. In providing this memorandum, we assume no obligation to revise or supplement this memorandum should the applicable facts, the present law (or the interpretation thereof) be changed.

This memorandum is furnished to the City solely for the City's benefit. This memorandum may not be used, quoted from, or relied upon by any other person or entity (including lenders or financial institutions) without our prior written consent, except that the views in the memorandum may be used by the City in conjunction with applications or other matters relating to the Data Center.