Form 5500-SF

Department of the Treasury
Internal Revenue Service

Department of Labor
Employee Benefits Security Administration

Pension Benefit Guaranty Corporation

Short Form Annual Return/Report of Small Employee Benefit Plan

This form is required to be filed under sections 104 and 4065 of the Employee Retirement Income Security Act of 1974 (ERISA), and sections 6057(b) and 6058(a) of the Internal Revenue Code (the Code).

▶ **Complete all entries in accordance with the instructions to the Form 5500-SF.**

OMB Nos. 1210-0110
1210-0089

2022

This Form is Open to Public Inspection

Part I Annual Report Identification Information

For calendar plan year 2022 or fiscal plan year beginning 04/01/2022 and ending 03/31/2023

A This return/report is for: [X] a single-employer plan [ ] a multiple-employer plan (not multiemployer) (Filers checking this box must attach a list of participating employer information in accordance with the form instructions.)

B This return/report is [ ] the first return/report [ ] the final return/report
[ ] an amended return/report [ ] a short plan year return/report (less than 12 months)

C Check box if filing under: [X] Form 5558 [ ] automatic extension [ ] DFVC program
[ ] special extension (enter description)

D If this is a retroactively adopted plan permitted by SECURE Act section 201, check here. . . . . ▶ [ ]

Part II Basic Plan Information—enter all requested information

1a Name of plan
THE RESTATED NONCONTRIBUTORY RETIREMENT PLAN FOR COOPERATIVES

1b Three-digit plan number (PN) ▶ 020

1c Effective date of plan 04/01/1997

2a Plan sponsor's name (employer, if for a single-employer plan)
Mailing address (include room, apt., suite no. and street, or P.O. Box)
City or town, state or province, country, and ZIP or foreign postal code (if foreign, see instructions)
FARMERS COOPERATIVE COMPANY

PO BOX 260
REMSEN, IA 51050

2b Employer Identification Number (EIN) 42-0242040

2c Sponsor's telephone number 712-786-1134

2d Business code (see instructions) 115110

3a Plan administrator's name and address [ ] Same as Plan Sponsor.
ASSOCIATED BENEFITS CORPORATION
1415 28TH STREET, SUITE 100
WEST DES MOINES, IA 50266-1450

3b Administrator's EIN 42-1279416

3c Administrator's telephone number 515-226-0303

4 If the name and/or EIN of the plan sponsor or the plan name has changed since the last return/report filed for this plan, enter the plan sponsor's name, EIN, the plan name and the plan number from the last return/report.
a Sponsor's name
c Plan Name

4b EIN

4d PN

5a Total number of participants at the beginning of the plan year	**5a**	54
b Total number of participants at the end of the plan year	**5b**	52
c Number of participants with account balances as of the end of the plan year (only defined contribution plans complete this item)	**5c**	
d(1) Total number of active participants at the beginning of the plan year	**5d(1)**	10
d(2) Total number of active participants at the end of the plan year	**5d(2)**	9
e Number of participants who terminated employment during the plan year with accrued benefits that were less than 100% vested	**5e**	0

Caution: A penalty for the late or incomplete filing of this return/report will be assessed unless reasonable cause is established.

Under penalties of perjury and other penalties set forth in the instructions, I declare that I have examined this return/report, including, if applicable, a Schedule SB or Schedule MB completed and signed by an enrolled actuary, as well as the electronic version of this return/report, and to the best of my knowledge and belief, it is true, correct, and complete.

SIGN HERE	Filed with authorized/valid electronic signature.	01/02/2024	KELLY HAYERTZ
	Signature of plan administrator	Date	Enter name of individual signing as plan administrator
SIGN HERE	Filed with authorized/valid electronic signature.	01/04/2024	MIKE THOMPSON
	Signature of employer/plan sponsor	Date	Enter name of individual signing as employer or plan sponsor

6a Were all of the plan's assets during the plan year invested in eligible assets? (See instructions.) [X] Yes [ ] No

b Are you claiming a waiver of the annual examination and report of an independent qualified public accountant (IQPA) under 29 CFR 2520.104-46? (See instructions on waiver eligibility and conditions.) [X] Yes [ ] No

If you answered "No" to either line 6a or line 6b, the plan cannot use Form 5500-SF and must instead use Form 5500.

c If the plan is a defined benefit plan, is it covered under the PBGC insurance program (see ERISA section 4021)? [X] Yes [ ] No [ ] Not determined

If "Yes" is checked, enter the My PAA confirmation number from the PBGC premium filing for this plan year 493536. (See instructions.)

Part III Financial Information

7 Plan Assets and Liabilities		(a) Beginning of Year	(b) End of Year
a Total plan assets	7a	2473292	2198786
b Total plan liabilities	7b		
c Net plan assets (subtract line 7b from line 7a)	7c	2473292	2198786
8 Income, Expenses, and Transfers for this Plan Year		**(a) Amount**	**(b) Total**
a Contributions received or receivable from: (1) Employers	8a(1)	87500	
(2) Participants	8a(2)		
(3) Others (including rollovers)	8a(3)		
b Other income (loss)	8b	-179661	
c Total income (add lines 8a(1), 8a(2), 8a(3), and 8b)	8c		-92161
d Benefits paid (including direct rollovers and insurance premiums to provide benefits)	8d	158376	
e Certain deemed and/or corrective distributions (see instructions)	8e		
f Administrative service providers (salaries, fees, commissions)	8f	4637	
g Other expenses	8g	19332	
h Total expenses (add lines 8d, 8e, 8f, and 8g)	8h		182345
i Net income (loss) (subtract line 8h from line 8c)	8i		-274506
j Transfers to (from) the plan (see instructions)	8j		

Part IV Plan Characteristics

9a If the plan provides pension benefits, enter the applicable pension feature codes from the List of Plan Characteristic Codes in the instructions:
1A 1I

b If the plan provides welfare benefits, enter the applicable welfare feature codes from the List of Plan Characteristic Codes in the instructions:

Part V Compliance Questions

10 During the plan year:		Yes	No	Amount
a Was there a failure to transmit to the plan any participant contributions within the time period described in 29 CFR 2510.3-102? (See instructions and DOL's Voluntary Fiduciary Correction Program)	10a		X	
b Were there any nonexempt transactions with any party-in-interest? (Do not include transactions reported on line 10a.)	10b		X	
c Was the plan covered by a fidelity bond?	10c	X		500000
d Did the plan have a loss, whether or not reimbursed by the plan's fidelity bond, that was caused by fraud or dishonesty?	10d		X	
e Were any fees or commissions paid to any brokers, agents, or other persons by an insurance carrier, insurance service, or other organization that provides some or all of the benefits under the plan? (See instructions.)	10e		X	
f Has the plan failed to provide any benefit when due under the plan?	10f		X	
g Did the plan have any participant loans? (If "Yes," enter amount as of year-end.)	10g		X	
h If this is an individual account plan, was there a blackout period? (See instructions and 29 CFR 2520.101-3.)	10h			
i If 10h was answered "Yes," check the box if you either provided the required notice or one of the exceptions to providing the notice applied under 29 CFR 2520.101-3	10i			

Part VI Pension Funding Compliance

11 Is this a defined benefit plan subject to minimum funding requirements? (If "Yes," see instructions and complete Schedule SB (Form 5500) and lines 11a and b below.) If this is a defined contribution pension plan, leave line 11 blank and complete line 12 below. ☒ Yes ☐ No

a Enter the unpaid minimum required contributions for all years from Schedule SB (Form 5500) line 40 | **11a** | 0

b **PBGC missed contribution reporting requirements.** If the plan is covered by PBGC and the amount reported on line 11a is greater than $0, has PBGC been notified as required by ERISA sections 4043(c)(5) and/or 303(k)(4)? Check the applicable box:

☐ Yes.

☐ No. Reporting was waived under 29 CFR 4043.25(c)(2) because contributions equal to or exceeding the unpaid minimum required contribution were made by the 30th day after the due date.

☐ No. The 30-day period referenced in 29 CFR 4043.25(c)(2) has not yet ended, and the sponsor intends to make a contribution equal to or exceeding the unpaid minimum required contribution by the 30th day after the due date.

