

**MINUTES OF THE
MIAMI COUNTY BOARD OF COUNTY COMMISSIONERS
AND PLANNING COMMISSION
JOINT SOLAR WORKSHOP
August 30, 2022**

**MIAMI COUNTY ADMINISTRATION BUILDING
COMMISSION CHAMBERS
201 SOUTH PEARL STREET
PAOLA, KANSAS 66071**

ATTENDANCE

CHAIR:	John Menefee
VICE-CHAIR:	Phil Elliott
PLANNING COMMISSION	Kelli Broers, Joshua Brown, Randy Kitchen, Bret Manchester, and Topher Philgreen
ABSENT MEMBERS:	Mark Oehlert and Mark Ross
EX-OFFICIO MEMBERS:	None present
PLANNING DIRECTOR:	Teresa Reeves
ASST. PLANNING DIRECTOR:	Katie Jardieu
PLANNER:	Not present
PC SECRETARY:	Casey d'Augereau
COUNTY COUNSELOR:	Shelley Woodard
COUNTY ADMINISTRATOR:	Shane Krull
ECONOMIC DEVELOPMENT:	Janet McRae
COUNTY COMMISSION:	Phil Dixon, Rob Roberts, George Pretz, Danny Gallagher
COUNTY CLERK:	Not Present
PRESS:	Not Present

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CALL TO ORDER

Chairman John Menefee called the meeting to order at 6:30 p.m.

PLEDGE OF ALLEGIANCE

ROLL CALL

Roll Call was taken, and seven (7) Planning Commission members, and four (4) County Commission members were present, constituting a quorum. Menefee stated this is a public meeting, however, there will be no public comments accepted at tonight's meeting.

ADOPTION OF THE AGENDA

Elliott moved to adopt the Agenda as presented. Manchester seconded, and the motion passed unanimously, (7-0), via a show of hands.

REGULAR AGENDA

New Business:

Review and discussion on Potential Solar Regulations

Katie Jardieu introduced Leo Heynos (present via phone conference). Heynos is the Chief Engineer with Kansas Corporation Commission (KCC) KCC. Mr. Heynos assisted Douglas County with their regulations and provided feedback for Miami County to consider.

Jardieu stated a solar panel takes the sun's energy and converts it into electrical energy, the energy will then run through the panel into wires that are typically underground then connect to the transmission line and finally connect to the grid for energy. There are smaller units that connect directly to a house instead of being connected to a grid. It is possible to connect to two (2) or more houses to make a community grid. Solar energy typically flows one way. There are a few different types of solar energy:

- Solar heating and cooling, also known as solar thermal, which uses the sun's thermal energy to heat water or air.
- Concentrated Solar Power is a large-scale solar application where mirrors concentrate thermal (light) energy to drive traditional steam turbines or engines, generating electricity.
- Solar photovoltaic (PV) systems need an inverter to change the direct current (DC) produced by the solar panels into the alternating current (AC) used by the grid.

The energy grid consists of multiple solar panels (making up the solar farm), after the power is generated, it needs to travel from the solar farms to homes, businesses, and other facilities. This process is known as transmission. The newly generated power travels to transmission substations that use transformers to convert it to extremely high voltages. Sensors are located at key points to monitor where and when power might go out.

There are two (2) different types of mounting systems:

- Ground Mount
 - Ground Mount Advantages
 - Allows multiple rows to be installed

- Cooler module temperature
 - Safe installation
 - Easy access for maintenance/troubleshooting
 - Flexible positioning for max production
- Ground Mount Disadvantages
 - Easy access for theft, vandalism, damage
 - Requires earth construction work such as concrete, foundation, trenching
 - Space requirement
 - Inter-row shading considerations
- Pole Mount
 - Pole Mount Advantages
 - Cooler module temperature
 - Easy access for maintenance/troubleshooting
 - No roof penetration/liability
 - Flexible positioning for max production
 - Easy to adjust the tilt angle (potential use for dual axis tracking)
 - Small footprint
 - Pole Mount Disadvantages
 - Somewhat easy access for theft, vandalism, damage
 - Requires construction such as concrete, steel, foundation, trenching

The panels do get very hot and need cooling. The best way to cool them is with airflow. Spacing them and the higher elevated off the ground the better the airflow. The ground mount options are versatile allowing to arrange the panels in such a way to allow for crop production, animal husbandry, ecosystem services, and reinforced regular mount.

