

**MINUTES
GENERAL OPERATIONS COMMITTEE
DAVID KLEIN, CHAIRMAN
August 7, 2023**

Present:

David Klein, Chairman
Chrissi Miller, Vice-Chairman
Deborah Holmes
Tim Jones
Terry Moss
Don Schmit
J. Wes Wynne

Also Present:

John Isbell, County Mayor
Eric Sitler, Law Director
Steve Weiner, Staff Attorney
Merrol Hyde, Commission Chairman
David Lawing, Finance Director
Pat Reid, minute taker

Chairman Klein brought the regular scheduled meeting of the General Operations Committee to order with an invocation by Comm. Jones on Monday, August 7, 2023, at 6:20 p.m. in the Sumner County Administration Building. Chairman Klein declared a quorum present to conduct business.

Agenda. Comm. Schmit moved, seconded by Comm. Jones, to approve the agenda. The motion carried unanimously.

Minutes of July 3, 2023. Upon motion of Comm. Schmit, seconded by Comm. Miller, the Committee voted unanimously to approve the minutes of July 3, 2023.

Report of Chairman. No report

County Mayor. County Mayor Isbell reported warranty work on archive building roof should be finished up next week with request for bids posted next week for other work needed. Jail roof on Budget Committee agenda next week. Updates and pictures sent for the new courthouse. Sent email in May on access to the work order system. No bids received for work needed to secure Cottontown post office and Draper House.

Chairman Klein stated items a through d under old business would carry over to old business for next month.

Recognition of the Public. None

8. Old Business.

- a. Progress on Roof and Parapets of Archive Building.
No action taken

County Mayor addressed under his report.

- b. Progress on repairing roof on for Sumner County Jail.
No action taken

County Mayor addressed under his report

- c. Update on New Courthouse and Parking Structure.
No action taken

County Mayor addressed under his report

- d. Update on Access to Mayor's Work Order System.
No action taken

County Mayor addressed under his report.

- e. Status on Touring the Volunteer Fire Departments.

Joe McLaughlin of Cottontown Volunteer Fire Department spoke to the ownership of each volunteer fire property.

Comm. Jones moved, seconded by Comm. Miller, to discuss. The motion carried unanimously.

After discussion, Comm. Schmit moved, seconded by Comm. Miller, to postpone to next month. The motion carried unanimously.

- f. Progress on Securing Cottontown Post Office and Draper House.
No action taken

County Mayor addressed under his report.

Chairman Klein stated he has been in discussion with the members of the non-profit and they have been soliciting bids but are slow coming in. Requested to move under Report of County Mayor for next month.

9. New Business.

- a. Introduce Melanie Leneghan of Roof Connect to Explain and Answer Question Regarding her Recent Quote on Providing a New Roof and Solar Panels for the Sumner County Jail. Presentation attached.
No action taken

Chairman Klein explained this would provide a new roof with solar panels which would provide around 25% of the electrical needs of the County Jail. Include a 25 year warranty on the roof and solar system and any engineering required. Would be a lease through an investment group with no cost to the County.

There was lengthy discussion.