☐ No. Other. Provide explanation _____

12 Is this a defined contribution plan subject to the minimum funding requirements of section 412 of the Code or section 302 of ERISA? (If "Yes," complete line 12a or lines 12b, 12c, 12d, and 12e below, as applicable.) If this is a defined benefit pension plan, leave line 12 blank and complete line 11 above. ☐ Yes ☒ No

a If a waiver of the minimum funding standard for a prior year is being amortized in this plan year, see instructions, and enter the date of the letter ruling granting the waiver. Month _____ Day _____ Year _____

If you completed line 12a, complete lines 3, 9, and 10 of Schedule MB (Form 5500), and skip to line 13.

b Enter the minimum required contribution for this plan year	**12b**	
c Enter the amount contributed by the employer to the plan for this plan year	**12c**	
d Subtract the amount in line 12c from the amount in line 12b. Enter the result (enter a minus sign to the left of a negative amount)	**12d**	
e Will the minimum funding amount reported on line 12d be met by the funding deadline?		☐ Yes ☐ No ☐ N/A

Part VII Plan Terminations and Transfers of Assets

13a Has a resolution to terminate the plan been adopted in any plan year?		☐ Yes ☒ No
If "Yes," enter the amount of any plan assets that reverted to the employer this year	**13a**	
b Were all the plan assets distributed to participants or beneficiaries, transferred to another plan, or brought under the control of the PBGC?		☐ Yes ☒ No

c If, during this plan year, any assets or liabilities were transferred from this plan to another plan(s), identify the plan(s) to which assets or liabilities were transferred. (See instructions.)

13c(1) Name of plan(s):	**13c(2)** EIN(s)	**13c(3)** PN(s)

SCHEDULE SB (Form 5500)

Department of the Treasury
Internal Revenue Service

Department of Labor
Employee Benefits Security Administration

Pension Benefit Guaranty Corporation

Single-Employer Defined Benefit Plan Actuarial Information

This schedule is required to be filed under section 104 of the Employee Retirement Income Security Act of 1974 (ERISA) and section 6059 of the Internal Revenue Code (the Code).

▶ **File as an attachment to Form 5500 or 5500-SF.**

OMB No. 1210-0110

2022

This Form is Open to Public Inspection

For calendar plan year 2022 or fiscal plan year beginning 04/01/2022 and ending 03/31/2023

▶ **Round off amounts to nearest dollar.**

▶ **Caution:** A penalty of $1,000 will be assessed for late filing of this report unless reasonable cause is established.

A Name of plan
THE RESTATED NONCONTRIBUTORY RETIREMENT PLAN FOR COOPERATIVES

B Three-digit plan number (PN) ▶ 020

C Plan sponsor's name as shown on line 2a of Form 5500 or 5500-SF
FARMERS COOPERATIVE COMPANY

D Employer Identification Number (EIN)
42-0242040

E Type of plan: [X] Single [ ] Multiple-A [ ] Multiple-B

F Prior year plan size: [X] 100 or fewer [ ] 101-500 [ ] More than 500

Part I Basic Information

1 Enter the valuation date: Month 04 Day 01 Year 2022

2 Assets:

a Market value	**2a**	2536819
b Actuarial value	**2b**	2329668

3 Funding target/participant count breakdown

	(1) Number of participants	(2) Vested Funding Target	(3) Total Funding Target
a For retired participants and beneficiaries receiving payment	19	1477155	1477155
b For terminated vested participants	25	698344	698344
c For active participants	10	233852	264499
d Total	54	2409351	2439998

4 If the plan is in at-risk status, check the box and complete lines (a) and (b) [ ]

a Funding target disregarding prescribed at-risk assumptions	**4a**	
b Funding target reflecting at-risk assumptions, but disregarding transition rule for plans that have been in at-risk status for fewer than five consecutive years and disregarding loading factor	**4b**	
5 Effective interest rate	**5**	5.51 %
6 Target normal cost		
a Present value of current plan year accruals	**6a**	0
b Expected plan-related expenses	**6b**	8391
c Total (line 6a + line 6b)	**6c**	8391

Statement by Enrolled Actuary

To the best of my knowledge, the information supplied in this schedule and accompanying schedules, statements and attachments, if any, is complete and accurate. Each prescribed assumption was applied in accordance with applicable law and regulations. In my opinion, each other assumption is reasonable (taking into account the experience of the plan and reasonable expectations) and such other assumptions, in combination, offer my best estimate of anticipated experience under the plan.

SIGN HERE

Signature of actuary — Date: 12/20/2023

MARK A HENDRICKS — Type or print name of actuary

23-05452 — Most recent enrollment number

MERCER — Firm name

816-556-4800 — Telephone number (including area code)

2405 GRAND BLVD, SUITE 900
KANSAS CITY, MO 64108

Address of the firm

If the actuary has not fully reflected any regulation or ruling promulgated under the statute in completing this schedule, check the box and see instructions [ ]

Part II Beginning of Year Carryover and Prefunding Balances

		(a) Carryover balance	(b) Prefunding balance
7	Balance at beginning of prior year after applicable adjustments (line 13 from prior year)	0	133794
8	Portion elected for use to offset prior year's funding requirement (line 35 from prior year)	0	42000
9	Amount remaining (line 7 minus line 8)	0	91794
10	Interest on line 9 using prior year's actual return of 5.77 %	0	5297
11	Prior year's excess contributions to be added to prefunding balance:		
	a Present value of excess contributions (line 38a from prior year)		117698
	b(1) Interest on the excess, if any, of line 38a over line 38b from prior year Schedule SB, using prior year's effective interest rate of 5.70 %		4311
	b(2) Interest on line 38b from prior year Schedule SB, using prior year's actual return		2424
	c Total available at beginning of current plan year to add to prefunding balance		124433
	d Portion of (c) to be added to prefunding balance		124433
12	Other reductions in balances due to elections or deemed elections	0	0
13	Balance at beginning of current year (line 9 + line 10 + line 11d – line 12)	0	221524

Part III Funding Percentages

14	Funding target attainment percentage	14	86.39 %
15	Adjusted funding target attainment percentage	15	86.39 %
16	Prior year's funding percentage for purposes of determining whether carryover/prefunding balances may be used to reduce current year's funding requirement	16	84.45 %
17	If the current value of the assets of the plan is less than 70 percent of the funding target, enter such percentage.	17	%

Part IV Contributions and Liquidity Shortfalls

18 Contributions made to the plan for the plan year by employer(s) and employees:

(a) Date (MM-DD-YYYY)	(b) Amount paid by employer(s)	(c) Amount paid by employees	(a) Date (MM-DD-YYYY)	(b) Amount paid by employer(s)	(c) Amount paid by employees
01/10/2023	7500	0	07/11/2023	7500	0
02/08/2023	7500	0	07/31/2023	6000	0
03/06/2023	7500	0	09/05/2023	6000	0
04/03/2023	7500	0	10/11/2023	6000	0
05/09/2023	7500	0	11/07/2023	6000	0
06/05/2023	7500	0	12/05/2023	6000	0
			Totals ► 18(b)	82500	18(c) 0

19	Discounted employer contributions – see instructions for small plan with a valuation date after the beginning of the year:		
	a Contributions allocated toward unpaid minimum required contributions from prior years	19a	0
	b Contributions made to avoid restrictions adjusted to valuation date.	19b	0
	c Contributions allocated toward minimum required contribution for current year adjusted to valuation date.	19c	77369

20 Quarterly contributions and liquidity shortfalls:

a Did the plan have a "funding shortfall" for the prior year? [X] Yes [ ] No

b If line 20a is "Yes," were required quarterly installments for the current year made in a timely manner? [X] Yes [ ] No

c If line 20a is "Yes," see instructions and complete the following table as applicable:

Liquidity shortfall as of end of quarter of this plan year

(1) 1st	(2) 2nd	(3) 3rd	(4) 4th
0	0	0	0

Part V Assumptions Used to Determine Funding Target and Target Normal Cost

21 Discount rate:

	1st segment:	2nd segment:	3rd segment:	
a Segment rates:	4.75 %	5.18 %	5.92 %	☐ N/A, full yield curve used

b Applicable month (enter code)	**21b**	0
22 Weighted average retirement age	**22**	63

23 Mortality table(s) (see instructions) ☐ Prescribed - combined ☒ Prescribed - separate ☐ Substitute

Part VI Miscellaneous Items

24 Has a change been made in the non-prescribed actuarial assumptions for the current plan year? If "Yes," see instructions regarding required attachment. ☐ Yes ☒ No