Jardieu stated, in 2021 Miami County issued 35 permits for roof mounted solar or ground mounted solar for one (1) home to connect to. In 2022 Miami County has issued 32 permits year to date. Miami County is assessed as being 81% Agriculture, and typically cultivated ground is best suited for solar farms.

Jardieu turned the floor over to Heynos.

Heynos stated solar farms prefer cultivated grounds because it is easy to install them. They don't have to worry about turning up rocks when plowing in cables. All the panels are connected to a cable that is buried. Heynos referred back to the Energy Grid slide Jardieu referred to previously. When the power comes out of the solar cell it is the DC power. As it goes to the convertor it changes it from DC to AC power, the type of power you typically see in a house. The next phase is for it to go from AC power to a Step-up transformer, the Step-up transformer takes a low voltage up to a voltage that can enter into the transmission grid. A step-up power in Kansas can be as much as 345,000 volts which is the power in transmission type lines. KCC has regulatory authority over public utilities, which would include some of the transmission grid lines as far as their siting if they are over 230,000 volts and more than five (5) miles long. The generator tie lines can be 345,000 volts and are not subject to KCC authority because of Kansas Statute 66-104 paragraph E. Since KCC does not have authority over where or how lines are placed the solar companies can place the lines in the easements or rights-of-way and if the road is ever widened the cost and responsibility of moving lines will fall on the County.

Jardieu stated in selecting a site location the places to avoid are:

- Growth Areas
- Historical Sites
- Ecologically Sensitive Areas
- Close proximity to existing residences & businesses
- Prime Farmland
- Designated Floodplain

While places to consider are:

- Undesignated Areas
- Brownfields
- Near Transmission lines

Jardieu gave an example of a solar farm in Andover (Prairie Sky), which is an eight (8) acre solar farm and produces one (1) megawatt. Another example is in Gardner (West Gardner Project), which spreads across Gardner and into Johnson County. West Gardner Project has not finalized and will range between 3,500 acres to 6,000 acres and will produce approximately 320 megawatts. Johnson County limits their solar farm size to ten (10) acres, Douglas County has a maximum of 1,000 acres, and Franklin County does not have a limit on their size.

Kitchen asked how many megawatts a house uses and the number of kilowatts that are in a megawatt. Jardieu stated she is not sure. Heynos stated there are 1,000 kilowatts in a megawatt. Kitchen was curious of how many kilowatts a house uses per day.

Philgreen looked it up and found that a megawatt will power 1,000 houses. He said that doesn't make sense to him.

Kitchen asked if KCC has any involvement when a solar farm is no longer in use. Heynos said no.

Elliott stated on the Site Selection, he is concerned with point number three (3) "Near Transmission Lines", Miami County doesn't have verbiage to match that, and we need to be careful using verbiage Miami County doesn't have in the regulations. Jardieu said she will correct that.

Jardieu stated the solar farm regulations will go to the Planning Commission to approve, then to the Board of County Commissioners for final approval.

Johnson County regulations state 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 2,000 acres. Four (4) square miles is roughly 2,500 acres. Broers stated it is too early in the process to try to decide the size limitations. She thinks we should eliminate areas that are not acceptable for solar farms and move forward from there. Menefee agreed with Broers, it is too early in the process to decide on the size limits. Elliott stated he will be beating the drum all the way to the end of this discussion about the waiver option on this issue. Elliott stated recent history has shown that it cannot be predicted as to what is needed and how things might go.

