



September 3, 2013
Newark Community Outreach Meeting
Questions and Answers

The Data Centers, LLC public meeting on September 3, 2013 generated well over 200 questions from attendees. There was a considerable amount of duplication amongst the questions received, so similar questions have been consolidated to simplify the process of providing answers. The following answers are accurate and truthful based upon the most current information we have available to us at this time. Some answers may change, however, as new technical information emerges or due to the requirements of various government agencies.

I. About The Data Centers, LLC

1. What is TDC?

- a. The Data Centers, LLC (TDC) is a veteran-owned Delaware limited liability company formed to design, develop, own and operate highly efficient, Leadership in Energy & Environmental Design (LEED) certified, self-powered data centers. TDC is building unique data management and storage facilities designed to serve multiple users in a 288,000 square foot data center located on the Star Campus at the University of Delaware in a secure environment with an uninterruptible source of electricity and cooling.
- b. The company will construct a LEED sustainable facility, which will consist of a state of the art data center that will receive its power and cooling from an on-site cogeneration facility.
- c. This facility, estimated to cost more than \$1 billion to construct, will provide a technologically advanced, secure environment catering to organizations that need to manage and store vast amounts of data around the clock. Typical customers would be retail data center providers, banks and other financial institutions, universities, insurance companies, telecommunications firms and public and private sector researchers.
- d. The TDC data center located at the STAR campus site will be unique. It will be another first for the State of Delaware and enhances the state's rapidly growing reputation as a place that welcomes innovation, technology based companies, collaboration and growth.
- e. TDC will lease 43 acres, where the former Chrysler plant stood, from 1743 Holdings a subsidiary of the University of Delaware, for a term of 75 years. The terms of this lease are confidential business information of TDC and will not be disclosed.

**2. Where has this model been implemented previously?
Where is something like this up and running?**





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- a. The TDC data center will be the first data center which is built using this combination of existing technologies in this configuration. This will allow the TDC data center to operate indefinitely as an energy self-sufficient data center, in “Island Mode”. What this term means is that the TDC data center will not draw its power from a local electrical grid (a network for supplying energy), rather it will supply and meet its own energy requirements, standing alone as an “island”. This novel design concept is why TDC has applied for both United States and International patents, which are currently pending.
- b. Combined Heat and Power (CHP) facilities are approved and recognized by the U.S. Environmental Protection Agency (EPA) as well as the Department of Energy (DOE) as providing reliable, efficient power.
- c. EPA established the Combined Heat and Power (CHP) Partnership in 2001 to encourage cost-effective CHP projects in the United States. The CHP Partnership is a voluntary program that promotes high-efficiency CHP technology to reduce the environmental impact of power generation. (www.epa.gov/chp) **TDC is an EPA CHP Partner.**
- d. CHPs are currently used in hospitals, schools and other facilities that need a significant amount of uninterrupted electricity. This will be the first instance that a CHP will be used to provide dedicated islanded mode, uninterrupted power to a data center. TDC chose to incorporate a CHP into this design because the standard methodology to provide electricity to data centers was to use the existing local and/or regional electrical grid as the primary source of power, and then using oil, natural gas or diesel generators as onsite backup in the event of electrical service interruptions such as brownouts “a sag in electrical delivery” or blackouts “a loss of electrical delivery”. The reliance on the electrical grid also required the use of hazardous battery backup devices and the storage of large quantities of onsite fuel.
- e. For several years the EPA has managed a community outreach program dedicated to the implementation of CHP solutions at data centers, (see http://www.epa.gov/chp/documents/wbncr091709_naik.pdf) and has publicly presented a case study about the successful operations of data centers powered by CHP natural gas turbines at Qualcomm, Inc. in a desirable beach community in northern San Diego county. see http://www.epa.gov/chp/documents/datacenter_fs.pdf





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- f. The unique feature that distinguishes the TDC design from others is that our data center can operate in “Island Mode” indefinitely; as such we are not relying upon the existing electrical grid for power but are providing our own. In case of a problem with a generator or other electrical subsystem we are able to continue to operate because our design includes redundant systems for emergency and maintenance.
- g. TDC’s leadership team has decades of data center planning, engineering, construction management, corporate and outsourced information technology (IT) management, regulatory economics, environmental affairs, corporate planning, project finance, and financial engineering experience as well as close relationships with internationally renowned engineering and construction companies and state of the art equipment and service suppliers.
- h. The Data Centers concept has not only been peer reviewed and validated by leaders in the IT and energy fields - such as M+W Group Worldwide, and the 451 Group - it was nominated and named a finalist by Data Center Dynamics amongst hundreds of entries submitted internationally. (Data Center Dynamics is the world's leading information technology research and advisory company within the data center market).
- i. The following excerpt is from an email from the Data Center Dynamics organization to TDC: “Congratulations to The Data Centers, LLC for selection as a Finalist in the Data Center Dynamics 2013 North American Awards for "Forward Thinking and Design Concepts””



NORTH AMERICAN AWARDS 2013

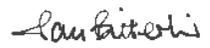
THIS CERTIFICATE IS AWARDED TO
THE DATA CENTERS, LLC (TDC)

FINALIST

FUTURE THINKING & DESIGN CONCEPTS



GEORGE ROCKETT, CSO, DATACENTERDYNAMICS



PROF. IAN BITTERLIN, CTO,
EMERSON NETWORK POWER SYSTEMS EMEA

- j. TDC is going to partner with a world-class CHP operating and maintenance provider to operate this state of the art CHP facility. TDC has been in discussions with many industry-leading firms, and will make an announcement regarding this partnership as the project progresses.
- k. To further enhance our business model, additional third party validation, as well as site suitability characterizations, were performed by M+W Group Worldwide in 2011. M+W Group is a global EPC (Engineering Procurement and Construction) contractor that specializes in sophisticated critical facilities such as data center, semiconductor fabrications, Federal Government scientific R&D facilities. M+W provided TDC with a conceptual design validation study that concluded that our technology design could be built and operated as our internal planning indicated.
- l. Additional third party validation was performed by 451 Advisors, an internationally recognized research firm. Their conclusion stated “We believe the business plan is thorough, well modeled and feasible, with several streams of income that help reduce the risks related to the project. We look forward to adding TDC to our list of quality datacenter suppliers in the region.”

- m. This facility will be built and operate to comply with all applicable FM Global (insurance), ISO (international), TIA (telecommunications industry), and Energy Star standards (US government).

3. **Is Data Center LLC regulated by the Public Service Commission?**

- a. The facility will not be a public utility. Therefore, the Delaware Public Service Commission will not regulate the facility.

4. **My question about transparency: Why are you not letting it be known that you're a member of the Sierra Club and is it because Chesapeake Energy the natural gas provider for the power plant gave the Sierra Club \$26 million dollar in secret payments to promote natural gas as a bridge fuel to a low-carbon future?**

- a. We have no knowledge of, nor can we speak to, the actions or inactions of a non-affiliated company. However, because of our pride in the use of energy efficient technologies and our desire to achieve the highest possible energy certifications in the construction industry, we did meet with members of the Delaware Chapter of the Sierra Club on June 6, 2013 to discuss this project with the goal of earning their support. The Sierra Club was simply one of the numerous groups and entities with whom representatives of TDC have met regarding this project.
- b. Neither TDC nor its affiliates are associated with, nor are they corporate members of, the Sierra Club. TDC employees may be members of the Sierra Club or other environmentally conscious organizations, however it is not TDC policy to inquire of employees non-work related organizational affiliations.