25 Has a method change been made for the current plan year? If "Yes," see instructions regarding required attachment. ☐ Yes ☒ No

26 Demographic and benefit information

a Is the plan required to provide a Schedule of Active Participants? If "Yes," see instructions regarding required attachment. ☒ Yes ☐ No

b Is the plan required to provide a projection of expected benefit payments? If "Yes," see instructions regarding required attachment ☐ Yes ☒ No

27 If the plan is subject to alternative funding rules, enter applicable code and see instructions regarding attachment	**27**	

Part VII Reconciliation of Unpaid Minimum Required Contributions For Prior Years

28 Unpaid minimum required contributions for all prior years	**28**	0
29 Discounted employer contributions allocated toward unpaid minimum required contributions from prior years (line 19a)	**29**	0
30 Remaining amount of unpaid minimum required contributions (line 28 minus line 29)	**30**	0

Part VIII Minimum Required Contribution For Current Year

31 Target normal cost and excess assets (see instructions):

a Target normal cost (line 6c)	**31a**	8391
b Excess assets, if applicable, but not greater than line 31a	**31b**	0

32 Amortization installments:	Outstanding Balance	Installment
a Net shortfall amortization installment	331854	34039
b Waiver amortization installment	0	0

33 If a waiver has been approved for this plan year, enter the date of the ruling letter granting the approval (Month _____ Day _____ Year _____) and the waived amount	**33**	
34 Total funding requirement before reflecting carryover/prefunding balances (lines 31a - 31b + 32a + 32b - 33)	**34**	42430

	Carryover balance	Prefunding balance	Total balance
35 Balances elected for use to offset funding requirement	0	39000	39000

36 Additional cash requirement (line 34 minus line 35)	**36**	3430
37 Contributions allocated toward minimum required contribution for current year adjusted to valuation date (line 19c)	**37**	77369

38 Present value of excess contributions for current year (see instructions)

a Total (excess, if any, of line 37 over line 36)	**38a**	73939
b Portion included in line 38a attributable to use of prefunding and funding standard carryover balances	**38b**	39000
39 Unpaid minimum required contribution for current year (excess, if any, of line 36 over line 37)	**39**	0
40 Unpaid minimum required contributions for all years	**40**	0

Part IX Pension Funding Relief Under the American Rescue Plan Act of 2021 (See Instructions)

41 If an election was made to use the extended amortization rule for a plan year beginning on or before December 31, 2021, check the box to indicate the first plan year for which the rule applies. ☐ 2019 ☒ 2020 ☐ 2021

SCHEDULE SB (Form 5500)

Department of the Treasury
Internal Revenue Service

Department of Labor
Employee Benefits Security Administration

Pension Benefit Guaranty Corporation

Single-Employer Defined Benefit Plan Actuarial Information

This schedule is required to be filed under section 104 of the Employee Retirement Income Security Act of 1974 (ERISA) and section 6059 of the Internal Revenue Code (the Code).

▶ **File as an attachment to Form 5500 or 5500-SF.**

OMB No. 1210-0110

2022

This Form is Open to Public Inspection

For calendar plan year 2022 or fiscal plan year beginning 04/01/2022 and ending 03/31/2023

▶ **Round off amounts to nearest dollar.**

▶ **Caution:** A penalty of $1,000 will be assessed for late filing of this report unless reasonable cause is established.

A Name of plan
THE RESTATED NONCONTRIBUTORY RETIREMENT PLAN FOR COOPERATIVES

B Three-digit plan number (PN) ▶ 020

C Plan sponsor's name as shown on line 2a of Form 5500 or 5500-SF
FARMERS COOPERATIVE COMPANY

D Employer Identification Number (EIN)
42-0242040

E Type of plan: [X] Single [ ] Multiple-A [ ] Multiple-B

F Prior year plan size: [X] 100 or fewer [ ] 101-500 [ ] More than 500

Part I Basic Information

1 Enter the valuation date: Month 04 Day 01 Year 2022

2 Assets:

a Market value	**2a**	2,536,819
b Actuarial value	**2b**	2,329,668

3 Funding target/participant count breakdown

	(1) Number of participants	(2) Vested Funding Target	(3) Total Funding Target
a For retired participants and beneficiaries receiving payment	19	1,477,155	1,477,155
b For terminated vested participants	25	698,344	698,344
c For active participants	10	233,852	264,499
d Total	54	2,409,351	2,439,998

4 If the plan is in at-risk status, check the box and complete lines (a) and (b) [ ]

a Funding target disregarding prescribed at-risk assumptions	**4a**	
b Funding target reflecting at-risk assumptions, but disregarding transition rule for plans that have been in at-risk status for fewer than five consecutive years and disregarding loading factor	**4b**	
5 Effective interest rate	**5**	5.51%
6 Target normal cost		
a Present value of current plan year accruals	**6a**	0
b Expected plan-related expenses	**6b**	8,391
c Total (line 6a + line 6b)	**6c**	8,391

Statement by Enrolled Actuary

To the best of my knowledge, the information supplied in this schedule and accompanying schedules, statements and attachments, if any, is complete and accurate. Each prescribed assumption was applied in accordance with applicable law and regulations. In my opinion, each other assumption is reasonable (taking into account the experience of the plan and reasonable expectations) and such other assumptions, in combination, offer my best estimate of anticipated experience under the plan.

SIGN HERE

MARK A HENDRICKS MH — Signature of actuary

12-20-2023 — Date

MARK A HENDRICKS — Type or print name of actuary

2305452 — Most recent enrollment number

MERCER — Firm name

816-556-4800 — Telephone number (including area code)

2405 GRAND BLVD, SUITE 900

KANSAS CITY MO 64108 — Address of the firm

If the actuary has not fully reflected any regulation or ruling promulgated under the statute in completing this schedule, check the box and see instructions [ ]

Part II Beginning of Year Carryover and Prefunding Balances

		(a) Carryover balance	(b) Prefunding balance
7	Balance at beginning of prior year after applicable adjustments (line 13 from prior year)	0	133,794
8	Portion elected for use to offset prior year's funding requirement (line 35 from prior year)	0	42,000
9	Amount remaining (line 7 minus line 8)	0	91,794
10	Interest on line 9 using prior year's actual return of 5.77 %	0	5,297
11	Prior year's excess contributions to be added to prefunding balance:		
	a Present value of excess contributions (line 38a from prior year)		117,698
	b(1) Interest on the excess, if any, of line 38a over line 38b from prior year Schedule SB, using prior year's effective interest rate of 5.70 %		4,311
	b(2) Interest on line 38b from prior year Schedule SB, using prior year's actual return		2,424
	c Total available at beginning of current plan year to add to prefunding balance		124,433
	d Portion of (c) to be added to prefunding balance		124,433
12	Other reductions in balances due to elections or deemed elections	0	0
13	Balance at beginning of current year (line 9 + line 10 + line 11d – line 12)	0	221,524

Part III Funding Percentages

14	Funding target attainment percentage	14	86.39 %
15	Adjusted funding target attainment percentage	15	86.39 %
16	Prior year's funding percentage for purposes of determining whether carryover/prefunding balances may be used to reduce current year's funding requirement	16	84.45 %
17	If the current value of the assets of the plan is less than 70 percent of the funding target, enter such percentage	17	%

Part IV Contributions and Liquidity Shortfalls

18 Contributions made to the plan for the plan year by employer(s) and employees:

(a) Date (MM-DD-YYYY)	(b) Amount paid by employer(s)	(c) Amount paid by employees	(a) Date (MM-DD-YYYY)	(b) Amount paid by employer(s)	(c) Amount paid by employees
01/10/2023	7,500	0			
02/08/2023	7,500	0			
03/06/2023	7,500	0			
04/03/2023	7,500	0			
05/09/2023	7,500	0			
06/05/2023	7,500	0			
07/11/2023	7,500	0			
07/31/2023	6,000	0			
09/05/2023	6,000	0			
10/11/2023	6,000	0			
11/07/2023	6,000	0			
12/05/2023	6,000	0			
			Totals ► 18(b)	82,500	18(c) 0

