Commissioner O'Hara Voicemail comments received on March 13th from James Shaw:

I encourage more energy for something other than carbon fuels and oil, particularly for wind and solar.

Commissioner O'Hara voicemail comments received on March 13th from Katherine Spraley:

Hello this Katherine Spraley and I live in Overland Park Kansas and I am calling to a encourage you to support policies that encourage solar development. We want renewable energy here in Kansas. Thank you. Goodbye.

MEMORANDUM

TO: Jay Leipzig, Director, Planning, Housing and Community Development

FROM: County Commissioner Janee' Hanzlick, District 4

DATE: March 8, 2022

RE: 11/5/21 Conversation with Black & Veatch re Utility Solar and Battery Storage

On November 5, 2021, I spoke via Zoom with Clint Robinson, Sean Tilley, and Casey Hicks, of the Black & Veatch engineering firm. The discussion was in response to my request to Black & Veatch for unbiased expert technical information regarding utility scale solar farms (USSF) and battery storage. The meeting was conversational in nature and no written documents were exchanged, nor did Black & Veatch offer an opinion on the Planning Commission's deliberations regarding solar guidelines.

It should be noted that Black & Veatch does not currently have a solar project for submission in Johnson County.

Topics discussed (per my notes):

1. Solar panel manufacturing
    - Raw materials for solar panel – silica (sand) main component
    - Many panels are made in Asian countries (Vietnam). Recent government ruling prohibits importing of items made with child labor.
    - Biggest challenge right now is shipping.
2. Solar panel longevity and disposal
    - Life expectancy of USSF is continuing to increase – may be up to 40-50 years (none have been out there that long yet)
    - There is currently nothing hazardous in the panels, but that had been an issue in the past. There is a second end use market to buy used, secondhand panels.
      Racking is steel – can be recycled.
3. Best practices in decommissioning a utility scale solar farm
    - USSF will be paid off long before decommissioned – developers required to put money into escrow for maintenance and decommissioning plan.
4. Average amount of land needed for a viable USSF
    - 8.5 – 10 acres per megawatt
    - Preferable to be near transmission lines with available capacity
5. Impacts to community and surrounding land
    - Have to have stormwater protection plans
    - Permeable land stays nearly the same
    - Grass – sheep grazing or mowed
    - Fires – gates, coordinate with fire depts Panels don't catch on fire
    - Fencing
6. Ongoing maintenance needs
    - Usually don't require staffing, except for on-call maintenance person
    - Automated control system provides alerts
    - Panels don't need to be cleaned

Should you need further information, please communicate with Clint Robinson, Associate VP, Director of State & Local Government Affairs for Black & Veatch Corporation.

MEMORANDUM

TO: Jay Leipzig, Director, Planning, Housing, and Community Development

FROM: County Commissioner Janee' Hanzlick, District 4

DATE: March 8, 2022

RE: 2/11/22 Conversation with KIFA and Climate + Energy Project re Utility Solar

In early February, a District 4 constituent, Rabbi Moti Rieber, Executive Director of Kansas Interfaith Action (KIFA), asked for a meeting to speak with me about wind and solar energy issues. On February 11, 2022, I spoke via Zoom with Rabbi Moti and his invited guest, Dorothy Barnett, Director of the Climate + Energy Project (CEP), a statewide nonpartisan non-profit agency whose mission is to "build resilience in Kansas through equitable clean energy solutions and climate action".

Our meeting was conversational in nature and no written documents were exchanged.

Topics discussed (per my notes):

1. Wind energy will help Evergy retire their coal plants
2. They encourage the county to consider a CUP term of at least 25 years with an auto-extension
3. Acreage caps aren't needed if you have good regulations
4. Developers should be allowed and encouraged to work within the natural topography of the land to avoid cutting down trees and maintaining the natural aspects of the land. The ability to work with natural topography is impacted if the acreage is limited.
5. Difference between acreage of panels ("under glass") and acreage of project

I told them I appreciated hearing their thoughts and info, and I will bear them in mind as the BOCC considers these issues.

Information about Kansas Interfaith Action (KIFA) can be found at https://kansasinterfaithaction.org/. Climate + Energy Project information can be found at https://climateandenergy.org/.

