Form 5500

Department of the Treasury
Internal Revenue Service

Department of Labor
Employee Benefits Security Administration

Pension Benefit Guaranty Corporation

Annual Return/Report of Employee Benefit Plan

This form is required to be filed for employee benefit plans 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.**

OMB Nos. 1210-0110
1210-0089

2019

This Form is Open to Public Inspection

Part I Annual Report Identification Information

For calendar plan year 2019 or fiscal plan year beginning 01/01/2019 and ending 12/31/2019

A This return/report is for:
- [ ] a multiemployer plan
- [ ] a multiple-employer plan (Filers checking this box must attach a list of participating employer information in accordance with the form instructions.)
- [X] a single-employer plan
- [ ] a DFE (specify) ____

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 If the plan is a collectively-bargained plan, check here. . . . . ▶ [X]

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

Part II Basic Plan Information—enter all requested information

1a Name of plan
PENSION PLAN FOR HOURLY EMPLOYEES AT EDISON, NJ

1b Three-digit plan number (PN) ▶ 012

1c Effective date of plan 04/01/2006

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)
EQUISTAR CHEMICALS, LP

1221 MCKINNEY, SUITE 300
HOUSTON, TX 77010-2006

2b Employer Identification Number (EIN) 76-0550481

2c Plan Sponsor's telephone number 713-309-7200

2d Business code (see instructions) 325900

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 accompanying schedules, statements and attachments, 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.	10/08/2020	REBECCA PATTERSON HOLMES
	Signature of plan administrator	Date	Enter name of individual signing as plan administrator
SIGN HERE			
	Signature of employer/plan sponsor	Date	Enter name of individual signing as employer or plan sponsor
SIGN HERE			
	Signature of DFE	Date	Enter name of individual signing as DFE

3a Plan administrator's name and address ☐ Same as Plan Sponsor

BENEFITS ADMINISTRATIVE COMMITTEE

1221 MCKINNEY, SUITE 300
HOUSTON, TX 77010-2006

3b Administrator's EIN: 20-3443655

3c Administrator's telephone number: 713-309-7200

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

5 Total number of participants at the beginning of the plan year	**5**	41
6 Number of participants as of the end of the plan year unless otherwise stated (welfare plans complete only lines **6a(1), 6a(2), 6b, 6c,** and **6d**).		
a(1) Total number of active participants at the beginning of the plan year	**6a(1)**	20
a(2) Total number of active participants at the end of the plan year	**6a(2)**	19
b Retired or separated participants receiving benefits	**6b**	13
c Other retired or separated participants entitled to future benefits	**6c**	7
d Subtotal. Add lines **6a(2)**, **6b**, and **6c**	**6d**	39
e Deceased participants whose beneficiaries are receiving or are entitled to receive benefits.	**6e**	2
f Total. Add lines **6d** and **6e**	**6f**	41
g Number of participants with account balances as of the end of the plan year (only defined contribution plans complete this item)	**6g**	
h Number of participants who terminated employment during the plan year with accrued benefits that were less than 100% vested	**6h**	0
7 Enter the total number of employers obligated to contribute to the plan (only multiemployer plans complete this item)	**7**	

8a If the plan provides pension benefits, enter the applicable pension feature codes from the List of Plan Characteristics Codes in the instructions:

1B 3H

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

9a Plan funding arrangement (check all that apply)		**9b** Plan benefit arrangement (check all that apply)	
(1) Insurance	☐	**(1)** Insurance	☐
(2) Code section 412(e)(3) insurance contracts	☐	**(2)** Code section 412(e)(3) insurance contracts	☐
(3) Trust	X	**(3)** Trust	X
(4) General assets of the sponsor	☐	**(4)** General assets of the sponsor	☐