19	Discounted employer contributions – see instructions for small plan with a valuation date after the beginning of the year:		
	a Contributions allocated toward unpaid minimum required contributions from prior years	19a	0
	b Contributions made to avoid restrictions adjusted to valuation date	19b	0
	c Contributions allocated toward minimum required contribution for current year adjusted to valuation date	19c	77,369

20 Quarterly contributions and liquidity shortfalls:

a Did the plan have a "funding shortfall" for the prior year? [X] Yes [ ] No

b If line 20a is "Yes," were required quarterly installments for the current year made in a timely manner? [X] Yes [ ] No

c If line 20a is "Yes," see instructions and complete the following table as applicable:

Liquidity shortfall as of end of quarter of this plan year

(1) 1st	(2) 2nd	(3) 3rd	(4) 4th
0	0	0	0

Part V Assumptions Used to Determine Funding Target and Target Normal Cost

21 Discount rate:

a Segment rates:

1st segment:	2nd segment:	3rd segment:	☐ N/A, full yield curve used
4.75 %	5.18 %	5.92 %	

b Applicable month (enter code)	**21b**	0
22 Weighted average retirement age	**22**	63

23 Mortality table(s) (see instructions) ☐ Prescribed - combined ☒ Prescribed - separate ☐ Substitute

Part VI Miscellaneous Items

24 Has a change been made in the non-prescribed actuarial assumptions for the current plan year? If "Yes," see instructions regarding required attachment. ☐ Yes ☒ No

25 Has a method change been made for the current plan year? If "Yes," see instructions regarding required attachment. ☐ Yes ☒ No

26 Demographic and benefit information

a Is the plan required to provide a Schedule of Active Participants? If "Yes," see instructions regarding required attachment. ☒ Yes ☐ No

b Is the plan required to provide a projection of expected benefit payments? If "Yes," see instructions regarding required attachment ... ☐ Yes ☒ No

27 If the plan is subject to alternative funding rules, enter applicable code and see instructions regarding attachment	**27**	

Part VII Reconciliation of Unpaid Minimum Required Contributions For Prior Years

28 Unpaid minimum required contributions for all prior years	**28**	0
29 Discounted employer contributions allocated toward unpaid minimum required contributions from prior years (line 19a)	**29**	0
30 Remaining amount of unpaid minimum required contributions (line 28 minus line 29)	**30**	0

Part VIII Minimum Required Contribution For Current Year

31 Target normal cost and excess assets (see instructions):		
a Target normal cost (line 6c)	**31a**	8,391
b Excess assets, if applicable, but not greater than line 31a	**31b**	0

32 Amortization installments:	Outstanding Balance	Installment
a Net shortfall amortization installment	331,854	34,039
b Waiver amortization installment	0	0

33 If a waiver has been approved for this plan year, enter the date of the ruling letter granting the approval (Month _____ Day _____ Year _____) and the waived amount	**33**	
34 Total funding requirement before reflecting carryover/prefunding balances (lines 31a - 31b + 32a + 32b - 33)	**34**	42,430

	Carryover balance	Prefunding balance	Total balance
35 Balances elected for use to offset funding requirement	0	39,000	39,000

36 Additional cash requirement (line 34 minus line 35)	**36**	3,430
37 Contributions allocated toward minimum required contribution for current year adjusted to valuation date (line 19c)	**37**	77,369
38 Present value of excess contributions for current year (see instructions)		
a Total (excess, if any, of line 37 over line 36)	**38a**	73,939
b Portion included in line 38a attributable to use of prefunding and funding standard carryover balances	**38b**	39,000
39 Unpaid minimum required contribution for current year (excess, if any, of line 36 over line 37)	**39**	0
40 Unpaid minimum required contributions for all years	**40**	0

Part IX Pension Funding Relief Under the American Rescue Plan Act of 2021 (See Instructions)

41 If an election was made to use the extended amortization rule for a plan year beginning on or before December 31, 2021, check the box to indicate the first plan year for which the rule applies. ☐ 2019 ☒ 2020 ☐ 2021

Schedule SB, line 22 — Description of Weighted Average Retirement Age

(A) Age	(B) Retirement rate	(C) Lx table
55	6.00%	100,000.00
56	5.00%	94,000.00
57	5.00%	89,300.00
58	5.00%	84,835.00
59	5.00%	80,593.25
60	6.00%	76,563.59
61	6.00%	71,969.77
62	15.00%	67,651.59
63	15.00%	57,503.85
64	15.00%	48,878.27
65	40.00%	41,546.53
66	40.00%	24,927.92
67	35.00%	14,956.75
68	35.00%	9,721.89
69	35.00%	6,319.23
70	100.00%	4,107.50
Average		62.73
Retirement Age		

Schedule SB, Part V — Summary of Plan Provisions

Mercer has used and relied on the plan documents, including amendments, and interpretations of plan provisions, supplied by Associated Benefits Corporation as summarized below. Associated Benefits Corporation is solely responsible for the validity, accuracy and comprehensiveness of this information. If any plan provisions supplied are not accurate and complete, the results of any calculation may differ significantly from the results that would be obtained with accurate and complete information. Moreover, plan documents may be susceptible to different interpretations, each of which could be reasonable, and the results of estimates under each of the different interpretations could vary.

The following is a summary of what we understand to be the most relevant plan provisions for purposes of actuarial valuations. This summary should not be used for purposes of determining benefits under the plan.

Summary of major plan provisions– Contributory

Effective date	May 1, 1953; amended to comply with ERISA effective May 1, 1975; restated January 1, 2017.
Participation date	April 1 and October 1
Plan year	April 1 through March 31
Eligibility	Employer chooses: Employees who work at least 1,000 hours per year are eligible on the April 1st or October 1st following attainment of age 21 and completion of four months of employment. Employees are eligible on the April 1st or October 1st following attainment of age 21. Landus Cooperative (Group 78) – New employees hired on or after September 1, 2009 are not eligible to participate. For former West Central Cooperative (Group 138) – New employees hired on or after January 1, 2006 are not eligible to participate. Five Star Cooperative (Group 168) – Eligibility is attainment of age 18. United Farmers Cooperative (Group 175) – Employees of Penwell Grain Co. and Group 472 are not eligible to participate. United Services Association (Group 193) – New employees hired on or after March 31, 2007 are not eligible to participate. Accruals were frozen January 1, 2020.
Employee contribution	Cedar County Cooperative (Group 121) – Contributions are currently suspended. United Farmers Cooperative (Group 175) – Effective January 1, 2017, employees contribute 1% of their monthly earnings. Heartland Co-op (Group 282) – Effective July 1, 2021, employees contribute 2% of their monthly earnings. Central Valley Ag (Group 327) – Prior to July 1, 2009, employees contributed 3% of their monthly earnings. From July 1, 2009 through August 31, 2014, employees contributed 5% of their monthly earnings. From September 1, 2014 through July 31, 2020, employees contributed 4% of their monthly earnings. From August 1, 2020 through June 30, 2021, employees contribute 2% of their monthly earnings. Effective July 1, 2021, employees contribute 3% of their monthly earnings. All other groups - employees contribute 2¾% of their monthly earnings. Several contributory groups currently waive the employee contribution requirement.