5. **Will you be connected in any way with the National Security Agency?**

- a. All levels of government use data centers to manage information and we expect different government entities to be tenants. However, we have no reason to believe that the National Security Administration (NSA) would choose to move into our facility. NSA has historically built their own facilities in order to manage the design and operations of their data centers with the very highest level of security.

6. **How many acres is the data center's footprint**

- a. The facility will occupy 43 acres of the 272 acre University of Delaware's STAR Campus. This site is the former location of a Chrysler auto plant.

II. Defining Combined Heat & Power (CHP)

1. What is a CHP Facility and why isn't it a power plant? Your facility is a CHP? What is that?

- a. The world's first recorded CHP was built and inspired by Thomas Edison in 1882. Combined heat and power (CHP), also known as cogeneration, is the simultaneous production of electricity and heat from a single fuel source, such as natural gas, biomass, biogas, coal, waste heat, or oil. CHP offers the opportunity to keep "critical facilities" running if the electrical distribution system in the local or regional area (grid) were to be impaired.

CHP plays an important role in meeting U.S. energy needs as well as in reducing the environmental impact of power generation. Benefits include:

- i. Efficiency: CHP requires less fuel to produce a given energy output, and avoids transmission and distribution losses that occur when electricity travels over power lines.
- ii. Reliability: CHP can be designed to provide high-quality electricity and thermal energy to a site regardless of what might occur on the power grid, decreasing the impact of outages and improving power quality for sensitive equipment.
- iii. Environmental: CHP reduces air pollution and greenhouse gas emissions by burning less fuel to produce each unit of energy output.
- iv. Economic: CHP can save facilities considerable money on their energy bills due to its high efficiency and can provide a hedge against unstable energy costs.

Note: Above reference from EPA website <http://www.epa.gov/chp/basic/index.html>

- b. A CHP contrasts with a typical power plant configuration. In a typical power plant, energy is created with less than 33% efficiency meaning that less than 1/3 of the energy content of the fuel can be converted to useful energy (electricity) with the remaining 2/3 being waste heat emissions released as a byproduct into the atmosphere. The EPA calls CHP "an efficient clean, and reliable approach to generating electricity and heat energy from a single fuel source". The Department of Energy approves of CHP because of its "resource efficiency". Rather than "throwing away" 2/3 of the energy released from fuel, we will be able to use it to generate steam that can be used to generate electricity and provide cooling to the data center. This configuration is much more efficient and environmentally sound than the configuration of a typical electrical power plant.

- c. The data center will be powered by a dedicated, efficient and environmentally sound CHP, using clean-burning natural gas. Natural gas will be provided to the site through two independent pipelines, each of which is capable of supporting the data center independently. The CHP will generate 248 megawatts of power and will comply with all applicable FM, ISO, TIA, and Energy Star standards.
- d. Unlike other data centers around the world, the CHP will not take power from the grid so it will not use any power that the City of Newark purchases for its residents. It will be unaffected by service interruptions such as blackouts and brownouts. TDC's extra generation capacity will be installed to provide redundancy to ensure the TDC's ability to run continuously is never impacted.
- f. Because the CHP is a energy hub and not a power plant, its architectural design will not reflect that of a conventional power plant. For example, all turbines will be enclosed in buildings to mitigate noise and most of the steam it produces will be re-used to create cooling and electricity for the data center.
- g. CHP is ideally suited for applications that have coincident thermal and electrical loads. CHP technology has been installed successfully in a wide variety of energy-intensive facility types and sizes nationwide. Critical infrastructure facilities that benefit from CHP include:
 - i. Institutions - colleges and universities, hospitals, prisons, military bases
 - ii. Commercial buildings - hotels and casinos, high-tech campuses, large office buildings, nursing homes, life sciences research facilities
 - iii. Municipal - district energy systems, wastewater treatment facilities, K-12 schools
 - iv. Residential - multi-family housing, planned communities
 - v. Public Safety – 911 Centers, jails/prisons, Fire/EMS
 - vi. Transportation Centers – Airports
 - vii. Food Distribution including cold storage and supermarkets
 - viii. Communications and Data Centers
 - ix. Manufacturing

III. Power Needs

- 1. *What are your power needs?*
How much power will you be using?

When the data center reaches maximum capacity, the facility will generate 248 MW that will be distributed as follows:

- a. 108 MW is required to support the computer hardware located at the facility
- b. 90 MW is required for data center cooling and ancillary equipment, such as lighting
- c. 50 MW is required for backup in the event a turbine or engine fails

During the initial five years of the facility TDC will install and utilize the amount of power that we need to run the data center equipment that is installed at that time plus the equipment needed to meet our redundancy requirements.

2. **What does the average home need per year?**

- a. Per the US Energy Information Administration (EIA), the average annual electricity consumption for a US residential utility customer was 11,280kWh or 11.28MWh.

3. **Why is there excess power?**

- a. As discussed previously, the facility is designed to be energy self-sufficient, thereby operating in “Island Mode”, and needs to ensure that the data center will be able to operate continuously and provide 100% uptime, aka systems run continuously without interruption, to our customers. Should a turbine become disabled, the redundant turbines will deliver continuous and uninterrupted power to the data center to assure that computer operations remain undisturbed during any failure related to the generation or distribution of electrical power.

4. **Are you prepared to develop the data center on the site without the power plant?**

- a. No. Our business model is built on the premise of providing an “uninterruptable and clean” power supply to the data center 24 hours per day, 7 days per week in the most cost effective manner. If we cannot control the cost, source, efficiency and supply of electricity and cooling, this project is not innovative.

5. **If there are more tenants, will you have to increase the amount of electricity you are currently generating?**

- a. No

6. **Are you really building the city another 138KV substation at no cost to the tax payers? Will this help with the reliability of our grid?**

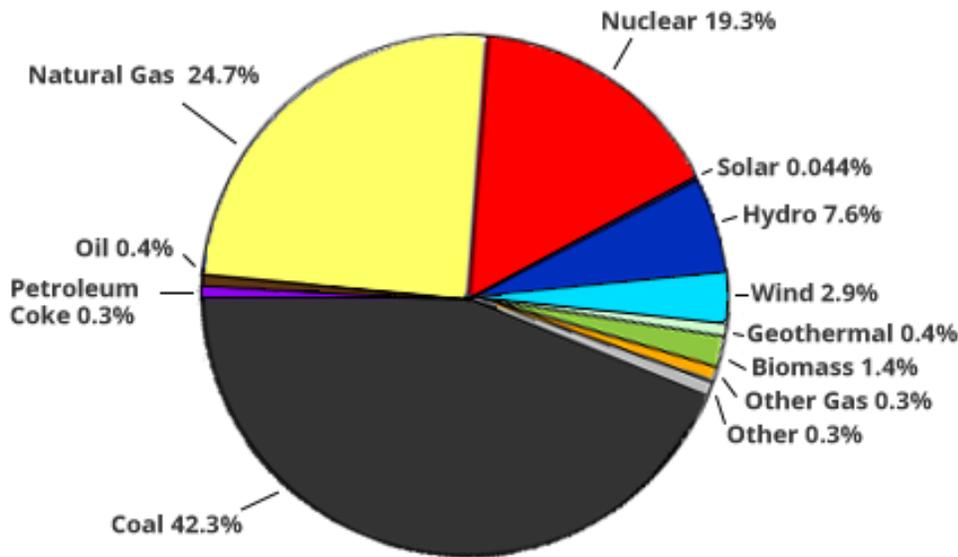
- a. Yes. As part of the infrastructure improvements that TDC will pay for, TDC will spend \$18 million to build a new substation for the City of Newark. This additional substation will help to alleviate some of the congestion currently found in the local grid.
- b. Yes. While grid reliability questions are better left to the entity that manages the grid in our area, PJM Interconnection, LLC, the Regional Transmission Organization (RTO). We are of the opinion that this investment will benefit both the City of Newark and The Data Centers.