10 Check all applicable boxes in 10a and 10b to indicate which schedules are attached, and, where indicated, enter the number attached. (See instructions)

a Pension Schedules

- **(1)** X **R** (Retirement Plan Information)
- **(2)** ☐ **MB** (Multiemployer Defined Benefit Plan and Certain Money Purchase Plan Actuarial Information) - signed by the plan actuary
- **(3)** X **SB** (Single-Employer Defined Benefit Plan Actuarial Information) - signed by the plan actuary

b General Schedules

- **(1)** ☐ **H** (Financial Information)
- **(2)** X **I** (Financial Information – Small Plan)
- **(3)** ☐ 0 **A** (Insurance Information)
- **(4)** ☐ **C** (Service Provider Information)
- **(5)** X **D** (DFE/Participating Plan Information)
- **(6)** ☐ **G** (Financial Transaction Schedules)

Part III Form M-1 Compliance Information (to be completed by welfare benefit plans)

11a If the plan provides welfare benefits, was the plan subject to the Form M-1 filing requirements during the plan year? (See instructions and 29 CFR 2520.101-2.) ..... ☐ Yes ☐ No

If "Yes" is checked, complete lines 11b and 11c.

11b Is the plan currently in compliance with the Form M-1 filing requirements? (See instructions and 29 CFR 2520.101-2.) ..... ☐ Yes ☐ No

11c Enter the Receipt Confirmation Code for the 2019 Form M-1 annual report. If the plan was not required to file the 2019 Form M-1 annual report, enter the Receipt Confirmation Code for the most recent Form M-1 that was required to be filed under the Form M-1 filing requirements. (Failure to enter a valid Receipt Confirmation Code will subject the Form 5500 filing to rejection as incomplete.)

Receipt Confirmation Code_____

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

2019

This Form is Open to Public Inspection

For calendar plan year 2019 or fiscal plan year beginning 01/01/2019 and ending 12/31/2019

▶ **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
PENSION PLAN FOR HOURLY EMPLOYEES AT EDISON, NJ

B Three-digit plan number (PN) ▶ 012

C Plan sponsor's name as shown on line 2a of Form 5500 or 5500-SF
EQUISTAR CHEMICALS, LP

D Employer Identification Number (EIN)
76-0550481

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

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

Part I Basic Information

1 Enter the valuation date: Month 01 Day 01 Year 2019

2 Assets:

a Market value	**2a**	1743530
b Actuarial value	**2b**	1822157

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	14	695687	695687
b For terminated vested participants	7	150187	150187
c For active participants	20	670376	769877
d Total	41	1516250	1615751

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**	5.67 %
6 Target normal cost	**6**	81310

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

	09/10/2020
Signature of actuary	Date
PENNY A. BAILEY	20-05451
Type or print name of actuary	Most recent enrollment number
MERCER	314-588-2500
Firm name	Telephone number (including area code)
701 MARKET ST., SUITE 1100 ST. LOUIS, MO 63101-1867	
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	256136
8	Portion elected for use to offset prior year's funding requirement (line 35 from prior year)	0	0
9	Amount remaining (line 7 minus line 8)	0	256136
10	Interest on line 9 using prior year's actual return of -3.82 %	0	-9784
11	Prior year's excess contributions to be added to prefunding balance:		
a	Present value of excess contributions (line 38a from prior year)		26597
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 5.83 %		1551
b(2)	Interest on line 38b from prior year Schedule SB, using prior year's actual return		0
c	Total available at beginning of current plan year to add to prefunding balance		28148
d	Portion of (c) to be added to prefunding balance		28148
12	Other reductions in balances due to elections or deemed elections	0	63432
13	Balance at beginning of current year (line 9 + line 10 + line 11d – line 12)	0	211068

Part III Funding Percentages

14	Funding target attainment percentage	14	99.71 %
15	Adjusted funding target attainment percentage	15	112.77 %
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	100.46 %
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
			Totals ► 18(b)	0	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	0

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:	
3.74 %	5.35 %	6.11 %	☐ N/A, full yield curve used

b Applicable month (enter code)	**21b**	4
22 Weighted average retirement age	**22**	62

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 Is the plan required to provide a Schedule of Active Participants? 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 6)	**31a**	81310
b Excess assets, if applicable, but not greater than line 31a	**31b**	0