Jardieu stated another thing to keep in mind is the distance from city boundaries to allow city growth.

Jardieu referenced the Project Area and Extent. Johnson County states that no more than 70% of the property can be covered with solar panels. If they don't meet that, the design must be changed to meet the 70%. They also avoid steep slopes of 15% or more, which is why farmland is important to them because it doesn't have the slopes. The buffer (also known as screening) has to hide the height as well as the width of the panels. This is where vegetation can be useful, using trees as an example. Jardieu stated another consideration is the Concentration of Use, meaning how close a solar farm can be to another solar farm or how much of the County should be occupied by solar farms. Jardieu stated the visual impact will be obvious the first few years while the vegetation is growing. The type of fencing and the height of the fencing can be regulated. Johnson County uses wildlife fencing, allowing some wildlife to get through the fencing. Elliott shared a concern with the screening noting it does not define the distance to the property line or road. He would like to make sure there is some sort of setback for the screening. Jardieu stated buildings can also be used as screening. Johnson County requires additional screening for nearby properties not involved in the project and requires a yearly report to show the CUP is still in compliance.

Menefee questioned how long the CUP would be for? Jardieu stated it ranged from 20 to 25 years with some waivers in the CUPs. They can extend once for five (5) years but would need to reapply for the

CUP at the end of the extension, making the maximum 30 years essentially. Elliott stated he always has a struggle with the length of a CUP mostly because of the investment. Today 25 years might make sense because of the life of the panels, but five to ten (5-10) years down the road it might not make sense at all. Elliott is concerned that a person/company might not want to invest in a solar farm for 20 years knowing that the Commissioners may change five (5) years down the road, and they will have to face another group of people that may not find the CUP favorable. Broers questioned why we would treat these CUPs differently than other CUPs that we only give five (5) years. Kitchen said he does not like CUPs in the first place let alone giving a CUP 25 years. Krull stated in some of our CUP instances there have been five-year limitations, others there has been no limitations. With the conditional use aspect of it, maybe a more appropriate consideration would be a performance standard. If more performance standards are applied to and the developer was more willing to perform at a higher level then perhaps you would be more willing to invest time at a heightened level versus someone that just wants to be in it at the bare bones' aspect of it. The value in it for the developer is going to be time.

Menefee questioned how Johnson County, Douglas County and Franklin County regulate the lighting or the security of the sites? Jardieu stated they did not require this, but if there is security lighting it needed to be limited to a height of 15 feet, motion controlled or on a timer. Miami County has a lighting standard i.e., shoebox design and directed downward. She recommended applying this standard in addition to requiring a photometric plan.

Jardieu stated another issue is glare from the sun hitting the panels. This can be managed with either textured glass or anti-glare coating. Positioning of the panels can reduce glare, although this would be difficult to regulate or monitor especially with the panels moving in the direction of the sun. Screening does help if it matches the height of the panels. Broers questioned if that was one of the reasons Johnson County does not want solar farms near an airport. Jardieu stated perhaps. Krull stated Miami County's airport has roughly 250 acres and with our prevailing winds either being south or north and the side of the equator we are on that requires panels to face south, glare would be problematic in proximity to the airport.

Jardieu stated the surrounding counties also address Environmental Impacts, Economic Impacts, and Decommissioning Process. The Decommissioning Process is lengthy and one that Jardieu believes we should take careful consideration with. Jardieu would like to address these three items at a later Solar Workshop and have Miami County's Appraiser, Justin Eimers; Economic Director, Janet McRae; and Building & Codes Director, Dave Delp present. Would like to get feedback on the number of inspections this would require, and the staffing needs or third-party inspections needed. Elliott stated from a utilities aspect the county should rely on a third-party. The county cannot be expected to have specialist in every aspect and solar farms will be unique in its own. Jardieu stated she has penciled in the next workshop for September 20, 2022 (Tuesday) and questioned if that date was ok with everyone.