Schedule SB, Part V — Summary of Plan Provisions

Contribution account	An account is established for each participant consisting of his employee contributions with interest through April 30, 1975. Employee contributions after May 1, 1975 are added to the Account and the Account is credited with interest. Effective for plan years after March 31, 1988, interest shall be credited at the annual rate of 120% of the Federal mid-term rate for April of the plan year. For 2020, this rate was 1.19%. For 2021, this rate is 1.07%.
Monthly earnings	Monthly Earnings are calculated by dividing the prior calendar year total earnings by the number of weeks worked and multiplying the result times 4 1/3 to obtain a monthly rate. Earnings are limited to $200,000 per year indexed as provided for by law – limit for 2021 is $290,000.
Average monthly earnings	Plan benefits are computed using the average of the monthly earnings for the highest five consecutive years prior to termination.
Credited service	Prior to May 1, 1975, Credited Service is the number of years and months from date of hire. Since May 1, 1975, Credited Service is the number of 1,000-hour plan years. If less than 1,000 hours in year of hire or termination, partial credit is given equal to the number of full months worked divided by 12. Employers who adopt the Plan choose whether to grant Credited Service prior to date of adoption.
Normal retirement date	Participants are entitled to retire and receive their full pension benefit on the first of the month coincident with or immediately following their 65th birthday.
Normal retirement benefit	The monthly pension is equal to the percent of Average Monthly Earnings specified in the Employer's Adoption Agreement multiplied by years of Credited Service. The following employers (by group number) have selected a 1.25% benefit accrual formula: 175 and 282. The following employers (by group number) have selected a 1.35% benefit accrual formula: 121. The following employers (by group number) have selected the 1.55% post March 31, 1994 accrual formula: 32, 78, 168, and 328. The following employers (by group number) have selected the 1.65% post March 31, 1994 accrual formula: 81 and 193. Participants have a minimum benefit equal to the accrued benefit frozen as of 3/31/1994 under the prior contributory formula (1.1% of Average Monthly Earnings up to $400 PLUS 1.65% of Average Monthly Earnings in excess of $400 multiplied by Credited Service) PLUS the future benefit percent of Average Monthly Earnings specified in the Employer's Adoption Agreement multiplied by years of Credited Service after April 1, 1994. Prairie Ag Cooperative (Group 32) – Accruals frozen as of February 28, 2018. Landus Cooperative (Group 78) – Accruals frozen for most participants as of September 1, 2020. United Services Association (Group 193) – Accruals frozen as of January 1, 2020. Central Valley Ag (Group 327) – the monthly pension is equal to 1.25% of Average Monthly Earnings multiplied by years of Credited Service through June 30, 2009, plus 1.75% of Average Monthly Earnings multiplied by Years of Credited Service from July 1, 2009 through July 31, 2020, plus 1.00% of Average Monthly Earnings multiplied by Years of Credited Service from

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	August 1, 2020 through June 30, 2021, plus 1.50% of Average Monthly Earnings multiplied by Years of Credited Service after July 1, 2021. For plan years after March 31, 1994, participants are guaranteed a minimum accrual for each plan year. The minimum accrual is equal to one-half of the accrual on the benefit formulas since April 1, 1994 PLUS the benefit deemed to be purchased by employee contributions made since April 1, 1994 under IRC Section 411(c)(2).
Form of monthly retirement income	The standard form of receiving monthly retirement income will be for a participant's lifetime. However, if the participant is married and unless he specifically elects the standard form or another alternate form of benefit and his spouse consents, his benefits will be paid on a joint and 50% survivorship basis with 120 guaranteed payments.
Optional forms	Lifetime with 60, 120 or 180 payments guaranteed. Joint and ½, 2/3, ¾ or full, with 120 payments guaranteed. 60, 120 or 180 guaranteed payments only. Lump sum, if actuarial value is less than $5,000.
Optional form conversion factors	For lifetime annuities: Effective April 1, 2022, 4.5% and the Pri-2012 mortality table, projected to 2035 using MP-2020 improvement scale, blended 75% male and 25% female for participants, 25% male and 75% female for beneficiaries. Previously, 8% and the 1984 Unisex Pension Mortality Table. For lump sum and certain only annuities: the applicable interest rate under Internal Revenue Code 417(e)(3)(C) for the third calendar month preceding the month that contains the distribution and the applicable mortality table published in accordance with Internal Revenue Code Section 417(e)(3)(B).
Early retirement benefit	A participant may retire at (i) age 55 with 10 years of service, (ii) age 62 with five years of service, or (iii) any time after the sum of his attained age and service is 85 or more provided that he has at least 20 years of Credited Service and his last five years of service count as Credited Service. The benefit is calculated in the same manner as the normal retirement benefit, based on Credited Service to early retirement. If the participant qualifies under the rule of 85 described in (iii) above, there is no reduction in the benefit. Otherwise, the benefit is reduced 1/300 for each month by which the early retirement date precedes age 62.
Termination benefit (vested)	Participants who terminate employment after completing five years of service are 100% vested in their accrued benefit which is payable at age 65.

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	Employers with this vesting schedule (by group number): 32, 78, 81, 121, 168, 175, 193, 282, 327 and 328. Participants who are not vested are entitled to their Employee Contribution Benefit payable at age 65. At the time of termination, a participant may, by written request receive his Contribution Account. His accrued benefit is reduced by the portion of the benefit funded by his Contribution Account. A terminated participant with 5 or more years of Service but less than 10 years of Service may elect immediate commencement of the vested benefit any time after attaining age 62, without reduction. A terminated participant with 10 or more years of Service may elect immediate commencement of the vested benefit any time after attaining age 55, reduced by 1/300th for each month of the commencement date precedes age 62. No reduction applies if the participant meets the Rule of 85 described above.
Death benefit	The spouse or beneficiary of a participant who dies after becoming eligible for early or normal retirement is entitled to receive a death benefit equal to the greater of the Actuarial Value of i) the survivor income payable had the participant retired and elected the joint and 100% survivor option on the first day of the month preceding his death, and ii) the participant's accrued benefit payable for 60 months. If an active participant dies prior to meeting eligibility requirements for early or normal retirement, the spouse or beneficiary is entitled to receive a death benefit equal to the greater of the Actuarial Value of i) the survivor income payable had the participant terminated employment and immediately begun receiving benefits under 50% Joint & Survivor option, and ii) the member's accrued benefit payable for 60 months. If survived by a spouse, the death benefit is paid as a life annuity equivalent in value to the greater of the Actuarial Values. The spouse may elect to receive the benefit as a 60 month certain annuity. If not survived by a spouse, the death benefit is paid as a 60 month annuity. Such death benefit shall be paid first to the beneficiary designated by the participant. If no beneficiary is designated, it is paid first to the surviving spouse; if there is no surviving spouse, then in equal parts to the surviving children of the member; or if there are no surviving children, then in equal parts to the surviving parents of the member; or if there are no surviving parents, then in equal parts to the surviving siblings of the member. The death benefit is payable to the member's estate if the member is not survived by a spouse, child, parent, or sibling and has not designated a beneficiary.
Disability benefit	If a participant is determined to be totally and permanently disabled, he is entitled to an immediate monthly income equal to his accrued benefit reduced 1/300 per month for each month prior to age 62 down to age 55

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	and actuarially thereafter. A minimum monthly benefit of $50.00 is payable to a participant with at least five years of Credited Service at date of disability.
Late retirement	Benefit at actual retirement is based on Credited Service and Average Monthly Earnings to termination date.
Maximum benefits	Annual benefits may not exceed the limits in IRC Section 415. This limit is indexed annually. For 2021, the limit is $230,000.
Changes since prior valuation	Changes in the maximum compensation and maximum benefit limits were recognized. Employee contributions were increased to 2% of monthly earnings effective July 1, 2021 (Group 282) The benefit formula was increased from 1.00% to 1.50% and employee contributions were increased from 2% to 3% for service after July 1, 2021 (Group 327).
Benefits not included in the valuation	To the best of our knowledge, no benefits were excluded from the valuation.
Significant events	None.

Summary of Major Plan Provisions – NonContributory

Effective date	May 1, 1980; restated January 1, 2017.
Participation date	April 1 and October 1
Plan year	April 1 through March 31
Eligibility	Employer chooses: Employees who work at least 1,000 hours per year are eligible on the April 1st or October 1st following attainment of age 21 and completion of four months of employment. Employees are eligible on the April 1st or October 1st following attainment of age 21. AGP (Group 4) and AGP Grain Marketing LLC (Group 527) – Eligibility follows attainment of age 18. North Iowa Cooperative (Group 10) – New employees hired on or after January 1, 2021 are not eligible to participate. NEW Cooperative, Inc. (Group 23) – New employees hired on or after September 1, 2009 are not eligible to participate. Participants of MaxYield Cooperative (Group 36) as of August 1, 2021 became participants on the merger date. Farmers Cooperative Company (Group 76) – New employees hired on or after April 1, 2012 are not eligible to participate.

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Northern Country Coop (Group 135) – Closed to new participants effective August 1, 2021.

Viafield (Group 173) – New employees hired on or after September 1, 2021 are not eligible to participate.

StateLine Cooperative (Group 190) – New employees hired on or after June 1, 2016 are not eligible to participate.

IAHC FC Stone Group, Inc. (Group 201) – New employees hired on or after April 1, 2006 are not eligible to participate.

New Vision Coop (Group 205) – New employees hired on or after April 1, 2010 are not eligible to participate.

River Valley Cooperative (Group 225) – New employees hired on or after April 1, 2006 are not eligible to participate.