32 Amortization installments:

	Outstanding Balance	Installment
a Net shortfall amortization installment	4662	758
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**	82068

	Carryover balance	Prefunding balance	Total balance
35 Balances elected for use to offset funding requirement	0	82068	82068

36 Additional cash requirement (line 34 minus line 35)	**36**	0
37 Contributions allocated toward minimum required contribution for current year adjusted to valuation date (line 19c)	**37**	0

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

a Total (excess, if any, of line 37 over line 36)	**38a**	0
b Portion included in line 38a attributable to use of prefunding and funding standard carryover balances	**38b**	0
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 Pension Relief Act of 2010 (See Instructions)

41 If an election was made to use PRA 2010 funding relief for this plan:

a Schedule elected ☐ 2 plus 7 years ☐ 15 years

b Eligible plan year(s) for which the election in line 41a was made ☐ 2008 ☐ 2009 ☐ 2010 ☐ 2011

SCHEDULE D (Form 5500)

Department of the Treasury
Internal Revenue Service

Department of Labor
Employee Benefits Security Administration

DFE/Participating Plan Information

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

▶ **File as an attachment to Form 5500.**

OMB No. 1210-0110

2019

This Form is Open to Public Inspection.

For calendar plan year 2019 or fiscal plan year beginning 01/01/2019 and ending 12/31/2019

A Name of plan
PENSION PLAN FOR HOURLY EMPLOYEES AT EDISON, NJ

B Three-digit plan number (PN) ▶ 012

C Plan or DFE sponsor's name as shown on line 2a of Form 5500
EQUISTAR CHEMICALS, LP

D Employer Identification Number (EIN)
76-0550481

Part I **Information on interests in MTIAs, CCTs, PSAs, and 103-12 IEs (to be completed by plans and DFEs)**
(Complete as many entries as needed to report all interests in DFEs)

a Name of MTIA, CCT, PSA, or 103-12 IE: LYONDELLBASELL MASTER TRUST

b Name of sponsor of entity listed in (a): LYONDELL CHEMICAL COMPANY

c EIN-PN	**d** Entity code	**e** Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions)
95-4160558-009	M	1896982

a Name of MTIA, CCT, PSA, or 103-12 IE:

b Name of sponsor of entity listed in (a):

c EIN-PN	**d** Entity code	**e** Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions)

a Name of MTIA, CCT, PSA, or 103-12 IE:

b Name of sponsor of entity listed in (a):

c EIN-PN	**d** Entity code	**e** Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions)

a Name of MTIA, CCT, PSA, or 103-12 IE:

b Name of sponsor of entity listed in (a):

c EIN-PN	**d** Entity code	**e** Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions)

a Name of MTIA, CCT, PSA, or 103-12 IE:

b Name of sponsor of entity listed in (a):

c EIN-PN	**d** Entity code	**e** Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions)

a Name of MTIA, CCT, PSA, or 103-12 IE:

b Name of sponsor of entity listed in (a):

c EIN-PN	**d** Entity code	**e** Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions)

a Name of MTIA, CCT, PSA, or 103-12 IE:

b Name of sponsor of entity listed in (a):

c EIN-PN	**d** Entity code	**e** Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions)

a Name of MTIA, CCT, PSA, or 103-12 IE:

b Name of sponsor of entity listed in (a):

c EIN-PN	**d** Entity code	**e** Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions)

a Name of MTIA, CCT, PSA, or 103-12 IE:

b Name of sponsor of entity listed in (a):

c EIN-PN	**d** Entity code	**e** Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions)

a Name of MTIA, CCT, PSA, or 103-12 IE:

b Name of sponsor of entity listed in (a):

c EIN-PN	**d** Entity code	**e** Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions)

a Name of MTIA, CCT, PSA, or 103-12 IE:

b Name of sponsor of entity listed in (a):

c EIN-PN	**d** Entity code	**e** Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions)

a Name of MTIA, CCT, PSA, or 103-12 IE:

b Name of sponsor of entity listed in (a):