Commissioner Pretz questioned whether the surrounding counties had the solar farms put money into an escrow for decommissioning of the farms and if so, how much? Jardieu stated that they did, and they also require emergency plans such as a tornado or another act of God. Johnson County requires the teardown amount to be equal to the initial cost to be in a surety bond. Philgreen questioned if a tornado hits and breaks a solar panel into a million pieces is there any danger to that? Jardieu stated she plans to address this at the next workshop, but one of the counties, the solar farm is liable for repairs if damage is done to a house from solar farm debris caused by a storm. Philgreen stated he is more concerned with the environmental impact. He is aware that if someone's house or car is damaged the liability will fall on the solar farm. Jardieu stated one of the surrounding counties requires the solar farm to do a soil sample if that occurs, and another required frequent soil samples during the life of the solar farm. Kitchen questioned what is in the panels that might make them harmful. Menefee stated he knows Katie is planning to have this in the next workshop but questioned if she knows if Johnson and Douglas counties require any sort of fire suppression in their battery storage? Reeves stated she has visited with someone about a battery storage facility which would have to have a fire suppression system in place to comply with fire codes.

Broers referenced recent discussions about the NEXT Comprehensive Plan i.e., streamways and prime farmland and asked what a disaster might look like for our watersheds. Kitchen asked Heynos if KCC has anything to do with this. Heynos stated not with batteries, when you have industrial and environmental concerns it goes to Kansas Department of Health & Environment (KDHE), Bureau of Environmental Mediation. There is also a national fire code that deals with battery storage, this was prompted due to fires in Arizona in 2019. Broers stated she would be interested in hearing from Wildlife & Parks. Menefee stated another one to contact is the NRCS (Natural Resource Conservation Service). Philgreen stated he would like more examples of mounting types and how they work with animal husbandry, crop production, and ecosystem services.

Kitchen questioned why they are being built on the ground and not on buildings. Jardieu believes if the building is pre-existing then it may not be able to support the weight of the solar panels. Elliott stated Spring Hill School was looking at putting the solar panels on the roof and when looking into it discovered they were always in the way if they had roof repairs, HVAC repairs, etc. The solar panels would have to be decommissioned before any other work could be done.

In regard to the economic impact to the community, Broers asked if there is a tax break how will it affect the community not just the landowner and solar farm owner? Jardieu stated she can show as much detail as they want. Broers stated she would like to see the details of how it will benefit the community.

Kitchen questioned why this would be considered a CUP rather than rezone the property to commercial. Jardieu stated if the solar farm becomes decommissioned then the property cannot be reverted back to agriculture. Jardieu stated commercial would also be spot zoning instead of keeping all commercial together. Kitchen asked what solar farms would fall under, would they fall under commercial? Is the money coming out the landowners' pocket or is there an investor putting up the money to have the solar farm built? Reeves stated we do not have all the answers, we are all still learning about solar farms.

Krull gave an example of a landowner who has 80 acres and negotiates a deal with Evergy for \$100,000 per year to lease the ground. It's more advantageous if Evergy isn't in this so they create a different group to be the investors to develop the farm and subsequently Evergy purchases the power from the investors then subsequently they sell it to whoever they sell it to. He noted that a megawatt can power 400 – 1,000 houses; so, we will say 500 houses in this example. When they do the power, they figure out the base load and say you have the ability to generate half of your base load then you would need to purchase the other half of your base load (Miami County has 5 entities to purchase from) then you have to have 20% of your peak to assure you don't run out of power for the customers.

Kitchen asked if the landowner or the person leasing the land is issued the CUP. Jardieu stated it would be to the person/group/company that leases the land. When this company goes under, which happens all the time, then it's back on the landowner to clean-up. Jardieu stated that is where the surety bond for the decommissioning would come in. Jardieu asked Kitchen if there is something else she can provide to help him with this issue. Menefee questioned if the attorney with Farm Bureau would be willing to share some resources? Jardieu stated she would look into it.