7. **The two 138 KV feeders at this site provide highly reliable power (>99.999 reliable) No power plant can provide as much reliability as this? (Typical is 95% reliable) So what is the motivation for not drawing from the 138 kv feeders?**

- a. In terms of data security, primary and secondary grid power is not reliable. Other data centers that are configured to use grid-based power have the dual feed you describe, as well as batteries to handle the short-term load in case of a grid failure and a full set of emergency diesel generators to produce power onsite to meet the full operational load of the facility. These power supply systems are not energy efficient, capital efficient or environmentally sound.
- b. As noted earlier, The Data Center design is built around creating an energy independent facility. Given the critical roles computers and data have in today's world, there can be absolutely no downtime.
- c. As stated by the M+W Group in our conceptual design validation study, our facility will become the benchmark that all future data centers will measure themselves to because we will provide 100% uptime to our clients and will do so without adding stress to the already strained power grid.

8. **Can the 3 nuclear power plants within a 30 mile radius of the STAR campus supply the required power and backup without a natural gas turbine plant on site?**

- a. No – All power producers provide power to the grid. All power provided via the grid comes from a mix of nuclear, coal, wind, solar, hydroelectric and CHP facilities, as shown below in this diagram from the EPA website:
<http://www.epa.gov/cleanenergy/energy-and-you/>.



9. WHY NO SOLAR PANELS?

- a. As part of The Data Centers’ promise to achieve the highest level of LEED certification, there will be solar panels in the design. [However, their use at the TDC data center will have to be limited due to the size and acreage constraints of the Star Campus].
- b. Depending on the efficiency and placement of solar panels, most areas require 4.5 to 7 acres of solar panels for every 1 MW of electricity generated. As discussed throughout, in order to meet the reliability requirements of operating this TDC data center, it would conservatively require 158 acres of solar panels to replace just one 22.7 MW turbine.

10. Who will build the power plant? How many turbines? Who will manufacture the turbines?

- a. The design is not finished. Selection of manufacturers and contractors has not been made.
- b. Whichever contractor is selected, they will be well qualified and experienced.
- c. TDC will select a well established and experienced manufacturer for this project. TDC will ensure that the products and control systems utilized will be the most efficient and effective available.

IV. The Site

1. Why here?

- a. Location and infrastructure were our primary drivers for selecting this site. From this Delaware location, the data center will serve technology communities in Philadelphia, Baltimore, New York, and Washington, DC. This area could gain traction as a data center community because of its central location in the middle of the Northeast Corridor and because the zero sales tax in Delaware provides significant savings on IT equipment required by tenants.
- b. The University of Delaware STAR Campus offers many advantages to The Data Centers: 1) access to an educated and skilled workforce; 2) potential synergies with local and regional universities and colleges; 3) established infrastructure from the site's former use as the Chrysler plant; 4) the large amount of fiber optic cabling for communications and many more.
- c. TDC believes that both the State and University will greatly benefit from the national exposure surrounding this islanded, high-density data center. This exposure will be the catalyst for the migration of similar highly technical national and global enterprises to the great State of Delaware.

2. Why build on a brownfield site?

- a. Location, revitalization and existing infrastructure
- b. "Per EPA definition: The term Brownfield site means *"expansion, redevelopment, or reuse of a property, which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant"*. Developing Brownfield sites is recognized as an environmentally wise use of land and infrastructure resources. It is the opposite of wasteful "Greenfield" development, which contributes to urban sprawl, over-extension of infrastructure and conversion of agricultural lands.

3. What will be reused from the old Chrysler facility?

- a. We will be utilizing the current transportation, potable water and sanitary wastewater infrastructure, built and used to accommodate the former Chrysler plant.

4. Where will the remaining half mile of natural gas run through?

- a. While Eastern Shore Natural Gas Company and Delmarva Power, a PHI Company will make the final determinations as to the pathways that the pipelines will follow. TDC anticipates that existing public right of ways will be utilized and that most, if not all, of the pipeline improvements will follow existing pipeline pathways.

5. **How many phases will the project be?**

- a. The facility will be built out in two phases over the course of three years. Phase I will build data center module I, the administration building, the CO2 recovery area, all CHP buildings and the turbines to support data center module I. Phase II will provide data center module II and the remaining turbines to support data center module II.

6. **Our neighbors are already flooding because of the antiquated sewer/flood water system. What are you going to do about overburdening an already inadequate system?**

- a. Star Campus, when owned by Chrysler, was almost entirely paved and impervious to stormwater infiltration. There was no stormwater management on site before the Paint Building was constructed in the mid-1990s. Stormwater runoff from the Chrysler facility entered storm sewers that discharged directly to Silver Brook. Each of the redevelopment projects coming to STAR Campus, including the proposed TDC project will be reducing the extent of impervious surface, which in turn, will be reducing the amount of stormwater runoff from the site. Each project will be required to manage stormwater runoff quantity and quality, which should further reduce the amount of runoff entering Silver Brook while also improving the quality of the water being discharged, in accordance with State of Delaware and federal regulations. Ultimately, this process should reduce peak runoff rates to Silver Brook and reduce the severity of flooding.
- b. The sanitary sewer trunk main that extends through and services STAR Campus and the portion of New Castle County to the west of Newark (including western Newark) was installed about 1990 and was sized to handle the project loads of existing and foreseeable future development as well as the load of the former Chrysler plant. With the elimination of the wastewater load from the former Chrysler plant, the sewer trunk main has a significant amount of unused capacity. Wastewater from the TDC project will flow to that trunk main. TDC's anticipated use is less than 10% of the capacity of the Chrysler plant that the infrastructure was built to handle.

7. **How long will construction last and will there be controls for dust?**

- a. Construction will be approximately three years with all typically required controls in place to mitigate all construction impact including noise, dust and traffic.

8. **Is there fracking involved?**

- a. No. The Data Center is not an energy company or producer of natural gas. We are a purchaser of natural gas just like homeowners and other businesses.

9. Where are you getting your natural gas from?

- a. We will be purchasing our natural gas from a national distributor.

