

AGENDA
SHAKOPEE PUBLIC UTILITIES COMMISSION
REGULAR MEETING
September 6, 2022
at 5:00 PM

To watch this meeting live click or copy the link: <https://tinyurl.com/SPU-YouTube-Live>

1. **Call to Order** at 5:00pm in the SPU Service Center, 255 Sarazin Street
 - 1a) Roll Call
2. **Communications**
3. **Consent Agenda**
 - C=> 3a) Approval of August 15, 2022 Minutes (GD)
 - C=> 3b) Approval of September 5, 2022 Agenda (KM)
 - C=> 3c) September 6, 2022, Warrant List (KW)
 - C=> 3d) Second Amendment to MMPA Sales Agreement (GD)
4. **Reports: General**
 - 4a) Marketing/Key Accounts Report – Verbal (SW)
 - 4b) SPU Quarterly Investment Performance Review/Economic & Market Update (KW)
5. **Liaison Report** (JB)
6. **Public Comment Period.** If there is any public here, please step up to the table and state your name and address for the record.
7. **General Manager Report**
 - 6a) General Manager Report – Verbal (GD)
8. **Reports: Water Items**
 - 7a) Water System Operations Report – Verbal (LS)
 - 7b) Static Water Levels Results (LS)
8. **Reports: Electric Items**
 - 8a) Electric System Operations Report – Verbal (BC)
 - 8b) Solar Program Workshop (GD & JA)
9. **Reports: Human Resources**
10. **Items for Future Agendas**
11. **Tentative Dates for Upcoming Meetings**
 - September 19, 2022 (Cancelled)
 - October 3, 2022
 - October 17, 2022
 - November 7, 2022
 - November 21, 2022
12. **Adjournment**

Proposed As Consent Item

MINUTES OF THE
SHAKOPEE PUBLIC UTILITIES COMMISSION
August 15, 2022
Regular Meeting

1. Call to Order. President Mocol called the August 15, 2022, meeting of the Shakopee Public Utilities Commission to order at 5:00 PM. President Mocol, Vice President Krieg, Commissioner Brennan, Commissioner Fox, and Commissioner Letourneau were present.
2. Approval of Consent Agenda. Commissioner Fox moved approval of the consent agenda: (3a) August 1, 2022 Minutes; (3b) August 15, 2022 Agenda; (3c) August 4, 2022 Warrant List, Account Credit Request/Deposit Refunds; (3d) August, 15, 2022 Warrant List (3e) Water Dashboard; (3f) Res#2022-219 Resolution Setting the Amount of the Trunk Water Charge, Approving of its Collection and Authorizing Water Services to Certain Property Described as: Windermere South 6th Addition; (3g) Res#2022-20 Resolution Approving the Estimated Cost of Pipe Oversizing on the Watermain Project: Windermere South 6th Addition. Vice President Krieg seconded the motion. Ayes: Mocol, Krieg, Brennan, Fox, and Letourneau. Nays: None. Motion carried.
3. General Manager Report. Greg Drent, General Manager, reported that SPU is assisting the Shakopee School District with applications for solar projects under 40 kw at two schools. He noted that SPU has fielded calls as to July bills, with higher usage and higher amounts. Mr. Drent stated that the NISC training is underway, with billing changes expected in January or February 2023. He noted that SPU is working to transition vendors. He provided an update on strategic planning.
4. MMPA Review & Contract Extension. Mr. Drent noted that the Commission is asked to consider an extension in the power sales agreement with Minnesota Municipal Power Agency (MMPA) through 2060; if approved in concept, an amendment will be prepared for the following meeting. Mr. Drent introduced Derick Dahlen, Executive Manager of MMPA and President/CEO of Avant Energy, manager for MMPA, and Oncu Er, COO of Avant Energy. They presented an overview of MMPA's history, performance, energy supply, and future planning. Commissioner Fox moved approval of extending the MMPA Power Sales Agreement through 2060; Commissioner Letourneau seconded the motion. Ayes: Mocol, Krieg, Brennan, Fox, and Letourneau. Nays: None. Motion carried.
5. Liaison Report. Commissioner Brennan noted that the City Council approved the final plat of the River Valley Business Park.
6. Public Comment Period. No public comments were offered.

7. Water Report. Lon Schemel, Water Superintendent, presented the hydrant flushing update. He also provided an update on Well 23.
8. Minnesota Department of Health PFAS testing. Mr. Schemel noted that the Minnesota Department of Health requested another round of PFAS testing for SPU production wells. He explained that SPU had planned to perform this testing in September, and the State's actions will save approximately \$4,800 in analytical services. He noted that the State is considering pushing back on the proposed federal regulation of levels that currently cannot be detected.
9. Electric Report. Brad Carlson, Electric Superintendent, provided project updates, including Shakopee West Substation, McKenna Road street lighting, River Bluff street lighting, and the feeder extension on 17th Ave. He noted that in response to the outages from the big storm, SPU crews worked from 11pm until 7pm the next day. He described an outage at Circuit 8, with over 700 customers out for 108 minutes, with some additional areas connected later. Mr. Carlson also noted three other outages, including a contractor hitting an overhead power line and a fault on a feeder.
10. Marketing/Key Accounts Report. Sharon Walsh, Director of Key Accounts/Marketing/Special Projects, reported that SPU will interview two AMI vendors and possibly four in September. She reported that Rhythm on the Rails provided good traction with customers. She reported that the 2021 Year-In-Review was sent out. Ms. Walsh noted more discussion with commercial customers on solar net metering and the difference for projects over 40 kw. For the service territory transfer with MVEC, she noted that nearly 70% of SPU's Prior Lake customers have given permission to share account information with MVEC, and the remaining customers are nearing the State's determination of implied consent. She noted that a new business customer signed up for Clean Energy.
11. Budget 2023. Mr. Drent and Kelley Willemssen, Director of Finance and Administration, provided an update and requested that two Commissioners to participate in an informal working group. Vice President Krieg and Commission Letourneau volunteered to assist.
12. July 2022 Financial Reports & Accounts Receivable Aging. Ms. Willemssen presented the July 2022 financial report. She explained that the unfavorable electric budget to actual is due to increased purchased power costs. She also noted an increase in accounts receivable.
13. Adjourn. Motion by Commissioner Fox, seconded by Commission Letourneau, to adjourn to the Tuesday, September 6, 2022, meeting. Ayes: Mocol, Krieg, Brennan, Fox, and Letourneau. Nays: None. Motion carried.

Greg Drent, Commission Secretary

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 - November 21, 2022
12. **Adjournment**

SHAKOPEE PUBLIC UTILITIES COMMISSION

WARRANT LISTING

September 6, 2022

By direction of the Shakopee Public Utilities Commission, the Secretary does hereby authorize the following warrants drawn upon the Treasury of Shakopee Public Utilities Commission:

DAILY PRINTING INC.	\$7,356.07
American Water Works Association	\$227.00
ADVANTAGE COLLECTION PROFESSIONALS	\$118.00
ALLSTREAM BUSINESS US, INC	\$2,447.98
ALTEC INDUSTRIES, INC	\$367.81
AMARIL UNIFORM CO.	\$302.45
ANDREA AMANDA RAMNAUTH	\$4,051.43
APPLE FORD OF SHAKOPEE	\$1,311.40
ARAMARK REFRESHMENT SERVICES INC	\$113.87
ARROW ACE HARDWARE	\$56.00
ASTLEFORD INTL TRUCKS	\$567.16
B & B TRANSFORMER INC	\$89,831.00
BERGERSON-CASWELL INC	\$39,895.00
BERLIN PACKAGING LLC	\$349.58
BERNDTSON, ROBERT	\$223.76
BIRD'S LAWN CARE LLC	\$3,588.00
BIRD'S LAWN CARE LLC	\$7,176.00
BJORKLUND, SHEILA	\$500.00
BOB'S LAWN & LANDSCAPING INC	\$390.00
BORDER STATES ELECTRIC SUPPLY INC	\$224,666.51
BREIMHORST, CHRISTOPHER	\$155.84
BULLOCK, TOM	\$200.00
BUTLETT-SWENSON, AUDREY	\$125.00
CommScope	\$3,377.00
CARLSON, BRADLEY	\$204.88
CDW LLC	\$7,524.41
CENTERPOINT ENERGY	\$429.45
CENTURY PROMOTIONAL ADVERTISING LLC	\$3,050.00
CHOICE ELECTRIC INC	\$9,717.40
CITY OF SHAKOPEE	\$9,414.08
CITY OF SHAKOPEE	\$249,000.00
CITY OF SHAKOPEE	\$1,031.08
CLAREY'S SAFETY EQUIPMENT, INC	\$1,024.68
COMCAST CABLE COMMUNICATIONS, INC.	\$2.25
CORE & MAIN LP	\$19,600.00
CREECH, WILLIAM	\$1,000.00
CUSTOMER CONTACT SERVICES	\$1,065.76
DAHLEN SIGN COMPANY	\$312.00
DELTA DENTAL PLAN OF MN	\$5,349.21
DEWILD GRANT RECKERT AND ASSOCIATES	\$6,976.20
DIVERSIFIED ADJUSTMENT SERVICES INC	\$81.00
DJUKIC, SINISA & DEBBIE	\$179.10
DOEPKE, LINDA	\$200.00
E.J. Brooks Company	\$463.15
EMERGENCY AUTOMOTIVE TECHNOLOGIES IN	\$61.54
ENELX WAY NORTH AMERICA, INC	\$52,781.50
ENRIGHT, MIKE	\$147.50
FERGUSON US HOLDINGS, INC.	\$14,023.75
FRONTIER ENERGY, INC.	\$5,441.48
FURTHER	\$944.41
GAGE & GAGE INC	\$1,782.00
GELKING, MIKE	\$350.00
GRAYBAR ELECTRIC COMPANY INC	\$18,587.70
HASSAN, MUAD	\$200.00
HAWKINS INC	\$11,506.60
HD SUPPLY FACILITIES MAINTENANCE LTD	\$645.39
HEALTHPARTNERS	\$80,886.08
HENNEN'S AUTO SERVICE, INC.	\$241.56
HERMAN'S LANDSCAPE SUPPLIES INC	\$42.50
HOVE, BRAD	\$155.00
IMPACT MAILING OF MINNESOTA, INC.	\$2,326.96
INNOVATIVE OFFICE SOLUTIONS LLC	\$998.91
INTEGRATED PROCESS SOLUTIONS, INC	\$3,184.00
INTERSTATE ALL BATTERY CTR	\$58.30
IRBY - STUART C IRBY CO	\$26,602.16
IRBY TOOL & SAFETY	\$5,306.72
JT SERVICES	\$37,004.49
JUSUFOVIC, RACHEL	\$225.00
KING, ERIC	\$211.99
LARKSTUR ENGINEERING AND SUPPLY, INC	\$68.15

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By direction of the Shakopee Public Utilities Commission, the Secretary does hereby authorize the following warrants drawn upon the Treasury of Shakopee Public Utilities Commission:

LOCATORS & SUPPLIES INC	\$1,140.81
Mueller, Joe	\$500.00
MASTER MECHANICAL INC	\$1,210.75
MERCADO, KATHLEEN	\$155.00
MINN VALLEY TESTING LABS INC	\$854.65
MINNESOTA LIFE	\$1,294.67
MMUA	\$1,960.00
MN DEPT OF REVENUE ACH PAYMENTS	\$89.69
MYERS, TONY	\$89.89
NAGEL COMPANIES LLC	\$4,281.00
NCPERS GROUP LIFE INSURANCE	\$224.00
NEPAL, BHARAT	\$1,000.00
NEVILLE, GERRY	\$313.13
NGUYEN, AN VU & VINH VAN	\$350.00
NICKELL, KEN	\$500.00
NICKOLAY, CINDY	\$283.76
NIELSEN, ROB	\$75.00
ONETENTEN HOMES LLC	\$5,581.00
Principal Financial Group	\$3,951.78
PAYMENTUS CORPORATION	\$29,332.40
PETERSON, FRANK	\$1,000.00
PLUNKETT'S PEST CONTROL, INC.	\$1,489.99
PRIORITY 1 OUTDOORS INC.	\$900.00
RESCO	\$6,186.24
RW Beck Group, Inc, Leidos Eng. LLC	\$44,835.20
SAMBATEK	\$7,672.50
SATHE, VAIBHAV & SHILPA	\$125.00
SCHINTZ, JACK	\$119.04
SCHWABE, ROGER	\$500.00
SCOTT COUNTY RECORDERS OFFICE	\$152.00
SCOTT COUNTY TREASURER	\$162.00
SHAUGHNESSY, DANIEL	\$200.00
SHERWIN WILLIAMS	\$159.27
SHORT ELLIOTT HENDRICKSON INC	\$2,464.88
SLOSS, JEFF	\$500.00
SOUTHWEST NEWS MEDIA DBA DIV. OF RED	\$698.28
SWANSON, TIM	\$106.20
TETRAULT, TYLER	\$125.00
TRI TECH DISPENSING INC.	\$3,915.23
TRIPLETT, GREG	\$273.13
ULINE, INC.	\$48.09
VIDEOTRONIX INCORPORATED	\$3,035.97
VON BANK, JAMIE	\$236.07
WATER CONSERVATION SERVICE INC	\$760.00
WERMERSKIRCHEN, RYAN	\$341.75
WESCO DISTRIBUTION INC	\$13,858.22
WIECZOREK, MARCUS	\$175.00
WOMEN'S CORRECTIONAL FACILITY	\$6,555.00
YARBROUGH-SCHAFFNER, JULIE	\$50.00
ZIEGLER INC	\$1,340.85

\$1,118,977.64



Presented for approval by: Director of Finance & Administration

Approved by General Manager

Approved by Commission President

SHAKOPEE PUBLIC UTILITIES COMMISSION

WARRANT LISTING

September 6, 2022

By direction of the Shakopee Public Utilities Commission, the Secretary does hereby authorize the following warrants drawn upon the Treasury of Shakopee Public Utilities Commission:

62721 DAILY PRINTING INC.	\$7,356.07 Check on Demand for SW
62736 American Water Works Association	\$227.00 T.M. membership dues AWWA
62737 ADVANTAGE COLLECTION PROFESSIONALS	\$118.00 Pymt made to SPU #41397-001, Jeff Groebner
62738 ALLSTREAM BUSINESS US, INC	\$2,447.98 Shak Sub, Pike Lake, S.Sub, and SPU
62739 ALTEC INDUSTRIES, INC	\$367.81 Pole Cover
62740 AMARIL UNIFORM CO.	\$302.45 return womens lowrise bootcut jean
62741 ANDREA AMANDA RAMNAUTH	\$4,051.43 Sept. cleaning service
62742 APPLE FORD OF SHAKOPEE	\$1,311.40 repairs on trk 629
62743 ARAMARK REFRESHMENT SERVICES INC	\$113.87 Coffee for lunchrooms
62744 ARROW ACE HARDWARE	\$56.00 Ext cord, hex pipe plug, bushing, fuel/oil filter
62745 ASTLEFORD INTL TRUCKS	\$567.16 repairs on 614
62746 B & B TRANSFORMER INC	\$89,831.00 SINGLE PHASE PAD TRANSFORMERS
62747 BERGERSON-CASWELL INC	\$39,895.00 WO#2636 - Replace motor well pump #5
62748 BERLIN PACKAGING LLC	\$349.58 case of bottles for water dept.
62749 BERNDTSON, ROBERT	\$223.76 97 Miles reimb.
62750 BIRD'S LAWN CARE LLC	\$3,588.00 July lawn care
62751 BIRD'S LAWN CARE LLC	\$7,176.00 June & August lawn care
62752 BJORKLUND, SHEILA	\$500.00 2022 Res. Cooling & Heating
62753 BOB'S LAWN & LANDSCAPING INC	\$390.00 Red cedar mulch
62754 BORDER STATES ELECTRIC SUPPLY INC	\$224,666.51 CABLE, HEAT SHRINK, BRACE, WOOD CROSS ARM, SLEEVE ALUM., TERMINATION, GROUND ROD CLAMP, CLAMP HOT LINE,
62755 BREIMHORST, CHRISTOPHER	\$155.84 2022 Irrigation Controllers rebate
62756 BULLOCK, TOM	\$200.00 2022 Res. Cooling & Heating
62757 BUTLETT-SWENSON, AUDREY	\$125.00 2022 Energy Star Clothes Washer
62758 CommScope	\$3,377.00 2022 LED Interior Lightings
62759 CARLSON, BRADLEY	\$204.88 MMUA Summer Conf. Breezy Pt. Mileage
62760 CDW LLC	\$7,524.41 Monitors for Engineers
62761 CENTERPOINT ENERGY	\$429.45 Gas usage 10th Ave, 7/8-8/8/22
62762 CENTURY PROMOTIONAL ADVERTISING LLC	\$3,050.00 Engineer clothing, office apparel
62763 CHOICE ELECTRIC INC	\$9,717.40 WO#2554 ,Labor Install owner supplied EV charger, and saver switches
62764 CITY OF SHAKOPEE	\$9,414.08 July fuel usage
62765 CITY OF SHAKOPEE	\$249,000.00 Sept. PILOT transfer fee
62766 CITY OF SHAKOPEE	\$1,031.08 Storm drainage/SPU properties for Sept.
62767 CLAREY'S SAFETY EQUIPMENT, INC	\$1,024.68 lights for Elec. Dept. & new trk replacement
62768 COMCAST CABLE COMMUNICATIONS, INC.	\$2.25 Aug. 17-9/16/22 cable for lunchrooms
62769 CORE & MAIN LP	\$19,600.00 WO#2576 3/4 Short Iperl Meters
62770 CREECH, WILLIAM	\$1,000.00 2022 Res. Solar Rebate
62771 CUSTOMER CONTACT SERVICES	\$1,065.76 Answering service 8/23-9/19
62772 DAHLEN SIGN COMPANY	\$312.00 Yard sign - driveup and shut off
62773 DELTA DENTAL PLAN OF MN	\$5,349.21 Delta Dental - Sept. Premiums
62774 DEWILD GRANT RECKERT AND ASSOCIATES	\$6,976.20 WO#2612 - July 2022 Dist. Additions SS83 Ext.
62775 DIVERSIFIED ADJUSTMENT SERVICES INC	\$81.00 July Collection due to agency
62776 DJUKIC, SINISA & DEBBIE	\$179.10 2022 Irrigation Controllers rebate
62777 DOEPKE, LINDA	\$200.00 2022 Res. Cooling & Heating
62778 E.J. Brooks Company	\$463.15 7021100 PLASTIC ROTO-TOOL
62779 EMERGENCY AUTOMOTIVE TECHNOLOGIES IN	\$61.54 Battery pack
62780 ENELX WAY NORTH AMERICA, INC	\$52,781.50 wo#2555 - Data Plan-5 years for Juice Pedestal
62781 ENRIGHT, MIKE	\$147.50 Per Diem reimb. for 8/10,11,12/2022
62782 FERGUSON US HOLDINGS, INC.	\$14,023.75 FWO#2576 - \$3802.00 meter horns, classic head option AFC Mod. kit,WO#2576 - \$4327.00 short water meters
62783 FRONTIER ENERGY, INC.	\$5,441.48 July Prof. service & A19 Bulbs
62784 FURTHER	\$944.41 Aug. Admin. fees
62785 GAGE & GAGE INC	\$1,782.00 2022 LED Retrofit
62786 GELKING, MIKE	\$350.00 2022 Res. Cooling & Heating
62787 GRAYBAR ELECTRIC COMPANY INC	\$18,587.70 PIPE PVC
62788 HASSAN, MUAD	\$200.00 2022 Irrigation Controllers rebate
62789 HAWKINS INC	\$11,506.60 57 gallons fluoride, chlorine cylinders, cylinders
62790 HD SUPPLY FACILITIES MAINTENANCE LTD	\$645.39 Hach DR300 Chlorine,Colorimeter
62791 HEALTHPARTNERS	\$80,886.08 Sept. Health Ins. Premiums
62792 HENNEN'S AUTO SERVICE, INC.	\$241.56 Elec. Dept. oil change on three trucks
62793 HERMAN'S LANDSCAPE SUPPLIES INC	\$42.50 Pulverized dirt
62794 HOVE, BRAD	\$155.00 2022 Res. Appliance Recycling, Res. Appliance rebate
62795 IMPACT MAILING OF MINNESOTA, INC.	\$2,326.96 July collection letters
62796 INNOVATIVE OFFICE SOLUTIONS LLC	\$998.91 Office supplies
62797 INTEGRATED PROCESS SOLUTIONS, INC	\$3,184.00 Transducer and Lightening arrester
62798 INTERSTATE ALL BATTERY CTR	\$58.30 Battery for Thumper

SHAKOPEE PUBLIC UTILITIES COMMISSION

WARRANT LISTING

September 6, 2022

By direction of the Shakopee Public Utilities Commission, the Secretary does hereby
authorize the following warrants drawn upon the Treasury of Shakopee Public Utilities
Commission:

62799 IRBY - STUART C IRBY CO	\$26,602.16	PIN POLE TOP FIBERGLASS, pedestal primary, shrink heat, connectors, clamp, meter sockets
62800 IRBY TOOL & SAFETY	\$5,306.72	Winch 3 Way Retrieval, crimper, leather protectors, amprobe tic tracer
62801 JT SERVICES	\$37,004.49	PIPE 1 1/4 INNERDUCT, luminaire post mount, retrofit lamps
62802 JUSUFOVIC, RACHEL	\$225.00	2022 Res. Energy Star Appliance Rebate
62803 KING, ERIC	\$211.99	Safety boots reimbursement
62804 LARKSTUR ENGINEERING AND SUPPLY, INC	\$68.15	Coupler for Elec.
62805 LOCATORS & SUPPLIES INC	\$1,140.81	Pavement Striping Paints, auger bits, sockets, stake bag
62806 Mueller, Joe	\$500.00	2022 Res. Cooling & Heating
62807 MASTER MECHANICAL INC	\$1,210.75	A/C work done at Eagle Creek Sub
62808 MERCADO, KATHLEEN	\$155.00	2022 Res. Appliance Recycling
62809 MINN VALLEY TESTING LABS INC	\$854.65	Coliform, nitrate & nitrite
62810 MINNESOTA LIFE	\$1,294.67	Sept. life ins. premiums
62811 MMUA	\$1,960.00	MMUA Tech & OP Conf. BC & GD
62812 MN DEPT OF REVENUE ACH PAYMENTS	\$89.69	July add'l's Sales & Use tax pd thru acct
62813 MYERS, TONY	\$89.89	Power drain auger for PH 6 floor drains
62814 NAGEL COMPANIES LLC	\$4,281.00	WO#2663 - Potholing, slicing 17th Ave & Phillip Way
62815 NCPERS GROUP LIFE INSURANCE	\$224.00	PERA life ins.
62816 NEPAL, BHARAT	\$1,000.00	2022 Res. Solar Rebate
62817 NEVILLE, GERRY	\$313.13	221 Miles reimbursed
62818 NGUYEN, AN VU & VINH VAN	\$350.00	2022 Res. Cooling & Heating
62819 NICKELL, KEN	\$500.00	2022 Res. Cooling & Heating
62820 NICKOLAY, CINDY	\$283.76	174 miles reimb.
62821 NIELSEN, ROB	\$75.00	2022 Res. Energy Star Appliance Rebate
62822 ONETENTEN HOMES LLC	\$5,581.00	Water capacity charge refund
62823 Principal Financial Group	\$3,951.78	Sept. Premiums for LTD
62824 PAYMENTUS CORPORATION	\$29,332.40	July transaction fees
62825 PETERSON, FRANK	\$1,000.00	2022 Res. Solar Rebate
62826 PLUNKETT'S PEST CONTROL, INC.	\$1,489.99	Pest control program 8/22-7/23
62827 PRIORITY 1 OUTDOORS INC.	\$900.00	Install Halli road addition to BLVD
62828 RESCO	\$6,186.24	SWITCH DISCONNECT 1 PHASE, elbows, fuse fitall, anchor
62829 RW Beck Group, Inc., Leidos Eng. LLC	\$44,835.20	WO#2483 -July - SPU W. Shak Sub Design
62830 SAMBATEK	\$7,672.50	WO#2259 - Elevated Water Tank 8, WO#2525 - SPU Prod. Well #23
62831 SATHE, VAIBHAV & SHILPA	\$125.00	2022 Energy Star Clothes Washer
62832 SCHINTZ, JACK	\$119.04	Climbing pads
62833 SCHWABE, ROGER	\$500.00	2022 Res. Cooling & Heating
62834 SCOTT COUNTY RECORDERS OFFICE	\$152.00	WC Deco Shakopee LLC , WC Charge Agreement for S.M. Hentges & Sons, WC Charge Agreement for QF Partners LLC WO#2639
62835 SCOTT COUNTY TREASURER	\$162.00	WO#2602 UID#16557 Relocation & Under. 3 phase el
62836 SHAUGHNESSY, DANIEL	\$200.00	2022 Res. Cooling & Heating
62837 SHERWIN WILLIAMS	\$159.27	Elec. Dept. paint
62838 SHORT ELLIOTT HENDRICKSON INC	\$2,464.88	WO#2634 Misc. Water system modeling
62839 SLOSS, JEFF	\$500.00	2022 Res. Cooling & Heating
62840 SOUTHWEST NEWS MEDIA DBA DIV. OF RED	\$698.28	Legals for July
62841 SWANSON, TIM	\$106.20	2022 Irrigation Controllers rebate
62842 TETRAULT, TYLER	\$125.00	2022 Energy Star Clothes Washer
62843 TRI TECH DISPENSING INC.	\$3,915.23	Ice maker machine for warehouse
62844 TRIPLETT, GREG	\$273.13	108 Miles reimb.
62845 ULINE, INC.	\$48.09	Corrugated boxes
62846 VIDEOTRONIX INCORPORATED	\$3,035.97	WO#2470 Equipment upgrade for building expansion/upgrade
62847 VON BANK, JAMIE	\$236.07	Tarp, black dirt reimbursement
62848 WATER CONSERVATION SERVICE INC	\$760.00	leak locate - Mystic Lake Dr. & Thrush
62849 WERMERSKIRCHEN, RYAN	\$341.75	Mileage and Per Diem reimbursement
62850 WESCO DISTRIBUTION INC	\$13,858.22	SENSORLINK AMPSTIK, AUTOSPICE FOR COPPERWELD, SPLICING KIT, HEAT SHRINK, TORK PHOTO CONTROL, FUSE , SATURATED WIPE
62851 WIECZOREK, MARCUS	\$175.00	2022 Energy Star Clothes Washer
62852 WOMEN'S CORRECTIONAL FACILITY	\$6,555.00	2022 Energy efficient chiller
62853 YARBROUGH-SCHAFFNER, JULIE	\$50.00	2022 Res. Energy Star Appliance Rebate

SHAKOPEE PUBLIC UTILITIES COMMISSION

WARRANT LISTING

September 6, 2022

By direction of the Shakopee Public Utilities Commission, the Secretary does hereby
authorize the following warrants drawn upon the Treasury of Shakopee Public Utilities
Commission:

62854 ZIEGLER INC

\$1,340.85 Maint. Performed on Unit #624

\$1,118,977.64




Presented for approval by: Director of Finance & Administration

Approved by General Manager

Approved by Commission President



PO Box 470 • 255 Sarazin Street
Shakopee, Minnesota 55379
Main 952.445-1988 • Fax 952.445-7767
www.shakopeeutilities.com

DATE: August 18, 2022
TO: SPU Commissioners
FROM: Greg Drent, General Manager 
Subject: Second Amendment to MMPA Sales Agreement

Background: Attached is the second amendment to MMPA agency sales agreement for your approval as discussed at our last commission meeting

Action: Approve amendment to MMPA power sales agreement to 2060

SECOND AMENDMENT TO
MINNESOTA MUNICIPAL POWER AGENCY SALES AGREEMENT

This Second Amendment, effective as of September __, 2022 (the "Second Amendment") is to the Minnesota Municipal Power Agency Sales Agreement dated April 5, 2004 as amended January 21, 2014 by and between the Minnesota Municipal Power Agency (the "Agency") and the City of Shakopee by and through the Shakopee Public Utilities Commission (the "City") (each a "Party" and collectively, the "Parties").

WHEREAS, the Parties entered into the Minnesota Municipal Power Agency Sales Agreement dated April 5, 2004, as amended January 21, 2014 (as amended, the "Agreement"); and

WHEREAS, the Parties desire to revise the term of the Agreement to allow for long-term planning and financing.

NOW, THEREFORE, in consideration of the commitments herein, and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Parties agree to modify the Agreement as follows:

1. Section 7 (Term), as most recently amended in paragraph (a) of the First Amendment to the Agreement, shall be deleted in its entirety and replaced as follows:

SECTION 7. Term

This Agreement shall remain in effect through December 31, 2060. Either Party may terminate the Agreement by providing written notice at least five years in advance of the termination date; provided, however, that the earliest possible termination date permitted by this section is January 1, 2061. This Agreement shall continue in full force and effect until so terminated.

2. Except as specifically set forth in this Second Amendment, the terms and conditions of the Agreement shall remain in full force and effect.
3. This Second Amendment may be executed in counterpart copies by the Parties and each counterpart, when taken together with the other, shall be deemed one and the same executed Second Amendment.

4. By signing below, each Party represents that it has taken all steps necessary to authorize and approve the execution of this Second Amendment.

IN WITNESS WHEREOF, the Parties have caused this Second Amendment to be executed by their duly authorized officers or agents as of the day and year set forth above.

MINNESOTA MUNICIPAL POWER
AGENCY

Attest: _____

By: _____

Its: _____

CITY OF SHAKOPEE, MINNESOTA
By and through the Shakopee Public
Utilities Commission

By: _____

Attest: _____

Its: _____



PO Box 470 • 255 Sarazin Street
Shakopee, Minnesota 55379
Main 952.445-1988 • Fax 952.445-7767
www.shakopeeutilities.com

DATE: September 1, 2022
TO: Greg Drent, General Manager *GD*
FROM: Kelley Willemssen, Director of Finance & Administration *kw*
SUBJECT: SPU Quarterly Investment Performance Review/ Economic & Market Update

Background:

Over the past seven months, we have been working with PFM Asset Management to assess our cash flows. With the continued growth that SPU is experiencing, we meet regularly to ensure that we are maximizing our investment opportunities while also leaving ample funds liquid for adequate cash reserves and upcoming capital projects.