Monthly earnings

Monthly Earnings are calculated by dividing the prior calendar year total earnings by the number of weeks worked and multiplying the result times 4 1/3 to obtain a monthly rate. Earnings are limited to $200,000 per year indexed as provided for by law – limit for 2020 is $285,000.

Note that total earnings include 401(k) and Section 125 elective deferrals.

Average monthly earnings

Plan benefits are computed using the average of the monthly earnings for the highest five consecutive years prior to termination.

Credited service

Prior to May 1, 1975, Credited Service is the number of years and months from date of hire. Since May 1, 1975, Credited Service is the number of 1,000-hour plan years. If less than 1,000 hours in year of hire or termination, partial credit is given equal to the number of full months worked divided by 12. Employers who adopt the Plan choose whether to grant Credited Service prior to date of adoption.

Normal retirement date

Participants are entitled to retire and receive their full pension benefit on the first of the month coincident with or immediately following their 65th birthday.

Normal retirement benefit

The monthly pension is equal to 1.1% of Average Monthly Earnings multiplied by years of Credited Service. Participants have a minimum benefit equal to the accrued benefit as of the later of March 31, 1989 and the date the Employer adopted the Noncontributory Plan, PLUS 1.1% of Average Monthly Earnings multiplied by years of Credited Service earned after the later of March 31, 1989 and the date of adoption. Section 401(a)(17) Members have an additional minimum benefit equal to the accrued benefit frozen as of 3/31/94 (determined limiting Earnings to $235,840) PLUS 1.1% of Average Monthly Earnings multiplied by Credited Service after April 1, 1994.

The frozen March 31, 1994 accrued benefit is adjusted to reflect increases in the Member's Average Monthly Earnings after March 31, 1994 as allowed by 42 C.F.R. Section 1.401(a)(4)-13.

Ag Processing, Inc. (Group 4) & AGP Grain Marketing LLC (Group 527)– the monthly pension is equal to sum of the following:

0.8% of Average Monthly Earnings (AME) and 0.4% of AME less $1,250 all multiplied by years of credited service preceding January 1, 1984

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1.15% of AME and 0.5% of AME less $833.33 multiplied by years of Credited Service following January 1, 1984

North Iowa Cooperative (Group 10) – the monthly pension is equal to 1.1% of Average Monthly Earnings multiplied by years of Credited Service prior to April 1, 2006 plus 0.90% of Average Monthly Earnings multiplied by years of Credited Service following April 1, 2006.

NEW Cooperative, Inc. (Group 23) – the monthly pension is equal to 1.4% of Average Monthly Earnings multiplied by years of Credited Service. For former participants in Group 36, the 1.10% formula applies for Credited Service prior to August 1, 2021.

Ag Partners, LLC (Group 150) – Accruals frozen as of December 1, 2008.

Green Plains Grain Company LLC (Group 177) – Accruals frozen as of January 1, 2009.

IAHC FC Stone Group, Inc. (Group 201) – the monthly pension is equal to 1.25% of Average Monthly Earnings multiplied by years of Credited Service. Accruals frozen as of September 1, 2009.

Associated Benefits Corp. (Group 210) – the monthly pension is equal to 1.65% of Average Monthly Earnings multiplied by years of Credited Service prior to April 1, 2022, and 1.10% of Average Monthly Earnings multiplied by years of Credited Service after April 1, 2022.

River Valley Cooperative (Group 225) – employees whose sum of attained age and pensionable credited service did not equal or exceed 75 as of April 1, 2006 had their benefits frozen as of that date; the monthly pension is equal to the sum of the following:

- 1.00% of Average Monthly Earnings (AME) and 0.5% of AVE less $650 multiplied by years of Credited Service preceding September 1, 1999
- 1.5% of AME multiplied by Credited Service from September 1, 1999 to April 1, 2003
- 1.1% of AME multiplied by years of credited service from April 1, 2003 to April 1, 2006
- 0.1% of AME multiplied by years of credited service after April 1, 2006

Farmers Cooperative Co. (Group 258) – accruals frozen as of October 1, 2020

Golden Growers Cooperative (Group 323) – the monthly pension is equal to 1.836% of Average Monthly Earnings multiplied by years of Credited Service. Accruals frozen as of January 1, 2013.

Buckingham Co-operative Co. (Group 326) – Accruals frozen as of August 1, 2018.

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	Innovative Ag Services Co. (Group 423) – the monthly pension is equal to 1.50% of Average Monthly Earnings multiplied by years of Credited Service through March 31, 2009 plus 0.8% of Average Monthly Earnings multiplied by years of Credited Service from April 1, 2009 through August 31, 2011 plus 1.10% of Average Monthly Earnings multiplied by years of Credited Service on and after September 1, 2011. Other plans with no active participants: 294, 371, 509, 510, 513, 514, 516, 8027, 8183, 8195, 8337.
Form of monthly retirement income	The standard form of receiving monthly retirement income will be for a participant's lifetime. However, if the participant is married and unless he specifically elects the standard form or another alternate form of benefit and his spouse consents, his benefits will be paid on a joint and 50% survivorship basis with 120 guaranteed payments.
Optional forms	Lifetime with 60, 120 or 180 payments guaranteed. Joint and ½, 2/3, ¾ or full, with 120 payments guaranteed. 60, 120 or 180 guaranteed payments only. Lump sum, if actuarial value is less than $5,000.
Optional form conversion factors	For lifetime annuities: Effective April 1, 2022, 4.5% and the Pri-2012 mortality table, projected to 2035 using MP-2020 improvement scale, blended 75% male and 25% female for participants, 25% male and 75% female for beneficiaries. Previously, 8% and the 1984 Unisex Pension Mortality Table. For lump sum and certain only annuities: the applicable interest rate under Internal Revenue Code 417(e)(3)(C) for the third calendar month preceding the month that contains the distribution and the applicable mortality table published in accordance with Internal Revenue Code Section 417(e)(3)(B).
Early retirement benefit	A participant may retire at (i) age 55 with 10 years of service, (ii) age 62 with five years of service, or (iii) any time after the sum of his attained age and service is 85 or more provided that he has at least 20 years of Credited Service and his last five years of service count as Credited Service. The benefit is calculated in the same manner as the normal retirement benefit, based on Credited Service to early retirement. If the participant qualifies under the rule of 85 described in (iii) above, there is no reduction in the benefit. Otherwise, the benefit is reduced 1/300 for each month by which the early retirement date precedes age 62.
Termination benefit (vested)	Participants who terminate employment after completing five years of service are 100% vested in their accrued benefit which is payable at age 65. Employers with 5-year cliff vesting (by group number): 23, 136, 150, 170, 190, 205, 226, 323, 324, 326, 334, 351, 423 and 471

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Employers with graded vesting (by group number): 4, 10, 36, 135, 156, 173, 177, 201, 210, 216, 223, 225, 229, 258, 294, 302, 345, 415, and 527

Years of Service	Vested %
Less than 2 years	0%
2 years	20%
3 years	40%
4 years	60%
5 years	80%
6 years or more	100%

Death benefit

The spouse or beneficiary of a participant who dies after becoming eligible for early or normal retirement is entitled to receive a death benefit equal to the greater of the Actuarial Value of i) the survivor income payable had the participant retired and elected the joint and 100% survivor option on the first day of the month preceding his death, and ii) the participant's accrued benefit payable for 60 months.

If an active participant dies prior to meeting eligibility requirements for early or normal retirement, the spouse or beneficiary is entitled to receive a death benefit equal to the greater of the Actuarial Value of i) the survivor income payable had the participant terminated employment and immediately begun receiving benefits under 50% Joint & Survivor option, and ii) the member's accrued benefit payable for 60 months.

If survived by a spouse, the death benefit is paid as a life annuity equivalent in value to the greater of the Actuarial Values. The spouse may elect to receive the benefit as a 60 month certain annuity. If not survived by a spouse, the death benefit is paid as a 60 month annuity.

Such death benefit shall be paid first to the beneficiary designated by the participant. If no beneficiary is designated, it is paid first to the surviving spouse; if there is no surviving spouse, then in equal parts to the surviving children of the member; or if there are no surviving children, then in equal parts to the surviving parents of the member; or if there are no surviving parents, then in equal parts to the surviving siblings of the member. The death benefit is payable to the member's estate if the member is not survived by a spouse, child, parent, or sibling and has not designated a beneficiary.