10. We need to know the pipeline routes

- a. The engineering for the pipeline has not been completed, as such, we have not been provided with the exact pathways of the natural gas pipelines. However, in general, it is anticipated that the new gas lines will be installed in existing gas line right-of-ways. Any such construction will meet all regulatory standards.

11. Why 2 gas pipelines? Why not be really environmentally efficient, using solar and wind? (As GOOGLE and APPLE do)

- a. Two gas lines are required to the CHP to ensure redundancy of our patent pending design. Other data centers use vast amounts of batteries to avoid service interruptions and diesel to fuel the onsite generators required to maintain reliability in the event grid interruption. The CHP is designed to serve the data center reliably, efficiently and in an environmentally friendly manner.
- b. There will be solar panels at the facility to help us meet our LEED certification requirements. To meet our energy needs, wind turbines, to be effective, would need a location that provides constant wind which the University of Delaware STAR Campus does not. The number required, height, size and potential noise of a wind turbine farm make wind turbines unfeasible for this location.

12. Does the project have any public funding?

- a. Yes. TDC applied to the Delaware Economic Development Office for a \$7.5 million infrastructure grant. That money will fund off-site infrastructure improvements only, which includes natural gas pipelines, fiber optics and upgrades to water lines.
- b. The total cost of infrastructure improvements is about \$240 million (of an estimated \$1 billion project), so the state funds are about 3.1 percent of the cost of the infrastructure improvements.

V. Environmental





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1. How does the environmental impact of this facility compare to the auto plant it replaces?

- a. The former Chrysler plant was permitted to emit 1,112.8 tons per year of VOC and approximately 135.7 tons per year of NOx to the atmosphere. TDC is estimating that we will emit a maximum of 81.3 tons per year of VOC and 74.11 tons per year NOx.

Emitted Item	Chrysler	TDC
VOC	1,112.8 tons per year	81.3 tons per year
NOx	135.7 tons per year	74.11 tons per year

- b. A significant difference between the former Chrysler plant and the proposed CHP is that much of Chrysler’s VOC emissions were composed of paint solvents, in addition to the by-products resulting from #6 fuel oil combustion. The CHP VOC emissions will be limited to the by-product of natural gas combustion.

2. Was an environmental impact study performed?

- a. Not only was an impact study performed on this property but the facility is regulated by federal and state environmental agencies. Public exposure to air emissions is regulated by the EPA and State of Delaware through permitting and reporting requirements. TDC will need to prove that emissions from the facility will not degrade air or stormwater quality.
- b. By producing energy from natural gas and using advanced emissions control technology and highly efficient turbines, the facility will operate as one of the cleanest CHP facilities of its kind in the U.S.

3. What will your emissions be?

- a. The overall design and operating philosophy of TDC is “reuse, recapture and recycle”. Federal and State of Delaware emission standards require this facility to utilize Lowest Achievable Emission Rates (LAER) technology for nitrogen oxide (NOx) and volatile organic compound (VOC) emission control. Likewise, Best Available Control Technology (BACT) is required for particulate matter, sulfur dioxide, and carbon monoxide emissions. Additionally, air dispersion modeling is required to demonstrate that the new emissions will not deteriorate air quality.



- b. Of all the criteria constituents measured throughout the National Ambient Air Quality Standards, the facility's expected emissions are low level NO_x, low level CO and CO₂. TDC plans to include a CO₂ emissions extraction system on the property, which will actually remove much of those gasses from the exhaust stacks, and use it for other productive purposes.
- c. Through our emissions engineering, risk mitigation process, and compliance with the Clean Air Act, the facility will be utilizing best available control technology and lowest achievable emission reduction systems, such as low NO_x technology, selective catalytic reduction systems and catalytic oxidation systems to reduce or eliminate common pollutants normally associated with heat process emissions, in addition to the inherent minimization of emissions that will stem from incorporating cogeneration and combined-cycle power generation in the CHP .
- d. All emissions will be equal to or better than the applicable state and federal guidelines we follow when measuring air quality.

4. Air permit process, next couple weeks? Application and approval in same time span? What about public hearings on air permit?

- a. TDC anticipates submitting our air permit in September, which will then follow the standard air permitting process required by state and federal environmental regulators. As with any other facility, we must demonstrate compliance with applicable state and federal regulations. The process will take several months to complete after the Delaware Department of Natural Resources and Environmental Control (DNREC) accepts our application.

5. Will exhaust emissions be clear?

- a. All emissions must meet state and federal regulations. Exhaust emissions will be clear due to the fact that we will be combusting natural gas. White Vapor, which is simply water vapor, may be noticeable at times, under certain combinations of atmospheric conditions, emanating from our cooling towers.

6. Say the power plant does not conform to the procedures made this evening, in reference to air and water quality, noise, property value, etc. Who will be ultimately responsible? You, the power plant operators? The trustee of the university? The city of Newark?

- a. This is TDC's project. Responsibility to operate properly and provide up to date accurate information to all regulatory authorities rests with TDC. It is for this reason we have partnered with the top industry professionals to make this project successful.
7. **There is a potential for the down wash of exhausts gasses into adjacent residential neighborhoods due to the proximity of Iron Hill and the eddy effect that it can generate? Will down wash modeling be performed to verify that the exhaust stack design will not be a problem?**
- a. The US EPA air dispersion model input includes terrain data obtained from the US Geologic Survey, all land use features present within 3 kilometers of the facility, and all topographic features (elevation data) within 10 kilometers of the facility. Therefore, the Iron Hill topology and effects are taken into account by the air dispersion model that will comply with all local and federal requirements.
8. **How do you plan on reducing NOx emissions? Will you have a storage site for chemicals used in catalytic converters like ammonia? How big will chemical tanks be?**
- a. As noted throughout this document, TDC is committed to using Best Available Control Technology (BACT) by using low NOx technology in our combustion equipment (gas turbines and reciprocating gas engines) to minimize the formation of NOx to minimize emissions. First, TDC will invest in Selective Catalytic Reduction (SCR) a means to significantly reduce NOx to 1 to 2 parts per million (ppm) An additional SCR scrubber will be placed in the stack to serve as a secondary means of capture. Additionally, a NOx sensor will be part of the SCR system and will monitor the levels of NOx being released into the air. Lastly, a Continuous Emissions Monitoring System (CEMS) will be part of the emissions control system and will monitor the levels of substances being released into the air.
 - b. TDC will be storing Anhydrous Ammonia (liquid form) which is required for use in the Selective Catalytic Reduction units used to eliminate nitrogen oxides in exhaust gas. This material will be stored in an above ground, double walled storage tank located in a lined containment dike capable of storing 110% capacity, with monitoring. Storage will comply with Federal, State of Delaware and City of Newark Fire Marshal regulations.
9. **Compare the emissions to a coal fired plant?**

- a. Emissions are estimated to be less than half of a comparable sized fossil fuel facility including coal fired plants

10. How will you be monitoring CO2? Will it be public information?

- a. CO2 will be monitored continuously and reported to appropriate regulatory agencies and that information will be publicly available.
- b. Please remember that CO2 emissions are not currently regulated under the Clean Air Act, however, the EPA has been suggesting a regulatory limit in the future of 1,000 pounds of CO2 per MW/h of electricity produced. Our facility (without CO2 capture) is projected to produce 828 pounds of CO2 per MW/h, which will be well under the proposed standards.
- c. While it would not be necessary for compliance, the voluntary CO2 capture we are considering supports our sustainability goals.