10. Adjournment. Upon motion of Comm. Miller and seconded by Comm. Holmes, the Committee adjourned at 7:55 p.m.

Prepared by Jennifer Mitchell

	Station	Address	City	Zip Code	Phone	Fire Zone	Chief	Comm. District
1	Cottontown Fire Department	2398 Hwy. 25	Cottontown, TN	37048	615-206-1300	VF7	Joe McLaughlin	4
2	Gallatin Vol. Fire Department	1051B Old TN 109	Gallatin, TN	37066	615-206-9910	VF6	Chad Fresen	4
3	Gallatin Vol. Fire Department	117 East Winchester	Gallatin, TN	37066	N/A	VF6	Chad Fresen	8
4	Highland Fire Department #1	920 S. Broadway Street	Portland, TN	37148	615-323-0008	VF1	Chief George Nichols	3
5	Highland Fire Department #2	3301 Hwy. 76	New Deal, TN	37048	615-323-0008	VF1	A.C. Tab Matthews	4
6	Highland Fire Department #3	1001 N. Church	Mitchellville, TN	37119	615-323-0008	VF1		3
7	Millersville Fire Department	1246 Louisville Hwy.	Goodlettsville, TN	37072	615-859-0880	MF1	Brandon Head	16
8	Number One Volunteer Fire Department	1314 Douglas Bend Rd.	Gallatin, TN	37066	615-451-1596	VF12	Chris Edgerton	11
9	Oak Grove Fire Department	164 Blackey Bandy Rd.	Bethpage, TN	37148	615-888-9900	VF8	Wayne Drown	1
10	Shackle Island Fire Department	3199 Long Hollow Pike	Hendersonville, TN	37075	615-824-4300	VF11	Martin Bowers	24
11	Southeast Fire Department-Bethpage	315 Hwy 31E	Bethpage, TN	37022	615-841-4100	VF3	Charlie Johnson	5
12	Southeast Fire Department-Castalian Springs	1011 Hilton Lane	Castalian Springs, TN	37031	615-804-5995	VF3	Charlie Johnson	6
13	Westmoreland Volunteer Fire Department	1204 N. Walnut St.	Westmoreland, TN	37186	615-644-3303	WF1	Mark Jenkins	1
14	White House Fire Department #1	416 SR-76	White House, TN	37188	615-672-5338	***	Joe Williams	***
	White House Fire Department #1	7515 Darby Road	Millersville, TN	37072				***
15	White House Fire Department #2	1916 Hwy. 31W	White House, TN	37188	615-672-4030	VF5	Joe Williams	15

*** Robertson County

Property Owner
Cottontown Fire Association
Sumner County Highway
Sumner County
Sumner County Board of Education
GID 1 LLC
City of Mitchellville
City of Millersville
City of Hendersonville
Resource Authority of Sumner County
Sumner County
Southeast Community Fire Dept.
Castalian Springs Community Center
Westmoreland Civil Defense Trustees
Outside of County
City of Millersville
Dan Van Der Westhuizen



SUMNER
COUNTY JAIL



JULY 25, 2023

SUMNER COUNTY JAIL



- 117 W Smith Street, Gallatin, TN 37066
- Account Manager Name: Melanie Leneghan
- Email: melanie.leneghan@roofconnect.com
- Phone: (614) 975-9454

PROJECT DESCRIPTION

- Project located in Sumner County, Tennessee consists of the Sumner County Jail that will have its rooftop reconditioned and upgraded to meet a 25-Year warranty specification. All re-roof work is to be completed by RoofConnect. Installation to include a 695.7 kW DC roof mounted solar array on the reconditioned rooftop located at 117 W Smith Street, Gallatin, TN 37066 and interconnection with the electrical service at that location.
- New solar array will generate approximately 987,410.1 kWh of energy annually to offset the current usage of approximately 4,225,000 kWh. This represents a kWh reduction of more than 23% over the proposed facility.
- Sumner County is currently spending approximately \$326,468.40 annually for kWh of the proposed facility.

The proposed prices are based on current material and energy costs, the current production schedule and all noted assumptions made herein. Some of these factors are very volatile and represent significant factors that influence the proposed prices.

- Re-Roof named building per the exact scope provided by your architect only with a longer warranty and ready fro solar qualities.
- Obtain structural and electrical engineering for a solar array to be installed.
- Submit engineered drawings for interconnection with the utility company and local permitting.
- Provide all labor and materials for the solar, racking, electrical, and interconnection.
- Commission system after completion and certificate of operation from the utility company.
- Provide monitoring of the system and necessary training to customer.

SCOPE OF WORK

The proposed prices are based on current material and energy costs, the current production schedule and all noted assumptions made herein. Some of these factors are very volatile and represent significant factors that influence the proposed prices.