Brian Johnson and Danny Nelson with PFM Asset Management will provide a brief update on the economy, fixed-income markets and provide an overview of how SPU's portfolio performed during the past quarter and what is expected for the remainder of the year.

Requested Action

No action necessary at this time.



Economic & Market Update

Shakopee Public Utilities

September 6, 2022

612.371.3747 | pfmam.com

PFM Asset Management LLC

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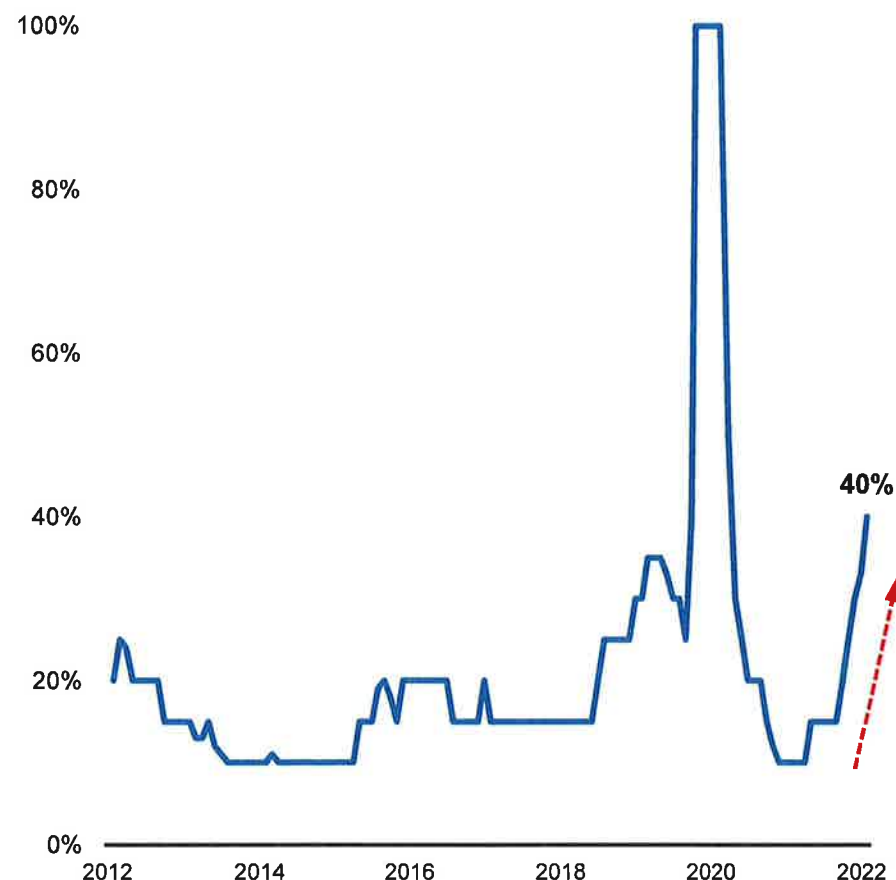
Q2 GDP Revised Higher, Uncertainty Still Lingers Around Economic Outlook

GDP Contributors

	Q3 2021	Q4 2021	Q1 2022	Q2 2022
U.S. Real GDP	2.3%	6.9%	-1.6%	-0.6%
<i>Personal Consumption</i>	1.4%	1.8%	1.2%	0.9%
<i>Fixed Investment</i>	-0.2%	0.5%	1.3%	-0.8%
<i>Private Inventories</i>	2.2%	5.3%	-0.4%	-1.8%
<i>Net Exports</i>	-1.3%	-0.2%	-3.2%	1.4%
<i>Gov't Expenditures</i>	0.2%	-0.5%	-0.5%	-0.3%

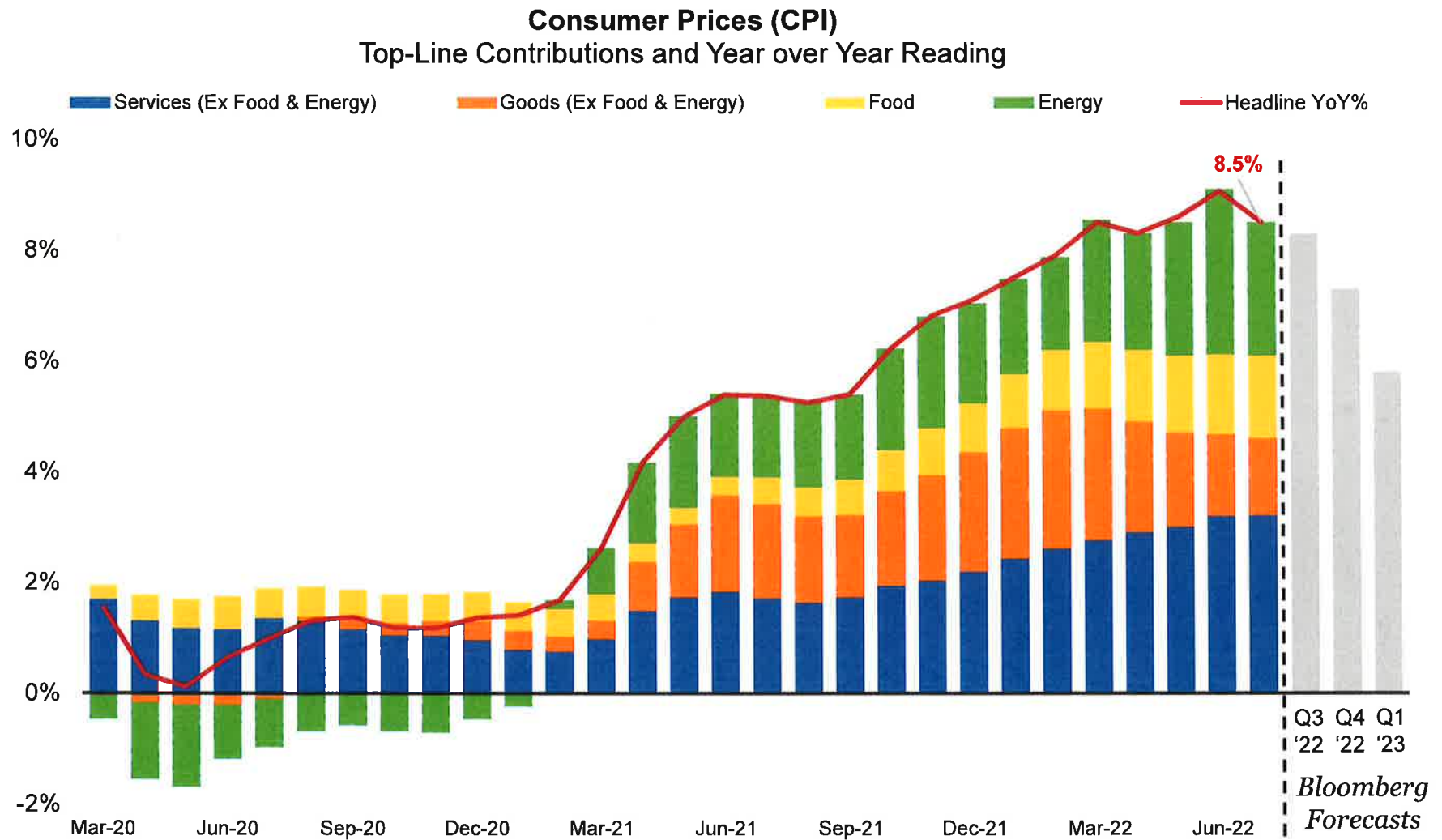
In the second half of the year, economists expect positive yet decelerating growth amid an increasingly cautious consumer

U.S. 1-Year Recession Probability (Bloomberg Median Economist Forecast)



Source: Bloomberg, as of August 2022.

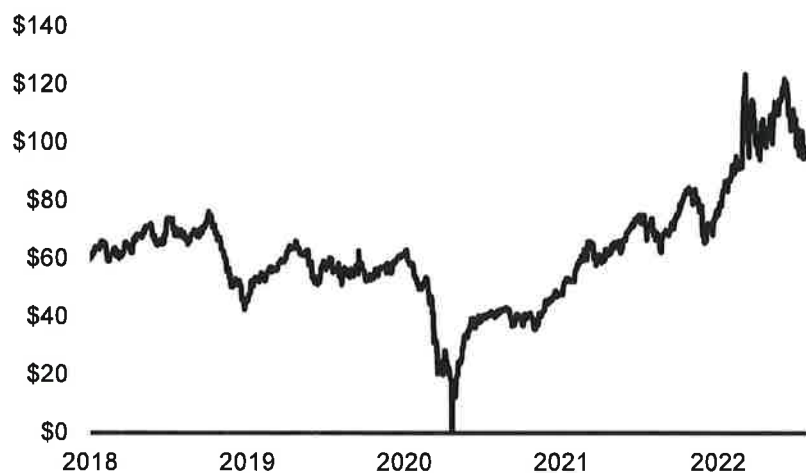
U.S. Inflation Decelerates in July, Driven by Lower Energy Prices



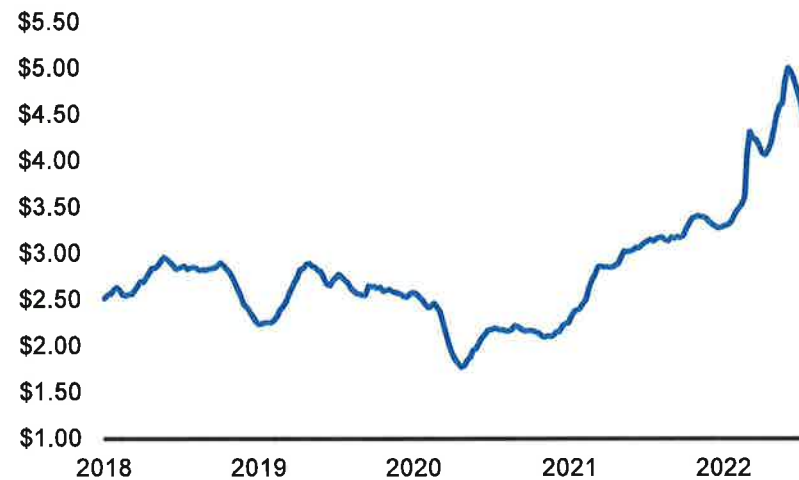
Source: Bloomberg, as of July 2022.

Energy Prices

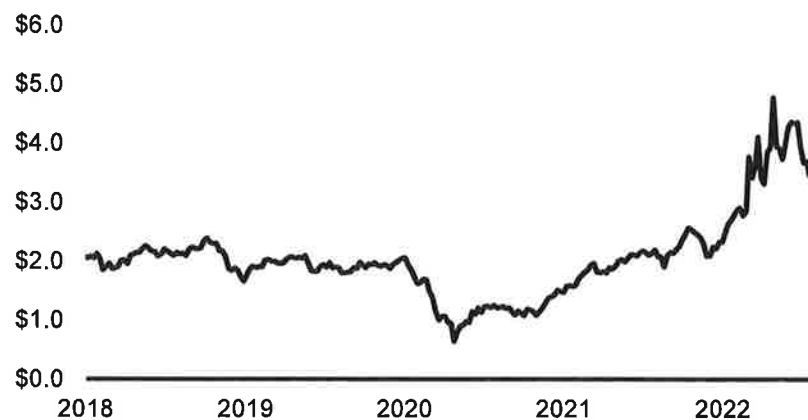
WTI Crude Oil (per barrel)



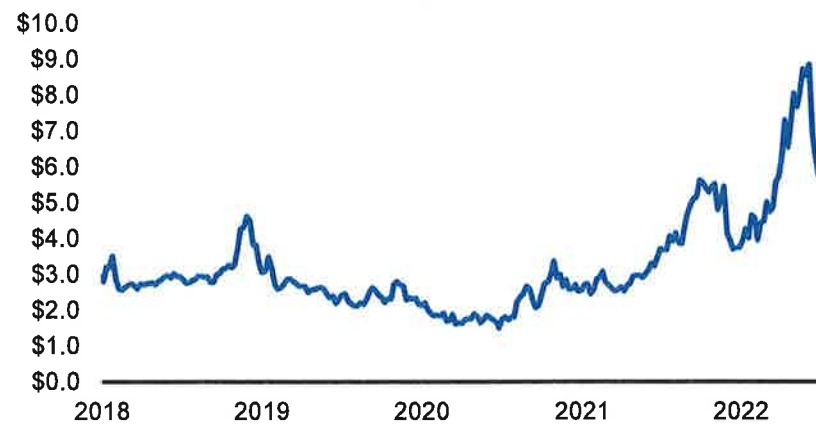
Retail Gasoline (per gallon)



Heating Oil (per gallon)

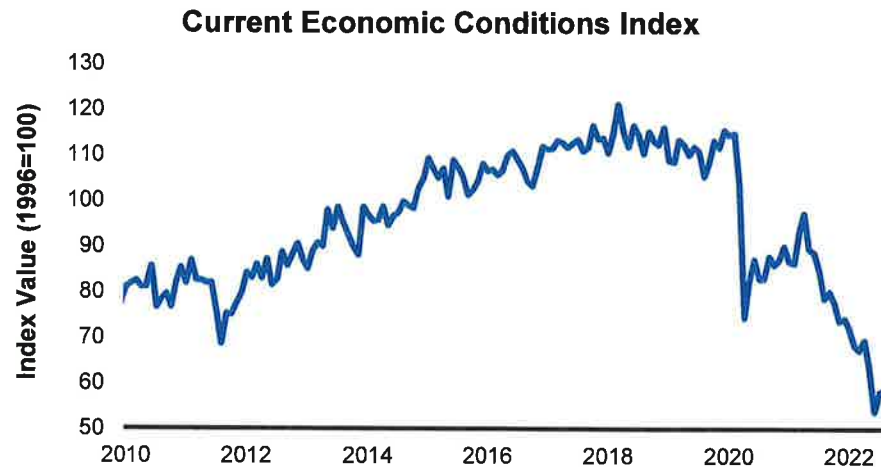
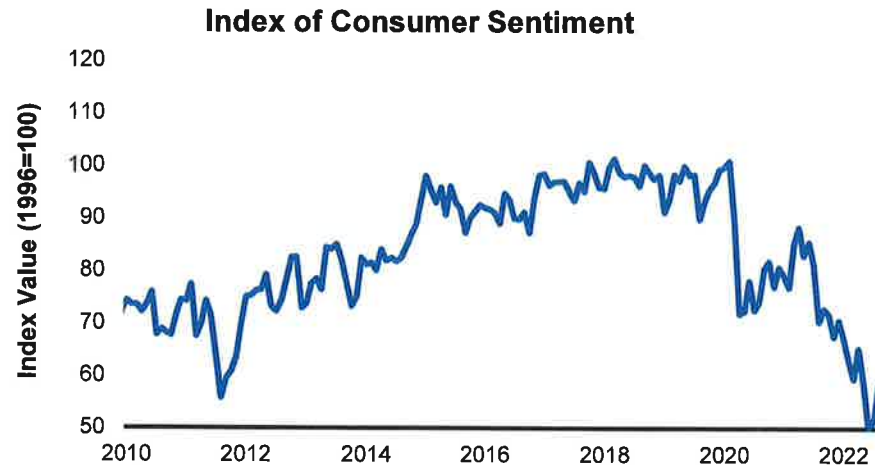


Natural Gas(MMBtu)



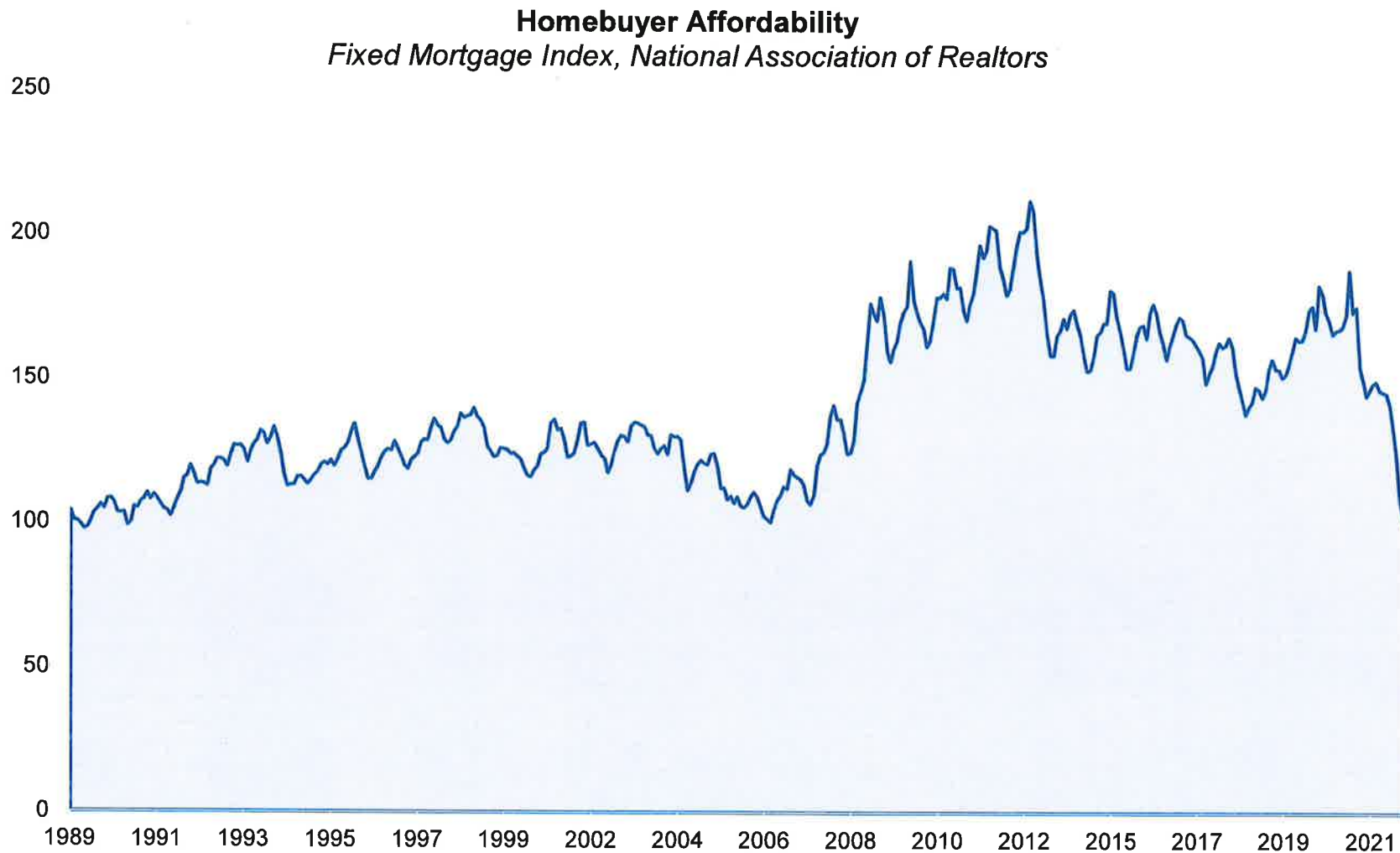
Source: Bloomberg, University of Michigan Consumer Sentiment and underlying index components, as of August 2022.

Consumer Sentiment Inches Off Record Lows, Remains Historically Depressed



Source: Bloomberg, University of Michigan Consumer Sentiment and underlying index components, as of August 2022.

Housing Affordability Rapidly Deteriorating Amid Soaring Rates and Home Prices

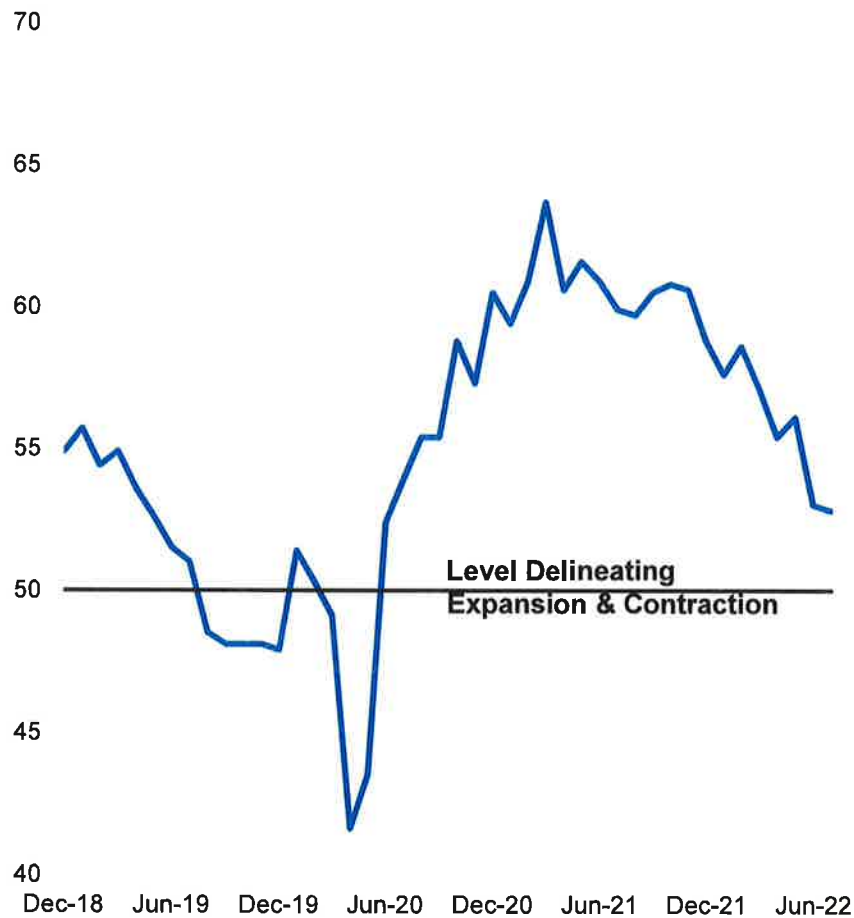


Source: Bloomberg, as of 8/19/2022.

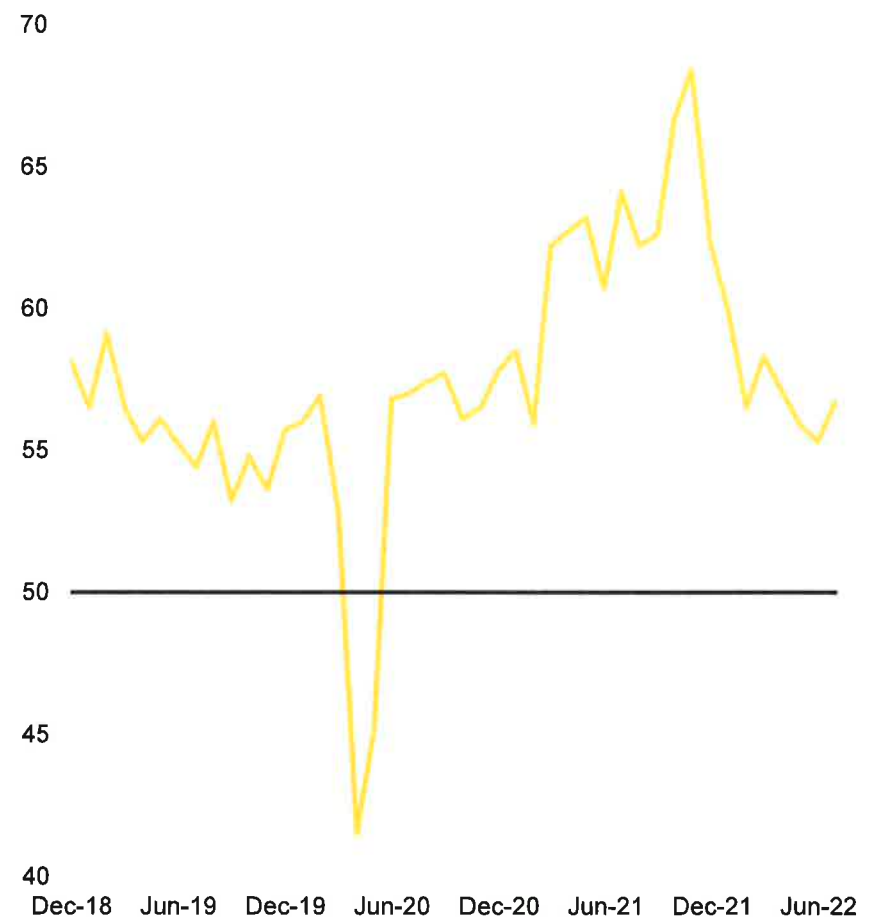
Note: This concept tracks the affordability of housing, typically based on a mix of median home prices, median income, and mortgage rates.

Services Activity Improves Slightly; Manufacturing Continues Decline

ISM Manufacturing PMI

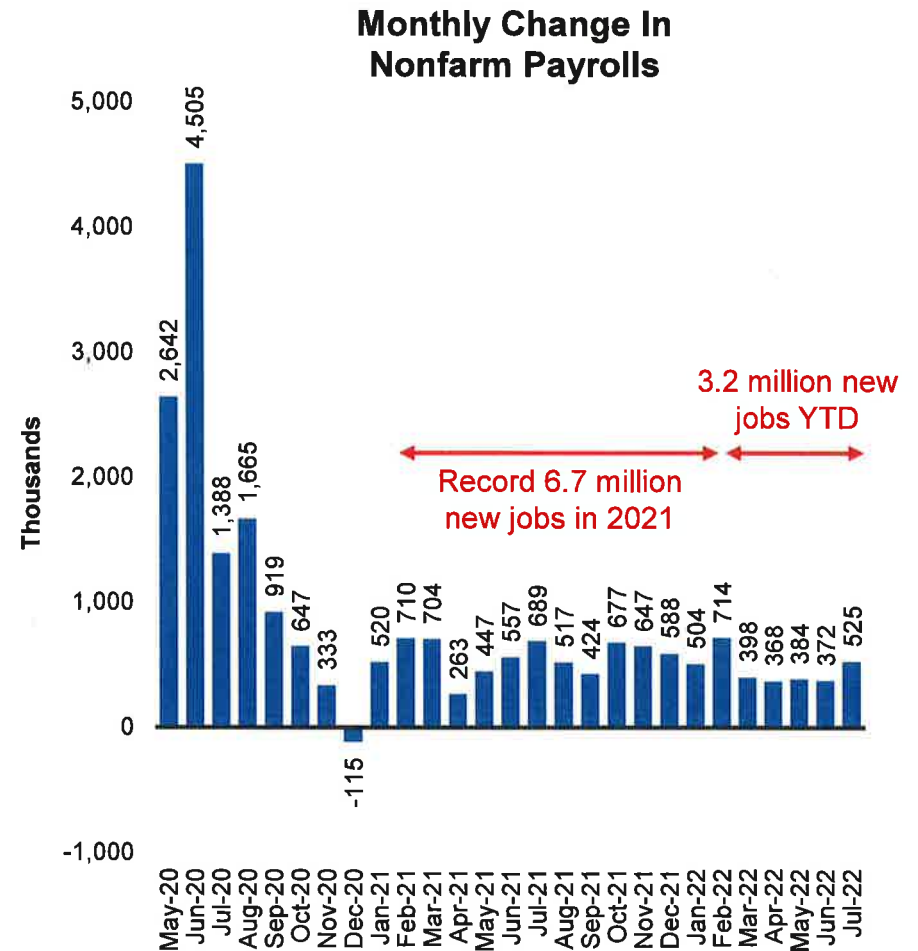
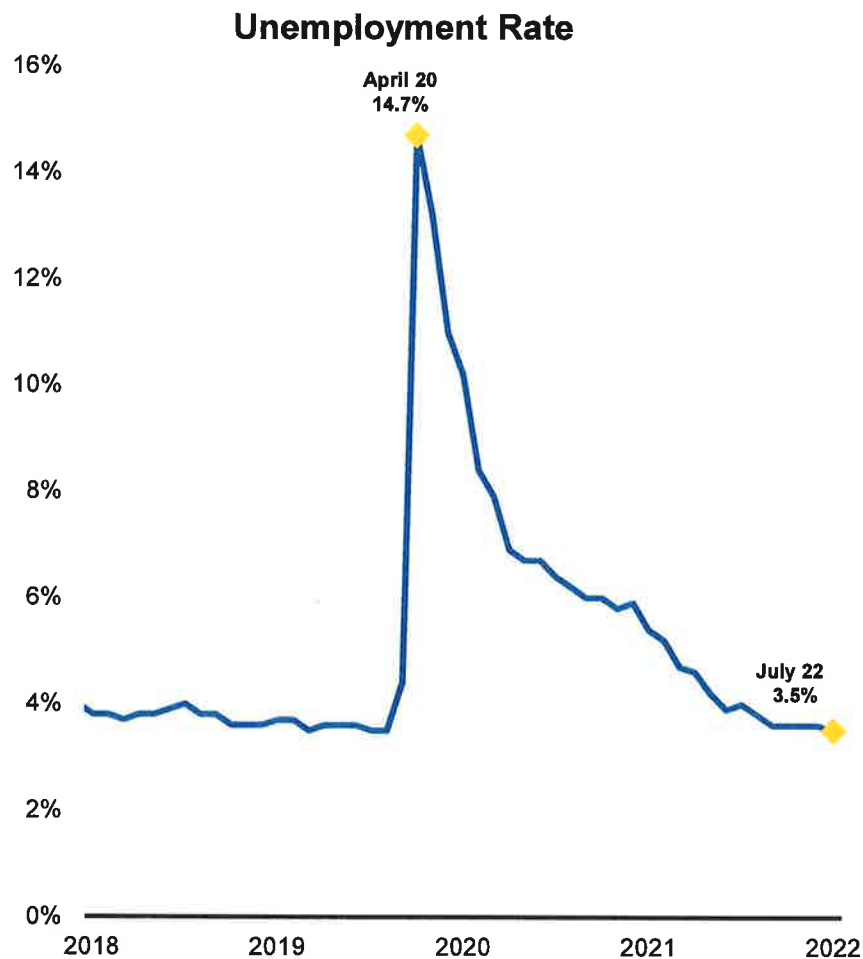


ISM Non-Manufacturing PMI



Source: Bloomberg, Institute for Supply Management, as of July 2022.