11. How will the CO2 be captured?

- a. TDC will partner with an industrial gas firm that will operate the equipment that captures and cleans the CO2 for other beneficial uses.

12. Is CO2 capture loud?

- a. No

13. Can you speak to this proven technology?

- a. Carbon capture has been in use for decades in the oil and gas industry as a way to enhance oil and gas recovery. It is only recently that carbon capture has been considered for environmental reasons and for other industries.

14. What would the carbon emissions of this plant be in comparison to the emissions of Newark already experience courtesy of interstate 95? Would there be a significant compounding effect?

- a. TDC cannot speak to the raw emission data of Interstate 95 traffic, train traffic, or airplane traffic.

15. Why natural gas and not solar and wind?

- a. Per the Environmental Protection Agency, CHP is an efficient and clean approach to generating power and thermal energy from a single fuel source.

- b. Wind and solar are not dependable forms of producing electricity and fundamentally are not appropriate technologies for uninterrupted, steady power production. However, we will be installing solar panels and are considering installation of micro wind turbines to handle a portion of our power demand.
- c. Newark, Delaware is not rated by the EPA as having a reliable or developable wind resource.
- d. We could not install enough solar panels at the facility to meet even our daytime power demand. To put renewable power production into perspective, Lincoln Financial Field has more than 11,000 solar panels and 14 micro wind turbines that combined, generate 3 MW of peak power. That amount of power is approximately 2.7% of the demand of the computer equipment that will be housed in the data center.

16. Apple built a 160 mw data center in North Carolina using solar power, why can't you?

- a. We applaud Apple's initiative, but it needs to be put in perspective. Apple is building its facility on a green field site. According to Apple's website, Apple has built a 20 MW solar facility on 100 acres of land to handle approximately 10% of the required power for their 500,000 sq ft facility. They are planning a second 20 MW facility that will require a similar amount of land, which all in, will provide approximately 20% of their power demand. While we cannot speak for Apple, based on publicly available information it appears that most of their power is coming from a source other than solar, which they acknowledge is the utility grid. Apple built two 20mw solar facilities to handle a fraction of the required power for their 500,000 sq ft facility in Maiden, NC. Note that Apple also operates a 5 MW gas powered fuel cell at that site. Reasons that we cannot reasonably implement this solution for the TDC facility include the following:
 - b. The 40 MW worth of solar panels took up 200 acres of land. The entire TDC facility including the data center, support facilities and a 248 MW CHP plant sits on a 43 acre site. We would need about 1,250 acres to implement a similar solar solution, assuming that Newark's sunshine is the same intensity of North Carolina.

17. Originally there was talk of the use of fuel cells to obtain electricity from natural gas, but now we hear of turbines, which imply combustion – a much more polluting process. Which is it?

- a. TDC has considered the use of fuel cells for a small part of the TDC operation. However, the cost of implementing this type of solution for the TDC project would make this project unfeasible. Fuel cells are much more expensive to implement and maintain than most any other alternative solution now being deployed.

18. What are the construction materials stored on site, that could explode? What are the risks of an explosion for those living with 1/4th mile? 1/2 mile? What will the evacuation procedure be?

- a. This site will not store nor use explosive materials in the construction process.
- b. The facility will comply with all municipal, state and federal requirements regarding emergency procedures, and currently there are no required evacuation procedures.

19. How would a carbon tax affect you?

- a. That would depend on the scope and design of the carbon tax program.

20. What is LEED?

- a. Leadership in Energy & Environmental Design (US Green Building Council).
- b. The US Green Building Council provides independent, third-party verification that a building, home or community was designed and built using strategies aimed at achieving high performance in key areas of human and environmental health: Sustainable site development, water savings, energy efficiency, materials selection and indoor environmental quality.

23 Will this campus be loud and what steps will you be taking to reduce the sound?

- a. The City of Newark has stringent noise requirements. The facility will comply with the City of Newark noise ordinance, which includes provisions that industrial users adjoining residential districts must comply with noise requirements of the residential district at their (TDC's) property line. TDC commits that any noise it generates will be within what the law dictates. Our engineers have developed specifications for this project that incorporate acoustical deadening technology of noise sources and to place noise producing equipment within structural enclosures (buildings) to the extent

practical, in an effort to further reduce noise releases to exterior areas. Other features may be incorporated into the landscaping and site layout to further reduce noise.

- b. Acoustical deadening technology is an integral part of the facility's design. The decibel level at the edge of the STAR campus, which is where regulators would measure sound levels, will be about the same as normal conversation, as specified by the City of Newark ordinance requirement of 52 decibels at our property line adjoining a residential district.

24. Will the city of Newark require the data center/power plant project to meet its current chapter 2a noise ordinance? Please state specific sections and noise limits that will be enforced.

- a. Per City of Newark Code Chapter 20A – Noise, TDC anticipates that the City of Newark will require the facility to meet the noise requirements. TDC also anticipates that during the construction of the facility, the City of Newark will require compliance with the portions of the code intended to manage construction noise.

25. Will it be louder than the crowd noise from a football game, passing train, fireworks display? How does this alleged pollution match up with what was there? Will the taxes on income and business benefit the populace?

- a. No - depending on what team is playing, a typical football game is approximately 117 dB, a passing train is approximately at 100 dB, and a typical fireworks display has been approximately at between 130 and 170 dB.
- b. TDC does not know what the sound levels were when the Chrysler plant was operating.
- c. The project will benefit the populace in exactly the same way that other taxes collected on property and business activities do.

26. Does the extra costs required for the berm and other protective measure stemming from natural gas usage really outweigh the costs of using renewable energy?

- a. There is no connection between the use of natural gas and the berms or other protective measures being discussed in conjunction with the project. The berms are a security measure and may serve a dual function to attenuate noise. Please refer to questions 15 and 16 above in this section.

27. What are the limitations to using renewable resources?

- a. Reliability
- b. A typical windmill stands 426 feet tall and produces 1 MW of power
- c. Windmills are not quiet, ranging between 50-65 decibels at full load.
- d. As mentioned above, depending on the efficiency and placement of the solar panels, most areas require 4.5 to 7 acres for every 1 MW of electricity generated. Please refer to question 15 above.

28. What night lighting will be used in the Data Center LLC including the proposed power plant and how much will this pollute the night sky for those of us who live 1/4 mile away? 1/2 mile away and 1 mile away? What will this night sky look like? What comparable power plant/data center can we reference?

- a. To meet LEED criteria, the design of the facility will be incorporating several concepts to minimize light pollution and save energy. Internally, we are using sensors to shut off lights in portions of the buildings that are not in use. Areas that are in use will be equipped with automatic shades that will cover the windows at night. Exterior lighting will be downward directed and focused to minimize both the amount of light used and to minimize the impact to unintended locations. The intent of the design efforts (and LEED criteria) is to have minimal impact on the night sky view and to use energy wisely.