ANNUAL PRODUCTION REPORT



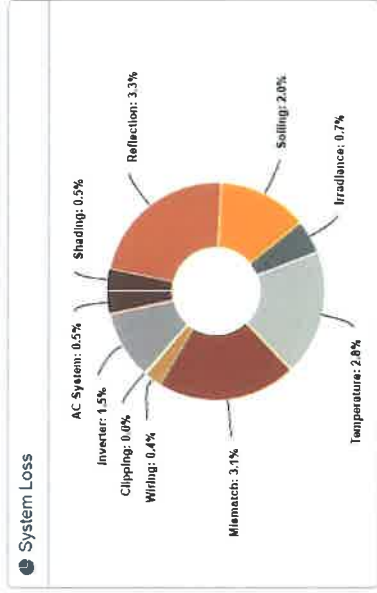
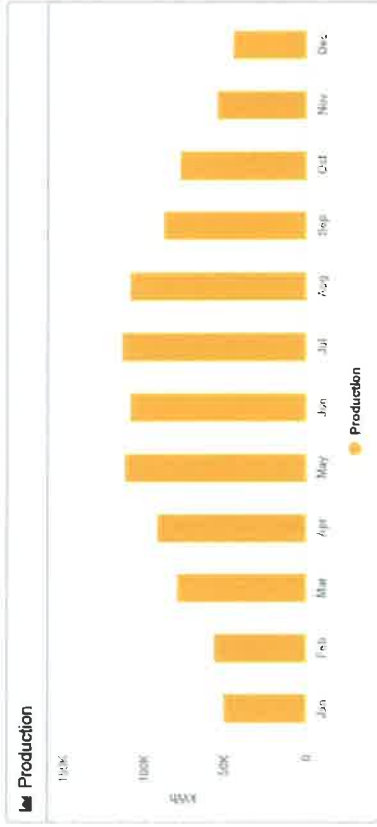
ANNUAL PRODUCTION REPORT - PART 1

SUMNER COUNTY JAIL 117 W SMITH STREET, GALLATIN, TN 37066



Project Details	
Address	117 W Smith St, Gallatin, TN 37066, USA
Owner	Jeff Austin
Last Modified	Jeff Austin a month ago
Location	(38.386808, 16057820, -86.4470052) (332811) (GMT -6)
Profile	Default Commercial

System Metrics	
Design	Design 1
Module DC Nameplate	695.7 kW
Inverter AC Nameplate	800.0 kW
Load Ratio	1:16
Annual Production	987.4 MWh
Performance Ratio	86.0%
kWh/kWp	1,419.3
Weather Dataset	TMY - 10min Gnd (36.35, -86.45), NREL (prospector)
Simulator Version	be4942fcc5-b250d31953-8f974a877e-02b0b6c712



ANNUAL PRODUCTION REPORT - PART 2

SUMNER COUNTY JAIL
 117 W SMITH STREET, GALLATIN, TN 37066



Annual Production			
Description	Output	% Delta	
Irradiance (kWh/m ²)	Annual Global Horizontal Irradiance	1,548.3	-
	POA Irradiance	1,649.5	8.5%
	Shaded Irradiance	1,641.4	-0.5%
	Irradiance After Reflection	1,588.7	-3.3%
	Irradiance After Soiling	1,555.0	-2.0%
Total Collector Irradiance	1,555.0	0.0%	
Energy (kWh)	Namesplate	1,081,895.0	*
	Output at Irradiance Levels	1,073,914.0	-0.7%
	Output at Cell Temperature Derate	1,044,037.8	-2.8%
	Output After Mismatch	1,011,945.2	-3.1%
	Optimal DC Output	1,007,900.3	-0.4%
	Constrained DC Output	1,007,489.4	-0.0%
Temperature Metrics	Inverter Output	992,372.0	-1.5%
	Energy to Grid	987,410.1	-0.5%
	Avg. Operating Ambient Temp	18.7°C	
Simulation Metrics	Avg. Operating Cell Temp	24.5°C	
	Operating Hours	4,653	
	Solved Hours	4,653	
	Pending Hours	*	
Error Hours	*		