U.S. Economy Added 525,000 Jobs in July; Unemployment Rate 3.5%



Source: Bloomberg, as of July 2022. Data is seasonally adjusted.

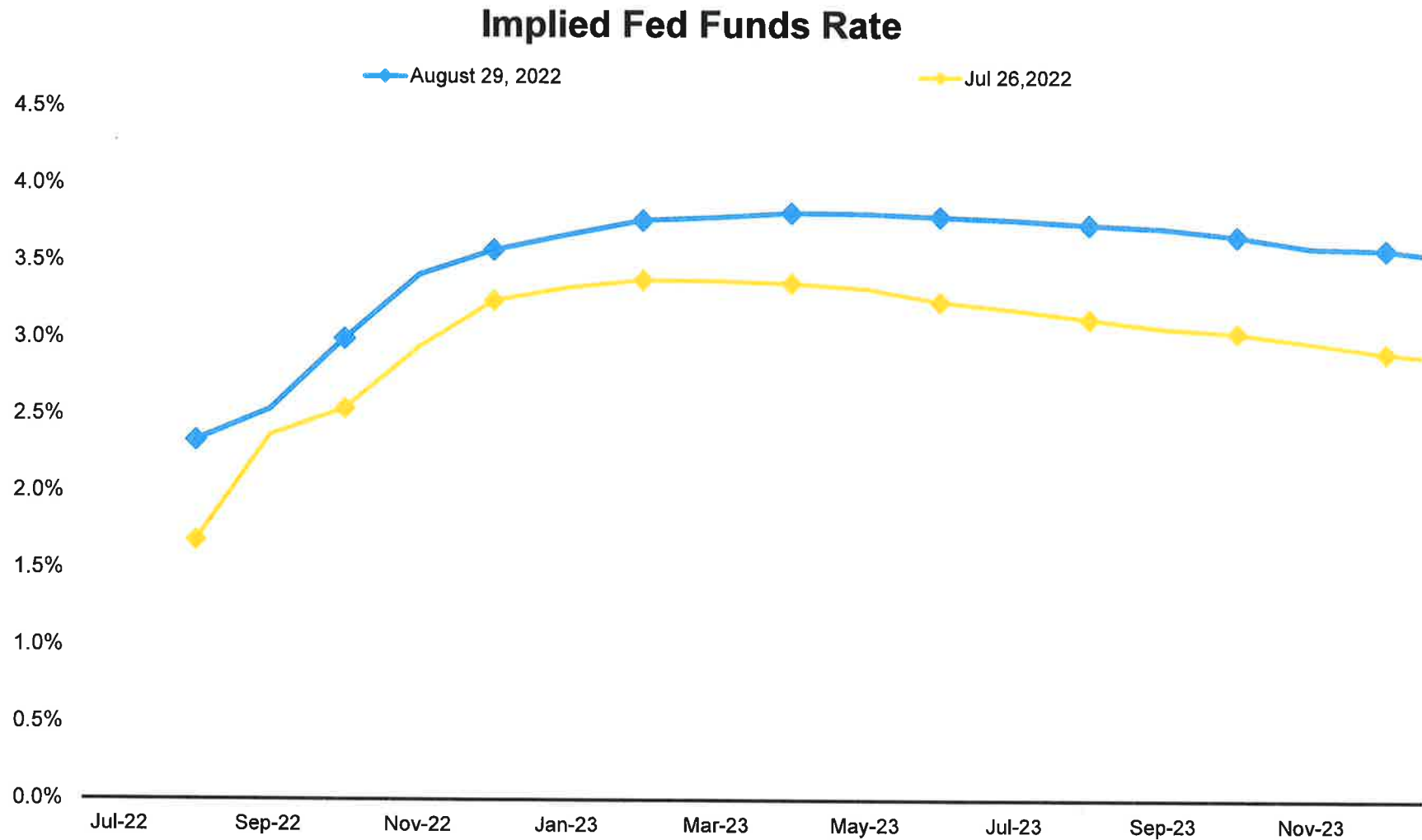
Powell Talks Tough on Inflation

Highlights from Powell's speech at Jackson Hole

- ▶ The labor market is particularly strong, but it is clearly out of balance, with demand for workers substantially exceeding the supply of available workers.
- ▶ Restoring price stability will take some time and requires using our tools **forcefully** to bring demand and supply into better balance.
- ▶ ... we must **keep at it until the job is done**. History shows that the employment costs of bringing down inflation are likely to increase with delay, as high inflation becomes more entrenched in wage and price setting.
- ▶ While higher interest rates, slower growth, and softer labor market conditions will bring down inflation, they will **also bring some pain to households and businesses**. These are the unfortunate costs of reducing inflation. But a failure to restore price stability would mean far greater pain.



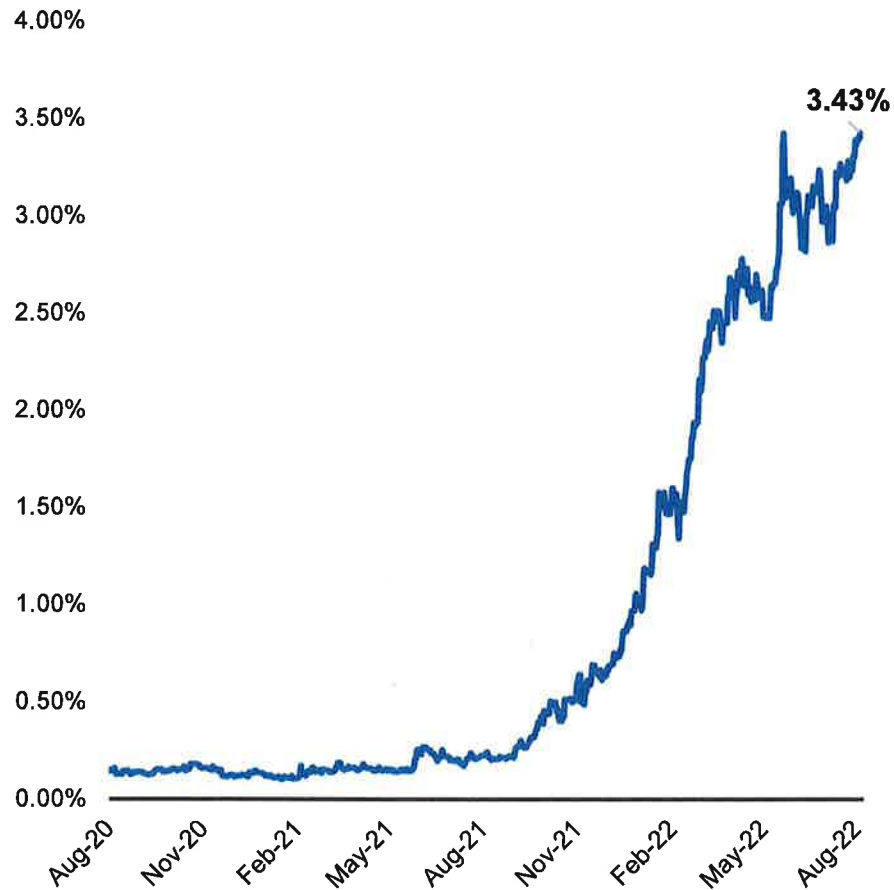
Expectations for Fed Pivot Quelled



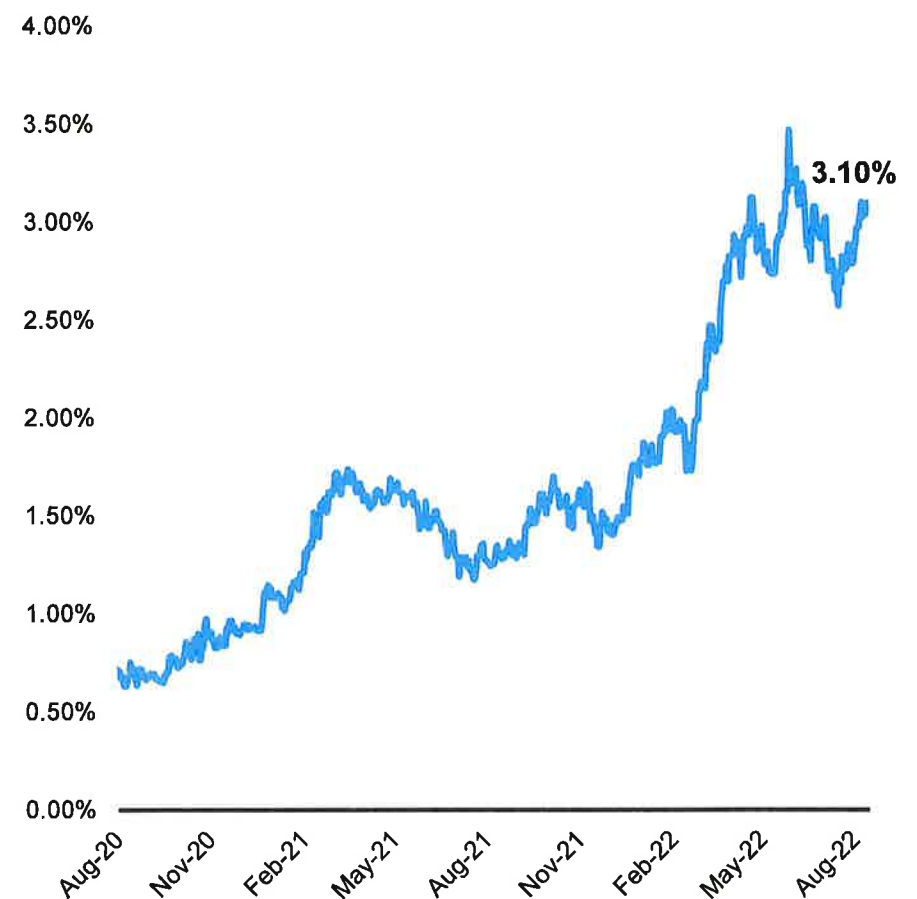
Source: Bloomberg, as of 8/29/2022.

Rates Resume Climbing

2-Year Treasury Yield

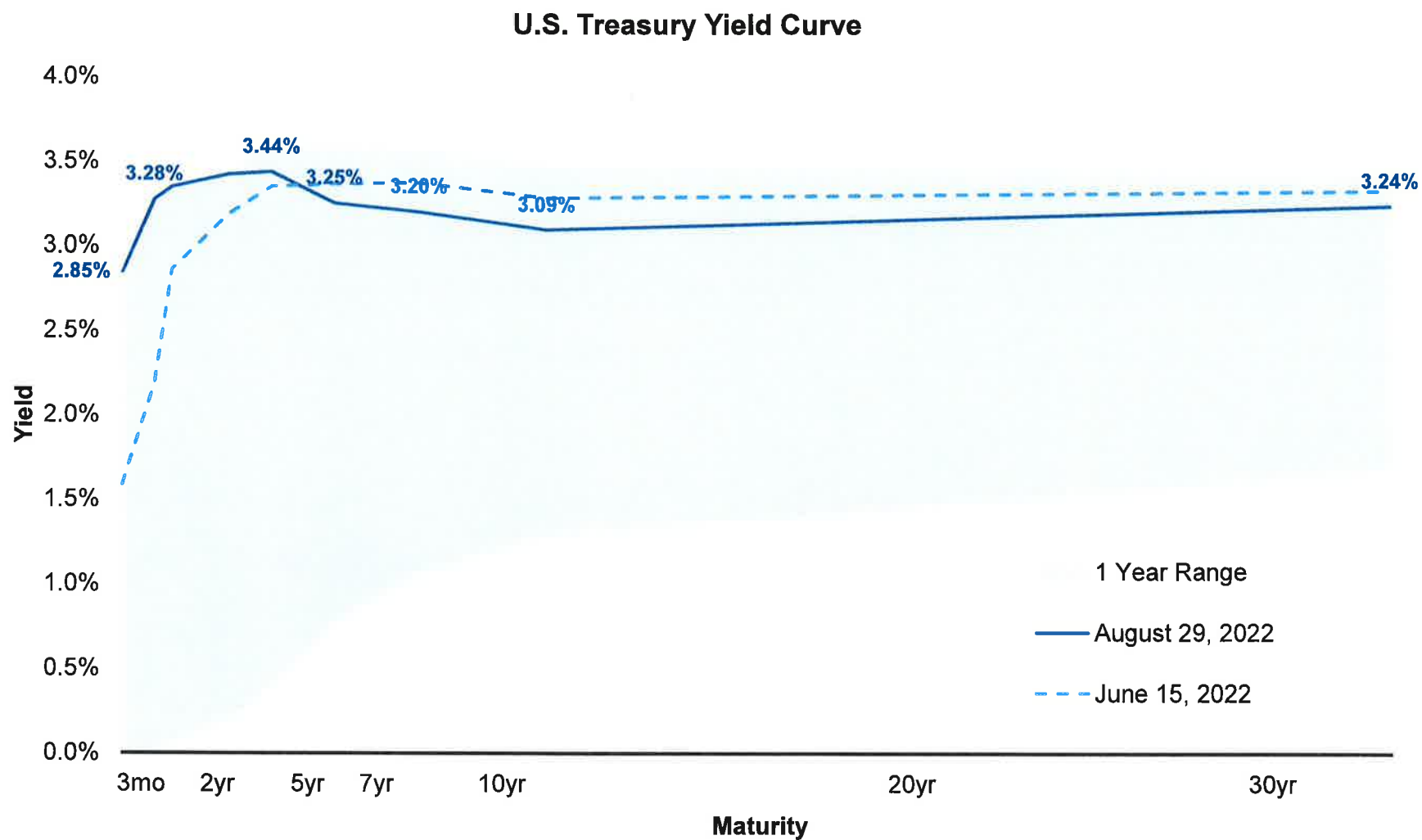


10-Year Treasury Yield



Source: Bloomberg, as of 08/29/2022.

Treasury Yield Curve Remains Inverted



Source: Bloomberg, as of 08/29/2022.



Shakopee Public Utilities

Investment Performance Review For the Quarter Ended June 30, 2022

Client Management Team

PFM Asset Management LLC

Brian Johnson, Director
Danny Nelson, Director
Amber Cannegieter, Key Account Manager

800 Nicollet Mall, 4th Floor
Minneapolis, MN 55402
612-338-3535

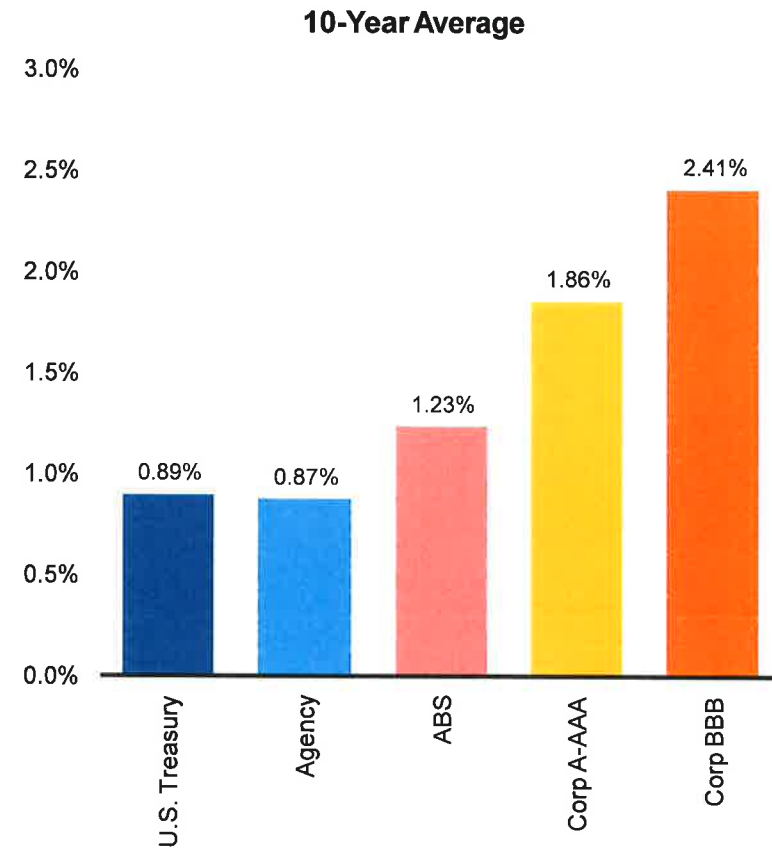
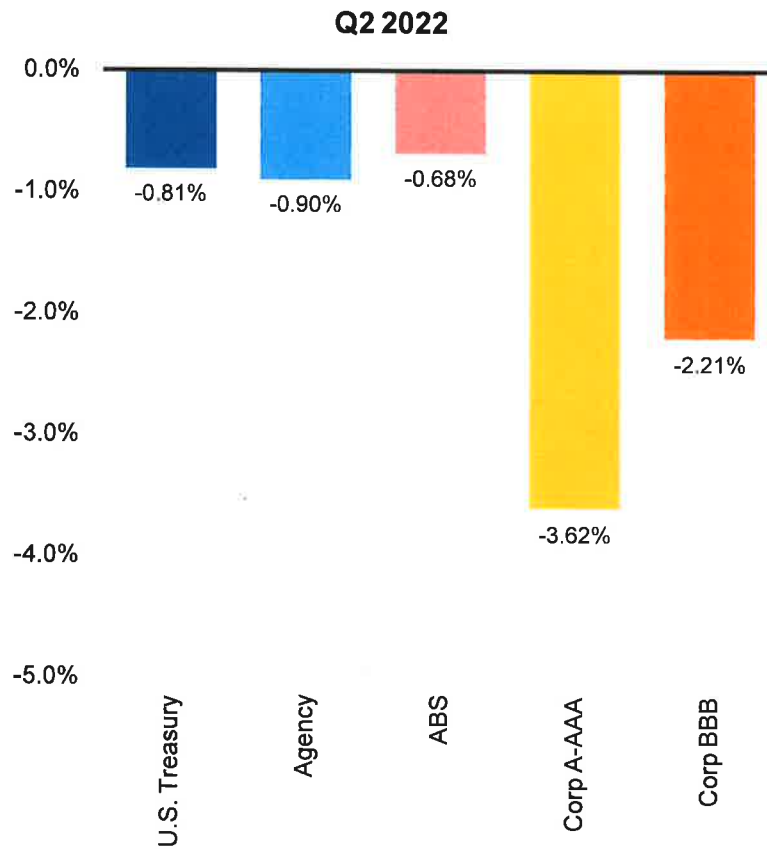
213 Market Street
Harrisburg, PA 17101-2141
717-232-2723

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Rising Rates and Wider Spreads Hurt Fixed-Income Returns in Q2 2022

1-5 Year Indices



Source: ICE BofAML Indices. ABS indices are 0-5 year, based on weighted average life. As of 6/30/2022.

Fixed-Income Sector Commentary — 2Q 2022

- ▶ **U.S. Treasury** securities posted negative returns for more than two quarters. Yields continued to move higher on surging inflation data and expectations for aggressive Fed rate hikes over the course of 2022.
- ▶ The **Federal Agency** sector generated modest incremental returns over Treasuries in Q2 but continue to offer narrow yield spreads and limited value.
- ▶ **Supranational** spreads are elevated for shorter maturities but remained historically tight further out the curve. Issuance has been relatively light year-to-date which has helped keep downward pressure on yield spreads.
- ▶ Investment grade **Corporates** appear to have priced in a recession on the horizon, however, fundamentals and ratings are expected to stabilize while also carrying a low default rate. Yield spreads have been driven wider to historically attractive levels as uncertainties persist.
- ▶ **Asset-Backed** yield spreads widened after a volatile start to the year. Some measures of collateral performance are trending worse, but overall are in a good position from a historical perspective and remain within rating agency expectations.
- ▶ **Mortgage-Backed Securities** were hampered by soaring mortgage rates and the looming reduction to the Fed's balance sheet. The sector will likely remain under pressure for the foreseeable future as it faces a myriad of headwinds.
- ▶ **Taxable Municipals** were one of the few investment grade sectors that performed well during the quarter. But while issuance has slowed despite appearing at attractive levels, deals remain heavily oversubscribed, pressuring spreads lower.
- ▶ **Commercial Paper and CD** spreads remain elevated and attractive, particularly on maturities near nine months which have heightened value and a steeper curve.

Fixed-Income Sector Outlook – 3Q 2022

Sector	Our Investment Preferences
COMMERCIAL PAPER / CD	
TREASURIES	
T-Bill	
T-Note	
FEDERAL AGENCIES	
Bullets	
Callables	
SUPRANATIONALS	
CORPORATES	
Financials	
Industrials	
SECURITIZED	
Asset-Backed	
Agency Mortgage-Backed	
Agency CMBS	
MUNICIPALS	

● Current outlook

○ Outlook one quarter ago

Negative

Slightly Negative

Neutral

Slightly Positive

Positive

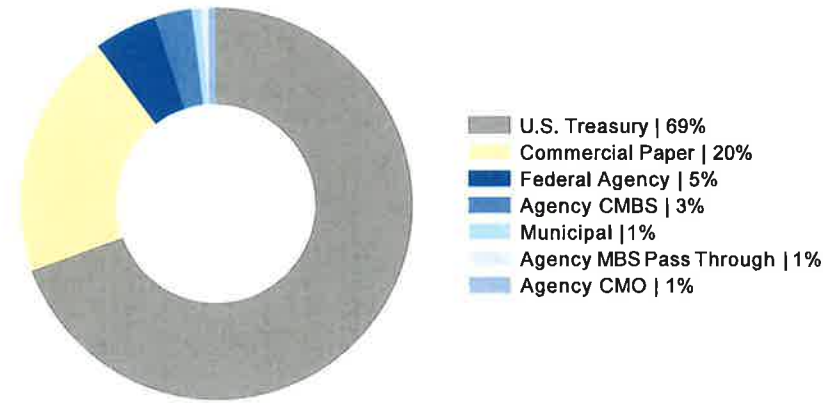
Portfolio Review: SHAKOPEE PUBLIC UTILITIES

Portfolio Snapshot - SHAKOPEE PUBLIC UTILITIES¹

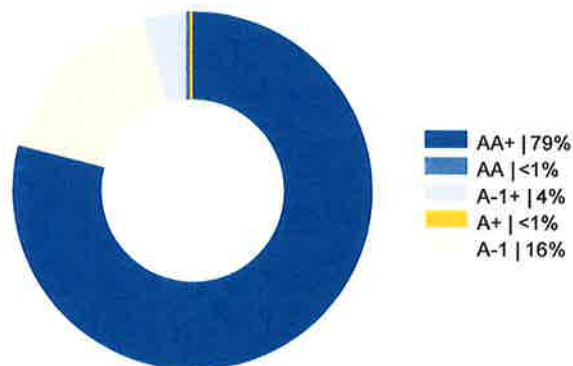
Portfolio Statistics

Total Market Value	\$53,638,964.18
Securities Sub-Total	\$52,461,080.10
Accrued Interest	\$67,357.11
Cash	\$1,110,526.97
Portfolio Effective Duration	1.27 years
Benchmark Effective Duration	1.34 years
Yield At Cost	0.79%
Yield At Market	2.80%
Portfolio Credit Quality	AA

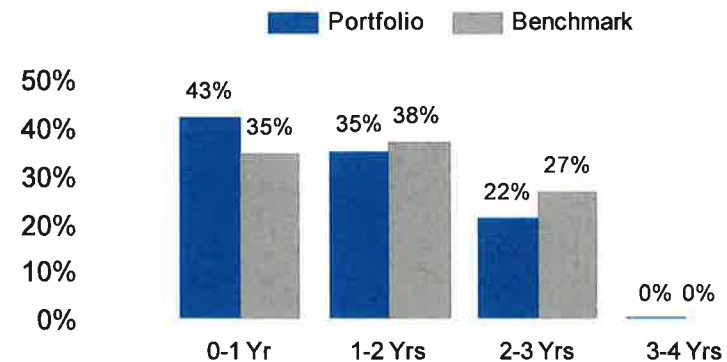
Sector Allocation



Credit Quality - S&P



Duration Distribution



¹ Total market value includes accrued interest and balances invested in PFM Funds, as of June 30, 2022.

Yield and duration calculations exclude balances invested in PFM Funds.

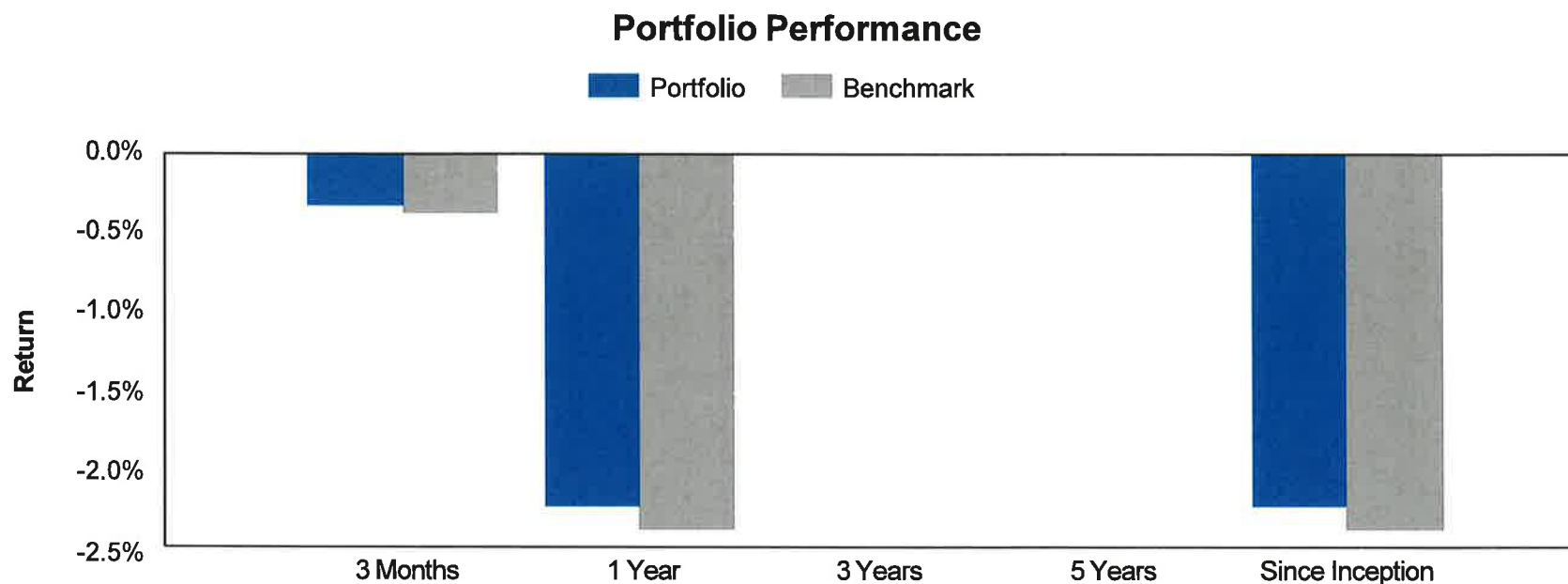
The portfolio's benchmark is the ICE BofAML 0-3 Year U.S. Treasury Index. Source: Bloomberg.

An average of each security's credit rating was assigned a numeric value and adjusted for its relative weighting in the portfolio.

Issuer Diversification

Security Type / Issuer	Market Value (%)	S&P / Moody's / Fitch
U.S. Treasury	69.5%	
UNITED STATES TREASURY	69.5%	AA / Aaa / AAA
Federal Agency	5.1%	
FANNIE MAE	1.9%	AA / Aaa / AAA
FEDERAL FARM CREDIT BANKS	0.7%	AA / Aaa / AAA
FREDDIE MAC	2.6%	AA / Aaa / AAA
Agency CMBS	3.1%	
FREDDIE MAC	3.1%	AA / Aaa / AAA
Agency CMO	0.4%	
FREDDIE MAC	0.4%	AA / Aaa / AAA
Agency MBS Pass Through	0.6%	
FANNIE MAE	0.1%	AA / Aaa / AAA
FREDDIE MAC	0.5%	AA / Aaa / AAA
Municipal	0.8%	
DORMITORY AUTHORITY OF NEW YORK	0.3%	AA / NR / AA
NASHVILLE-B-REF-TXBL	0.3%	AA / Aa / NR
STATE OF CONNECTICUT	0.3%	A / Aa / AA
Commercial Paper	20.4%	
BANK OF AMERICA CO	3.2%	A / NR / AA
CATERPILLAR INC	2.9%	A / Aa / A
CITIGROUP INC	2.8%	A / Aa / A
JP MORGAN CHASE & CO	1.9%	A / Aa / AA
MANHATTAN ASSET FUNDING CO LLC	2.9%	A / Aa / NR
NATIXIS NY BRANCH	2.8%	A / Aa / A
ROYAL BANK OF CANADA	4.0%	AA / Aa / AA
Total	100.0%	

Ratings shown are calculated by assigning a numeral value to each security rating, then calculating a weighted average rating for each security type / issuer category using all available security ratings, excluding Not-Rated (NR) ratings. For security type / issuer categories where a rating from the applicable NRSRO is not available, a rating of NR is assigned. Includes accrued interest and excludes balances invested in overnight funds.



Market Value Basis Earnings	3 Months	1 Year	3 Years	5 Years	Since Inception ¹
Interest Earned ²	\$71,669	\$277,610	-	-	\$277,610
Change in Market Value	(\$245,883)	(\$1,562,909)	-	-	(\$1,562,909)
Total Dollar Return	(\$174,214)	(\$1,285,299)	-	-	(\$1,285,299)
Total Return³					
Portfolio	-0.32%	-2.24%	-	-	-2.24%
Benchmark ⁴	-0.37%	-2.39%	-	-	-2.39%
Difference	0.05%	0.14%	-	-	0.14%

1. The lesser of 10 years or since inception is shown. Since inception returns for periods one year or less are not shown. Performance inception date is June 30, 2021.