29. How much water will you be using?

- a. Water consumption will be limited to steam production and cooling towers, aside from equipment cleaning and maintenance. The currently projected water demand is less than 3 million gallons per day at our peak usage that will occur two months out of the year. Water will be supplied by United Water of Delaware and is not coming from the City of Newark. Sanitary water for toilets and urinals will be obtained from gray water, collected stormwater and air conditioning condensate, rather than treated potable water. Similarly, landscape irrigation, which will be minimized by design, will use gray water.

30. How much waste water is going to be produced, how does this # compare with the waste usage of the old Chrysler site? Can this volume of water be handled by Newark?

- a. The volume of water discharged into the sanitary sewer will be less than what the former Chrysler plant discharged. The existing infrastructure is adequate to handle 10 times our requirements.

31. What are some water use comparisons?

- a. Delaware City Refinery uses 303,000,000 gallons of water a day - http://www.dnrec.delaware.gov/Info/Pages/SecOrders_Permits.aspx.
- b. Amazon's 15MW data center uses 360,000 gallons of water a day (131,400,000 gallons per year). To create an equal comparison, if one were to use the volume of water per MW generated, then, Amazon uses 24,000 gallons/MW. If Amazon had a 248 MW facility, Amazon would use 5,952,000 gallons of water a day or approximately twice that of TDC at our peak usage.

32. Was a wind wake analysis performed?

- a. Per DNREC, Air dispersion modeling is being performed in support of the air permit application for the facility. A wind wake analysis will be performed for local air dispersion around the buildings to assure that our operations do not disturb airflow to the extent that it has an unacceptable impact on building HVAC performance and general operations.

33. Did you take into account Iron Hill?

- a. Per DNREC, the US EPA air dispersion model input includes terrain data obtained from the US Geologic Survey. All land use features present within 3 kilometers of the facility are included in the model as well as all topographic features (elevation data) within 10 kilometers of the facility. Therefore, Iron Hill is taken into account by the air dispersion model. Please refer to question number 7 in section IV.

VI. Aesthetics

1. Will this be an eyesore and have a negative impact on property values?

- a. TDC is vitally interested in the appearance of the facility. First, we intend to be a good corporate citizen, so we have designed all of our buildings with an eye toward aesthetics with pleasing sightlines and neutral colors. We believe this facility will be a great improvement over prior automotive plant uses of the property. From a purely commercial standpoint, we are in the business of attracting very sophisticated, high-

technology customers to TDC, so it's in our best interest to design, build and maintain our facility to the highest aesthetic and architectural standards.

2. **How tall will the facility be?**

- a. Cooling Towers - approximately 110 feet above ground level similar to the existing water tower on site
- b. Tallest Buildings – approximately 100 feet above ground level.

3. **Have you considered another location to place the CHP apart from the data center?**

- a. No, thermal energy cannot be effectively transported over extended distances and the reliability of our control over electrical distribution cannot be maintained.

4. **Would the electricity and emissions be the same if the facility were moved?**

- a. Even if we were able to relocate the CHP, the emissions would be higher for the same and less efficient given the amount of usable power produced so the facility would be less efficient. Heat recovery opportunities would be limited, leading to wasted heat energy, and there would be losses of electricity due to line resistance and transformers in the distribution system between the CHP and the data center.

5. **How tall will the berm (gabion) be?**

- a. We currently anticipate that the berm will be approximately 25' high x 25' wide. Site design work is in progress and final dimensions are not known at this time.

VII. **Jobs**

1. **Construction jobs – union only? Is this in writing?**

- a. Yes

2. **How many veterans?**

- a. We will work with a variety of programs to assist our veterans as much as we can.

3. **Will jobs stay in Delaware?**

- a. The Data Center's goal is to hire qualified people to work at the facility. TDC will look to hire qualified Delawareans for as many positions as possible.

4. Why should city residents bear the brunt of this project for jobs for people outside of Newark or even DE?

- a. TDC anticipates that due to the presence of the University of Delaware and the presence of skilled employees of the former Chrysler Plant, many of our jobs will be filled by residents of Newark and other parts of Delaware, if they apply.
- b. We believe that the good paying jobs we offer with this project will provide benefits for everyone in City and region. Economic impact analysis done for other data center projects show a positive impact – with every new job created at least two more are created in support. This multiplier effect is found everywhere from the pizza shop to retail establishments to professional services. TDC commits itself to being a good neighbor and becoming a part of the community.

5. Does buy local mean you'll buy from large local chain stores?

- a. As long as the supplies are available and meet our specific needs and requirements, TDC prefers to buy from locally owned merchants.

6. What is the average salary of a TDC employee based on this project?

- a. TDC's loaded annual payroll is estimated at \$17,535,000. Dividing this number by the number of full time employees (290) provides an average wage of \$60,467.
- b. In our application for the State Infrastructure Grant we provided the table in the appendices that provide more detailed information.

7. Can you give us an idea of the benefits package your employees will have?

- a. Full medical, dental, as well as retirement and profit sharing programs.

8. What types of jobs will be created at both the Data Center and CHP Facility?

- a. Administration – Managers, Directors, Executives, Client Relationship Managers, Bookkeeper, HR, Administrative positions, and Controller,
- b. Data Center – 1st, 2nd, & 3rd level support, cable pullers, computer equipment technicians, facilities/operations, electrical, mechanical, management, shipping/packaging.
- c. CHP – Managers, Directors, Operations, Mechanics, Office Support, Controller
- d. Landscape/Janitorial/Security

9. **Will you be using professionals from the local area?**

- a. Yes. Please refer to question number 3 above in this section

10. **How did you arrive at the 5,000 construction jobs number?**

- a. Calculations are based on multiples provided by the United States Council of Economic Advisors created in conjunction with the American Recovery and Reinvestment Act of 2009 in conjunction with the estimated costs of the project.

VIII. Security

1. **Will this site be a spot for terroristic attack?**

- a. At the time of writing this document, no known data center has been targeted for terroristic activity

IX. Economic Impact

1. **What can we expect?**

- a. There are many positive effects on the community such as jobs for local residents, and purchases of locally produced goods and services creating additional income streams for the area. Tax revenues for the local municipality would increase, State tax revenue will increase, school board revenues will increase, and a myriad of other taxes will be paid all benefitting the community.

2. **Will you please help us with our taxes?**

- a. This facility will pay taxes to local, state, and municipal governments.

3. **Will you really be building a 138KV substation at YOUR cost to help our grid?**

- a. Yes

4. **What is the annual tax revenue to the city, the school district, and the county? What part will be paid to U of D?**

- a. City, State, and School District figures are still being calculated. The University of Delaware is our landlord and is to be paid rent not taxes.

5. **What is the economic impact of this project to the public?**

- a. Please refer to item number 1 in this section

X. Public Information**1. Did you meet at Sierra Club?**

- a. Yes. Members of The Data Centers' leadership team met with Amy Roe and Stephanie Herron on June 6, 2013 from 12:30pm to 2pm at the offices of TDC, One Avenue of the Arts, Wilmington, DE.

2. Why didn't you come out sooner?

- a. This project was announced on April, 2013
- b. Preliminary information is not detailed enough to answer the public's questions. TDC wanted to wait until initial design concepts developed to the degree that a meeting with the public could be informative. Much design work is still pending, as are all public approval processes, so even now TDC cannot answer all questions being posed by the public as completely as we would like.