From: Michael Hemley
To: PLN-Planner on Duty
Subject: Proposed Industrial Solar Project
Date: Tuesday, March 22, 2022 1:52:11 PM

I live in close proximity to the proposed industrial solar project. My concerns are - zoning, effect on property values, effect of future water run off on our water well ie use of chemical sterilants and herbicides, upkeep and maintenance. And most of all size of project. I believe that there must be reasonable limitations on these projects especially when close to home owners. As I see it the possible risks to home owners warrant close scrutiny. These projects should be kept small enough to the point that they aren't a risk to home owners. I would hope that the first concern of the Planning Commission would be the citizen homeowners of Johnson and Douglas Counties. Yours Truly. Michael Hemley 2327 north 300 road. Edgerton, Kansas

From:	Sader, Lynda, CMO
To:	BOCC-Commissioners
Cc:	PLN-Planner on Duty; Postoak Ferguson, Penny, CMO; Thompson, Maury, CMO; Waters, Joe, CMO; Connor, Joe, CMO; Neufeld, Scott, BFP; Vincent, Emily, CMO; Hanson, Jody, CMO; Miller, Karen, PLN; Leipzig, Jay, PLN; Pendley, Sean, PLN
Subject:	FW: 4/4/2022 BOCC Work Session/Public Hearing (Solar Regulations)
Date:	Friday, March 25, 2022 3:14:56 PM
Attachments:	image001.png Memo to Johnson County Board of County Commissioners dated 3.25.2022-c.pdf

Commissioners,

We just received this today for your information from NextEra.

This is comment on the 4/4/2022 Sp. BOCC Public Hearing Solar meeting.

I have confirmed receipt to them.

Thanks

Lynda Sader
Deputy County Clerk
County Manager's Office
111 S. Cherry, Ste #3300, Olathe, KS 66061
Direct 913-715-0424 CMO Office 913-715-0725

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From: Amy Grant <AGrant@Polsinelli.com>

Sent: Friday, March 25, 2022 3:06 PM

To: Sader, Lynda, CMO <Lynda.Sader@jocogov.org>

Cc: Leipzig, Jay, PLN <Jay.Leipzig@jocogov.org>; Pendley, Sean, PLN <Sean.Pendley@jocogov.org>; Miller, Karen, PLN <Karen.Miller@jocogov.org>; John Petersen <JPetersen@Polsinelli.com>

Subject: RE: 4/4/2022 BOCC Work Session/Public Hearing (Solar Regulations)

Lynda,

Attached please find NextEra's Memorandum to the Board of County Commissioners for the April 4, 2022 Meeting.

Please confirm your receipt of same and that this will be included in the packet to the Board.

Thank you.

Amy L. Grant | Senior Paralegal | **Polsinelli PC**

agrant@polsinelli.com |office 816-572-4503

900 W. 48th Place, Suite 900 | Kansas City, MO 64112

Memorandum

TO: Johnson County Board of County Commissioners

FROM: NextEra Energy Resources

SUBJECT: Johnson County Solar Regulations

DATE: March 25, 2022

On behalf of NextEra Energy Resources ("NextEra") I would like to thank the Johnson County Planning Commission, the County's Planning Staff and the County's consultant, the Berkley Group, for the significant amount of time and energy that has been expended to formulate the proposed Utility Scale Solar Facility ("USSF") Regulations ("Regulations") now before you for consideration. As a company most interested in developing such a facility in Johnson County we appreciate the opportunity extended to us to have input in the process to date. It is our expectation that we will apply for a Special Use Permit ("SUP") to allow for an approximately 320 MW Project in the near future. The Regulations before you will play a critically important role in our project design, leasehold acquisition efforts, and our ability to finance the Project.