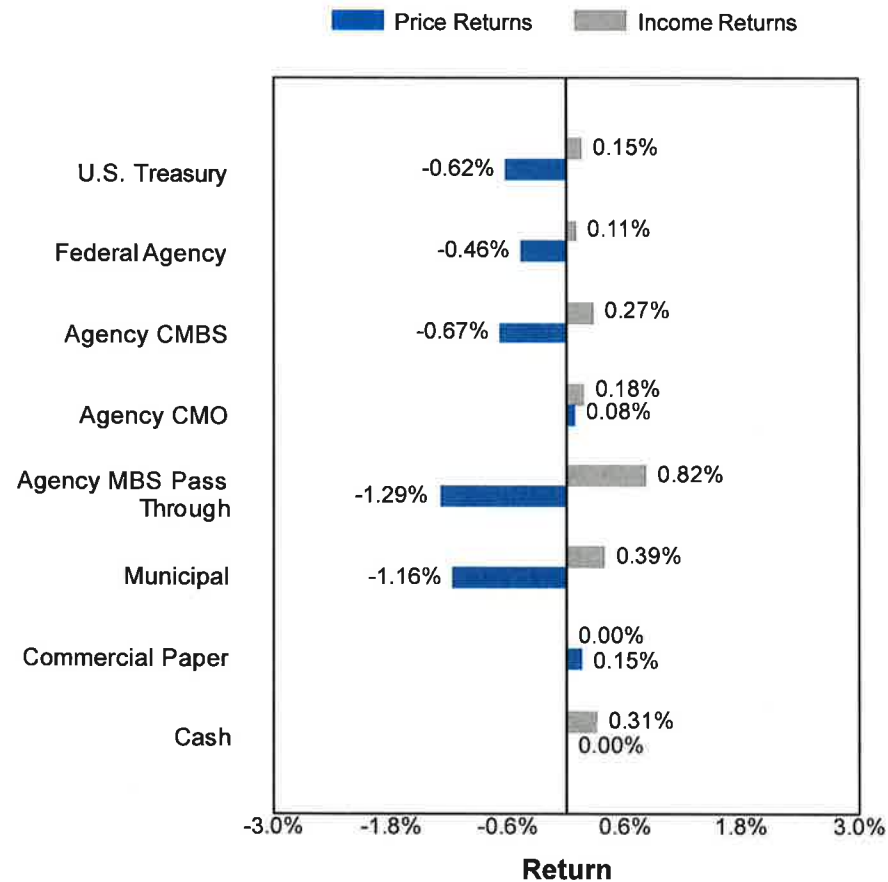
2. Interest earned calculated as the ending accrued interest less beginning accrued interest, plus net interest activity.

3. Returns for periods one year or less are presented on a periodic basis. Returns for periods greater than one year are presented on an annualized basis.

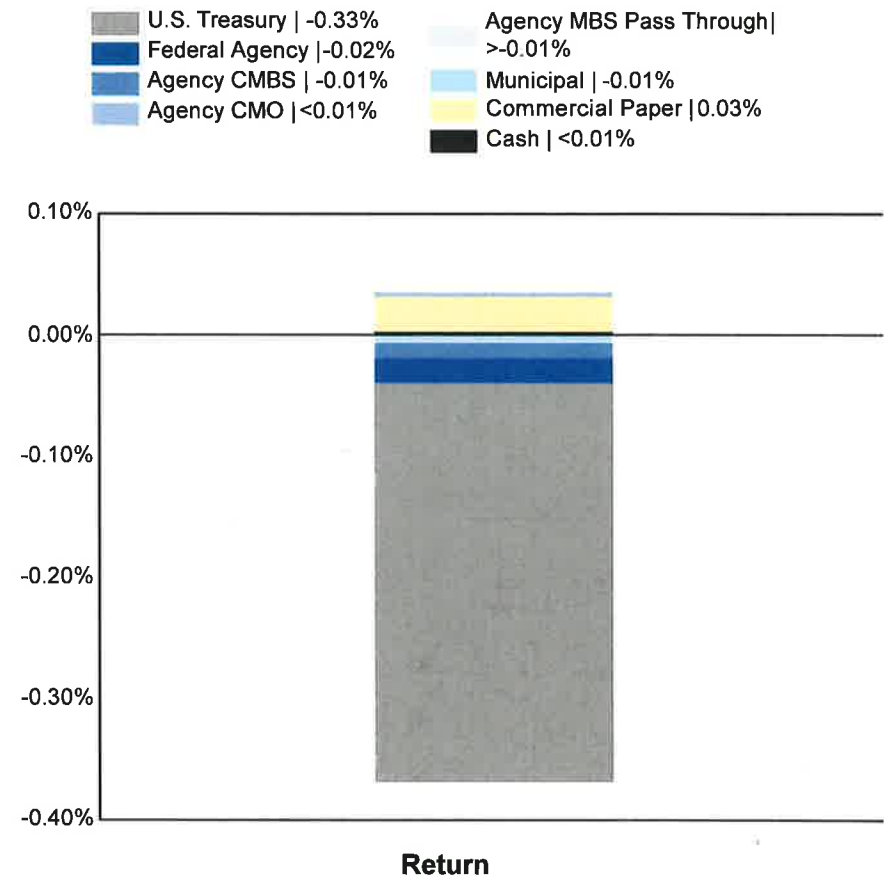
4. The portfolio's benchmark is the ICE BofAML 0-3 Year U.S. Treasury Index. Source: Bloomberg.

Quarterly Sector Performance

Total Return by Sector

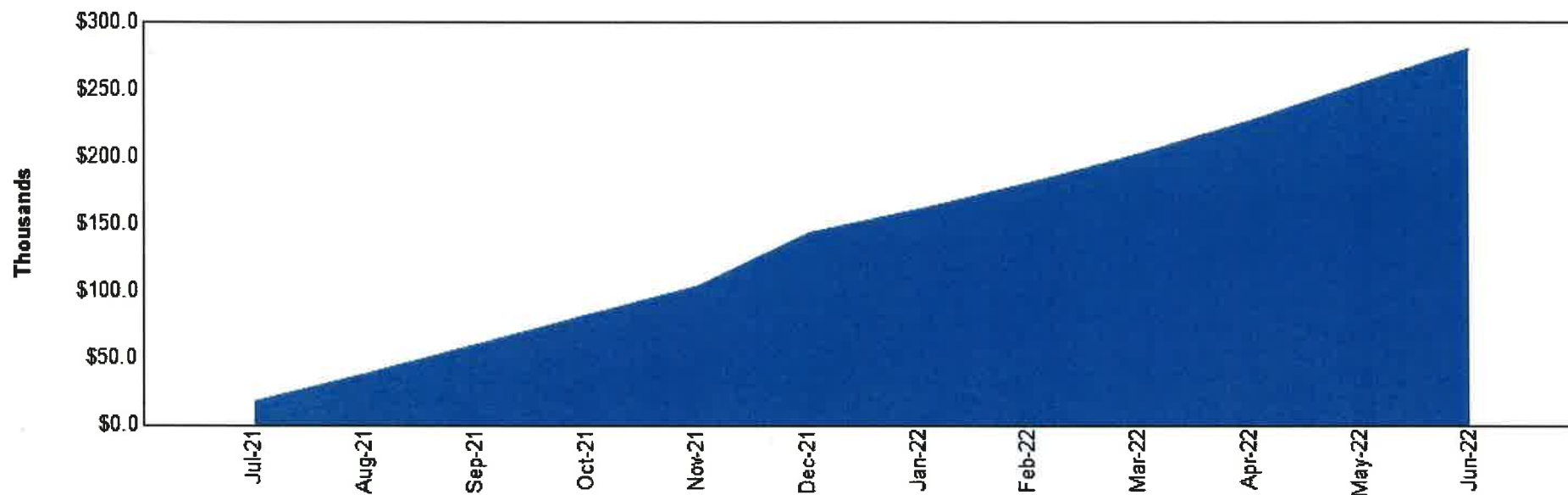


Contribution to Total Return



1. Performance on trade-date basis, gross (i.e., before fees), in accordance with the CFA Institute's Global Investment Performance Standards (GIPS).
2. Income returns calculated as interest earned on investments during the period.
3. Price returns calculated as the change in market value of each security for the period.
4. Returns are presented on a periodic basis.

Accrual Basis Earnings - SHAKOPEE PUBLIC UTILITIES



Accrual Basis Earnings	3 Months	1 Year	3 Years	5 Year	Since Inception ¹
Interest Earned ²	\$71,669	\$277,610	-	-	\$277,610
Realized Gains / (Losses) ³	(\$11,490)	\$12,463	-	-	\$12,463
Change in Amortized Cost	\$18,387	(\$9,589)	-	-	(\$9,589)
Total Earnings	\$78,565	\$280,484	-	-	\$280,484

1. The lesser of 10 years or since inception is shown. Performance inception date is June 30, 2021.

2. Interest earned calculated as the ending accrued interest less beginning accrued interest, plus net interest activity.

3. Realized gains / (losses) are shown on an amortized cost basis.

Important Disclosures

This material is for general information purposes only and is not intended to provide specific advice or a specific recommendation, as it was prepared without regard to any specific objectives or financial circumstances.

Investment advisory services are provided by PFM Asset Management LLC ("PFMAM"), an investment adviser registered with the U.S. Securities and Exchange Commission and a subsidiary of U.S. Bancorp Asset Management, Inc. ("USBAM"). USBAM is a subsidiary of U.S. Bank National Association ("U.S. Bank"). U.S. Bank is a separate entity and subsidiary of U.S. Bancorp. U.S. Bank is not responsible for and does not guarantee the products, services or performance of PFMAM. The information contained is not an offer to purchase or sell any securities. Additional applicable regulatory information is available upon request.

PFMAM professionals have exercised reasonable professional care in the preparation of this performance report. Information in this report is obtained from sources external to PFMAM and is generally believed to be reliable and available to the public; however, we cannot guarantee its accuracy, completeness or suitability. We rely on the client's custodian for security holdings and market values. Transaction dates reported by the custodian may differ from money manager statements. While efforts are made to ensure the data contained herein is accurate and complete, we disclaim all responsibility for any errors that may occur. References to particular issuers are for illustrative purposes only and are not intended to be recommendations or advice regarding such issuers. Fixed income manager and index characteristics are gathered from external sources. When average credit quality is not available, it is estimated by taking the market value weights of individual credit tiers on the portion of the strategy rated by a NRSRO.

It is not possible to invest directly in an index. The index returns shown throughout this material do not represent the results of actual trading of investor assets. Third-party providers maintain the indices shown and calculate the index levels and performance shown or discussed. Index returns do not reflect payment of any sales charges or fees an investor would pay to purchase the securities they represent. The imposition of these fees and charges would cause investment performance to be lower than the performance shown.

The views expressed within this material constitute the perspective and judgment of PFMAM at the time of distribution and are subject to change. Any forecast, projection, or prediction of the market, the economy, economic trends, and equity or fixed-income markets are based upon certain assumptions and current opinion as of the date of issue and are also subject to change. Some, but not all assumptions are noted in the report. Assumptions may or may not be proven correct as actual events occur, and results may depend on events outside of your or our control. Changes in assumptions may have a material effect on results. Opinions and data presented are not necessarily indicative of future events or expected performance.

For more information regarding PFMAM's services or entities, please visit www.pfmam.com.

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Important Disclosures

This information does not represent an offer to sell or a solicitation of an offer to buy or sell any fund or other security by anyone in any jurisdiction in which such offer or solicitation is not authorized, or in which the person making such offer is not qualified to do so, or to anyone to whom it is unlawful to make such an offer or solicitation, or to anyone in any jurisdiction outside the United States. Investors should consider the investment objectives, risks, charges and expenses before investing in any of the Fund's portfolios. This and other information about the Fund is available in the Fund's current Prospectus, which should be read carefully before investing. A copy of the Fund's Prospectus may be obtained by calling 1-800-338-3383 or is available on the Fund's website at www.pfmfunds.com. While the Fund's portfolio seeks to maintain a stable net asset value of \$1.00 per share, it is possible to lose money investing in the Fund. An investment in the Fund is not insured or guaranteed by the Federal Deposit Insurance Corporation or any other government agency. Shares of the Fund are distributed by PFM Fund Distributors, Inc., member Financial Industry Regulatory Authority (FINRA) (www.finra.org) and Securities Investor Protection Corporation (SIPC) (www.sipc.org). PFM Fund Distributors, Inc. is a wholly owned subsidiary of PFM Asset Management LLC. Effective October 3, 2016, Government Select Series adopted a policy to invest at least 99.5% of its total assets in cash and the following types of high quality, short-term investments: U.S. government securities (including securities issued or guaranteed by the U.S. government or its agencies or instrumentalities) (U.S. Government Securities); repurchase agreements for U.S. Government Securities that are collateralized fully; and shares of money market funds that invest exclusively in types of obligations in which Government Select Series is authorized to invest. It also adopted, effective on such date, a policy under which it invests, under normal market conditions, at least 80% of its net assets in U.S. Government Securities and/or repurchase agreements that are collateralized fully by U.S. Government Securities. Prior to October 3, 2016, Government Select Series was known as Prime Series and invested in a broader range of money market obligations, including obligations of U.S. companies, financial institutions and municipalities. Investment performance for periods prior to October 3, 2016 is not reflective of the current investment strategy of Government Select Series.

Effective December 20, 2021, PFM Funds' Government Select Series has merged into the First American Funds Government Obligations Fund, Class Z. For more information about First American Funds Government Obligations Fund, please visit www.FirstAmericanFunds.com. Historical information on the PFM Funds' Government Select Series will remain on www.pfmfunds.com until June 30, 2022.

- Market values that include accrued interest are derived from closing bid prices as of the last business day of the month as supplied by Refinitiv, Bloomberg, or Telerate. Where prices are not available from generally recognized sources, the securities are priced using a yield-based matrix system to arrive at an estimated market value.
- In accordance with generally accepted accounting principles, information is presented on a trade date basis; forward settling purchases are included in the monthly balances, and forward settling sales are excluded.
- Performance is presented in accordance with the CFA Institute's Global Investment Performance Standards (GIPS). Unless otherwise noted, performance is shown gross of fees. Quarterly returns are presented on an unannualized basis. Returns for periods greater than one year are presented on an annualized basis. Past performance is not indicative of future returns.
- Bank of America/Merrill Lynch Indices provided by Bloomberg Financial Markets.
- Money market fund/cash balances are included in performance and duration computations.

Important Disclosures

- Standard & Poor's is the source of the credit ratings. Distribution of credit rating is exclusive of money market fund/LGIP holdings.
- Callable securities in the portfolio are included in the maturity distribution analysis to their stated maturity date, although, they may be called prior to maturity.
- MBS maturities are represented by expected average life.

Glossary

- **Accrued Interest:** Interest that is due on a bond or other fixed income security since the last interest payment was made.
- **Agencies:** Federal agency securities and/or Government-sponsored enterprises.
- **Amortized Cost:** The original cost of the principal of the security is adjusted for the amount of the periodic reduction of any discount or premium from the purchase date until the date of the report. Discount or premium with respect to short-term securities (those with less than one year to maturity at time of issuance) is amortized on a straight line basis. Such discount or premium with respect to longer-term securities is amortized using the constant yield basis.
- **Asset-Backed Security:** A financial instrument collateralized by an underlying pool of assets – usually ones that generate a cash flow from debt, such as loans, leases, credit card balances, and receivables.
- **Bankers' Acceptance:** A draft or bill or exchange accepted by a bank or trust company. The accepting institution guarantees payment of the bill as well as the insurer.
- **Commercial Paper:** An unsecured obligation issued by a corporation or bank to finance its short-term credit needs, such as accounts receivable and inventory.
- **Contribution to Total Return:** The weight of each individual security multiplied by its return, then summed for each sector to determine how much each sector added or subtracted from the overall portfolio performance.
- **Effective Duration:** A measure of the sensitivity of a security's price to a change in interest rates, stated in years.
- **Effective Yield:** The total yield an investor receives in relation to the nominal yield or coupon of a bond. Effective yield takes into account the power of compounding on investment returns, while nominal yield does not.
- **FDIC:** Federal Deposit Insurance Corporation. A federal agency that insures bank deposits to a specified amount.
- **Interest Rate:** Interest per year divided by principal amount and expressed as a percentage.
- **Market Value:** The value that would be received or paid for an investment in an orderly transaction between market participants at the measurement date.
- **Maturity:** The date upon which the principal or stated value of an investment becomes due and payable.
- **Negotiable Certificates of Deposit:** A CD with a very large denomination, usually \$1 million or more, that can be traded in secondary markets.
- **Par Value:** The nominal dollar face amount of a security.
- **Pass-through Security:** A security representing pooled debt obligations that passes income from debtors to its shareholders. The most common type is the mortgage-backed security.

Glossary

- **Repurchase Agreements:** A holder of securities sells these securities to an investor with an agreement to repurchase them at a fixed price on a fixed date.
- **Settle Date:** The date on which the transaction is settled and monies/securities are exchanged. If the settle date of the transaction (i.e., coupon payments and maturity proceeds) occurs on a non-business day, the funds are exchanged on the next business day.
- **Supranational:** A multinational union or association in which member countries cede authority and sovereignty on at least some internal matters to the group, whose decisions are binding on its members.
- **Trade Date:** The date on which the transaction occurred; however, the final consummation of the security transaction and payment has not yet taken place.
- **Unsettled Trade:** A trade which has been executed; however, the final consummation of the security transaction and payment has not yet taken place.
- **U.S. Treasury:** The department of the U.S. government that issues Treasury securities.
- **Yield:** The rate of return based on the current market value, the annual interest receipts, maturity value, and the time period remaining until maturity, stated as a percentage on an annualized basis.
- **YTM at Cost:** The yield to maturity at cost is the expected rate of return based on the original cost, the annual interest receipts, maturity value, and the time period from purchase date to maturity, stated as a percentage on an annualized basis.
- **YTM at Market:** The yield to maturity at market is the rate of return based on the current market value, the annual interest receipts, maturity value, and the time period remaining until maturity, stated as a percentage on an annualized basis.



Cash Flow Analysis: Shakopee Public Utilities

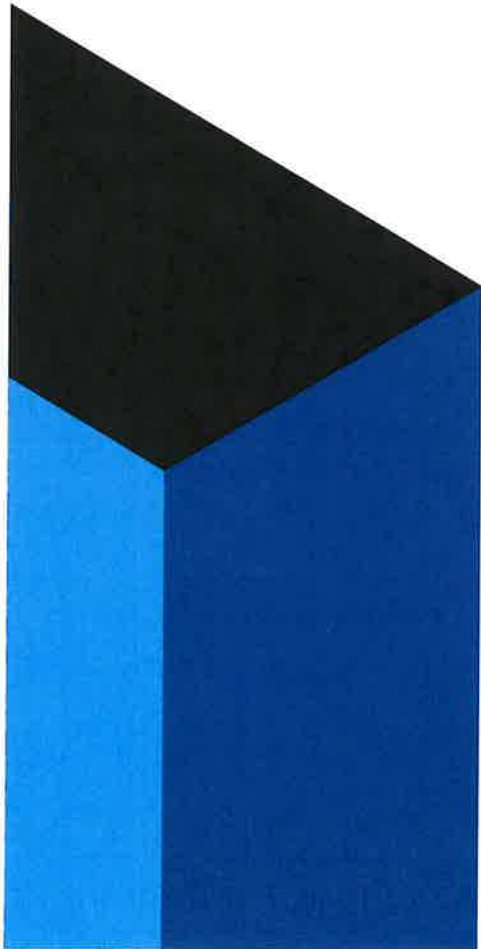
Presented by PFM Asset Management LLC

September 6, 2022

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PFM Asset Management LLC

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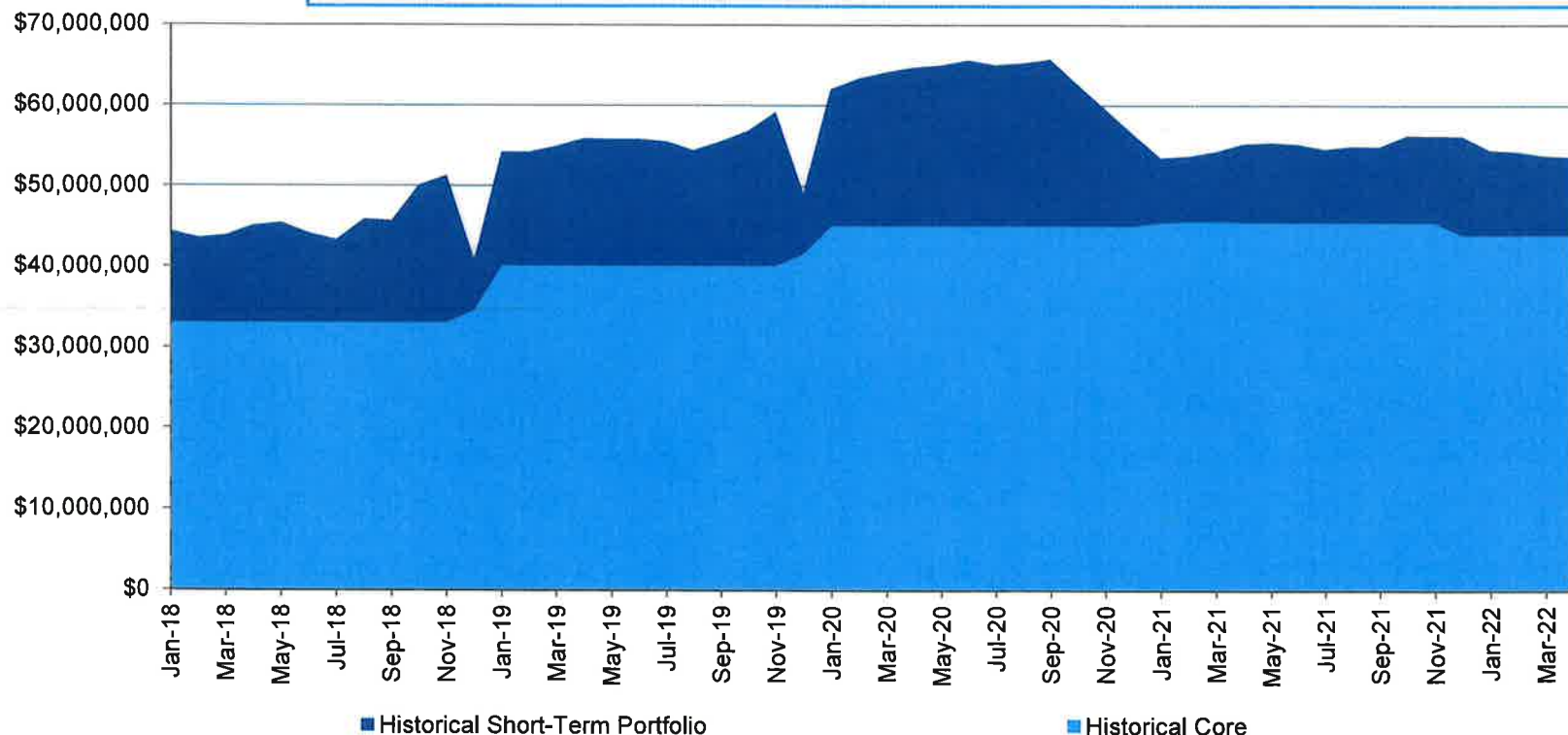
Segmenting the Total Operating Fund Balance

Portfolio Segment (horizon)	Description
Liquidity (0 – 3 months)	<ul style="list-style-type: none"> • Highly liquid for daily needs and a very strong liquidity profile to accommodate frequent cash flow needs • First source of liquidity for ongoing operating expenses • Can be lower during periods of net cash inflow • Duration: Overnight to 90 days • Invest in daily liquidity vehicles (i.e., LGIPs, money market funds, bank deposits, etc.)
Short-Term (3 – 12 months)	<ul style="list-style-type: none"> • Designed to accommodate specific cash flow needs and short-term reserve funds • First defense for unforeseen expenditures and cash needs • Asset/liability-matched for known cash outflows; funds meant to cover specific, predictable cash flows (e.g., payrolls, debt service, benefit obligations, etc.) • Actively managed; adjusting to changing cash flow needs and market opportunities • Duration range: 3 – 12 months • Balances comprised of short-term investment instruments
Core (> 1 year)	<ul style="list-style-type: none"> • Long-term operating reserves – not reasonably expected to be utilized for operations; funds not expected to be spent in the near-term • Invested in longer maturity securities, benefiting from the income potential associated with a positively sloped yield curve • Liquidity profile to accommodate unforeseen cash needs; may be disbursed in very extraordinary circumstances • Duration range: 1 – 3 years • Can be invested in a longer duration strategy with longer-term securities

Shakopee Public Utilities' Historical Portfolio

**Shakopee Public Utilities Historical Cash and Investments
(January 2018 – July 2022)**

"Core" Funds	\$43,916,726
Short-Term Funds	\$10,340,495
Total Portfolio	\$54,257,221



Liquidity Balance

- Highly liquid
- Stable returns
- Low market risk
- Flexible

Core Balance

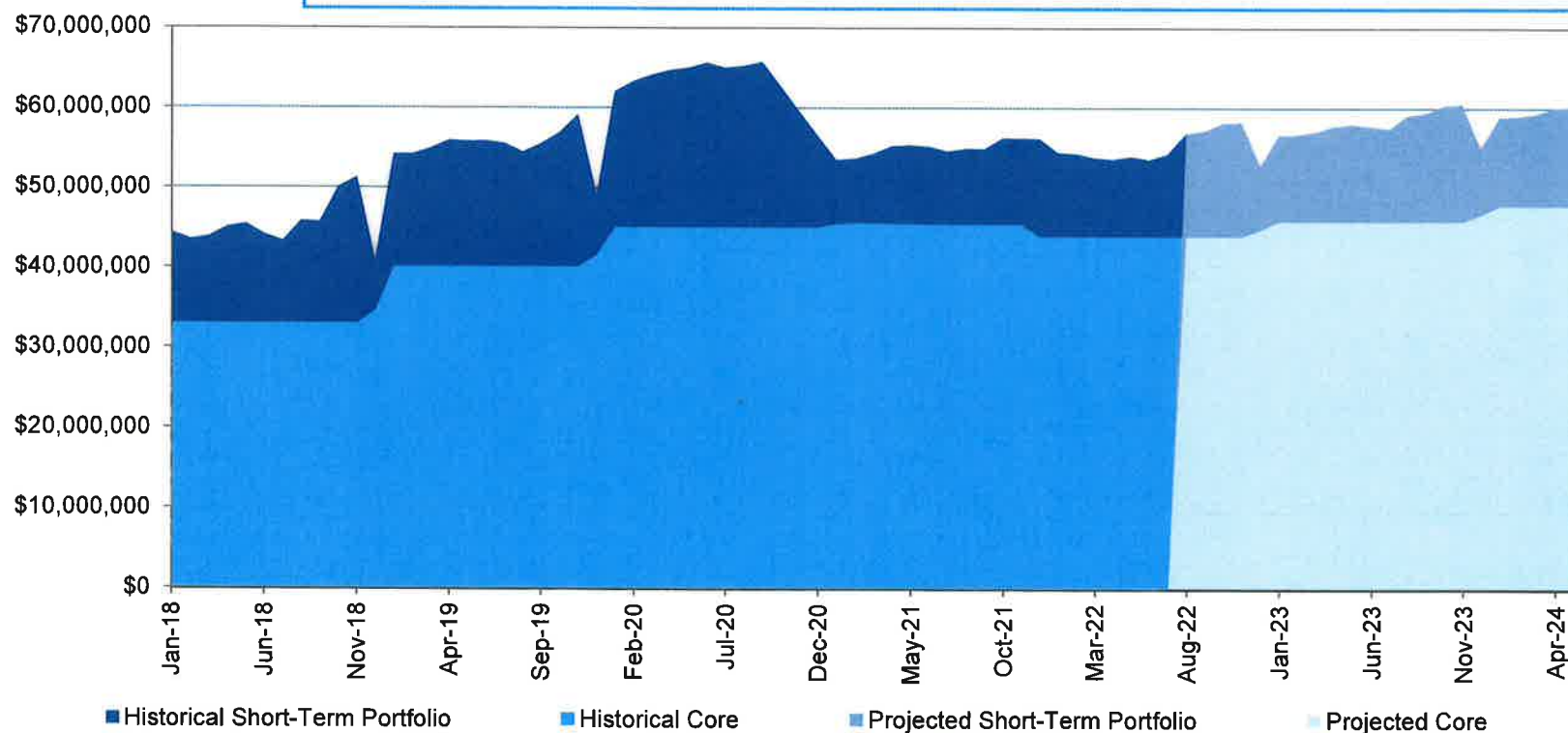
- Longer investments
- Higher returns over time

Source: Shakopee Public Utilities statement of net positions

Shakopee Public Utilities' Projected Portfolio

Shakopee Public Utilities Historical Cash and Investments (August 2022 – August 2024)

"Core" Funds	\$43,916,726
Short-Term Funds	\$12,931,291
Total Portfolio	\$56,848,017



Liquidity Balance

- Highly liquid
- Stable returns
- Low market risk
- Flexible

Core Balance

- Longer investments
- Higher returns over time

Source: Shakopee Public Utilities statement of net positions

Historical Balances and Cash Flow Seasonality Factors

Month	Average Monthly Balance*	Historical Factor
Average	54,604,969	100.00%
January	53,711,538	98.36%
February	53,803,773	98.53%
March	54,185,091	99.23%
April	54,907,887	100.55%
May	55,097,835	100.90%
June	54,846,715	100.44%
July	54,531,468	99.87%
August	55,119,480	100.94%
September	55,456,836	101.56%
October	56,468,453	103.41%
November	56,549,987	103.56%
December	50,580,571	92.63%

- ▶ There is a seasonal pattern of cash flows as the funds generally demonstrate consistent seasonality
 - High peak balances in October and November
 - Low minimum balances during the months of December and January
- ▶ The SPU's seasonality is statistically significant


Disclaimer

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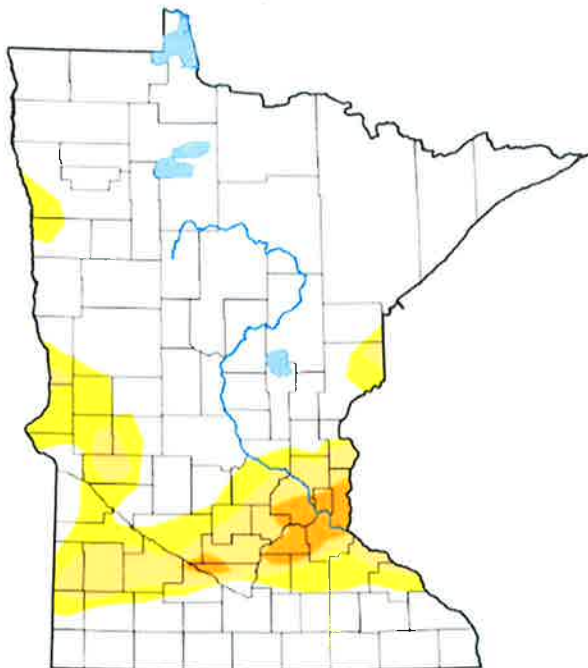


TO: Greg Drent, General Manager 

FROM: Lon R. Schemel, Water Superintendent 

SUBJECT: Static Water Levels Report

DATE: August 30, 2022



Map released: Thurs. August 25, 2022

Data valid: August 23, 2022 at 8 a.m. EDT

Intensity

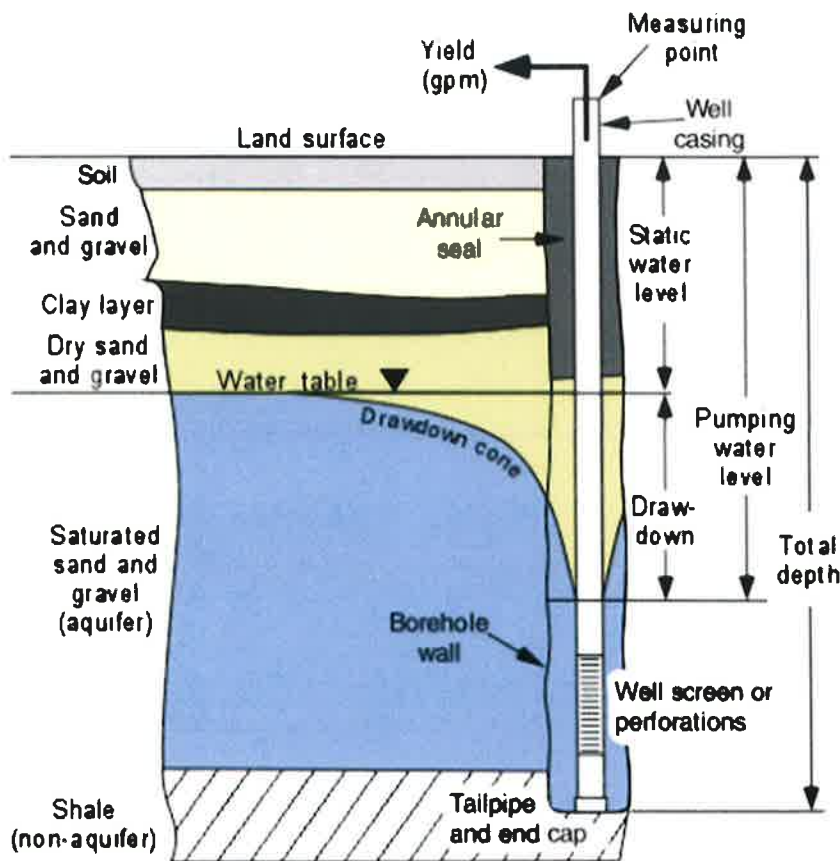
None
D0 (Abnormally Dry)
D1 (Moderate Drought)
D2 (Severe Drought)
D3 (Extreme Drought)
D4 (Exceptional Drought)
No Data

Authors

United States and Puerto Rico Author(s):
Deborah Bathke, National Drought Mitigation Center
Pacific Islands and Virgin Islands Author(s):
Ahira Sanchez-Lugo, NOAA/NCEI

With the current drought condition in Scott County classified as severe, it was requested that a report be prepared for Commission to demonstrate the current static water levels in our wells. The static water level is measured from ground level down to the surface of the water with no pumps in operation. This is the water table. The trends that have been prepared show the static level compared to the original static level when the well was drilled. It is important to keep in mind that the well may have been drilled in a wet or a dry season but is still used as a baseline for changes.