3. Who called for this public meeting?

- a. The Data Centers, LLC was asked by local residents to provide more information so this meeting was facilitated.

4. Is this a done deal?

- a. Nothing is guaranteed. This project must undergo the same stringent air quality permitting, land use planning and approval, and other public approval processes that every other facility must follow.

5. All you will be selling power back to "the grid", will Newark residents still see a decrease?

- a. TDC does not sell power to residents. The City sets pricing for electricity to residents.

6. When and who did you meet with to discuss this project?

- a. University of Delaware, Science Technology and Advanced Research Campus Officials – January, 2012
- b. Office of the Governor, Hon. Jack Markell – February, 2012
- c. Delaware Economic Development Office – February, 2012

- d. City of Newark – July, 2012
- e. Delaware Department of Natural Resources and Environmental Control - May, 2013
- f. Sierra Club, Delaware Chapter – June 6, 2013

7. **Why a confidentiality agreement with the City?**

- a. Anyone who we provide our confidential business information to is required to sign a Non-Disclosure Agreement (NDA) before TDC shares information about specific aspects of the project. This practice is normal in the business world.

8. **What will happen if the zoning exemption granted through UD (Star Campus) is challenged successfully in opposition to your project?**

- a. We cannot speak to things we have no control over.

9. **Please explain how the City of Newark can eliminate the council's approval or vote on the Newark Power Plant? Where is the voice of the people?**

- a. We cannot speak to things we have no control over.

10. **I live 4 houses from the train tracks on apple road, which is directly across from your site. Will I be able to hear birds? Will I be hearing the constant hum of low lever "conversation"**

- a. For the stillest, most rural areas, GE Global Research states that the background noise level is 34 decibels at night.

11. **Why is it fair to compete with the city-utility sale of energy?**

- a. TDC will not compete with the City. The City currently purchases power through DEMEC and sells it to City residents. TDC is negotiating with DEMEC and the City to sell them our redundant power from the facility

12. **What guarantees do we have that the items mentioned in the presentation will actually occur? E.g. bermed trees leaves, salary of "high paying jobs"?**

- a. Based upon current plans and calculations, TDC intends to stand by and honor the goals stated herein.
- b. Second, everything mentioned during the public meeting is based on how the project is currently designed and is subject to revisions per approval processes.

We believe that the meetings that leaders of The Data Centers have with the public provide valuable feedback as we move forward with this project. We are committed to being a good corporate citizen of Newark and Delaware.

13. Do any of the employees of the Data Centers LLC live in Newark? How near to the power plant will your homes be located?

- a. Most of TDC's team members and project engineers from partner companies do in fact live between ½ mile to 30 miles of this location.

14. Why was your presentation given by your HR person instead of Site Supervisor?

- a. Most of the leadership team from The Data Centers was present at the public meeting. The company CEO offered remarks to the audience before the 20 minute power point was presented by our Vice President of HR. The Data Centers CEO, VP Site Engineering, and The Chief Sustainability Officer (an environmental engineer) answered questions for the remaining two hours.

15. With all of the open areas in the state, why are you putting a toxic place in the middle of a city of 30,000 people?

- a. This facility will be the new standard in the way facilities are built and run. There is nothing toxic here.
- b. There will be no future contamination of this existing Brownfield site due to TDC's operations on this location, nor will this facility be a Resources Conservation and Recovery Act (RCRA) permitted site as the Chrysler Plant was.

16. Who is the architect firm and where are they located? Who is the construction manager and WHERE ARE THEY HEADQUARTERED?

- a. The Owner's Architect is Mitchell Associates – Wilmington, DE
- b. The Owner's Civil Engineer is Duffield Associates – Wilmington, DE
- c. The Owner's Engineer is Sargent and Lundy – Offices Wilmington, DE, with Kling Stubbins (Jacobs) of Philadelphia as a subcontractor
- d. The CM has not yet been selected

17. Which elected officials have you met with about this project?

- a. Rep. Baumbach

- b. Councilman Morehead
- c. Councilwoman Hadden
- d. Councilman Markham
- e. Rep. Kowalko
- f. Hon. Governor Jack Markell
- g. Senator Tom Carper
- h. Senator Christopher Coons
- i. Senator David McBride
- j. Senator Harris McDowell III
- k. Senator Robert Venables, Sr

18. Does City Council have the final say as to whether this project is approved? If not, who does?

- a. There are several approvals that are needed for the final approval. City of Newark approval is one, the DNREC [define this at least once in the document] permits are also necessary for final approval.

19. Apple, Google, and others use off-site renewable energy to power data centers. Why not follow the most successful companies in the world? Why not ask Newark residents what they would prefer? Have you done an in depth alternatives analysis at the site?

- a. Refer to question 11 in section IV and question 16 in section V

20. What are your plans for analysis by an independent third party to evaluate the project's positive and negative impact on the Newark community?

- a. TDC is in the process of acquiring such third party data

21. There has been considerable uproar in the community about the power plant, but yesterday on WDEL talk radio, you stated that you called for this meeting, is this accurate?

- a. TDC is not required to hold meetings of this type. We did call for this meeting in order to present factual information about the project instead of the misleading questions and erroneous information that has been presented by third parties.

22. If this is a natural gas plant, what will happen when we run out of fossil fuels? Natural gas is a non-renewable resource and we will run out at or before mid-century.

- a. Natural gas is anticipated to be available well past mid-century. If there comes a time during operation of this facility when natural gas is no longer a feasible option, TDC will look to implement a new clean CHP technology.

XI. Permitting Requirements

1. City of Newark – Any zoning or permitting hurdles?

- a. TDC’s use of this site falls within the current zoning regulations. The permitting process is underway but has not been completed at this time.

2. DNREC – What does the State require of you?

- a. Assuming that the intent of the question “What State of Delaware environmental permits are required for the project,” TDC will be applying for an air permit, which is a two part process. The first application is for a permit to construct sources of air emissions that will pertain to the proposed gas combustion turbines, reciprocating gas engines, emission control systems for those units and cooling towers. The second part of the application will pertain to operation of the facility, after construction is completed. The Data Center will be applying to the State of Delaware for sediment & erosion plan approvals and stormwater management approvals, due to STAR Campus being a designated (certified) Brownfield.

XII. Health Effects

1. Will the facility affect my children’s asthma?

- a. TDC is not qualified to give medical advice or opinions on immune compromised persons. That being said, the projected emissions will be within the State of Delaware and federal guidelines.

2. What about the health risks associated with living next to high voltage? IE higher incidences of certain types of cancer, neurological disorders, etc.?

- a. TDC is not qualified to give medical advice or opinions, however, studies from EPA, Centers for Disease Control (CDC), National Cancer Society, and World Health Organization state that there is inconclusive evidence of the correlation. TDC will not receive permits and approvals if the public’s health and safety is at risk.

<http://www.epa.gov/radtown/power-lines.html>



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<http://www.cancer.gov/cancertopics/factsheet/Risk/magnetic-fields>
<http://www.who.int/peh-emf/publications/factsheets/en/index.html>

XIII. Phone issues

1. Will my cell phone service be interrupted?

- a. No

XIV. Lease Agreement

1. What are the terms of the lease agreement?

- a. Refer to Section I letter, question 1, paragraph e.