In significant part, the Regulations, as recommended by the Planning Commission, represent a comprehensive set of requirements that we can embrace and work with to create a state-of-the-art facility that will bring a meaningful amount of renewable energy to the County's infrastructure while at the same time minimizing impacts to surrounding properties and the community at large. Provisions relating to setbacks, buffering, screening, stormwater management, noise and light abatement, coverage limitations, and decommissioning requirements are extensive and detailed, but we do understand their purpose and stand ready to build a project that meets or exceeds these high standards. Of particular note are the screening and buffering provisions developed by Staff and the Planning Commission that reflect the "Midwest Version" of a solar facility as opposed to a "Desert Application" many think of when the term solar farm is referenced. The pictures below depict this contrast well.

DESERT APPLICATION

MIDWEST VERSION

By requiring developers in Johnson County to maintain natural corridors and to implement significant setback, buffering, and landscape features the visual impacts will be significantly reduced, if not eliminated, in many cases. These requirements are challenging and expensive to implement but, as previously stated, we are ready to embrace them if granted the privilege to do business in Johnson County.

There are, however, three concepts in the proposed Regulations addressing maximum size, the term of an SUP, and the separation of a project from existing cities that we would respectfully request further consideration of to determine their impact on the underlying viability of a USSF Project. A fundamental purpose of a USSF is to produce renewable, carbon free energy in an amount and for a period of time reflective of it being part of the overall utility infrastructure of a community. Long term decisions will be made in reliance on the availability of the resulting electric power both by users as well as utilities that take steps to permanently decommission fossil fuel-based generation facilities. In turn, the capital markets require minimum scale of size and term of operation so that they can underwrite the significant debt necessary to finance and construct such a facility. Moreover, power purchasers, such the local utilities, may require that the project permitting contain certain terms in order to be viable.

In regard to these three provisions in the Regulations as proposed by the Planning Commission, we would propose the following:

1. PROJECT AREA SIZE

In regard to Project Size, the proposed Regulations as recommended by the Planning Commission provide as follows;

"The minimum Project Area of a Utility-Scale Solar Facility shall be more than ten (10) acres in size, and the maximum Project Area shall not exceed 1,000 acres."

Limiting a Project to 1,000 acres in size will essentially eliminate the possibility of USSF becoming part of Johnson County's infrastructure. Communities across the country have embraced their commitment to renewable energy by recognizing the need for scale and scope beyond historical metrics. In spite of the Planning Commission's recommendations, the Johnson County Planning Staff and the Berkley Group clearly recognize the need for an increased minimum size to have a positive impact and meet the national trend in terms of addressing the need for more renewable energy. In its February 22, 2022 Memo to the Commission the Planning Staff states at page 2;

"A maximum area of 1,000 acres is more in line with early versions of USSF projects in other jurisdictions. However, as recommended by the consultant, projects exceeding 1,000 acres is the future trend for USSF's and 2,000 acres is considered conservative in this approach."

Given the extensive design requirements in the proposed Regulations focused on minimizing negative impacts, NextEra initially requested that the maximum project area be capped at no less than 3,000 acres. This remains the preferred amount of acreage that could be used, but in the spirit of finding common ground, we would propose the cap be raised to 2,000 acres with an opportunity to seek and receive a waiver of the limitation to allow up to 3,000 acres. This would provide the Commission the opportunity to evaluate an actual project including its actual location, impacts, if any, on surrounding properties and, where relevant, the effectiveness of the buffering and screening elements. We would welcome the opportunity to earn the right to utilize land in excess of 2,000 acres through excellent design and project implementation.

An increase to the maximum area that can be utilized would also require a corresponding increase to the Project Extent limitations provided for in the Regulations.

2. PERMIT TERM

In regard to the term of an SUP, the proposed Regulations as recommended by the Planning Commission provide as follows;

"Permit Term of US Solar Facilities: A conditional use permit for a US Solar Facility may be approved for a period not to exceed twenty (20) years."

This element of the Regulation is one of the most important factors in the ability for a project to be eligible to sell power to off-takers, such as utilities, and to finance and thus build a USSF. As stated earlier, utilities and the market require adequate time to amortize the significant debt necessary to finance a project of this magnitude. Although it is recognized that 20 years is a significant amount of time, it is not enough to make a project bankable and risks making the project ineligible to power purchasers. In recognition of this market reality, ground leases with our

land partners are structured on a base plus option basis encompassing up to 35 years. NextEra initially proposed a 30-year term and remains comfortable it can work within those parameters. However, at the very least, it is imperative to have no less than 25 years before a new application would be required. One alternative would be a 25-year base term, with one automatic 5-year extension if County Staff determined the Project was in compliance with all SUP conditions and requirements.