The X-axis for the trends is the months of the year. The Y axis is the length of the casing pipe that was put into place to confine the well to only the desired aquifers below the casing. The casing is also the lowest point where a well pump would be placed.



This is a representation of typical well construction and is not identical to the layers encountered in Shakopee.

The well levels both static and pumping, are measured manually monthly. They are also collected continuously via the SCADA system

with alarm points. Each week we rotate which wells are in 'lead' and which wells are in 'lag'. Lead wells will run first, and lag wells only run if the reservoirs call for more water to fill. In this way, we can rest our wells and give them time for recharge. When a well has been in lag for at least a week is when we collect the static level. This would give us the best data for the water table at rest. The following table is our wells/site data.

Site	Address	Well No	Date Drilled	Depth	Last Serviced	Formation
PH 2	162 10th Ave W					
	Well 2	206803	0/0/1944	506	2019	TCW
	Well 8	500657	6/15/1989	262	2021	J
PH 3	1015 Spencer St S					
	Well 3	205978	9/00/1956	780	OOS/UFN	Mt S
PH 4	857 Valley Park Dr					
	Well 4	206854	0/0/1971	256	2008	J
	Well 5	206855	0/0/1971	253	2022	J
PH 6	3184 Eagle Creek					
	Well 6	180922	9/23/1981	222	2016	J
	Well 7	415975	6/19/1986	218	2020	J
	Well 10	578948	7/5/2001	800	2020	Mt S
PH 9	1804 Sarazin St					
	Well 9	554214	8/9/1994	315	2021	J
	Well 11	611084	3/23/2001	312	2013	J
PH 12	2065 Dominion Ave					
	Well 12	626775	5/1/2002	352	2018	J
	Well 13	674456	11/22/2002	338	2021	J
	Well 14	694904	6/1/2004	597	OOS/UFN	TCW
PH 15	225 17th Ave E					
	Well 15	694921	4/10/2005	295	2015	J
	Well 16	731139	11/15/2006	285	2016	J
	Well 17	731140	4/5/2007	290	2017	J
PH 20	1701 Fuller St S					
	Well 20	722624	10/24/2005	275	2012	J
	Well 21	722625	10/11/2005	275	2020	J

Formation identifiers are 'J' for Jordan, 'Mt S' for Mount Simon, and 'TCW' for Tunnel-City Wonewoc. Jordan wells account for 98.2% of our system's water. TCW is 1.7% and the Mt S is .06% this year.

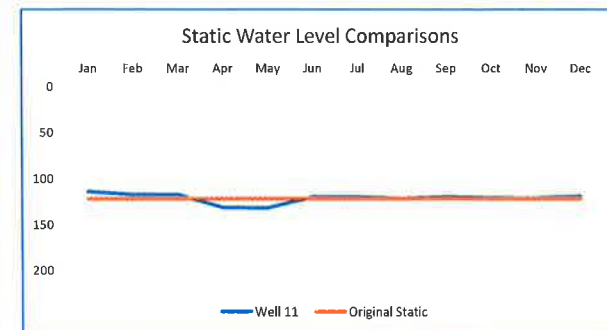
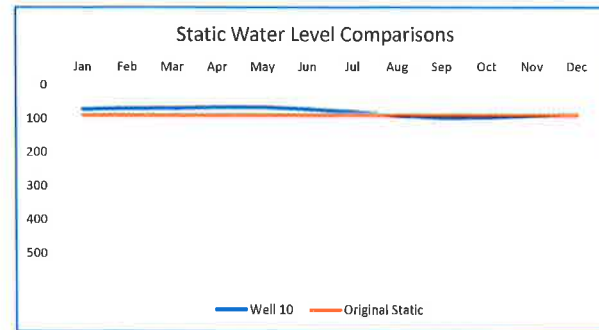
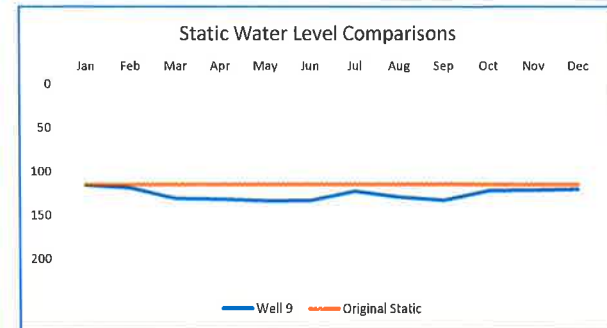
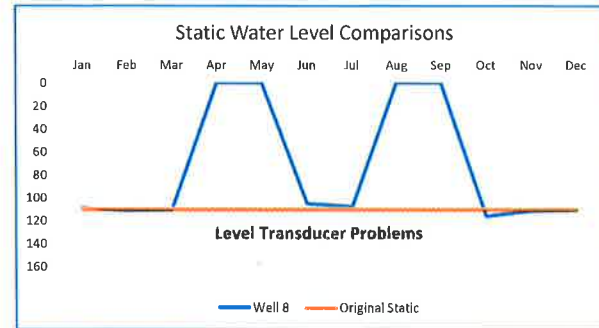
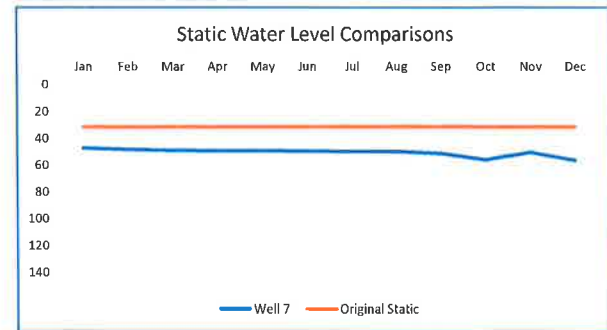
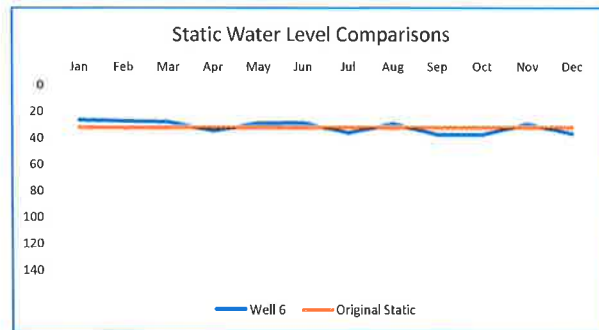
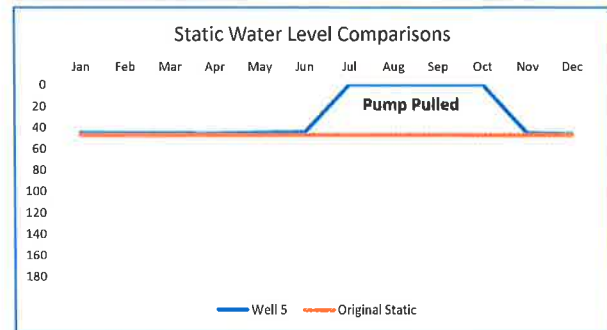
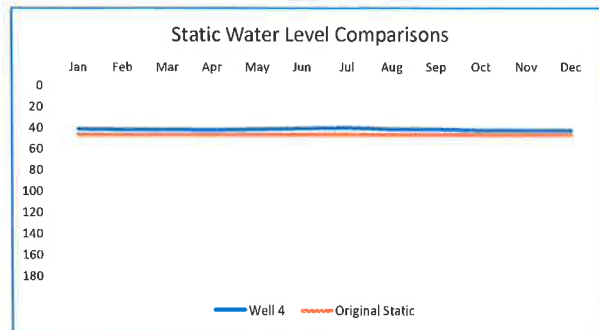
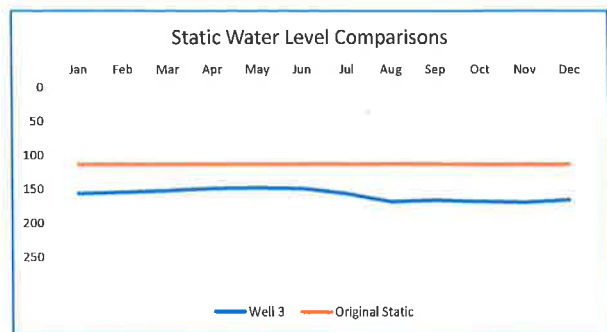
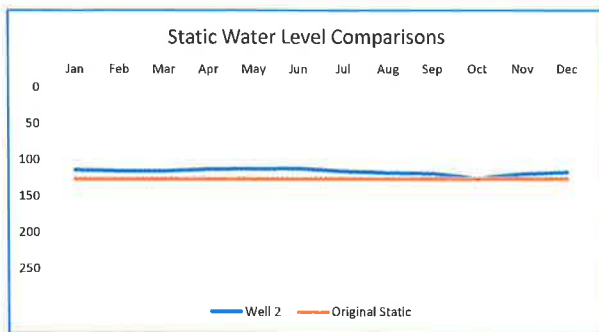
I chose four years for the hydrographs. 2012 was a recent drought year and according to the Minnesota Department of Natural Resources, *"This could easily be #1 [weather event] depending on where you live in Minnesota. The heavy rains of May and June 2012 helped to blunt the drought a bit, but then it intensified by the late summer and continued into the fall. By late November 80% of the state was under a severe or extreme drought. By fall, soil moisture levels at the University of Minnesota Southern Research and Outreach Center in Waseca were some of the lowest on record."*

2019 which I consider being the latest normal precipitation and pumpage year.

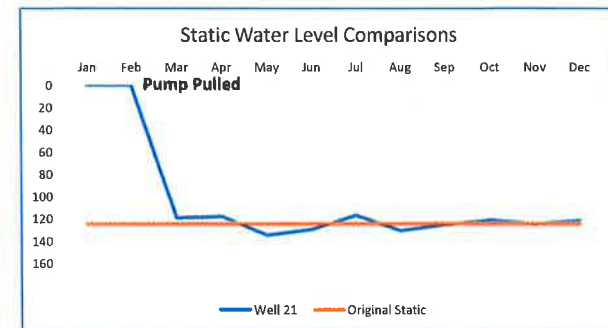
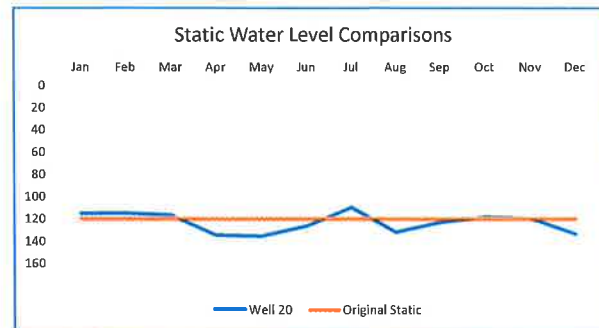
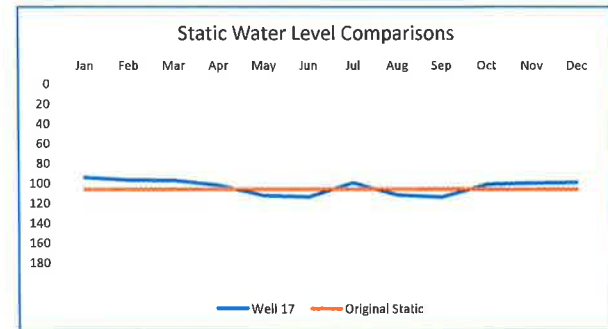
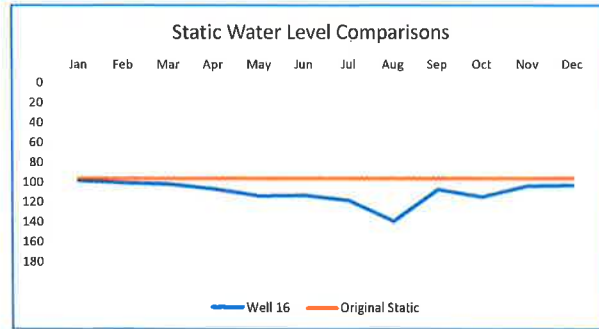
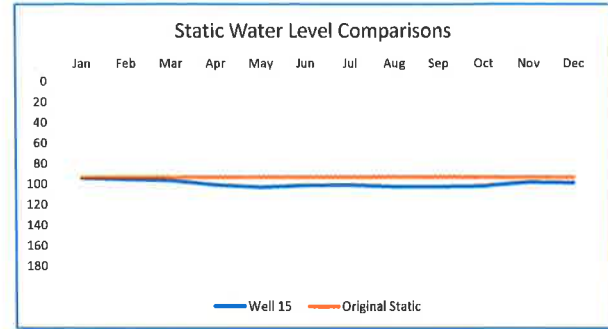
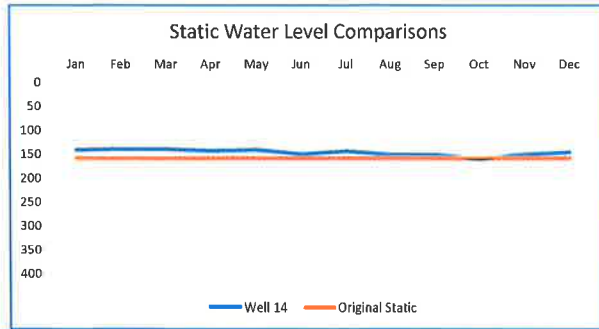
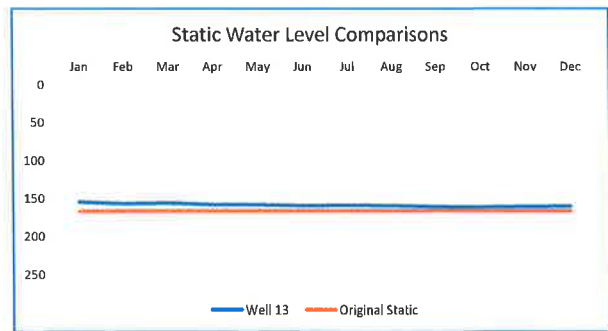
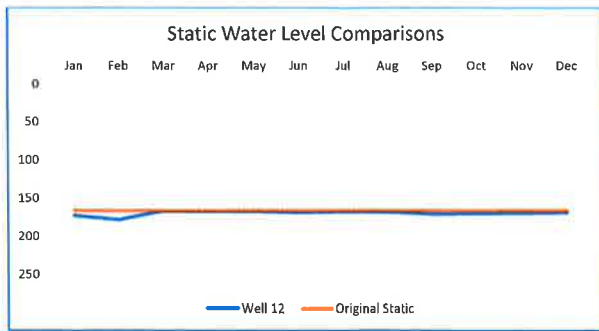
2021 was another drought year of note. The Minnesota Department of Natural Resources was quoted as saying, *"A major drought overtook Minnesota during 2021, as persistent moisture deficits combined with above-normal temperatures across the state. In some parts of the state, the drought was as serious as anything experienced in over 40 years, though for most of the state it was the worst drought in 10-30 years. Although the period of greatest intensification and expansion began during the summer of 2021, dry conditions had been building in many areas during since early and mid-2020."*

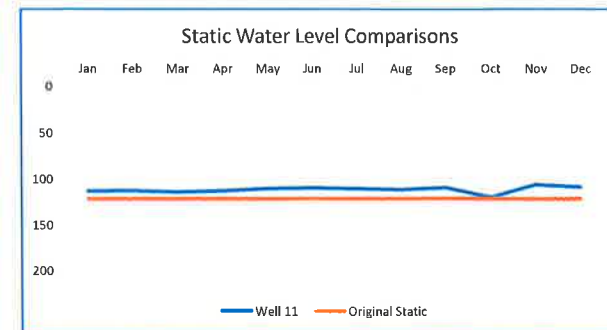
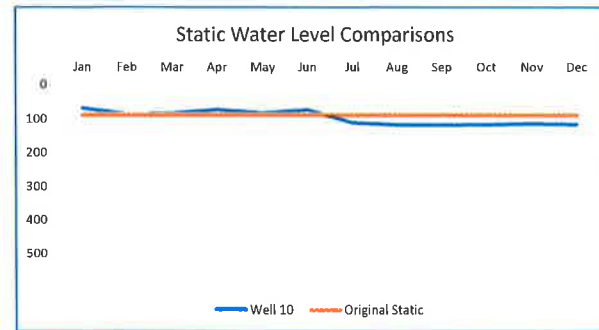
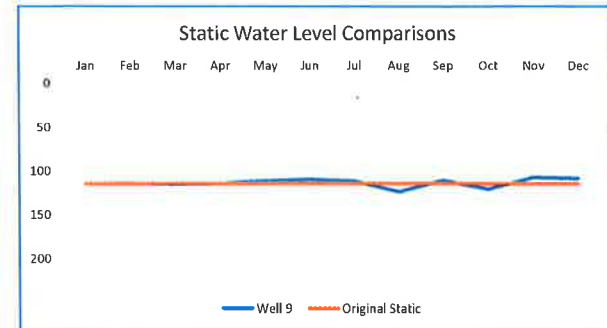
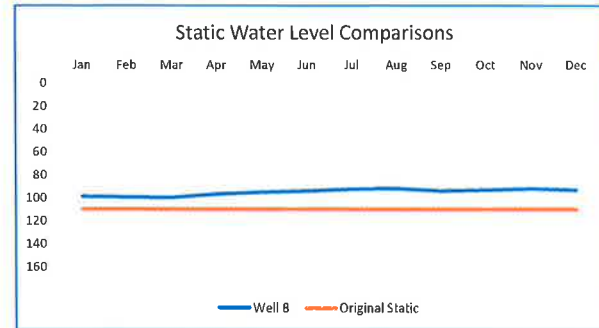
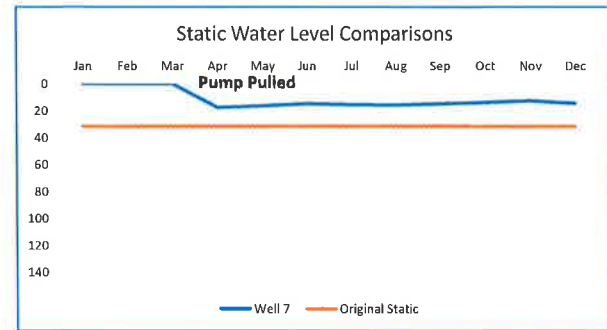
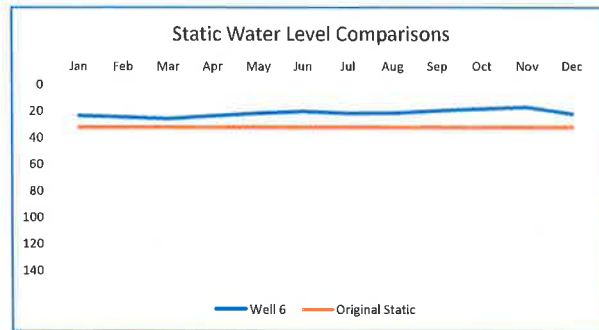
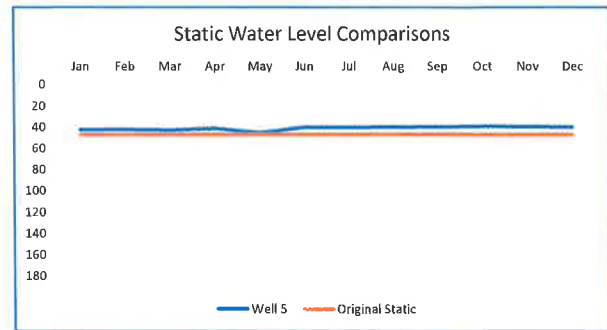
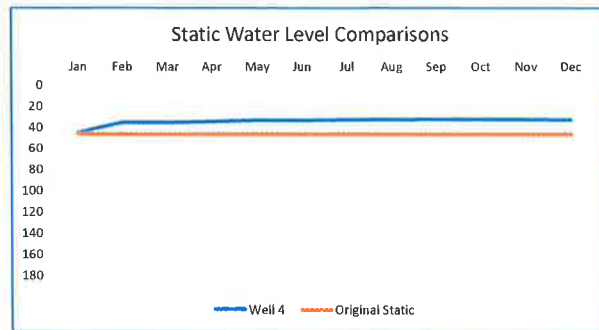
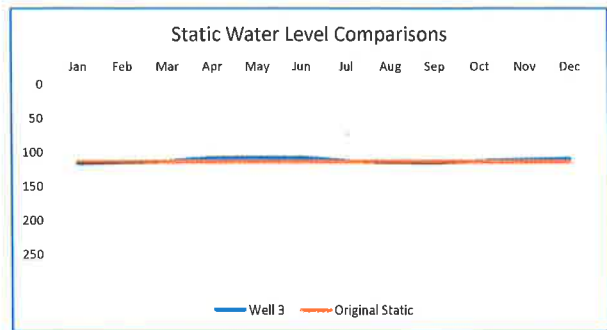
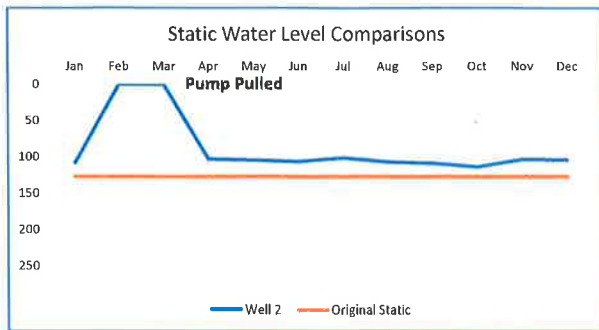
And our current year, 2022. We are now seeing a slight decline in the static level of our wells which is normal for this time of year. September and October are typically cooler with more precipitation.