Condition Set		Condition Set 1											
Description	Weather Dataset	TMY10km Grid (39.35, -86.45)NREL (prospector) (Download)											
Solar Angle Location		Meiso LA/LiNG											
Transposition Model		Perez Model											
Temperature Model		Sandia Model											
Temperature Model Parameters	Rack Type	a	b	Temperature Delta									
	Fixed Tilt	-3.58	-0.08	3.0°C									
	Flush Mount	-2.81	-0.05	0.0°C									
	East-West	-3.58	-0.08	3.0°C									
Soiling (%)	Carport	-3.58	-0.08	3.0°C									
		J	F	M	A	M	J	J	A	B	O	M	D
Irradiation Variance		2	2	2	2	2	2	2	2	2	2	2	2
		5.0%											
Cell Temperature Spread		4.0°C											
Module Binning Range		-2.5% to 2.5%											
AC System Derate		0.50%											
Component Characterizations	Type	Component											Characterization
	Module	ZXM6-NHLLDD144 450 (ZNShine)											Spec Sheet Characterization, PAN
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ANNUAL PRODUCTION REPORT – PART 3



SUMNER COUNTY JAIL
 117 W SMITH STREET, GALLATIN, TN 37066

☐ Design BOM

Component	Type	Quantity
CPS SCA50KTL-DO/US-480 (Sept17)	Inverters	12
ZXM6-NHLLDD144 450	Modules	1,546
10 AWG (Copper)	Strings	106

☐ Monthly Shading

Month	GHI (kWh/m ²)	FOA (kWh/m ²)	Shaded (kWh/m ²)	Nameplate (kWh)	Grid (kWh)
January	67.8	80.5	80.0	52,086.6	50,739.1
February	80.5	90.7	90.1	59,015.1	56,817.1
March	118.6	128.2	127.5	83,943.2	79,341.5
April	146.5	152.2	151.5	99,989.3	91,728.6
May	185.7	188.7	187.8	124,288.8	112,017.4
June	185.4	185.8	184.9	122,485.5	108,615.9
July	193.4	196.0	195.1	129,317.1	113,752.4
August	180.4	187.2	186.4	123,370.6	108,593.0
September	139.3	149.6	148.9	96,294.6	87,960.1
October	114.3	128.4	127.8	83,955.6	77,372.8
November	76.9	90.3	89.6	58,523.8	55,414.9
December	56.7	72.2	71.7	46,626.7	45,257.5

ANNUAL PRODUCTION REPORT – PART 4

SUMNER COUNTY JAIL
117 W SMITH STREET, GALLATIN, TN 37066



PRODUCT BEING USED

- Silicone Elastomeric Coating Roofing System
- Bifacial Solar Modules
- Ballasted Racking System
- String Inverters
- Module based Rapid Shutdown

The proposed prices are based on current material and energy costs, the current production schedule and all noted assumptions made herein. Some of these factors are very volatile and represent significant factors that influence the proposed prices.



PRODUCT BENEFITS

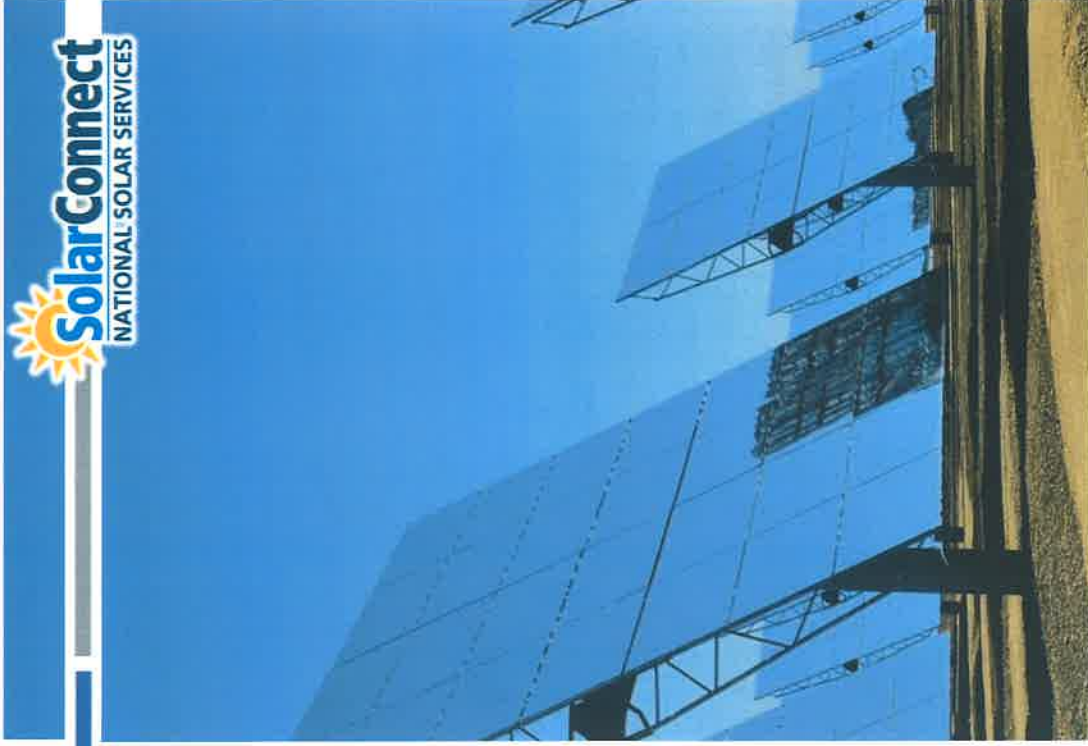
- Bi-facial solar modules allow the solar panel to collect additional energy from rear side production. The rear of the solar module is the same as the face of the solar module. Much of the energy from the sun passes through a solar module or is reflected from the roof or ground behind the module. Some of this reflected energy is collected by the rear side of the module.
- Combining reflective roofs with bi-facial solar modules provides additional energy production. In addition, the cooler roof temperatures allow the electronic equipment to operate at a lower temperature thereby making it more efficient. This increased efficiency helps the equipment to produce more energy and last longer.
- String inverters allow the solar modules to be grouped in strings of 9-14 solar panels. These strings are monitored by your string inverter and allow for the maximum control and efficiency of your solar array. Central inverters, or micro inverters are less efficient over all when they lack the cost savings of efficient use of materials and labor.