Disability benefit

If a participant is determined to be totally and permanently disabled, he is entitled to an immediate monthly income equal to his accrued benefit reduced 1/300 per month for each month prior to age 62 down to age 55 and actuarially thereafter. A minimum monthly benefit of $50.00 is payable to a participant with at least five years of Credited Service at date of disability.

Late retirement

Benefit at actual retirement is based on Credited Service and Average Monthly Earnings to termination date.

Schedule SB, Part V — Summary of Plan Provisions

Maximum benefits	Annual benefits may not exceed the limits in IRC Section 415. This limit is indexed annually. For 2020, the limit is $230,000
Changes since prior valuation	Changes in the maximum compensation and maximum benefit limits were recognized. MaxYield Cooperative (Group 36) merged into NEW Cooperative, Inc. (Group 23) effective August 1, 2021, with Group 23 formula applying for Credited Service after this date Northern Country Coop (Group 135) – participation was frozen effective August 1, 2021 Viafield (Group 173) – employees hired on or after September 1, 2021 are not eligible to participate Associated Benefits Corporation (Group 210) – benefit formula was reduced effective April 1, 2022 New London Farmers Cooperative (Group 8195) – plan was terminated effective December 1, 2021
Benefits not included in the valuation	To the best of our knowledge, no benefits were excluded from the valuation.
Significant events	None

Benefits included or excluded

Unless noted below, all benefits provided by the plans, as restated effective January 1, 2017, are included in this valuation:

- **Most recent plan amendments included:** The plans were restated effective January 1, 2017.
- **Plan amendments excluded:** None.
- **Late retirement increases:**
  - *Active participants:* This valuation does not reflect actuarial increases for participants over age 70½.
  - *Deferred vested participants:* This valuation does not reflect actuarial increases for participants over age 70½.
- **Internal Revenue Code limitations:** The limitations of Internal Revenue Code Section 401(a)(17) have been incorporated into our calculations. The limitation of Internal Revenue Code Section 415(b) was assumed not to apply.
- **IRC Section 416 rules for top-heavy plans:** We did not test whether any plan is top-heavy (when the present value of benefits for key employees equals or exceeds 60% of the present value for all

Schedule SB, Part V — Summary of Plan Provisions

participants). The funding target and target normal cost do not reflect any liability for top-heavy benefit accruals.

Plan Provisions Specific to Funding

Additional benefits included or excluded

IRC Section 436 benefit restrictions:

- *Unpredictable contingent event benefits:* None.
- *Plan amendments:* See above.
- *Prohibited payments:* Limitations on prohibited benefits (if any) are reflected for annuity starting dates before the valuation date but are ignored for annuity starting dates on or after the valuation date.
- *Benefit accruals:* The funding target does not reflect any limitation on benefit accruals. The target normal cost does not reflect any limitation on benefit accruals.

Schedule SB, Part V — Statement of Actuarial Assumptions/Methods

Actuarial assumptions

Discount rate sponsor elections		
• Segment rates or full yield curve	Segment	
• Look-back months	0	
	Stabilized	**Non-Stabilized**
• First 5 years	4.75%	0.87%
• Next 15 years	5.18%	2.67%
• Over 20 years	5.92%	3.29%
	These rates were updated since the prior valuation, as prescribed by the IRS. The stabilized rates reflect ARPA.	
• Expenses	Administrative related expenses (actuarial fees, PBGC premiums, legal fees and trustee fees) assumed to equal the current year flat-rate PBGC premium plus 0.14% of the market value of assets. This is based on analysis of expenses paid in the 2019-2020 and 2020-2021 plan years.	
• Mortality	Funding: Section 430(h)(3) prescribed separate static annuitant and nonannuitant mortality tables. These tables are based on the RP-2006 mortality tables with IRS-developed adjustments and projected with mortality improvement scale MP-2020.	
• Turnover	Based on select rates of turnover for the first four years of service and ultimate rates thereafter. Turnover rates reflect findings from the analysis of plan experience conducted in 2021 and the expectation that future termination patterns and the circumstances of the employers will not differ significantly from the period studied. Sample rates are shown below. Groups 216, 323, 326 and 415 assume no withdrawal For groups 4 and 527, rates for less than 2 years of service reflect 145% of the 2003 Society of Actuaries Basic Age Table (Mercer Modified); rates for 2-3 years of service are based on 100% of that table; and the ultimate rates are based on 90% of that table.	

Schedule SB, Part V — Statement of Actuarial Assumptions/Methods

		Rate of turnover Completed years of service				
	Age	0	1	2	3	4+
	25	29.15%	29.15%	18.10%	16.10%	9.63%
	30	24.65	24.65	15.00	13.00	6.84
	35	22.91	22.91	13.80	11.80	5.85
	40	21.46	21.46	12.80	10.80	5.31
	45	20.01	20.01	11.80	9.80	4.86
	50	18.56	18.56	10.80	9.20	4.41
	55	17.26	17.26	10.30	8.70	3.96
	60	16.53	16.53	9.80	8.20	3.51
	For all other groups, rates for less than 2 years of service reflect 145% of the 2003 Society of Actuaries Basic Age table (Mercer Modified); rates for 2-3 years of service are based on 135% of that table; and the ultimate rates are based on 165% of that table. Sample rates are shown below					
		Rate of turnover Completed years of service				
	Age	0	1	2	3	4+
	25	29.15%	29.15%	18.10%	16.10%	9.63%
	30	24.65	24.65	15.00	13.00	6.84
	35	22.91	22.91	13.80	11.80	5.85
	40	21.46	21.46	12.80	10.80	5.31
	45	20.01	20.01	11.80	9.80	4.86
	50	18.56	18.56	10.80	9.20	4.41
	55	17.26	17.26	10.30	8.70	3.96
	60	16.53	16.53	13.23	11.07	6.44
•	Disability	None Assumed				
•	Expected Return on Plan Assets	Varies based on which asset pool the plan sponsor was invested in on each valuation date. For calculating the actuarial value of assets, rates are limited by the 3rd segment rate for each year; rates for this purpose for 2021 are to be determined.				

	2021	2020
• Pool A	6.08%	5.94%
• Pool B	5.76%	5.94%
• Pool C	5.43%	5.87%
• Pool D	4.54%	4.53%
• Pool E	3.77%	3.79%

The expected rate of return on plan assets for each pool begins with the median simulated investment return using capital market assumptions published in Mercer Investment Consulting's Capital Markets Outlook for the pool's target asset mix, net of an adjustment of 7 bps for expenses assumed to be paid from plan assets. This

Schedule SB, Part V — Statement of Actuarial Assumptions/Methods

return is further adjusted for the weighted difference in capital market outlooks that Principal, the plans' investment consultant, publishes for each asset class.

For plans which applied ARPA funding relief as of April 1, 2020, the Pool A expected return for 2020 was 6.27%.

- Salary increases

For groups 4 and 527: Salaries will increase according to an age-related table ranging from 8.25% down to 2.75% per annum. Illustrative future salary increase information is as follows:

Age	Salary increase
20	8.25%
25	7.50%
30	6.25%
35	5.50%
40	5.00%
45	4.25%
50	4.00%
55	3.75%
60	2.75%
65	2.75%

For all other groups: Salaries will increase according to an age-related table ranging from 6.24% down to 2.70% per annum. Illustrative future salary increase information is as follows:

Age	Salary increase
20	6.24%
25	5.89%
30	5.54%
35	5.19%
40	4.84%
45	4.49%
50	4.14%
55	3.70%
60	3.20%
65	2.70%

The salary increase assumption reflects findings from an experience study conducted in 2021 and the expectation that future wage increases and the circumstances of the employers will not differ significantly from the period studied.

Schedule SB, Part V — Statement of Actuarial Assumptions/Methods

- Incidence of retirement

For employees who become eligible to retire prior to age 55, the assumed rate of retirement is 10% at all ages.

For frozen groups 78, 177, 201 and 258, same assumptions as below until eligible for unreduced retirement, but then 100% at unreduced retirement age.

For groups 216 and 326, all retirements are assumed at age 62.