Most severe drought in Minnesota since 1988

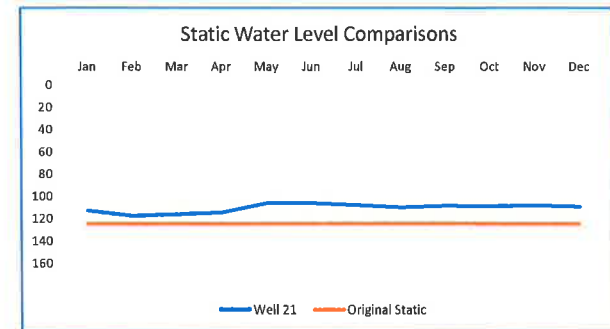
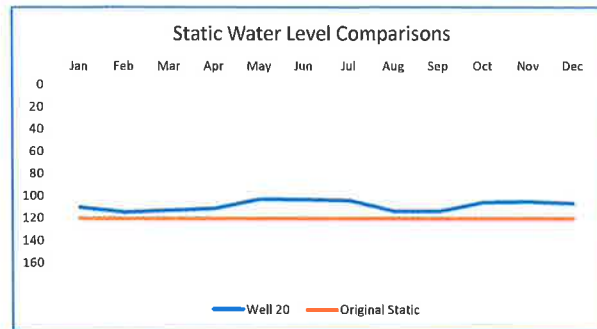
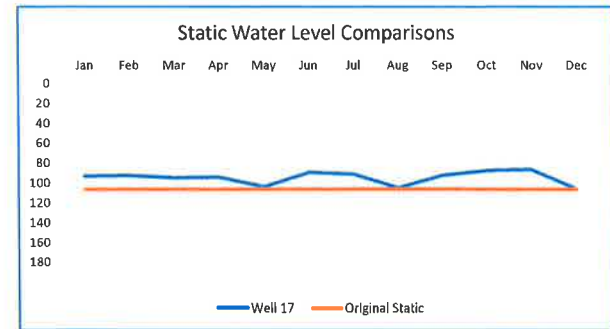
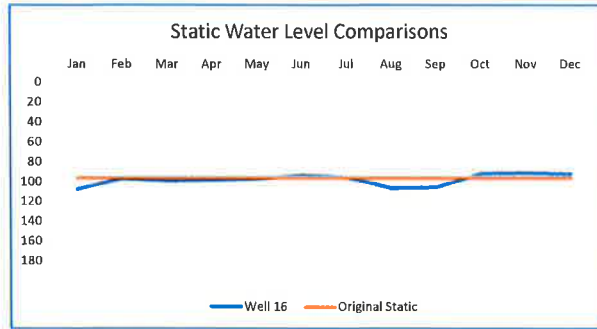
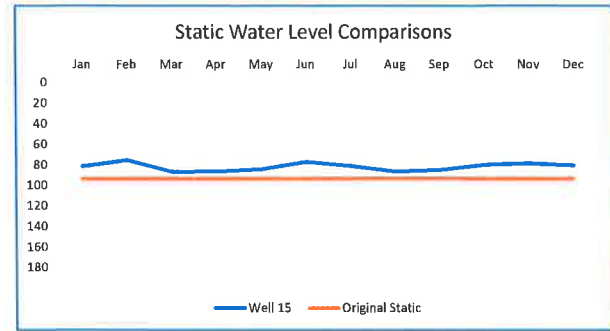
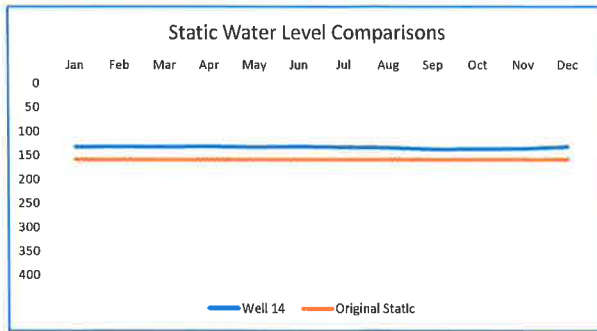
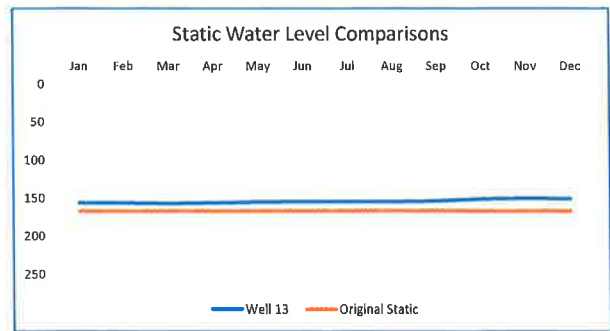
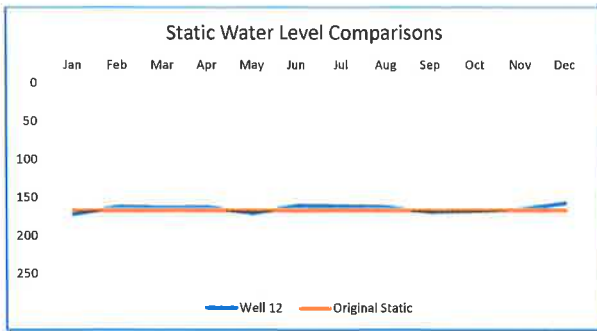


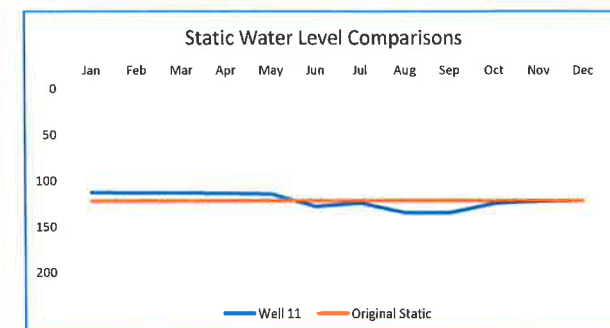
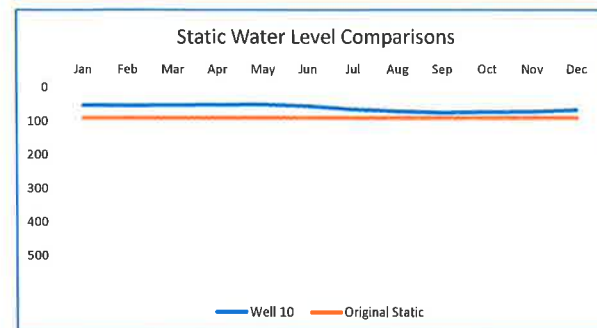
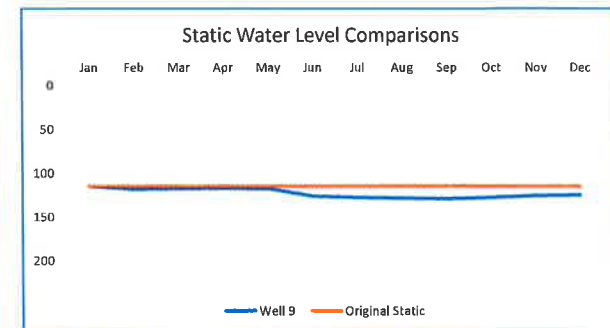
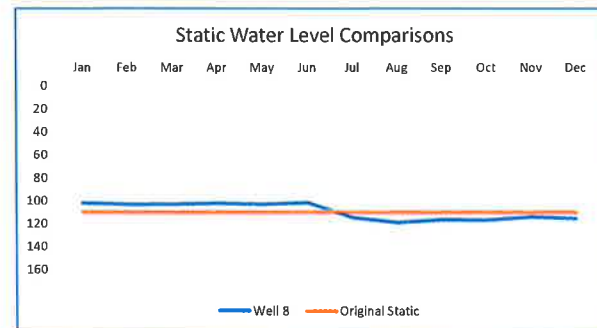
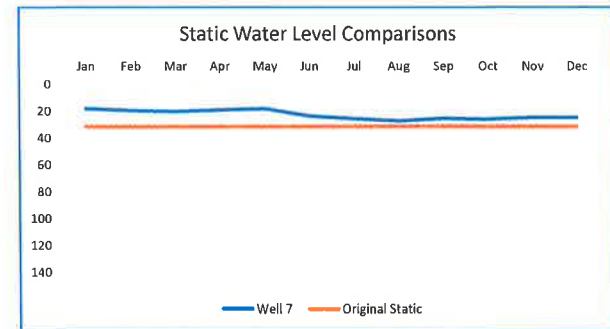
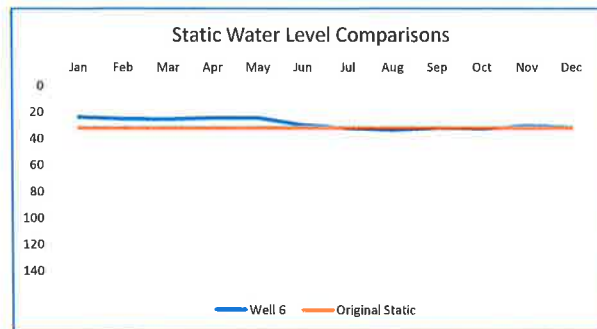
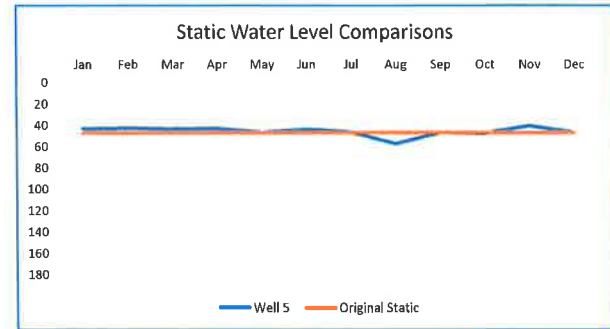
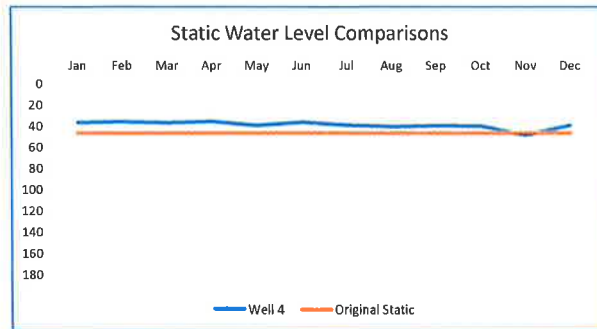
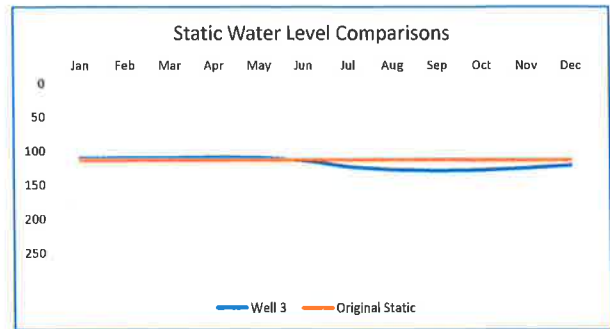
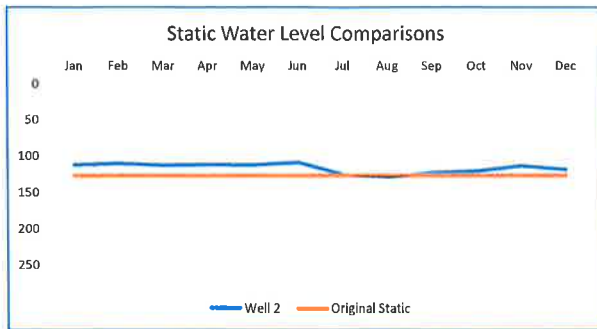
Most severe drought in Minnesota since 1988



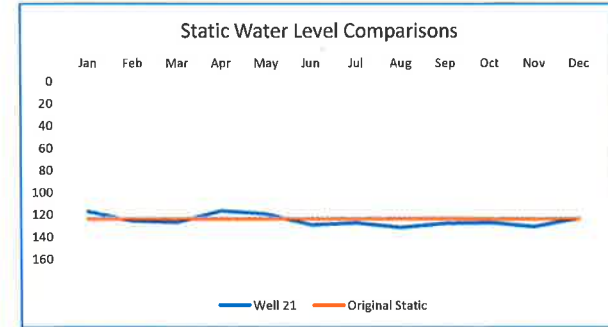
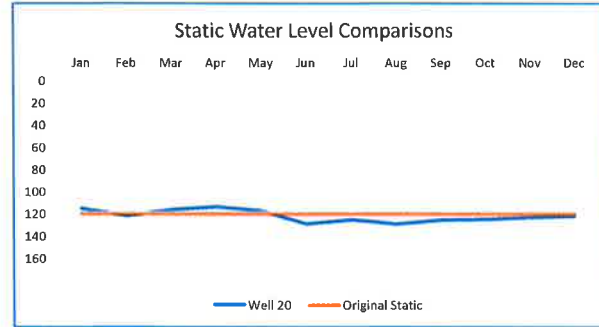
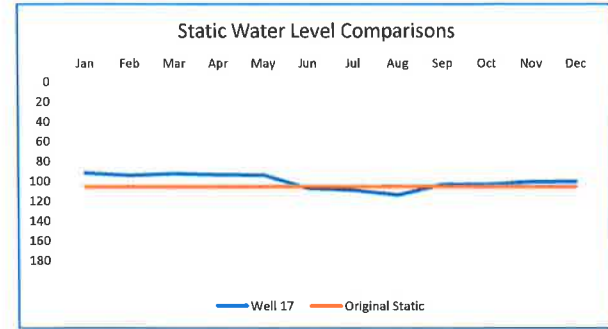
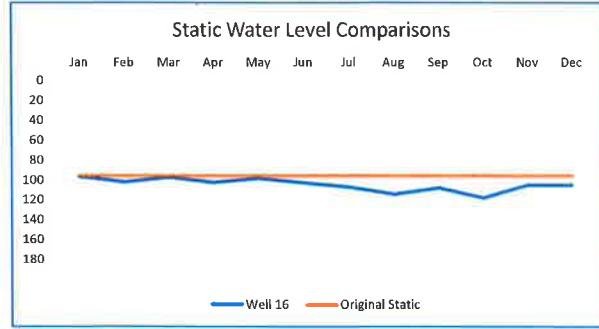
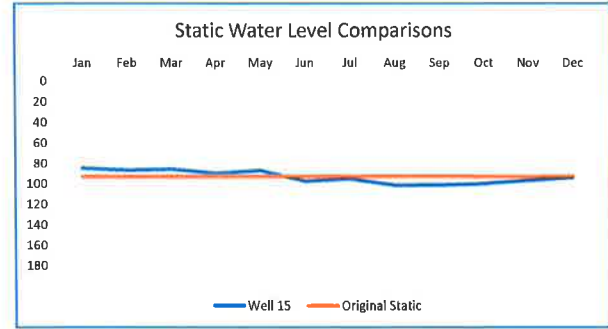
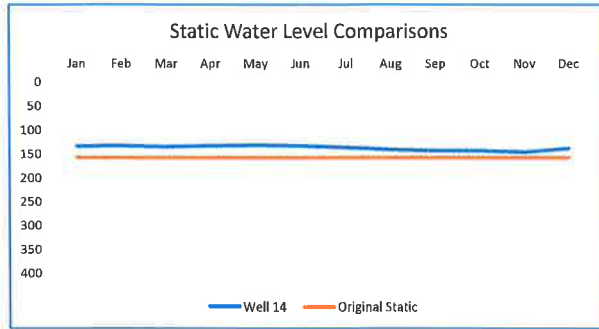
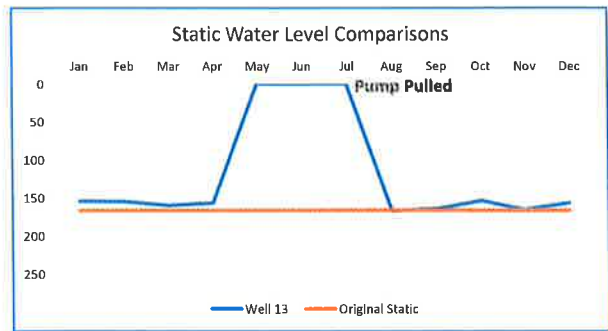
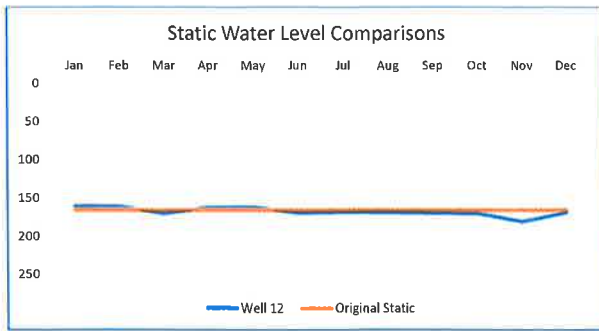


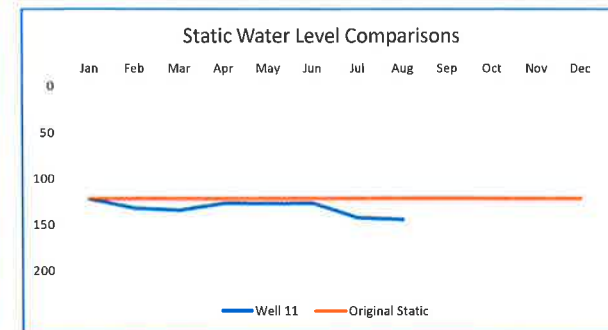
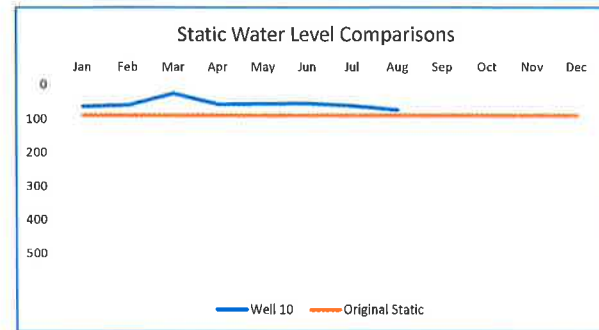
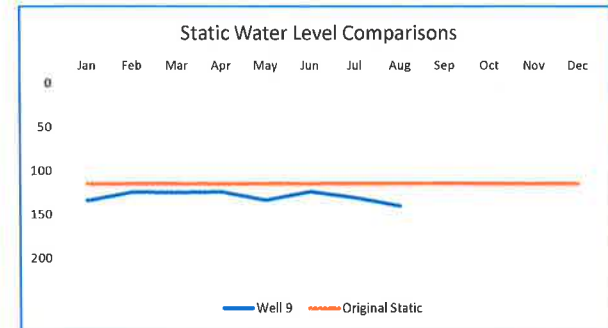
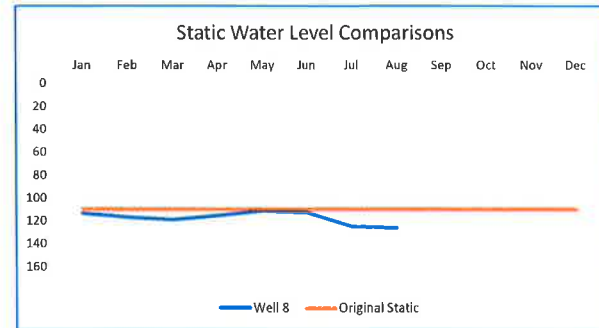
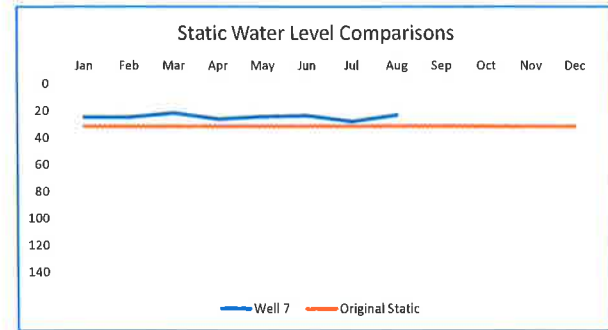
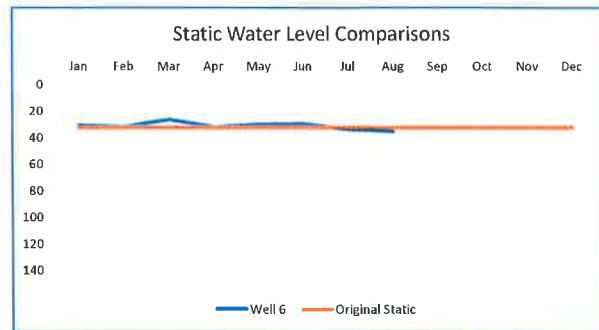
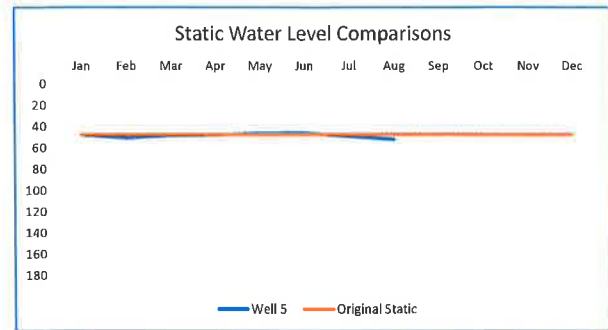
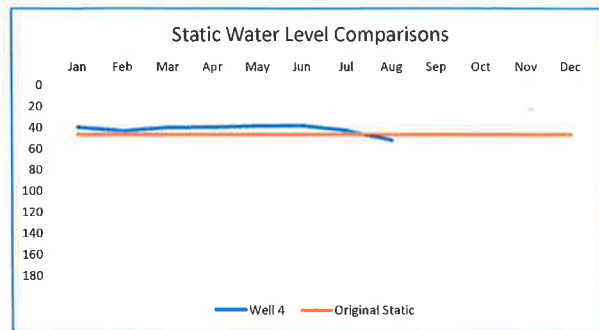
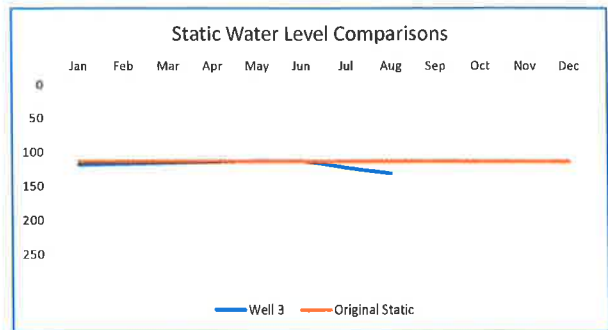
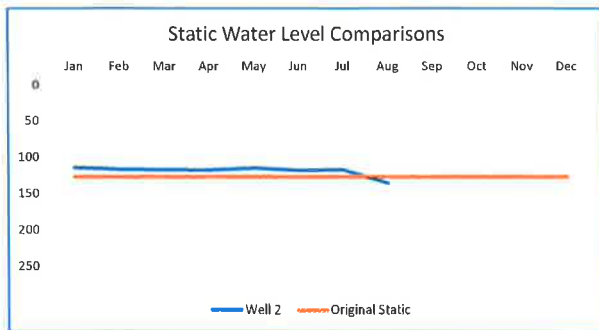
2019 Static Water Level Comparisons

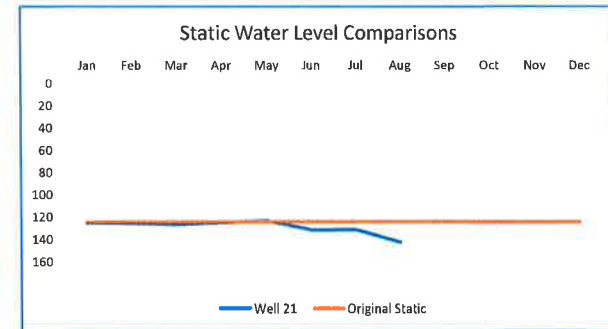
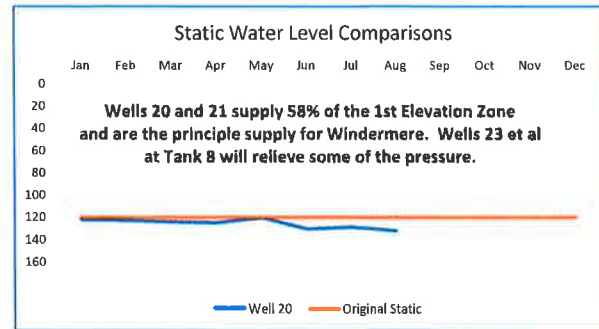
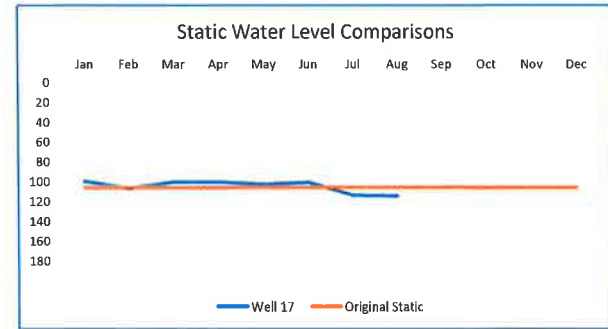
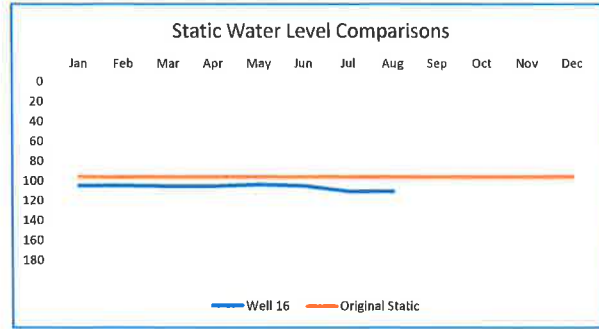
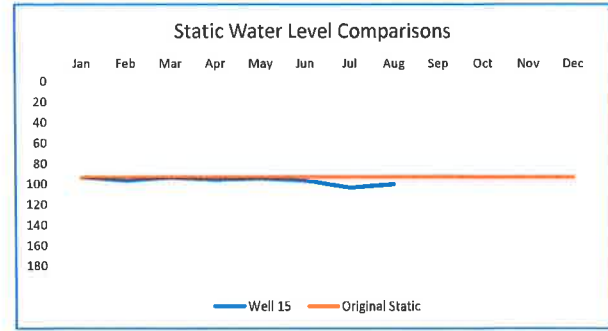
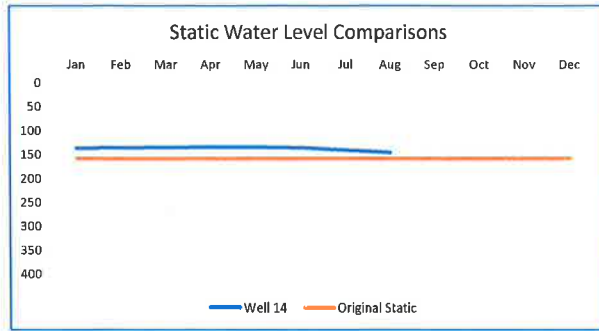
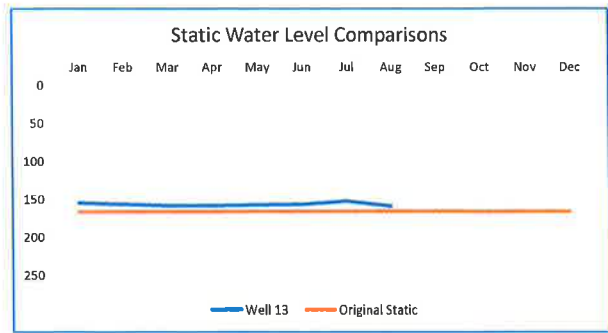
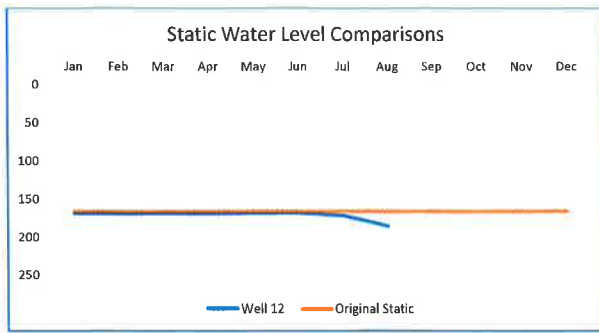




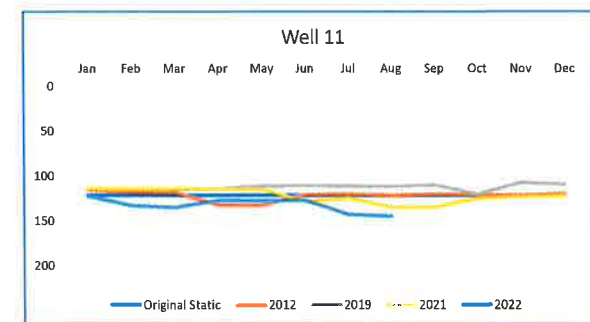
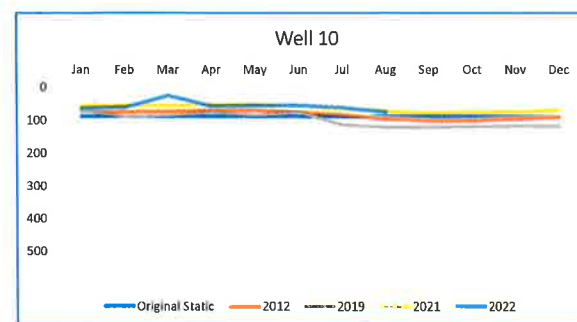
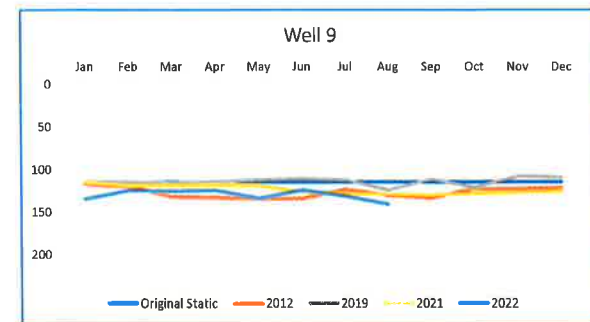
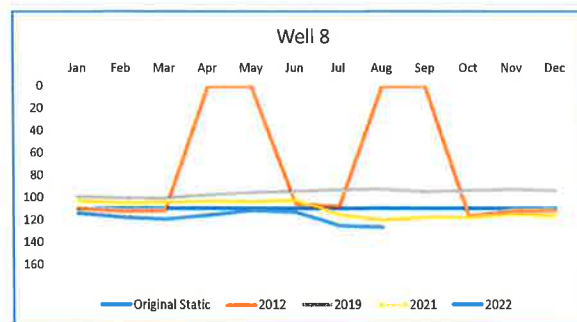
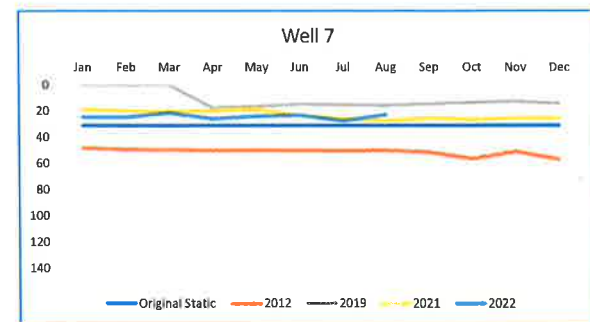
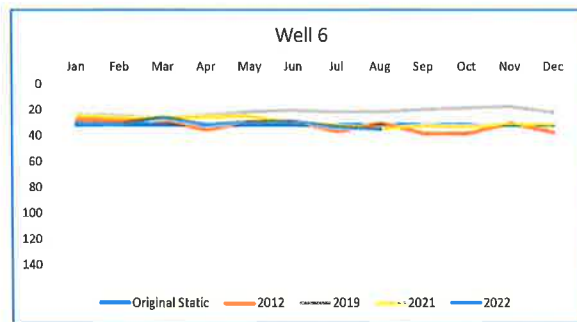
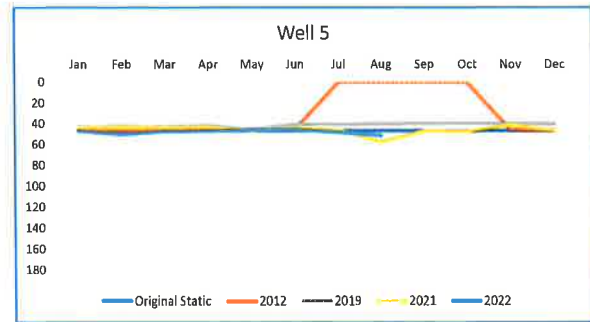
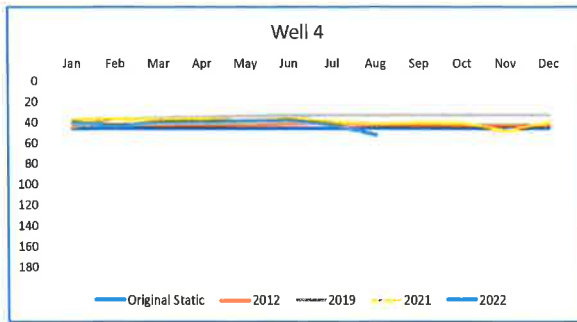
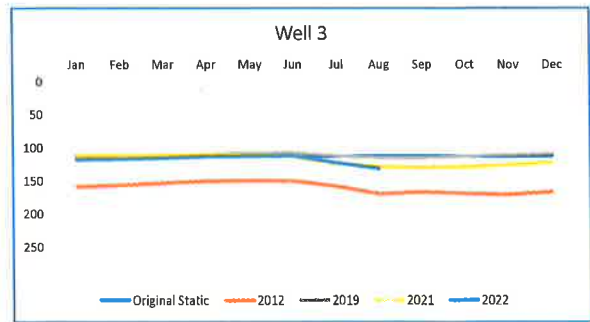
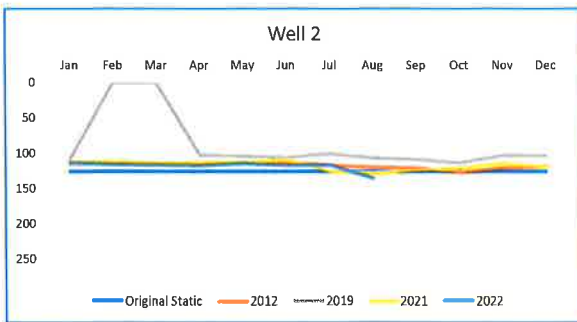
2021 Static Water Level Comparisons