3. CITY SEPARATION

In regard to the distance between a project's boundaries and the limits of a City, the Regulations as recommended by the Planning Commission provide as follows:

"Such Solar Facilities shall be located greater than two (2) miles from any city limits, with the exception of non-contiguous areas of a city (which are also known as "islands") that are less than 80 acres in size, from which there shall not be such a requirement."

"Waiver: In the event that an applicant desires to deviate from this locational requirement, the application may only be approved if findings are made by the Board of County Commissioners that the proposed use is in keeping with, or does not conflict with, planned uses for the area (e.g. city staff indicates in writing that the proposal is not anticipated in the future to hinder or prevent the proper growth and development of the city). The applicant shall submit written information to the BOCC indicating the circumstances which are believed to necessitate the need for a deviation from the locational requirement. The applicant shall also submit a copy of the waiver request to cities within two (2) miles of the Project Boundary for review and city comments will be provided to the BOCC as part of consideration for the waiver request."

The waiver opportunity contained in the draft Regulations is helpful. Initially, NextEra suggested a one-mile separation requirement based on the 1-mile Urban Fringe concept found in the County's Comprehensive Plan. In that case, a waiver would be less needed. However, we grew comfortable with the Staff's recommendation of a 1.5-mile buffer with a waiver option. We would ask that the Commission follow the Staff's and Consultant's recommendation in this regard and modify the Planning Commission's recommendation in this regard.

4. FACT VS. FICTION

In closing, we provide for the Commissioners edification the attached document entitled "FACT vs FICTION". Throughout this process the concept of a USSF has been pummeled with statements, opinions and allegations of concern that range from legitimate areas of discussion to the absurd. In attempt to keep the discussion within the context of facts and legitimately recognized scientific research, we prepared this list of issues commonly raised and provided to the best of our ability a fair and accurate response backed by cited competent sources. We would welcome that this document be presented to the County's own consultant, Berkley Group, for an opinion as to accuracy.

I draw your particular attention to sections dealing with the potential of environmental impacts from solar panels leaching contaminates into the soil and/or hazards presented by battery storage

facilities within the Project. I trust the facts regarding these particular issues are accurately addressed therein.

Again, we thank Johnson County for the opportunity to be part of this important discussion. We stand ready to help and assist with efforts to make the subject regulations and any project-approved endeavors work well for all members of the community.

cc: Jay Leipzig
Sean Pendley
Karen Miller

FACT VS FICTION ATTACHMENT

Why have the acreage requirements been increasing for utility-scale solar projects?

The solar industry has evolved significantly in the last few years. The price of solar energy has dropped dramatically, leading to a steady increase in demand and a corresponding need to increase the size of proposed projects. This low price for solar energy, and utilities' demand for larger scale projects, creates an opportunity for lower cost electricity for Kansas ratepayers. Recognizing this shift, local utilities across the region and country are increasingly seeking large utility-scale (often 100-500 MW) solar projects for their portfolios. To put this in a local context, Evergy has proposed to acquire 350 MWs of solar in both 2023 and 2024, and 500 MWs each year from 2028 through 2032.[i] The proposed Project is just one example of this trend, and it should be expected that the near-term future of solar development in Kansas counties will consist of larger-scale projects than have been found in Kansas previously.

How do solar farms impact surrounding property values?

Numerous studies across the country and in Kansas have reviewed the potential impact of utility-scale solar on surrounding property values, finding that solar has a minimal or 'statistically insignificant' impact on property values of neighboring properties, especially in rural areas.[ii] These geographically diverse studies have found no evidence of decreased property values after construction of a solar farm, and often conclude solar projects may increase property value and marketability.

How do solar farms integrate into agricultural communities?