For groups 4 and 527:

Age	Rate of Retirement
55	6%
56	6
57	6
58	6
59	6
60	10
61	10
62	30
63	20
64	20
65	55
66	55
67	35
68	35
69	35
70 & Over	100

For all other groups:

Age	Rate of Retirement
55	6%
56	5
57	5
58	5
59	5
60	6
61	6
62	15
63	15
64	15
65	40
66	40
67	35
68	35
69	35
70 & Over	100

Retirement rates reflect findings from the experience study conducted in 2021 and the expectation that future retirement patterns and the circumstances of the employers will not differ significantly from the period studied.

Schedule SB, Part V — Statement of Actuarial Assumptions/Methods

• Spouse's benefit	80% of all employees are assumed married with husbands two years older than their wives. This assumption is based on an examination of historical data as of March 31, 2012
• Form of payment	20% of participants are expected to commence benefits as a Life Only annuity, 35% as a 100% J&S annuity, and 45% as a 5-Year Certain annuity. This assumption is based on an experience study conducted in 2021.
• Commencement for vested terminations	Age 62 for participants with 5 or more years of service; Age 65 otherwise. This assumption is based on the date that unreduced benefits are available and confirmed by an experience study conducted in 2021.
• Conversion basis	For the Contributory Plan and Modified Contributory Plan, contribution accounts are converted to equivalent monthly benefits using stabilized interest rates and the current year 417(e) mortality table, as required under IRS regulations.
• Interest earned by employee contributions	Year / Interest rate 2022 2.50% 2023 2.75% 2024 3.00% 2025 3.25% 2026 3.50% 2027 and Later 3.75% Historically, the required interest rate for employee contributions has been substantially similar to yields on five-year corporate bonds of high quality. These rates are based on five-year bond yields implied from the IRS Funding Yield Curve for February 2020.
• Inflation	The inflation assumption used to project the maximum salary limitation for future years is 2.2%. This assumption is based on the inflation assumption periodically published by Mercer Investment Consulting in their Capital Markets Outlook with adjustments to reflect historical average inflation rates.

Actuarial methods

An actuarial valuation is only a snapshot of a plan's estimated financial condition at a particular point in time; it does not predict the plan's future financial condition or its ability to pay benefits in the future and does not provide any guarantee of future financial soundness of the plan. Over time, a plan's total cost will depend on a number of factors, including the amount of benefits the plan pays, the number of people paid benefits, the period of time over which benefits are paid, plan expenses and the amount earned on any assets invested to pay benefits. These amounts and other variables are uncertain and unknowable at the valuation date.

Schedule SB, Part V — Statement of Actuarial Assumptions/Methods

Because modeling all aspects of a situation is not possible or practical, we may use summary information, estimates, or simplifications of estimates to facilitate the modeling of future events in an efficient and cost-effective manner. We may also exclude factors or data that, if used, in our judgment, would not have significantly affected our results. Use of such simplifying techniques does not, in our judgment, affect the reasonableness of valuation results for the plan.

Valuations do not affect the ultimate cost of the plan, only the timing of when benefit costs are recognized. Cost recognition occurs over time. If the costs recognized over a period of years are lower or higher than necessary, for whatever reason, normal and expected practice is to adjust future cost levels to recognize the entire cost of the plan over time.

Asset valuation methods

The asset valuation method is an average of the adjusted market value for each year during the last 2 years preceding the valuation date. The adjusted market value is the market value at each determination date adjusted to the valuation date based on actual cash flows and expected interest at the lesser of the expected rate of return and the third segment rate. This amount is adjusted to be no greater than 110 percent and no less than 90 percent of the fair market value, as defined in IRC Section 430. (Contributions made after April 1, 2022 are generally not reflected in the preliminary results.)

For purposes of the asset valuation method only, contributions during the plan year are assumed to be made in the middle of the month in which they are contributed and receivable contributions are assumed to be made on the last day of the month in which they are contributed, except for contributions during December, which are assumed to be in the middle of the month.

A characteristic of this asset method is that over time, it is slightly more likely to produce an actuarial value of assets that is less than the market value of assets than an actuarial value that is greater than the market value.

Participant methods

Participants or former participants are included or excluded from the valuation as described below:

- **Participants included:** Associated Benefits Corporation provides us with data on only those employees who have completed the eligibility requirements so only participants are included in the valuation of the liabilities.
- **Participants excluded:** No actuarial liability is included for nonvested participants who terminated prior to the valuation date.

Schedule SB, Part V — Statement of Actuarial Assumptions/Methods

- **Insurance contracts:** The plan does not have any insurance contracts.
- **Transferred participants:** The liabilities for benefits earned prior to their transfer by employees who have transferred to another Associated Benefits Corporation employer have been included with the liabilities for terminated vested participants at their former employer.

Actuarial Cost Method

Method for Minimum Funding

The funding target for minimum funding calculations is computed using the traditional unit credit method of funding. The objective under this method is to fund each participant's benefits under the plan as they accrue. Thus, the total pension to which each participant is expected to become entitled at retirement is broken down into units, each associated with a year of past or future credited service.

A detailed description of the calculation follows:

- The plan's valuation date is the beginning of the plan year.
- An individual's **funding target** is the present value of future benefits based on credited service and average pay as of the beginning of the plan year, and an individual's **target normal cost** is the present value of the benefit expected to accrue in the plan year. If multiple decrements are used, the funding target and the target normal cost for an individual is the sum of the component funding targets and target normal costs associated with the various anticipated separation dates.
- The plan's **target normal cost** is the sum of the individual target normal costs, and the plan's **funding target** is the sum of the individual funding targets for all participants under the plan.

Schedule SB, line 24 — Change in Actuarial Assumptions

The following assumptions were updated since prior valuation:

- Interest rates and mortality for funding calculations were updated in accordance with PPA.
- The retirement rates for group 78 were updated to reflect the plan freeze.
- Expected rates of return were changed based on updated capital market outlook information prepared by each of Mercer and Principal.

The Restated Noncontributory Retirement Plan for Cooperatives
Valuation Date: April 1, 2022
Schedule SB, Line 26a – Schedule of Active Participant Data
Group 258 – Farmers Cooperative Co. EIN/PN: 42-0242040/20

Attained age	Service										
	Under 1	1–4	5–9	10–14	15–19	20–24	25–29	30–34	35–39	40 & up	Total
Under 25		1									1
25–29		1	1								2
30–34			2								2
35–39											0
40–44											0
45–49				1							1
50–54		1	1			1					3
55–59											0
60–64											0
65–69		1									1
70 & up											0
Total	**0**	**4**	**4**	**1**	**0**	**1**	**0**	**0**	**0**	**0**	**10**

Schedule SB, Line 32 – Schedule of Amortization Bases

The shortfall amortization charge is the sum of the shortfall base amortization for each plan year covered under PPA. Although a shortfall base can be negative, the combined shortfall amortization charge cannot be negative.

Shortfall bases

Date established		Outstanding balance	Years remaining		Installment
4/1/2022	$	(36,755)	15	$	(3,397)
4/1/2021		27,555	14		2,668
4/1/2020		341,054	13		34,768
Total	$	331,854		$	34,039

Plan Name: **The Restated Noncontributory Retirement Plan for Cooperatives**
Plan Sponsor EIN: **42-0242040**
ERISA 3-digit Plan #: **020**
Plan Year Ending: **03/31/2023**

The required attachment marked with an "X" in the Attachment column is included within the Schedule SB – Single-Employer Defined Benefit Plan Actuarial Information pdf attachment to Form 5500 or Form 5500-SF, Part VI, line 11 which consists of the entire actuarial information issued by the plan's Actuary.

Form/Schedule	Line #	Description	Attachment
5500 Sch. SB		Actuarial Assumptions and Methods	X
5500 Sch. SB		Summary of Plan Provisions	X
5500 Sch. SB		Statement of Enrolled Actuary	X
5500 Sch. SB	7	Explanation of Discrepancy in Prior Year Funding Standard Carryover Balance or Prefunding Balance	
5500 Sch. SB	18	Contributions	
5500 Sch. SB	19	Discounted Employer Contributions	
5500 Sch. SB	22	Description of Weighted Average Retirement Age	X
5500 Sch. SB	24	Change in Actuarial Assumptions	X
5500 Sch. SB	25	Change in Method	
5500 Sch. SB	26a	Schedule of Active Participant Data	X
5500 Sch. SB	32	Schedule of Amortization Bases	X

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