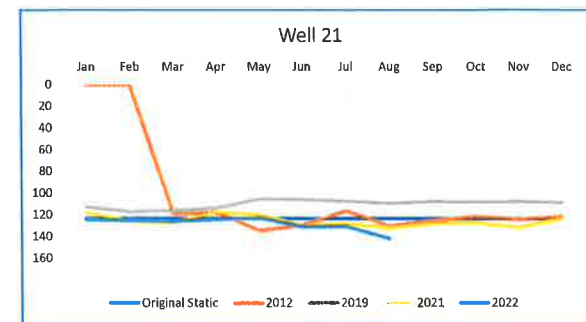
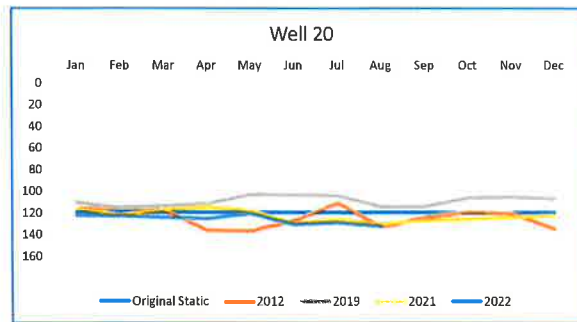
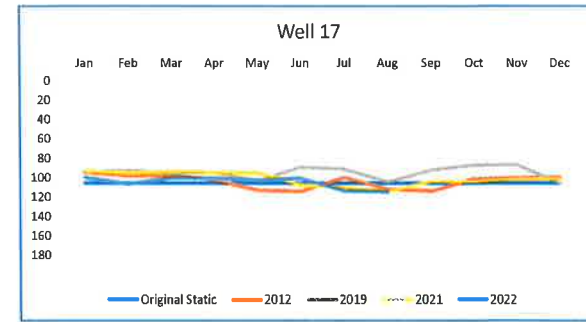
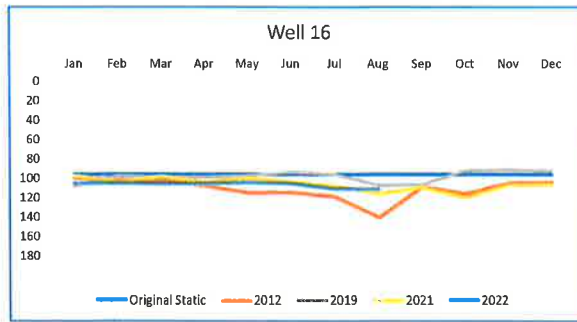
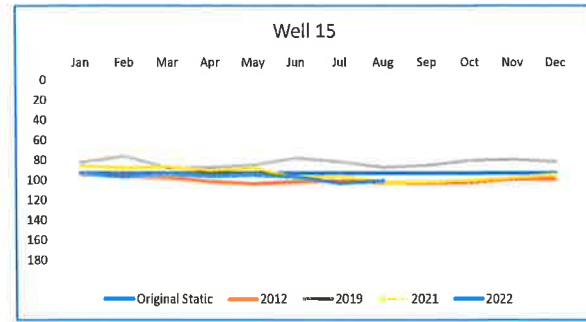
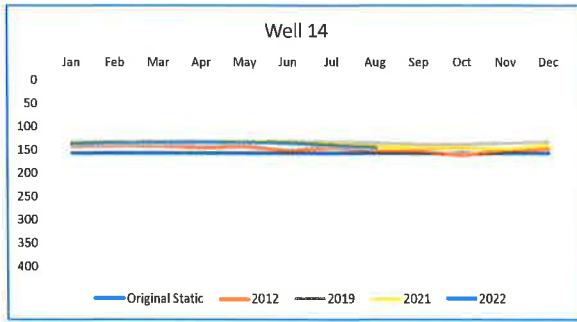
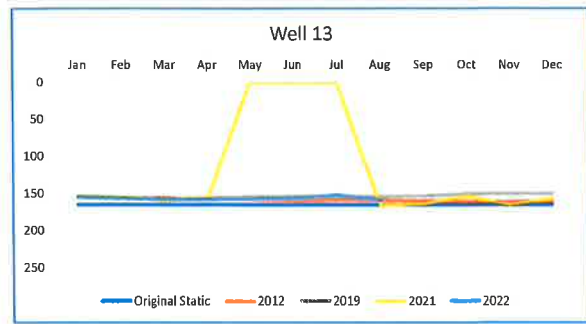
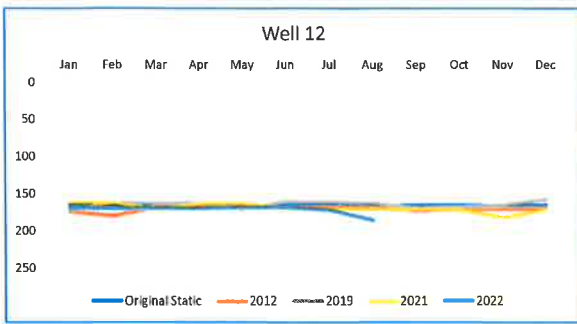




COMBINED STATIC WATER LEVELS



COMBINED STATIC WATER LEVELS





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 Shakopee, Minnesota 55379
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www.shakopeeutilities.com

DATE: September 1, 2022
 TO: SPU Commissioners
 FROM: Greg Drent, General Manager *GD*
 Joe Adams, Director of Planning and Engineering
 SUBJECT: Solar Program Informational Discussion

BACKGROUND:

The current report listing all existing customer installations of solar arrays interconnected with the SPU electric distribution system is attached. There are 202 systems in place, with more under construction. Almost all PV systems are less than 40 kW in capacity, which is the threshold for MN state rules for municipal electric utilities mandating net metering. Net metering is employed with a bi-directional meter that records the energy delivered by SPU to the customer and the energy received by SPU from the customer's system. The customer is billed for the net energy SPU delivers to the customer each billing period, along with other standard charges. Any excess energy received by SPU is credited to the customer using the average retail rate for all SPU customers in the same customer class.

SPU has given rebates for solar installation through our conservation program. In 2016, the rebated amount was \$6000 for residential and \$5000 for commercial. Since then, we have reduced the amount to \$1000 for any net metering solar customer, so more customers will be able to get money back. SPU has always had a cap on the total rebated amount for solar installation.

There is one installation that exceeds 40kW and is under 100 kW. This system is installed at an apartment building that is interconnected and metered so that all the generated energy is purchased at the MMPA avoided cost rate and all the energy consumed by the service is charged at SPU's retail rate.

The second attachment is the rules for what the state of MN defines as a coop or public utility, an investor-owned utility such as Xcel Energy, are different wherein the threshold for net metering eligibility is 1000 kW capacity systems vs. 40 kW for municipals and cooperatives.

Two recent projects have been under review and discussion. One is the state of MN Solar for Schools grant program, where Shakopee Schools was awarded two grants of \$104,000 each to support the installation of 40 kW systems at two local school buildings. A solar developer approached the school district, offering to install, own, and lease back solar arrays in exchange for the grant money and annual payments, but the terms were not the most favorable to the schools. SPU staff had meetings with the school district staff to point out many issues that made that proposal less attractive to the point the school is now working with SPU and a local electrical contractor with the state's approval so that the grants will be maintained, and the systems will end up costing the schools less.



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The other project is a submittal from a solar developer on behalf of one of our industrial customers that SPU had to reject as issued since it was for a 400-kW system proposed to be net metered, which is larger than allowed under the state rules. We pointed this out to the customer and the solar developer and have ongoing discussions on what modifications must be made to allow the requested interconnection.

Action Requested:

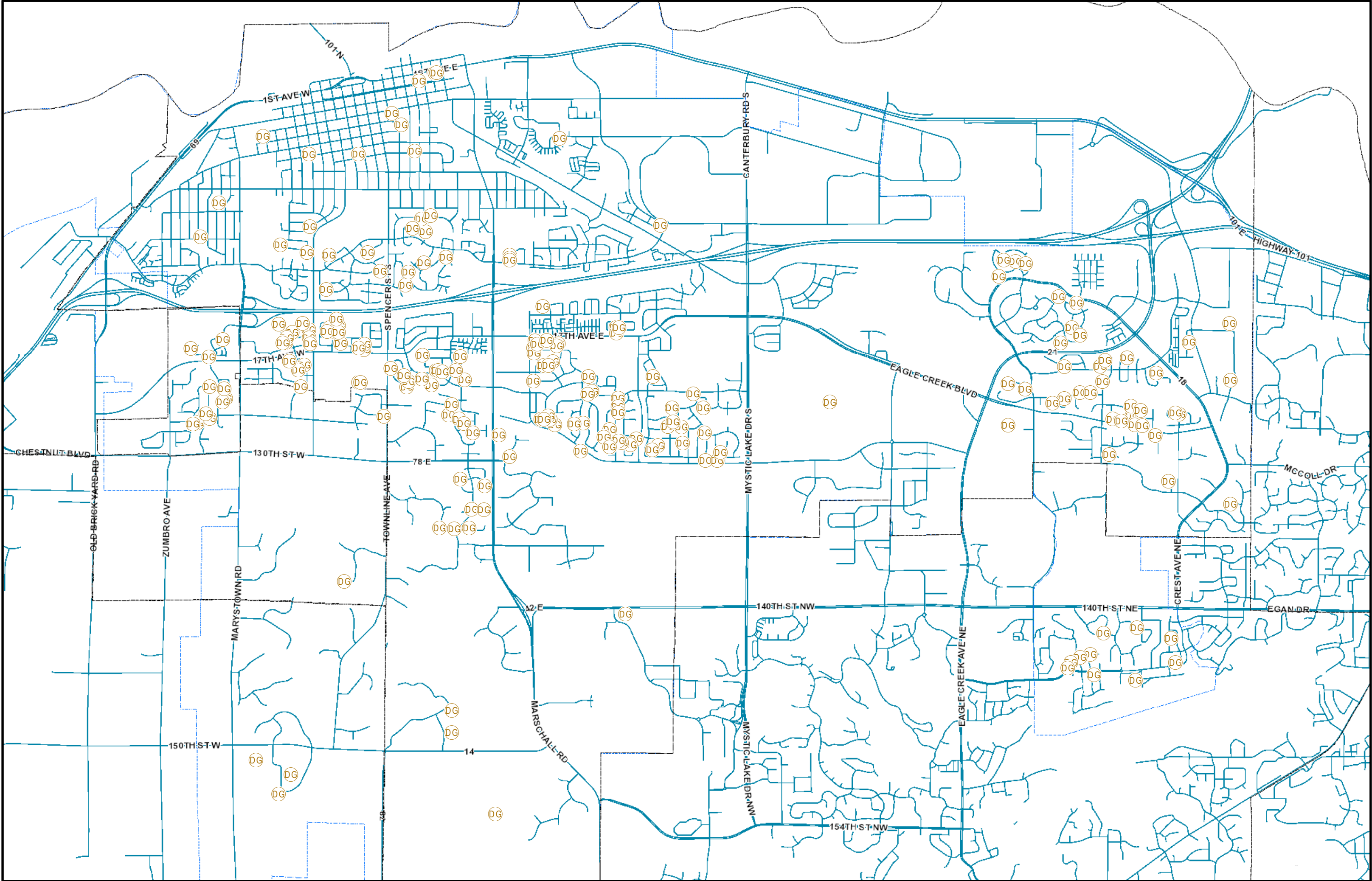
Informational item only

FacilityID	LocationID	Comments	ConstType	Material	AssemblyCode	SubsID	Type	FeederID
3.5	SOL-10-02	Choice Electric INC	solar	Solar PV		SS	Distributed Generation	34
4.72	SOL-10-03	Mouli Engineering INC	Jinko Solar	27 Modules	JKM 185M	PL	Distributed Generation	71
4	SOL-10-04	Suite 100	REC	18 Modules	REC230	DL	Distributed Generation	43
4	SOL-10-05	Suite 600	REC	18 Modules	REC230	DL	Distributed Generation	43
4	SOL-10-06	Suite 800	REC	18 Modules	REC230	DL	Distributed Generation	43
12.87	SOL-16-05		Solar World	44 Modules	SW300	SS	Distributed Generation	32
5.5	SOL-16-03	All Energy Solar	Hanwha	22 Modules	250	PL	Distributed Generation	73
3.44	SOL-13-03	Blue Horizon Solar, LLC	Trina	16 Modules	250 W Poly	PL	Distributed Generation	22
7.68	SOL-15-05	All Energy Solar	ReneSola	30 Modules	260	BL	Distributed Generation	73
4.08	SOL-14-01	Cedar Creek Energy	Solar World	15 Modules		SH	Distributed Generation	9
2.7	SOL-16-01	Gopher Heating	Solar World	12 Modules	SW270 Mono	SS	Distributed Generation	31
5.5	SOL-15-04	All Energy Solar	Solar World	22 Modules	270	PL	Distributed Generation	71
26.6	SOL-16-06	All Energy Solar	Solar World	84 Modules	SW325XLMon	SH	Distributed Generation	10
6	SOL-16-07	All Energy Solar	Solar World	19 Modules	SW325XLMon	SH	Distributed Generation	10
3	SOL-17-01	Mouli Engineerin INC	Solar World	12 Modules	SW325	SS	Distributed Generation	33
5	SOL-15-02	All Energy Solar	Solar World	20 Modules	275	PL	Distributed Generation	71
3.8	SOL-17-02	All Energy Solar	JA Solar	12 Modules	350	SH	Distributed Generation	10
6	SOL-17-05	All Energy Solar	JA Solar	25 Modules	295	PL	Distributed Generation	71
5.46	SOL-17-04	All Energy Solar	JA Solar	19 Modules	295	BL	Distributed Generation	20
4	SOL-17-07	All Energy Solar	JA Solar	16 Modules	270	SS	Distributed Generation	32
4.2	SOL-12-01	Choice Electric INC	REC	18 Modules	REC240PE	SS	Distributed Generation	31
34.22	SOL-13-02	Choice Electric INC	REC	144 Module	REC24PE	DL	Distributed Generation	71
4.06	SOL-11-01	Choice Electric INC	REC	18 Modules	REC235 AE	PL	Distributed Generation	71
3.44	SOL-11-03	Blue Horizon Solar LLC	Solar World	16 Modules	SW250	SS	Distributed Generation	32
3.44	SOL-13-01	Blue Horizon Energy	BenQ	16 Modules	PM250MOO	PL	Distributed Generation	74
4.06	SOL-11-02	Choice Electric INC	REC	18 Modules	REC235PE	PL	Distributed Generation	73
5.39	SOL-10-01	Choice Electric INC		18 Modules		SS	Distributed Generation	33
1	SOL-10-01	Choice Electric INC	Whisper	Wind Genor		SS	Distributed Generation	33
10	SOL-15-03	Choice Electric INC	Solar World	40 Modules	SW280 Mono	SS	Distributed Generation	31
5	SOL-15-01	Cedar Creek Energy	Solar World	16 Modules	SW 315XL M	SS	Distributed Generation	33
6	SOL-17-03	All Energy Solar	JA Solar	23 Modules	270	SS	Distributed Generation	33
3.8	SOL-17-06	All Energy Solar	LG	12 Modules	320N1K-A5	SS	Distributed Generation	33
10	SOL-16-02	All Energy Solar	Solarworld	36 Modules	285	SS	Distributed Generation	31
3.8	SOL-18-02	All Energy Solar	Panasonic	12 Modules	VBHN330SA1	PL	Distributed Generation	73
6.96	SOL-18-04	All Energy Solar	Heliene	24 Modules	325W	DL	Distributed Generation	92
5.46	SOL-18-01	Blue Horizon Energy, LLC	SolarEdge		SE9KUS	PL	Distributed Generation	74
7.44	SOL-19-13	All Energy Solar	JA Solar	31 Modules	JAM6(K)-60	SS	Distributed Generation	81
3.8	SOL-19-18	Powerfully Green	Hyundai	10 Modules	H15-5350R1	SS	Distributed Generation	33
11.4	SOL-19-16	Big Dog Solar	NEA	38 Modules	NEA300M-60	SS	Distributed Generation	33
13.5	SOL-19-17	Big Dog Solar	NEA	44 Modules	NEA300M-60	BL	Distributed Generation	22
49.95	SOL-19-06	All Energy Solar	JA Solar	135 Panels	JAM72S01-3	SH	Distributed Generation	8
7.6	SOL-19-12	Big Dog Renewable Energy	NEA	30 Modules	300M-60	SS	Distributed Generation	34
6.9	SOL-19-11	Big Dog Renewable Energy	Silfab	23 Modules	SLA300M	SH	Distributed Generation	8
11.4	SOL-19-08	Big Dog Renewable Energy	Hanwha	44 Modules	Q.Peak Duo	SS	Distributed Generation	31
8.04	SOL-19-03	All Energy Solar	LG	24 Modules	LG335N1C-A	PL	Distributed Generation	74
8.1	SOL-19-02	Powerfully Green Solar	Mission Solar	27 Modules	MSE300SQ5T	DL	Distributed Generation	92
11.7	SOL-19-04	Big Dog Renewable Energy	Silfab	39 Modules	SLA300M	PL	Distributed Generation	71
7.6	SOL-19-07	Big Dog Renewable Energy	Silfab	33 Modules	SLA300M	SS	Distributed Generation	33
4.6	SOL-19-09	Customer Install	JinkoSolar	14 Modules	JMK335PP-7	SH	Distributed Generation	9
15.04	SOL-19-05	Big Dog Renewable Energy	Silfab	47 Modules	SLA320M	SS	Distributed Generation	32
7.6	SOL-19-01	All Energy Solar	JA Solar	26 Modules	JAM72S01-3	SS	Distributed Generation	33
4.8	SOL-19-10	Altaray Solar	TRINA	16 Modules	TSM300DD05	PL	Distributed Generation	73
5.28	SOL-19-15	Altaray Solar	REC	22 Modules	REC320NP	PL	Distributed Generation	71
7.04	SOL-19-14	Altaray Solar	REC	22 Modules	REC320NP	SS	Distributed Generation	81
9.6	SOL-19-19	Altaray	REC	30 Modules	REC320NP	BL	Distributed Generation	22
7.6	SOL-18-03	MN Solar & More, LL/US Wireman	Hanwha	31 Modules	Q.Peak-G4.	SS	Distributed Generation	34
7	SOL-18-05	All Energy Solar	JA Solar	28 Modules	JAM6(K)-60	SS	Distributed Generation	33
6.11	SOL-16-04	All Energy Solar	Solarworld	22 Modules	285	PL	Distributed Generation	74
7.6	SOL-20-01	Empire Solar Group, LLC	Solar Edge	25 Modules	SE7600H-US	SS	Distributed Generation	83
20	SOL-20-11	MN Solar	SolarEdge	51 Modules	SE10000H-U	PL	Distributed Generation	74
18.99	SOL-20-02	All Energy Solar	LG Electronics	25 Modules	LG360Q1C-V	DL	Distributed Generation	92

FacilityID	LocationID	Comments	ConstType	Material	AssemblyCode	SubsID	Type	FeederID
95.4	SOL-20-03	IPS Solar	Solaredge	405 Module	397 Jinko	SS	Distributed Generation	34
6.98	SOL-20-04	Homeowner	Astronergy	20 Modules	CH5M6612M	SH	Distributed Generation	8
10.44	SOL-20-05	All Energy Solar	JA Solar	36 Modules	JAM72S09-3	SS	Distributed Generation	31
6.96	SOL-20-09	All Energy Solar	Jinko Solar	24 Modules	JKM385M-72	SS	Distributed Generation	83
7.6	SOL-20-10	All Energy Solar	JA Solar	18 Modules	JAM72S09	DL	Distributed Generation	71
8.7	SOL-20-06	All Energy Solar	LG Electronics	30 Modules	LG350N1C-V	PL	Distributed Generation	74
7.6	SOL-20-06	MN Solar	Jinko Solar	22 Modules	JKM400M-HL	SS	Distributed Generation	83
8.99	SOL-20-08	All Energy Solar	LG Electronics	31 Modules	LG350N1C-V	SS	Distributed Generation	32
16.56	SOL-20-13	All Energy Solar	JA Solar	69 Modules	JAM60S12-1	SH	Distributed Generation	7
4.38	SOL-20-14	Powerfully Green	AP Systems	16 Modules	YC600	DL	Distributed Generation	71
8.22	SOL-20-15	Powerfully Green	AP Systems	29 Modules	YC600	DL	Distributed Generation	71
6.576	SOL-20-16	Powerfully Green	AP Systems	24 Modules	YC600	DL	Distributed Generation	71
4.932	SOL-20-17	Powerfully Green	AP Systems	18 Modules	YC600	DL	Distributed Generation	71
3.836	SOL-20-18	Powerfully Green	AP Systems	13 Modules	YC600	DL	Distributed Generation	71
5.48	SOL-20-19	Powerfully Green	AO Systems	20 Modules	YC900	DL	Distributed Generation	71
7.54	SOL-20-20	iSolar MN	Enphase	23 Modules	IQ7+72-2-	SH	Distributed Generation	7
6.028	SOL-20-21	Powerfully Green	AP Systems	11 Modules	YC600	BL	Distributed Generation	20
2.74	SOL-20-22	Powerfully Green	AP Systems	9 Modules	YC600	DL	Distributed Generation	92
4.384	SOL-20-23	Powerfully Green	AP Systems	8 Modules	YC600	SS	Distributed Generation	33
6.028	SOL-20-24	Powerfully Green	AP Systems	11 Modules	YC600	BL	Distributed Generation	22
7.124	SOL-20-25	Powerfully Green	AP Systems	13 Modules	YC600	SS	Distributed Generation	34
7.124	SOL-20-25	Powerfully Green	AP Systems	10 Modules	YC600	PL	Distributed Generation	73
12.18	SOL-20-27	All Energy Solar	Enphase	37 Modules	IQ7Plus-72	PL	Distributed Generation	74
6.576	SOL-20-28	Powerfully Green	AP Systems	12 Modules	YC600	SS	Distributed Generation	34
10.412	SOL-20-29	Powerfully Green	AP Systems	19 Modules	YC600	SS	Distributed Generation	34
13.7	SOL-20-30	Powerfully Green	AP Systems	25 Modules	YC600	SS	Distributed Generation	34
10	SOL-20-31	Cedar Creek Energy	Solar Edge	38 Modules	SE10000H-U	SS	Distributed Generation	34
4.384	SOL-20-32	Powerfully Green	AP Systems	8 Modules	YC600	DL	Distributed Generation	92
5.48	SOL-20-33	Powerfully Green	AP Systems	19 Modules	YC600	PL	Distributed Generation	71
9.316	SOL-2034	Powerfully Green	AP Systems	34 Modules	YC600	SS	Distributed Generation	32
8.22	SOL-20-35	Powerfully Green	AP Systems	29 Modules	YC600	SS	Distributed Generation	31
6.028	SOL-20-36	Powerfully Green	AP Systems	22 Modules	YC600	PL	Distributed Generation	73
6.72	SOL-20-37	Powerfully Green	AP Systems	21 Modules	YC600	PL	Distributed Generation	73
8.22	SOL-20-40	Powerfully Green	AP Systems	30 Modules	YC600	PL	Distributed Generation	73
6.576	SOL-20-39	Powerfully Green	AP Systems	23 Modules	YC600	PL	Distributed Generation	71
6.028	SOL-20-42	Powerfully Green	AP Systems	22 Modules	YC600	BL	Distributed Generation	22
8.77	SOL-21-01	Everlight Solar	Silfab	31	SIL-330 NL	SS	Distributed Generation	32
4.93	SOL-21-02	Everlight Solar	APsystems		YC600	SS	Distributed Generation	33
3.84	SOL-21-03	Everlight Solar	Silfab	13	SIL-330 NL	DL	Distributed Generation	92
3.84	SOL-21-04	Everlight Solar	Silfab	13	SIL-330 NL	DL	Distributed Generation	92
5.48	SOL-21-08	Everlight Solar	Silfab	19	SIL-330 NL	DL	Distributed Generation	92
7.12	SOL-21-05	Everlight Solar	Silfab	26	SIL-330 NL	SS	Distributed Generation	32
6.58	SOL-21-06	Everlight Solar	Silfab	24	SIL-330 NL	SS	Distributed Generation	32
4.38	SOL-21-07	Everlight Solar	Silfab	15	SIL-330 NL	SS	Distributed Generation	32
6.03	SOL-21-09	Everlight Solar	Silfab	21	SIL-330 NL	SS	Distributed Generation	32
6.38	SOL-21-10	All Energy Solar	REC	24	REC365AA	SS	Distributed Generation	34
4.19	SOL-21-11	Moxie	Q.PEAK	12	DUO L-G8	SS	Distributed Generation	33
4.38	SOL-21-12	Everlight Solar	Silfab	15	SIL-330 NL	PL	Distributed Generation	72
7.67	SOL-21-13	Everlight Solar	Silfab	27	SIL-330 NL	SS	Distributed Generation	33
7.12	SOL-21-14	Everlight Solar	Silfab	25	SIL-330 NL	DL	Distributed Generation	72
5.48	SOL-21-15	Everlight Solar	Silfab	19	SIL-330 NL	SS	Distributed Generation	81
6.38	SOL-21-16	All Energy Solar	REC	22	REC365AA	SS	Distributed Generation	81
4.93	SOL-21-17	Everlight Solar	Silfab	18	SIL-330 NL	DL	Distributed Generation	92
6.03	SOL-21-18	Everlight Solar	Silfab	22	SIL-330 NL	DL	Distributed Generation	92
3.5	SOL-10-02	Choice Electric INC	solar	Solar PV		SS	Distributed Generation	34
4.72	SOL-10-03	Mouli Engineering INC	Jinko Solar	27 Modules	JKM 185M	PL	Distributed Generation	71
4	SOL-10-04	Suite 100	REC	18 Modules	REC230	DL	Distributed Generation	43
4	SOL-10-05	Suite 600	REC	18 Modules	REC230	DL	Distributed Generation	43
4	SOL-10-06	Suite 800	REC	18 Modules	REC230	DL	Distributed Generation	43
12.87	SOL-16-05		Solar World	44 Modules	SW300	SS	Distributed Generation	32
5.5	SOL-16-03	All Energy Solar	Hanwha	22 Modules	250	PL	Distributed Generation	73