Menefee asked if some of the mounting types require concrete footings for mounting, noting this will be more difficult to dispose of when the solar farm is decommissioned.

Philgreen stated he would like to revisit the environmental aspect again. We are the breadbasket of the world and if the best ground is our farm ground and we use acres and acres of farm ground for solar farms that can't be used for farming, do we have any responsibility there or is someone else looking out for this? Philgreen questioned where the solar panels can be placed other than farmland and why they can't be placed on slopes if they can be mounted on rooftops. Why use farmland instead of sloped ground or rocky ground? When addressing environmental impacts, he would like this addressed. When we are putting these on farmland because of the tax incentives, we could maybe all regret it in the long run.

Menefee stated that goes back to Broers requesting an overlay map. Menefee stated if we are going to deviate between farmland and sub-par farmland, who makes that decision? He felt this would be a very tough judgment call depending on who you are. Broers stated she took issue with the scale they referenced in Comprehensive Plan that would prioritize prime farmland, noting that we have a lot of ranchers here and a lot of prime grazing lands, why shouldn't we be protecting it the same as farmland. Menefee stated that he considers that prime farmland includes grazing ground.

Jardieu stated she attempted to have guest speakers here tonight. Other counties hired consultants and it wasn't in our budget to bring them in.

Menefee stated Paola has indicated they don't have a growth plan west due to crossing the river; why wouldn't we consider that area if Paola doesn't have it in their future growth plan.

Philgreen asked if we have a hundred companies waiting to come into Miami County once we have regulations for solar farms, or how many calls have we received. Jardieu stated we have had a couple calls about solar farms. Kitchen stated if people are calling, they already have property in mind and questioned where the property is? Reeves didn't believe this information could be disclosed. Menefee stated that it will need to be in close proximity to the transmission lines.

Manchester stated it depends on how many neighbors live within 1,000 feet of the project, and he doesn't know anyone in the county that would prefer seeing solar farms over cattle grazing. Manchester stated a citizen approached him about being contacted by a company wanting to do a solar farm on his property and told him they were studying the transmission lines. Manchester stated if the majority of the surrounding neighbors were opposed to it, it probably wouldn't pass. The only person who would be for this is the one making money off of it, not the person across the road. Elliott stated that is why a person needs to make sure they have mitigation conditions in place such as screening and setbacks to reduce that.

Manchester referenced an article about decommissioning solar panels in California. He noted that California was green over 20-years ago and now there are millions of solar panels that have to be replaced. He thought there was one company that recycles them but they can only handle about 1% of them. They're not sure what to do with them all. Kitchen reiterated that is the environmental impact that we need to know about – what to do with these when they're done?

Heynos stated the southwest power pool has to study each interconnect to see how many get connected to the grid. Right now in Kansas there are 11,000 megawatts of solar that are in que to be studied to be hooked up to the grid, and another 4000 mw of battery storage in the que to be studied. With the tax credits there are going to be quite a bit more of these coming out or at least evaluated. Douglas County had a maximum on acreage that could be utilized, so that may be a consideration for Miami County.

Jardieu stated this is the end of her presentation, noting that the next workshop is scheduled for September 20th and that there will be a public hearing in the future for public comment, but at this point she is trying to get preliminary information put together.

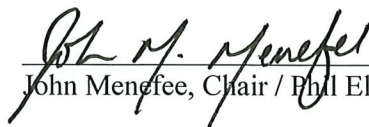
GENERAL DISCUSSION There was no General Discussion.

Elliott moved to adjourn the meeting, Philgreen seconded, and the meeting was adjourned with a vote of 6 – 1 (Kitchen voted no), via show of hands, at 8:03 p.m.

Approved this 20th day of September, 2022.



Casey d'Augereau, PC Secretary



John Menefee, Chair / Phil Elliott, Vice-Chair

Minutes written by Casey d'Augereau.