XV. Finances

1. How stable is your financing?

- a. The Data Centers, LLC is a privately held company and does not publicly discuss its finances. We can say, through its financial partners, that TDC has gained the financial backing to bring this project to fruition.

On behalf of The Data Centers, LLC, we wish to thank you for the opportunity to meet with you and answer your questions. As we mentioned at the beginning, the preceding answers are accurate and truthful based on our most current information. Some answers may change, however, as new technical information emerges or due to requirements of various government agencies. As the process continues, we look forward to continuing this dialogue and continuing to share information about this exciting project.



September 3, 2013
 Newark Community Outreach Meeting
 Questions and Answers

Appendix A – Estimated positions and Salaries

The Data Centers, LLC.
 Personnel & Wage Estimates

	Weekday			Weekend			Total Personnel	Salary / Hourly (\$/hr)	Hourly Wage	Health Benefits	Loaded Hourly Wage	Weekly Hours	Annual Base Salary	Annual Base Payroll	Annual Loaded Salary	Annual Loaded Payroll
	1st Shift	2nd Shift	3rd Shift	1st Shift	2nd Shift	3rd Shift										
	0700-1500	1630-0230	0200-0800	0700-1500	1630-0230	0200-0800										
Administrative																
Managers	3	1	1	1	1	1	8	\$	\$35.00	\$10.50	\$45.50	40	\$72,800	\$282,400	\$94,640	\$757,120
Directors	3						3	\$	\$55.00	\$16.50	\$71.50	40	\$114,400	\$343,200	\$148,720	\$446,160
Executives	3						3	\$	\$75.00	\$22.50	\$97.50	40	\$156,000	\$468,000	\$202,800	\$688,400
Client Relationship Mgr	1						1	\$	\$37.00	\$11.10	\$48.10	40	\$75,960	\$75,960	\$100,048	\$100,048
Bookkeeper	1						1	\$	\$15.00	\$4.50	\$19.50	40	\$31,200	\$31,200	\$40,960	\$40,960
HR Administrator	1						1	\$	\$30.00	\$9.00	\$39.00	40	\$62,400	\$62,400	\$81,120	\$81,120
Secretary	1						1	\$	\$20.00	\$6.00	\$26.00	40	\$41,600	\$41,600	\$54,080	\$54,080
Controller	1						1	\$	\$60.00	\$18.00	\$78.00	40	\$124,800	\$124,800	\$162,240	\$162,240
Sub-Total Administrative	14	1	1	1	1	1	19		\$327.00	\$98.10	\$425.10		\$680,160	\$1,730,960	\$684,208	\$2,249,728
DATA CENTER																
1st level support	10	10	5	5	5	5	40	H	\$17.00	\$5.10	\$22.10	40	\$35,360	\$1,414,400	\$45,988	\$1,838,720
2nd level support	5	5	2	2	2	2	17	H	\$20.00	\$6.00	\$26.00	40	\$41,600	\$707,200	\$54,080	\$919,360
3rd level support	2	2	1	1	1	1	8	H	\$30.00	\$9.00	\$39.00	40	\$62,400	\$499,200	\$61,120	\$648,960
Cable pullers	4	6	6	6	6	6	34	H	\$25.00	\$7.50	\$32.50	40	\$62,000	\$1,788,000	\$67,600	\$2,298,400
Computer Equipment Techns / Ins	4	4	4	4	4	4	30	H	\$20.00	\$6.00	\$26.00	40	\$41,600	\$1,248,000	\$54,080	\$1,622,400
Facilities - Electrical	1	1	1	1	1	1	6	S	\$28.00	\$8.40	\$36.40	40	\$56,240	\$349,440	\$75,712	\$454,272
Facilities - Mechanical	1	1	1	1	1	1	6	S	\$28.00	\$8.40	\$36.40	40	\$56,240	\$349,440	\$75,712	\$454,272
Facilities - Management	1	1	1	1	-	-	4	S	\$29.00	\$8.70	\$37.70	40	\$60,320	\$241,280	\$78,416	\$313,864
Shipping / packaging	2	1	-	1	-	-	4	H	\$13.00	\$3.90	\$16.90	40	\$27,040	\$108,160	\$35,152	\$140,808
Sub-Total Data Center	30	31	21	24	22	21	149		\$218.00	\$63.96	\$273.00		\$436,800	\$5,655,120	\$667,840	\$5,890,880
CHP																
Managers	2	2	2	2	2	2	12	S	\$35.00	\$10.50	\$45.50	40	\$72,800	\$273,600	\$94,640	\$1,135,880
Directors	2						2	S	\$60.00	\$18.00	\$78.00	40	\$124,800	\$249,600	\$162,240	\$324,480
Operators	2	2	2	2	2	2	12	H	\$13.00	\$3.90	\$16.90	40	\$27,040	\$324,480	\$35,152	\$421,824
Engineers/Mechanics I	3	3	2	2	2	2	13	S	\$20.00	\$6.00	\$26.00	40	\$41,600	\$540,800	\$54,080	\$703,040
Engineers/Mechanics II	2	2	2	1	1	1	9	S	\$30.00	\$9.00	\$39.00	40	\$62,400	\$561,600	\$61,120	\$730,080
Mechanics assistants	5	5	4	3	3	3	22	S	\$14.00	\$4.20	\$18.20	40	\$29,120	\$540,800	\$37,856	\$652,832
Office Manager	1						1	S	\$20.00	\$6.00	\$26.00	40	\$41,600	\$41,600	\$54,080	\$54,080
Controller	1						1	S	\$35.00	\$10.50	\$45.50	40	\$72,800	\$72,800	\$94,640	\$94,640
Sub-Total CHP	18	14	12	10	10	8	72		\$227.00	\$68.10	\$295.10		\$472,360	\$3,356,120	\$613,856	\$4,296,856
Landscaping / Security / Janitorial																
Security - CHP & DC	6	6	4	4	4	4	26	H	\$19.00	\$5.70	\$24.70	40	\$39,520	\$1,106,960	\$51,376	\$1,438,528
Landscaping	5	-	-	5	-	-	10	H	\$15.00	\$4.50	\$19.50	40	\$31,200	\$312,000	\$40,960	\$405,800
Janitorial	4	2	2	2	2	1	12	H	\$14.00	\$4.20	\$18.20	40	\$29,120	\$349,440	\$37,856	\$454,272
Sub-Total L&S	15	8	6	11	6	5	56		\$48.00	\$14.40	\$62.40		\$99,840	\$1,768,960	\$129,792	\$2,298,400
Total Full-Time Payroll							290						\$1,688,960	\$13,488,800	\$2,195,648	\$17,535,440
Part-Time																
Part-Time Workers	15	20	-	15	-	-	50	H	\$12.00	\$3.60	\$15.60	20	\$12,480	\$624,000	\$16,224	\$611,200
Sub-Total L&S	15	20	-	15	-	-	50		\$12.00	\$3.60	\$15.60		\$12,480	\$624,000	\$0	\$0
Total Part-Time Payroll							50						\$12,480	\$624,000	\$0	\$0
Total Payroll							340						\$1,701,440	\$14,112,800	\$2,195,648	\$17,535,440