Utility-scale solar projects work in tandem with agricultural land uses, leading many agricultural producers to diversify their income by leasing portions of their property to solar developers. The projects preserve topsoil and native vegetation under the array, mitigate land disturbance, increase water and soil retention, all while helping farmers manage commodity price risks. The property hosting the project gets a recovery period during the life of the project, allowing the soil to rest and rejuvenate, which can increase the productivity of the land for agriculture in the future.[iii] Then, at the end of the project's useful life, the lease agreements include binding provisions committing the project owners to return the land to its prior condition. Ultimately, because solar farms have low visual profiles, make little noise, have very low traffic levels while in operation, have very low nighttime lighting, and have buffers and visual screening, they are perfectly suited to cohabitate with and preserve the rural character of agricultural communities.

Do utility-scale solar systems create issues with stormwater runoff?

Utility-scale solar projects do not increase runoff and can actually improve soil and water quality. Developers prepare stormwater management plans to ensure that projects do not contribute to erosion or materially increase stormwater flows. After county approval, the solar project constructor and operator must strictly follow these plans and the county has the right to inspect the stormwater pollution prevention measures during both construction and operation to ensure the solar facility is fully in compliance. The land is not paved and will be covered with native plants that absorb water, help mitigate rain and runoff, and improve soil quality over the life of the project. All of these factors help make solar projects a more groundwater-friendly use than many other forms of development.

Do soil panels pose a risk of chemicals leaching into the soil?

No. Utility-scale solar panels are made of glass, copper, aluminum, and other common materials, and are paired with steel racks, electrical cables, transformers and inverters. There are trace amounts of chemicals inside the solar panels that enable them to produce electricity, but these compounds are completely sealed within the glass and coatings of the panels. The NC Clean Energy Technology Center at NC State University conducted a thorough review of the potential for chemical leaching or runoff from solar panels and found that "[S]ilicon-based PV panels do not pose a material threat to public health and safety."[iv] The Johnson County Planning Commission's solar consultant reached a similar conclusion, finding that there is no material risk of soil or groundwater contamination by leaching of chemicals from solar panels.

How will the solar facility utilize herbicides?

NextEra uses herbicides in conjunction with mechanical measurements to control vegetation up to and including weeds, grass, fire hazards, etc. where laws provide. Herbicides are used as a secondary means of control only, and only where necessary. All applications would be handled in spot treatment method and target specific discrete locations. Aerial application of herbicides is not proposed. Herbicides are only anticipated to be used to prevent potential fire hazards and treat invasive species as needed, and ALL herbicide use will comply with the local laws, regulations, and requirements.

How does utility-scale solar impact local wildlife?

Solar farms do not pose a threat to wildlife and are carefully sited to ensure that impacts are mitigated. Most solar projects implement wildlife studies in the development process and work with state and federal wildlife agencies to ensure the assets are responsibly sited. Sites where threatened and endangered species are found are avoided, and the project layout is designed with wildlife corridors that comply with county requirements. Once constructed, the projects can provide important habitat for birds and pollinators, and studies show that property sited solar facilities can provide shelter for species, promote land stability, preserve habitat, and support biodiversity.[v]

What happens to the solar facility at the end of its useful life?

Because the land will be returned to its prior condition, many counties and landowners view solar projects as a valuable form of land banking, allowing the property to be economically productive while granting the soil time to rest and revitalize. Once a solar project has reached the end of its useful life, it will be decommissioned. The equipment is removed and the land will be returned to the condition it was in before the project was constructed. The project will be required to develop a detailed decommissioning plan describing how decommissioning must be accomplished. With the developer posting financial security that can be applied to decommissioning and site restoration, the County can be assured that the project developer/owner will be responsible for the costs under any scenario.

Do solar panels produce glare?

Solar panels are designed to absorb as much sunlight as possible to produce energy efficiently, so they are made to be as minimally reflective as possible. They are made of dark colored materials and treated with anti-reflective coatings, and they are generally less reflective than windows. The FAA has created standards, which solar developers must comply with, to ensure that they are safe

for pilots and has approved the use of solar panels in the vicinity of numerous major airports.[vi] One such solar farm is located immediately adjacent to the Nellis Air Force Base near Las Vegas, and has been in operation since 2007.[vii]

Is the electric voltage at a solar project dangerous?