FacilityID	LocationID	Comments	ConstType	Material	AssemblyCode	SubsID	Type	FeederID
3.44	SOL-13-03	Blue Horizon Solar, LLC	Trina	16 Modules	250 W Poly	PL	Distributed Generation	22
7.68	SOL-15-05	All Energy Solar	ReneSola	30 Mobules	260	BL	Distributed Generation	73
4.08	SOL-14-01	Cedar Creek Energy	Solar World	15 Modules		SH	Distributed Generation	9
2.7	SOL-16-01	Gopher Heating	Solar World	12 Modules	SW270 Mono	SS	Distributed Generation	31
5.5	SOL-15-04	All Energy Solar	Solar World	22 Modules	270	PL	Distributed Generation	71
26.6	SOL-16-06	All Energy Solar	Solar World	84 Modules	SW325XLMon	SH	Distributed Generation	10
6	SOL-16-07	All Energy Solar	Solar World	19 Modules	SW325XLMon	SH	Distributed Generation	10
3	SOL-17-01	Mouli Engineerin INC	Solar World	12 Modules	SW325	SS	Distributed Generation	33
5	SOL-15-02	All Energy Solar	Solar World	20 Modules	275	PL	Distributed Generation	71
3.8	SOL-17-02	All Energy Solar	JA Solar	12 Modules	350	SH	Distributed Generation	10
6	SOL-17-05	All Energy Solar	JA Solar	25 Modules	295	PL	Distributed Generation	71
5.46	SOL-17-04	All Energy Solar	JA Solar	19 Modules	295	BL	Distributed Generation	20
4	SOL-17-07	All Energy Solar	JA Solar	16 Modules	270	SS	Distributed Generation	32
4.2	SOL-12-01	Choice Electric INC	REC	18 Modules	REC240PE	SS	Distributed Generation	31
34.22	SOL-13-02	Choice Electric INC	REC	144 Module	REC24PE	DL	Distributed Generation	71
4.06	SOL-11-01	Choice Electric INC	REC	18 Modules	REC235 AE	PL	Distributed Generation	71
3.44	SOL-11-03	Blue Horizon Solar LLC	Solar World	16 Modules	SW250	SS	Distributed Generation	32
3.44	SOL-13-01	Blue Horizon Energy	BenQ	16 Modules	PM250MOO	PL	Distributed Generation	74
4.06	SOL-11-02	Choice Electric INC	REC	18 Modules	REC235PE	PL	Distributed Generation	73
5.39	SOL-10-01	Choice Electric INC		18 Modules		SS	Distributed Generation	33
1	SOL-10-01	Choice Electric INC	Whisper	Wind Genor		SS	Distributed Generation	33
10	SOL-15-03	Choice Electric INC	Solar World	40 Modules	SW280 Mono	SS	Distributed Generation	31
5	SOL-15-01	Cedar Creek Energy	Solar World	16 Modules	SW 315XL M	SS	Distributed Generation	33
6	SOL-17-03	All Energy Solar	JA Solar	23 Modules	270	SS	Distributed Generation	33
3.8	SOL-17-06	All Energy Solar	LG	12 Modules	320N1K-A5	SS	Distributed Generation	33
10	SOL-16-02	All Energy Solar	Solarworld	36 Modules	285	SS	Distributed Generation	31
3.8	SOL-18-02	All Energy Solar	Panasonic	12 Modules	VBHN330SA1	PL	Distributed Generation	73
6.96	SOL-18-04	All Energy Solar	Heliene	24 Modules	325W	DL	Distributed Generation	92
5.46	SOL-18-01	Blue Horizon Energy, LLC	SolarEdge		SE9KUS	PL	Distributed Generation	74
7.44	SOL-19-13	All Energy Solar	JA Solar	31 Modules	JAM6(K)-60	SS	Distributed Generation	81
3.8	SOL-19-18	Powerfully Green	Hyundai	10 Modules	H15-5350R1	SS	Distributed Generation	33
11.4	SOL-19-16	Big Dog Solar	NEA	38 Modules	NEA300M-60	SS	Distributed Generation	33
13.5	SOL-19-17	Big Dog Solar	NEA	44 Modules	NEA300M-60	BL	Distributed Generation	22
49.95	SOL-19-06	All Energy Solar	JA Solar	135 Panels	JAM72S01-3	SH	Distributed Generation	8
7.6	SOL-19-12	Big Dog Renewable Energy	NEA	30 Modules	300M-60	SS	Distributed Generation	34
6.9	SOL-19-11	Big Dog Renewable Energy	Silfab	23 Modules	SLA300M	SH	Distributed Generation	8
11.4	SOL-19-08	Big Dog Renewable Energy	Hanwha	44 Modules	Q.Peak Duo	SS	Distributed Generation	31
8.04	SOL-19-03	All Energy Solar	LG	24 Modules	LG335N1C-A	PL	Distributed Generation	74
8.1	SOL-19-02	Powerfully Green Solar	Mission Solar	27 Modules	MSE300SQ5T	DL	Distributed Generation	92
11.7	SOL-19-04	Big Dog Renewable Energy	Silfab	39 Modules	SLA300M	PL	Distributed Generation	71
7.6	SOL-19-07	Big Dog Renewable Energy	Silfab	33 Modules	SLA300M	SS	Distributed Generation	33
4.6	SOL-19-09	Customer Install	JinkoSolar	14 Modules	JMK335PP-7	SH	Distributed Generation	9
15.04	SOL-19-05	Big Dog Renewable Energy	Silfab	47 Modules	SLA320M	SS	Distributed Generation	32
7.6	SOL-19-01	All Energy Solar	JA Solar	26 Modules	JAM72S01-3	SS	Distributed Generation	33
4.8	SOL-19-10	Altaray Solar	TRINA	16 Modules	TSM300DD05	PL	Distributed Generation	73
5.28	SOL-19-15	Altaray Solar	REC	22 Modules	REC320NP	PL	Distributed Generation	71
7.04	SOL-19-14	Altaray Solar	REC	22 Modules	REC320NP	SS	Distributed Generation	81
9.6	SOL-19-19	Altaray	REC	30 Modules	REC320NP	BL	Distributed Generation	22
7.6	SOL-18-03	MN Solar & More, LL/US Wireman	Hanwha	31 Modules	Q.Peak-G4.	SS	Distributed Generation	34
7	SOL-18-05	All Energy Solar	JA Solar	28 Modules	JAM6(K)-60	SS	Distributed Generation	33
6.11	SOL-16-04	All Energy Solar	Solarworld	22 Modules	285	PL	Distributed Generation	74
7.6	SOL-20-01	Empire Solar Group, LLC	Solar Edge	25 Modules	SE7600H-US	SS	Distributed Generation	83
20	SOL-20-11	MN Solar	SolarEdge	51 Modules	SE10000H-U	PL	Distributed Generation	74
18.99	SOL-20-02	All Energy Solar	LG Electronics	25 Moules	LG360Q1C-V	DL	Distributed Generation	92
95.4	SOL-20-03	IPS Solar	Solaredge	405 Module	397 Jinko	SS	Distributed Generation	34
6.98	SOL-20-04	Homeowner	Astronergy	20 Modules	CH5M6612M	SH	Distributed Generation	8
10.44	SOL-20-05	All Energy Solar	JA Solar	36 Modules	JAM72S09-3	SS	Distributed Generation	31
6.96	SOL-20-09	All Energy Solar	Jinko Solar	24 Modules	JKM385M-72	SS	Distributed Generation	83
7.6	SOL-20-10	All Energy Solar	JA Solar	18 Modules	JAM72S09	DL	Distributed Generation	71
8.7	SOL-20-06	All Energy Solar	LG Electronics	30 Modules	LG350N1C-V	PL	Distributed Generation	74
7.6	SOL-20-06	MN Solar	Jinko Solar	22 Modules	JKM400M-HL	SS	Distributed Generation	83

FacilityID	LocationID	Comments	ConstType	Material	AssemblyCode	SubsID	Type	FeederID
8.99	SOL-20-08	All Energy Solar	LG Electronics	31 Modules	LG350N1C-V	SS	Distributed Generation	32
16.56	SOL-20-13	All Energy Solar	JA Solar	69 Modules	JAM60S12-1	SH	Distributed Generation	7
4.38	SOL-20-14	Powerfully Green	AP Systems	16 Modules	YC600	DL	Distributed Generation	71
8.22	SOL-20-15	Powerfully Green	AP Systems	29 Modules	YC600	DL	Distributed Generation	71
6.576	SOL-20-16	Powerfully Green	AP Systems	24 Modules	YC600	DL	Distributed Generation	71
4.932	SOL-20-17	Powerfully Green	AP Systems	18 Modules	YC600	DL	Distributed Generation	71
3.836	SOL-20-18	Powerfully Green	AP Systems	13 Modules	YC600	DL	Distributed Generation	71
5.48	SOL-20-19	Powerfully Green	AO Systems	20 Modules	YC900	DL	Distributed Generation	71
7.54	SOL-20-20	iSolar MN	Enphase	23 Modules	IQ7+72-2-	SH	Distributed Generation	7
6.028	SOL-20-21	Powerfully Green	AP Systems	11 Modules	YC600	BL	Distributed Generation	20
2.74	SOL-20-22	Powerfully Green	AP Systems	9 Modules	YC600	DL	Distributed Generation	92
4.384	SOL-20-23	Powerfully Green	AP Systems	8 Modules	YC600	SS	Distributed Generation	33
6.028	SOL-20-24	Powerfully Green	AP Systems	11 Modules	YC600	BL	Distributed Generation	22
7.124	SOL-20-25	Powerfully Green	AP Systems	13 Modules	YC600	SS	Distributed Generation	34
7.124	SOL-20-25	Powerfully Green	AP Systems	10 Modules	YC600	PL	Distributed Generation	73
12.18	SOL-20-27	All Energy Solar	Enphase	37 Modules	IQ7Plus-72	PL	Distributed Generation	74
6.576	SOL-20-28	Powerfully Green	AP Systems	12 Modules	YC600	SS	Distributed Generation	34
10.412	SOL-20-29	Powerfully Green	AP Systems	19 Modules	YC600	SS	Distributed Generation	34
13.7	SOL-20-30	Powerfully Green	AP Systems	25 Modules	YC600	SS	Distributed Generation	34



216B.1611 INTERCONNECTION OF ON-SITE DISTRIBUTED GENERATION.

§ Subdivision 1. **Purpose.** The purpose of this section is to:

- (1) establish the terms and conditions that govern the interconnection and parallel operation of on-site distributed generation;
- (2) provide cost savings and reliability benefits to customers;
- (3) establish technical requirements that will promote the safe and reliable parallel operation of on-site distributed generation resources;
- (4) enhance both the reliability of electric service and economic efficiency in the production and consumption of electricity; and
- (5) promote the use of distributed resources in order to provide electric system benefits during periods of capacity constraints.

Subd. 2. **Distributed generation; generic proceeding.** (a) The commission shall initiate a proceeding within 30 days of July 1, 2001, to establish, by order, generic standards for utility tariffs for the interconnection and parallel operation of distributed generation fueled by natural gas or a renewable fuel, or another similarly clean fuel or combination of fuels of no more than ten megawatts of interconnected capacity. At a minimum, these tariff standards must:

- (1) to the extent possible, be consistent with industry and other federal and state operational and safety standards;
 - (2) provide for the low-cost, safe, and standardized interconnection of facilities;
 - (3) take into account differing system requirements and hardware, as well as the overall demand load requirements of individual utilities;
 - (4) allow for reasonable terms and conditions, consistent with the cost and operating characteristics of the various technologies, so that a utility can reasonably be assured of the reliable, safe, and efficient operation of the interconnected equipment; and
 - (5) establish (i) a standard interconnection agreement that sets forth the contractual conditions under which a company and a customer agree that one or more facilities may be interconnected with the company's utility system, and (ii) a standard application for interconnection and parallel operation with the utility system.
- (b) The commission may develop financial incentives based on a public utility's performance in encouraging residential and small business customers to participate in on-site generation.

Subd. 3. **Distributed generation tariff.** Within 90 days of the issuance of an order under subdivision 2:

- (1) each public utility providing electric service at retail shall file a distributed generation tariff consistent with that order, for commission approval or approval with modification; and
- (2) each municipal utility and cooperative electric association shall adopt a distributed generation tariff that addresses the issues included in the commission's order.

Subd. 3a. **Project information.** (a) Beginning July 1, 2014, each electric utility shall request an applicant for interconnection of distributed renewable energy generation to provide the following information, in a format prescribed by the commissioner:

- (1) the nameplate capacity of the facility in the application;
- (2) the preincentive installed cost and cost components of the generation system at the facility;
- (3) the energy source of the facility; and
- (4) the zip code in which the facility is to be located.

(b) The commissioner shall develop or identify a system to collect and process the information under this subdivision for each utility, and make non-project-specific data available to the public on a periodic basis as determined by the commissioner, and in a format determined by the commissioner. The commissioner may solicit proposals from outside parties to develop the system. The commissioner may only collect data authorized in paragraph (a), and may not require submission of any additional data that could be used to personally identify any individual applicant or utility customer.

(c) Electric utilities collecting and transferring data under this subdivision are not responsible for the accuracy, completeness, or quality of the information under this subdivision.

(d) Except as provided in paragraph (b), any information provided by an applicant to the commissioner under this subdivision is nonpublic data as defined in section [13.02](#), subdivision 9.

Subd. 4. **Reporting requirements.** (a) Each electric utility shall maintain records concerning applications received for interconnection and parallel operation of distributed generation. The records must include the date each application is received,

documents generated in the course of processing each application, correspondence regarding each application, and the final disposition of each application.

(b) Every electric utility shall file with the commissioner a distributed generation interconnection report for the preceding calendar year that identifies each distributed generation facility interconnected with the utility's distribution system. The report must list the new distributed generation facilities interconnected with the system since the previous year's report, any distributed generation facilities no longer interconnected with the utility's system since the previous report, the capacity of each facility, and the feeder or other point on the company's utility system where the facility is connected. The annual report must also identify all applications for interconnection received during the previous one-year period, and the disposition of the applications.

History: [2001 c 212 art 3 s 1](#); [2014 c 254 s 9](#)

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Revisor of Statutes

216B.164 COGENERATION AND SMALL POWER PRODUCTION.

Subdivision 1. **Scope and purpose.** This section shall at all times be construed in accordance with its intent to give the maximum possible encouragement to cogeneration and small power production consistent with protection of the ratepayers and the public.

Subd. 2. **Applicability; rights maintained.** (a) This section as well as any rules promulgated by the commission to implement this section or the Public Utility Regulatory Policies Act of 1978, Public Law 95-617, Statutes at Large, volume 92, page 3117, as amended, and the Federal Energy Regulatory Commission regulations thereunder, Code of Federal Regulations, title 18, part 292, as amended, shall, unless otherwise provided in this section, apply to all Minnesota electric utilities, including cooperative electric associations and municipal electric utilities.

(b) Nothing in this section shall be construed to alter the rights and duties of any person pursuant to the Public Utility Regulatory Policies Act of 1978, Public Law 95-617, Statutes at Large, volume 92, page 3117, as amended, and the Federal Energy Regulatory Commission regulations thereunder, Code of Federal Regulations, title 18, part 292, as amended.

Subd. 2a. **Definitions.** (a) For the purposes of this section, the following terms have the meanings given them.

(b) "Aggregated meter" means a meter located on the premises of a customer's owned or leased property that is contiguous with property containing the customer's designated meter.

(c) "Capacity" means the number of megawatts alternating current (AC) at the point of interconnection between a distributed generation facility and a utility's electric system.

(d) "Cogeneration" means a combined process whereby electrical and useful thermal energy are produced simultaneously.

(e) "Contiguous property" means property owned or leased by the customer sharing a common border, without regard to interruptions in contiguity caused by easements, public thoroughfares, transportation rights-of-way, or utility rights-of-way.

(f) "Customer" means the person who is named on the utility electric bill for the premises.

(g) "Designated meter" means a meter that is physically attached to the customer's facility that the customer-generator designates as the first meter to which net metered credits are to be applied as the primary meter for billing purposes when the customer is serviced by more than one meter.

(h) "Distributed generation" means a facility that:

(1) has a capacity of ten megawatts or less;

(2) is interconnected with a utility's distribution system, over which the commission has jurisdiction; and

(3) generates electricity from natural gas, renewable fuel, or a similarly clean fuel, and may include waste heat, cogeneration, or fuel cell technology.

(i) "High-efficiency distributed generation" means a distributed energy facility that has a minimum efficiency of 40 percent, as calculated under section [272.0211](#), subdivision 1.

(j) "Net metered facility" means an electric generation facility constructed for the purpose of offsetting energy use through the use of renewable energy or high-efficiency distributed generation sources.

(k) "Renewable energy" has the meaning given in section [216B.2411](#), subdivision 2.

(l) "Standby charge" means a charge imposed by an electric utility upon a distributed generation facility for the recovery of costs for the provision of standby services, as provided for in a utility's tariffs approved by the commission, necessary to make electricity service available to the distributed generation facility.

Subd. 3. **Purchases; small facilities.** (a) This paragraph applies to cooperative electric associations and municipal utilities. For a qualifying facility having less than 40-kilowatt capacity, the customer shall be billed for the net energy supplied by the utility according to the applicable rate schedule for sales to that class of customer. A cooperative electric association or municipal utility may charge an additional fee to recover the fixed costs not already paid for by the customer through the customer's existing billing arrangement. Any additional charge by the utility must be reasonable and appropriate for that class of customer based on the most recent cost of service study. The cost of service study must be made available for review by a customer of the utility upon request. In the case of net input into the utility system by a qualifying facility having less than 40-kilowatt capacity, compensation to the customer shall be at a per kilowatt-hour rate determined under paragraph (c), (d), or (f).

(b) This paragraph applies to public utilities. For a qualifying facility having less than 1,000-kilowatt capacity, the customer shall be billed for the net energy supplied by the utility according to the applicable rate schedule for sales to that class of customer. In the case of net input into the utility system by a qualifying facility having: (1) more than 40-kilowatt but less than 1,000-kilowatt capacity,

compensation to the customer shall be at a per kilowatt-hour rate determined under paragraph (c); or (2) less than 40-kilowatt capacity, compensation to the customer shall be at a per-kilowatt rate determined under paragraph (c) or (d).

(c) In setting rates, the commission shall consider the fixed distribution costs to the utility not otherwise accounted for in the basic monthly charge and shall ensure that the costs charged to the qualifying facility are not discriminatory in relation to the costs charged to other customers of the utility. The commission shall set the rates for net input into the utility system based on avoided costs as defined in the Code of Federal Regulations, title 18, section 292.101, paragraph (b)(6), the factors listed in Code of Federal Regulations, title 18, section 292.304, and all other relevant factors.

(d) Notwithstanding any provision in this chapter to the contrary, a qualifying facility having less than 40-kilowatt capacity may elect that the compensation for net input by the qualifying facility into the utility system shall be at the average retail utility energy rate. "Average retail utility energy rate" is defined as the average of the retail energy rates, exclusive of special rates based on income, age, or energy conservation, according to the applicable rate schedule of the utility for sales to that class of customer.

(e) If the qualifying facility or net metered facility is interconnected with a nongenerating utility which has a sole source contract with a municipal power agency or a generation and transmission utility, the nongenerating utility may elect to treat its purchase of any net input under this subdivision as being made on behalf of its supplier and shall be reimbursed by its supplier for any additional costs incurred in making the purchase. Qualifying facilities or net metered facilities having less than 1,000-kilowatt capacity if interconnected to a public utility, or less than 40-kilowatt capacity if interconnected to a cooperative electric association or municipal utility may, at the customer's option, elect to be governed by the provisions of subdivision 4.

(f) A customer with a qualifying facility or net metered facility having a capacity below 40 kilowatts that is interconnected to a cooperative electric association or a municipal utility may elect to be compensated for the customer's net input into the utility system in the form of a kilowatt-hour credit on the customer's energy bill carried forward and applied to subsequent energy bills. Any kilowatt-hour credits carried forward by the customer cancel at the end of the calendar year with no additional compensation.

Subd. 3a. Net metered facility. (a) Except for customers receiving a value of solar rate under subdivision 10, a customer with a net metered facility having a capacity of 40 kilowatts or greater but less than 1,000 kilowatts that is interconnected to a public utility may elect to be compensated for the customer's net input into the utility system in the form of a kilowatt-hour credit on the customer's energy bill carried forward and applied to subsequent energy bills. Any net input supplied by the customer into the utility system that exceeds energy supplied to the customer by the utility during a calendar year must be compensated at the applicable rate.

(b) A public utility may not impose a standby charge on a net metered or qualifying facility:

(1) of 100 kilowatts or less capacity; or

(2) of more than 100 kilowatts capacity, except in accordance with an order of the commission establishing the allowable costs to be recovered through standby charges.

Subd. 4. Purchases; wheeling; costs. (a) Except as otherwise provided in paragraph (c), this subdivision shall apply to all qualifying facilities having 40-kilowatt capacity or more as well as qualifying facilities as defined in subdivision 3 and net metered facilities under subdivision 3a, if interconnected to a cooperative electric association or municipal utility, or 1,000-kilowatt capacity or more if interconnected to a public utility, which elect to be governed by its provisions.

(b) The utility to which the qualifying facility is interconnected shall purchase all energy and capacity made available by the qualifying facility. The qualifying facility shall be paid the utility's full avoided capacity and energy costs as negotiated by the parties, as set by the commission, or as determined through competitive bidding approved by the commission. The full avoided capacity and energy costs to be paid a qualifying facility that generates electric power by means of a renewable energy source are the utility's least cost renewable energy facility or the bid of a competing supplier of a least cost renewable energy facility, whichever is lower, unless the commission's resource plan order, under section [216B.2422, subdivision 2](#), provides that the use of a renewable resource to meet the identified capacity need is not in the public interest.

(c) For all qualifying facilities having 30-kilowatt capacity or more, the utility shall, at the qualifying facility's or the utility's request, provide wheeling or exchange agreements wherever practicable to sell the qualifying facility's output to any other Minnesota utility having generation expansion anticipated or planned for the ensuing ten years. The commission shall establish the methods and procedures to insure that except for reasonable wheeling charges and line losses, the qualifying facility receives the full avoided energy and capacity costs of the utility ultimately receiving the output.

(d) The commission shall set rates for electricity generated by renewable energy.

Subd. 4a. Aggregation of meters. (a) For the purpose of measuring electricity under subdivisions 3 and 3a, a public utility must aggregate for billing purposes a customer's designated meter with one or more aggregated meters if a customer requests that it do so. To qualify for aggregation under this subdivision, a meter must be owned by the customer requesting the aggregation, must be located on contiguous property owned by the customer requesting the aggregation, and the total of all aggregated meters must be subject to the size limitation in this section.

(b) A public utility must comply with a request by a customer-generator to aggregate additional meters within 90 days. The specific meters must be identified at the time of the request. In the event that more than one meter is identified, the customer must designate the rank order for the aggregated meters to which the net metered credits are to be applied. At least 60 days prior to the

beginning of the next annual billing period, a customer may amend the rank order of the aggregated meters, subject to this subdivision.

(c) The aggregation of meters applies only to charges that use kilowatt-hours as the billing determinant. All other charges applicable to each meter account shall be billed to the customer.

(d) A public utility will first apply the kilowatt-hour credit to the charges for the designated meter and then to the charges for the aggregated meters in the rank order specified by the customer. If the net metered facility supplies more electricity to the public utility than the energy usage recorded by the customer-generator's designated and aggregated meters during a monthly billing period, the public utility shall apply credits to the customer's next monthly bill for the excess kilowatt-hours.

(e) With the commission's prior approval, a public utility may charge the customer-generator requesting to aggregate meters a reasonable fee to cover the administrative costs incurred in implementing the costs of this subdivision, pursuant to a tariff approved by the commission for a public utility.

Subd. 4b. Limiting cumulative generation. The commission may limit the cumulative generation of net metered facilities under subdivisions 3 and 3a. A public utility may request the commission to limit the cumulative generation of net metered facilities under subdivisions 3 and 3a upon a showing that such generation has reached four percent of the public utility's annual retail electricity sales. The commission may limit additional net metering obligations under this subdivision only after providing notice and opportunity for public comment. In determining whether to limit additional net metering obligations under this subdivision, the commission shall consider:

- (1) the environmental and other public policy benefits of net metered facilities;
- (2) the impact of net metered facilities on electricity rates for customers without net metered systems;
- (3) the effects of net metering on the reliability of the electric system;
- (4) technical advances or technical concerns; and
- (5) other statutory obligations imposed on the commission or on a utility.

The commission may limit additional net metering obligations under clauses (2) to (4) only if it determines that additional net metering obligations would cause significant rate impact, require significant measures to address reliability, or raise significant technical issues.

Subd. 4c. Individual system capacity limits. (a) A public utility that provides retail electric service may require customers with a facility of 40-kilowatt capacity or more and participating in net metering and net billing to limit the total generation capacity of individual distributed generation systems by either:

- (1) for wind generation systems, limiting the total generation system capacity kilowatt alternating current to 120 percent of the customer's on-site maximum electric demand; or
- (2) for solar photovoltaic and other distributed generation, limiting the total generation system annual energy production kilowatt hours alternating current to 120 percent of the customer's on-site annual electric energy consumption.

(b) Limits under paragraph (a) must be based on standard 15-minute intervals, measured during the previous 12 calendar months, or on a reasonable estimate of the average monthly maximum demand or average annual consumption if the customer has either:

- (1) less than 12 calendar months of actual electric usage; or
- (2) no demand metering available.

Subd. 5. Dispute; resolution. (a) In the event of disputes between a public utility and a qualifying facility, either party may request a determination of the issue by the commission. In any such determination, the burden of proof shall be on the public utility. The commission in its order resolving each such dispute shall require payments to the prevailing party of the prevailing party's costs, disbursements, and reasonable attorneys' fees, except that the qualifying facility will be required to pay the costs, disbursements, and attorneys' fees of the public utility only if the commission finds that the claims of the qualifying facility in the dispute have been made in bad faith, or are a sham, or are frivolous.

(b) Notwithstanding subdivisions 9 and 11, a qualifying facility over 20 megawatts may, until December 31, 2022, request that the commission resolve a dispute with any utility, including a cooperative electric association or municipal utility, under paragraph (a).

Subd. 6. Rules and uniform contract. (a) The commission shall promulgate rules to implement the provisions of this section. The commission shall also establish a uniform statewide form of contract for use between utilities and a net metered or qualifying facility having less than 1,000-kilowatt capacity if interconnected to a public utility or less than 40-kilowatt capacity if interconnected to a cooperative electric association or municipal utility.

(b) The commission shall require the qualifying facility to provide the utility with reasonable access to the premises and equipment of the qualifying facility if the particular configuration of the qualifying facility precludes disconnection or testing of the qualifying facility from the utility side of the interconnection with the utility remaining responsible for its personnel.

(c) The uniform statewide form of contract shall be applied to all new and existing interconnections established between a utility and a net metered or qualifying facility having less than 40-kilowatt capacity, except that existing contracts may remain in force until terminated by mutual agreement between both parties.

Subd. 7. [Repealed, [1994 c 465 art 1 s 27](#)]

Subd. 8. **Interconnection required; obligation for costs.** (a) Utilities shall be required to interconnect with a qualifying facility that offers to provide available energy or capacity and that satisfies the requirements of this section.

(b) Nothing contained in this section shall be construed to excuse the qualifying facility from any obligation for costs of interconnection and wheeling in excess of those normally incurred by the utility for customers with similar load characteristics who are not cogenerators or small power producers, or from any fixed charges normally assessed such nongenerating customers.

Subd. 9. **Municipal electric utility.** For purposes of this section only and with respect to municipal electric utilities only, the term "commission" means the governing body of each municipal electric utility that adopts and has in effect rules implementing this section which are consistent with the rules adopted by the Minnesota Public Utilities Commission under subdivision 6. As used in this subdivision, the governing body of a municipal electric utility means the city council of that municipality; except that, if another board, commission, or body is empowered by law or resolution of the city council or by its charter to establish and regulate rates and days for the distribution of electric energy within the service area of the city, that board, commission, or body shall be considered the governing body of the municipal electric utility.

Subd. 10. **Alternative tariff; compensation for resource value.** (a) A public utility may apply for commission approval for an alternative tariff that compensates customers through a bill credit mechanism for the value to the utility, its customers, and society for operating distributed solar photovoltaic resources interconnected to the utility system and operated by customers primarily for meeting their own energy needs.

(b) If approved, the alternative tariff shall apply to customers' interconnections occurring after the date of approval. The alternative tariff is in lieu of the applicable rate under subdivisions 3 and 3a.

(c) The commission shall after notice and opportunity for public comment approve the alternative tariff provided the utility has demonstrated the alternative tariff:

- (1) appropriately applies the methodology established by the department and approved by the commission under this subdivision;
- (2) includes a mechanism to allow recovery of the cost to serve customers receiving the alternative tariff rate;
- (3) charges the customer for all electricity consumed by the customer at the applicable rate schedule for sales to that class of customer;
- (4) credits the customer for all electricity generated by the solar photovoltaic device at the distributed solar value rate established under this subdivision;
- (5) applies the charges and credits in clauses (3) and (4) to a monthly bill that includes a provision so that the unused portion of the credit in any month or billing period shall be carried forward and credited against all charges. In the event that the customer has a positive balance after the 12-month cycle ending on the last day in February, that balance will be eliminated and the credit cycle will restart the following billing period beginning on March 1;
- (6) complies with the size limits specified in subdivision 3a;
- (7) complies with the interconnection requirements under section [216B.1611](#); and
- (8) complies with the standby charge requirements in subdivision 3a, paragraph (b).

(d) A utility must provide to the customer the meter and any other equipment needed to provide service under the alternative tariff.

(e) The department must establish the distributed solar value methodology in paragraph (c), clause (1), no later than January 31, 2014. The department must submit the methodology to the commission for approval. The commission must approve, modify with the consent of the department, or disapprove the methodology within 60 days of its submission. When developing the distributed solar value methodology, the department shall consult stakeholders with experience and expertise in power systems, solar energy, and electric utility ratemaking regarding the proposed methodology, underlying assumptions, and preliminary data.

(f) The distributed solar value methodology established by the department must, at a minimum, account for the value of energy and its delivery, generation capacity, transmission capacity, transmission and distribution line losses, and environmental value. The department may, based on known and measurable evidence of the cost or benefit of solar operation to the utility, incorporate other values into the methodology, including credit for locally manufactured or assembled energy systems, systems installed at high-value locations on the distribution grid, or other factors.

(g) The credit for distributed solar value applied to alternative tariffs approved under this section shall represent the present value of the future revenue streams of the value components identified in paragraph (f).

(h) The utility shall recalculate the alternative tariff on an annual cycle, and shall file the recalculated alternative tariff with the commission for approval.

- (i) Renewable energy credits for solar energy credited under this subdivision belong to the electric utility providing the credit.
- (j) The commission may not authorize a utility to charge an alternative tariff rate that is lower than the utility's applicable retail rate until three years after the commission approves an alternative tariff for the utility.
- (k) A utility must enter into a contract with an owner of a solar photovoltaic device receiving an alternative tariff rate under this section that has a term of at least 20 years, unless a shorter term is agreed to by the parties.
- (l) An owner of a solar photovoltaic device receiving an alternative tariff rate under this section must be paid the same rate per kilowatt-hour generated each year for the term of the contract.

Subd. 11. **Cooperative electric association.** (a) For purposes of this section only, the term "commission" means the board of directors of a cooperative association that (1) elects, by resolution, to assume the authority delegated to the Public Utilities Commission over cooperative electric associations under this section, and (2) adopts and has in effect rules implementing this section. The rules must provide for a process to resolve disputes that arise under this section, and must include a provision that a request by either party for mediation of the dispute by an independent third party must be implemented in accordance with paragraph (b). A cooperative electric association that has adopted a resolution and rules under this subdivision is exempt from regulation by the Public Utilities Commission under this section.

(b) In the event of a dispute between a cooperative electric association and one or more of its members, either party may request mediation of the dispute only after all attempts to settle the dispute under the cooperative electric association's dispute resolution process have been exhausted. The parties must mutually agree upon the selection of a mediator, who must be listed on the roster of neutrals for civil matters established by the state court administrator under [Rule 114.12](#) of Minnesota's General Rules of Practice for the District Courts. The cooperative electric association shall pay 90 percent of the cost of mediation, and the member or members who initiated the dispute shall pay ten percent of the cost of mediation.

(c) Except as provided in paragraph (d), any proceedings concerning the activities of a cooperative electric association under this section that are pending at the Public Utilities Commission on May 31, 2017, are terminated on that date.

(d) The Public Utilities Commission may complete its investigation in Docket No. 16-512 to assess whether the methodology used by cooperative associations to establish a fee under subdivision 3, paragraph (a), complies with state law if the commission determines that completing the investigation is necessary to protect the public interest, in which case it shall complete the investigation no later than December 31, 2017. A methodology that the commission determines complies with state law may not be challenged in a dispute under this section. If the commission determines that a methodology does not comply with state law, it shall clearly state the changes necessary to bring the methodology into compliance, and a cooperative electric association shall modify its methodology in accordance with the commission's directives.

(e) For a cooperative electric association that elects to operate under the provisions of paragraph (a), disputes arising under this section subsequent to a cooperative electric association's modification of its methodology under paragraph (d) shall be addressed under the cooperative association's rules and paragraph (b), as applicable.

History: [1981 c 237 s 1](#); [1983 c 301 s 166-171](#); [1984 c 640 s 32](#); [1991 c 315 s 1](#); [1993 c 356 s 1](#); [1996 c 305 art 2 s 38](#); [2013 c 85 art 9 s 1-10](#); [2013 c 125 art 1 s 39](#); [2013 c 132 s 1](#); [1Sp2015 c 1 art 3 s 21](#); [2017 c 94 art 10 s 5-8](#)