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STATEMENT OF VALUE

- New solar arrays will generate approximately 987,437.2 kWh of energy annually over all the facilities to offset the current usage of approximately 4,225,000 kWh. This represents a kWh reduction of more than 23% over all the proposed facility.
- Sumner County is currently spending approximately \$326,468.40 annually for kWh across the proposed jail facility. The solar arrays would reduce that amount to approximately \$250,168.51 annually.

The proposed prices are based on current material and energy costs, the current production schedule and all noted assumptions made herein. Some of these factors are very volatile and represent significant factors that influence the proposed prices.





STATEMENT OF VALUE

- Total ft² of Roofs: Approximately 83,000.0 sq. ft.
- Total Value of Roof: \$738,797.48
- Total Size of Solar: 695.7 kW DC
- Total Value of Solar: \$2,748,015.00

The proposed prices are based on current material and energy costs, the current production schedule and all noted assumptions made herein. Some of these factors are very volatile and represent significant factors that influence the proposed prices.



WARRANTY INFORMATION

- Once the final inspection is performed and final payment is received, a 20-Year manufacturer warranty will be provided.
- Roofing Contractor workmanship warranty – 5-Year
- Solar Modules 25-Year linear production warranty provided by the manufacturer.
- Inverters carry a 25-Year manufacturer's warranty.
- All racking parts and pieces are covered by a lifetime warranty provided by the manufacturer.

The proposed prices are based on current material and energy costs, the current production schedule and all noted assumptions made herein. Some of these factors are very volatile and represent significant factors that influence the proposed prices.



ABOUT SolarConnect

- SolarConnect, a solar division of RoofConnect, provides customer solar energy solutions for the commercial market.
- SolarConnect is a solar development company, capable of managing all aspects of a commercial solar project from conception to commissioning.

ABOUT RoofConnect

- RoofConnect is the largest national commercial roofing services provider.
- RoofConnect specializes in emergency roofing repairs, maintenance, and re-roofing, but we also perform specialty projects that require nationwide labor availability in the construction field.
- RoofConnect has over 200 locations strategically placed across the country. This allows RoofConnect to offer a onestop resource with national coverage for our clients, with a local member partner handling your request.
- RoofConnect associates are available on-call with over 7,000 employees to handle your specific roofing needs, anywhere, anytime.

The proposed prices are based on current material and energy costs, the current production schedule and all noted assumptions made herein. Some of these factors are very volatile and represent significant factors that influence the proposed prices.