Solar panels produce an electric current that is less than the voltage in a typical home's electrical outlet. The electricity is transmitted from the panels through buried cables to a transformer, where the voltage is increased so that it can feed into the electric grid. All electrical lines within a solar facility are designed and constructed to national electrical safety codes, and the entire project area is contained within perimeter security fencing to ensure no public access.

Is battery storage safe?

Yes. Manufacturers have built in safety measures like temperature sensors, voltage regulators, and separators to minimize risks, and the National Fire Protection Association 855 code provides a standard for the installation of stationary energy storage systems to mitigate risks for property owners, installers, operators, and first responders.[viii] Any battery storage system will be designed and constructed to current NFPA standards and will include prevention, detection, and active protection measures.

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[i] Evergy 2021 Integrated Resource Plan Overview, p. 8, filed April 30, 2021 in KCC Docket No. 19-KCPE-096-CPL, *available at* https://estar.kcc.ks.gov/estar/ViewFile.aspx/S202104300811542507.pdf?Id=894cedd4-1d52-4644-98f6-571317d9c01c.

[ii] *See, e.g.,* 10/25/21 Presentation by Jeremy Hill at Clean Energy Business Council's Policy Forum "Energy Horizon for Solar & Storage."; "Property Value Impact Study: Adjacent Property Value Impact Study – A Study of Six Existing Solar Facilities," Cohn Reznick Valuation Advisory Services (July 26, 2021); "An Exploration of Property-Value Impacts Near Utility-Scale Solar Installations," Leila Al-Hamoodah et al., Policy Research Project (PRP), LBJ School of Public Affairs (May 2018); Marous & Company, "Market Impact Analysis: Koshkonong Solar energy Center Dane County, Wisconsin" (April 13, 2021)(available at: https://apps.psc.wi.gov/ERF/ERFview/viewdoc.aspx?docid=409444); Cohn Reznick, LLP, Property Value Impact Study, A study of Nine Existing Solar Farms: Champaign, LaSalle and Winnebago counties, Illinois; and Lake, Porter, Madison, Marion and Elkhart Counties, Indiana (March 2018) (available at: http://www.co.champaign.il.us/CountyBoard/ZBA/2018/180412_Meeting/180412_Adjacent%20Property%20Values%20Solar%20Impact%20Study%20by%20CohnReznick.pdf); Cohn Reznick, LLP, Property Value Impact Study, A Study of Six Existing Solar Farms: Honolulu County, Hawaii; San Francisco County, California; Suffolk County, New York; Marion County, Indiana; and Chisago County, Minnesota (May 2020)(available at: https://www.innergex.com/wp-content/uploads/2020/05/CohnReznick-Proposed-Paeahu-Solar-Property-Value-Impact-Study_Draft_May-2020.pdf); Christian P. Kaila & Associates, 2020, Property Impact Analysis of Round Hill Solar, Proposed Solar Power Plant Augusta County, Virginia, June 2020 (available at: https://www.roundhillsolarproject.com/wp-content/uploads/2020/11/Attachment-L-Property-Value-Impact-Study.pdf).

[iii] Department of Energy: https://www.energy.gov/eere/solar/farmers-guide-going-solar

[iv] "Health and Safety Impacts of Photovoltaics." N.C. Clean Energy Technology Center at N.C. State University: https://content.ces.ncsu.edu/static/publication/js/pdf_js/web/viewer.html?slug=health-andsafety-impacts-of-solar-photovoltaics

[v] "Utility-scale solar sites provide surprising opportunity for wildlife stewardship", Solar Power World, https://www.solarpowerworldonline.com/2019/03/utility-scale-solar-wildlife-stewardship/ (March 20, 2019).

[vi] Federal Aviation Administration: https://www.faa.gov/newsroom/faa-issues-policy-solar-projects-airports.

[vii] *See* https://www.energy.gov/articles/nellis-air-force-base-solar-array-provides-model-renewable-projects.

[viii] National Fire Protection Association: https://www.nfpa.org/codes-and-standards/all-codes-and-standards/list-of-codes-and-standards/detail?code=855.