c EIN-PN	**d** Entity code	**e** Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions)

a Name of MTIA, CCT, PSA, or 103-12 IE:

b Name of sponsor of entity listed in (a):

c EIN-PN	**d** Entity code	**e** Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions)

a Name of MTIA, CCT, PSA, or 103-12 IE:

b Name of sponsor of entity listed in (a):

c EIN-PN	**d** Entity code	**e** Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions)

a Name of MTIA, CCT, PSA, or 103-12 IE:

b Name of sponsor of entity listed in (a):

c EIN-PN	**d** Entity code	**e** Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions)

a Name of MTIA, CCT, PSA, or 103-12 IE:

b Name of sponsor of entity listed in (a):

c EIN-PN	**d** Entity code	**e** Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions)

a Name of MTIA, CCT, PSA, or 103-12 IE:

b Name of sponsor of entity listed in (a):

c EIN-PN	**d** Entity code	**e** Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions)

Part II Information on Participating Plans (to be completed by DFEs)

(Complete as many entries as needed to report all participating plans)

a Plan name	
b Name of plan sponsor	**c** EIN-PN

a Plan name	
b Name of plan sponsor	**c** EIN-PN

a Plan name	
b Name of plan sponsor	**c** EIN-PN

a Plan name	
b Name of plan sponsor	**c** EIN-PN

a Plan name	
b Name of plan sponsor	**c** EIN-PN

a Plan name	
b Name of plan sponsor	**c** EIN-PN

a Plan name	
b Name of plan sponsor	**c** EIN-PN

a Plan name	
b Name of plan sponsor	**c** EIN-PN

a Plan name	
b Name of plan sponsor	**c** EIN-PN

a Plan name	
b Name of plan sponsor	**c** EIN-PN

a Plan name	
b Name of plan sponsor	**c** EIN-PN

a Plan name	
b Name of plan sponsor	**c** EIN-PN

a Plan name	
b Name of plan sponsor	**c** EIN-PN

SCHEDULE I (Form 5500)

Department of the Treasury
Internal Revenue Service

Department of Labor
Employee Benefits Security Administration

Pension Benefit Guaranty Corporation

Financial Information—Small Plan

This schedule is required to be filed under section 104 of the Employee Retirement Income Security Act of 1974 (ERISA), and section 6058(a) of the Internal Revenue Code (the Code).

▶ **File as an attachment to Form 5500.**

OMB No. 1210-0110

2019

This Form is Open to Public Inspection

For calendar plan year 2019 or fiscal plan year beginning 01/01/2019 and ending 12/31/2019

A Name of plan
PENSION PLAN FOR HOURLY EMPLOYEES AT EDISON, NJ

B Three-digit plan number (PN) ▶ 012

C Plan sponsor's name as shown on line 2a of Form 5500
EQUISTAR CHEMICALS, LP

D Employer Identification Number (EIN)
76-0550481

Complete Schedule I if the plan covered fewer than 100 participants as of the beginning of the plan year. You may also complete Schedule I if you are filing as a small plan under the 80-120 participant rule (see instructions). Complete Schedule H if reporting as a large plan or DFE.

Part I Small Plan Financial Information

Report below the current value of assets and liabilities, income, expenses, transfers and changes in net assets during the plan year. Combine the value of plan assets held in more than one trust. Do not enter the value of the portion of an insurance contract that guarantees during this plan year to pay a specific dollar benefit at a future date. Include all income and expenses of the plan including any trust(s) or separately maintained fund(s) and any payments/receipts to/from insurance carriers. **Round off amounts to the nearest dollar.**

			(a) Beginning of Year	**(b)** End of Year
1	**Plan Assets and Liabilities:**			
a	Total plan assets	**1a**	1751811	1896982
b	Total plan liabilities	**1b**	581	316
c	Net plan assets (subtract line 1b from line 1a)	**1c**	1751230	1896666
2	**Income, Expenses, and Transfers for this Plan Year:**		**(a)** Amount	**(b)** Total
a	Contributions received or receivable:			
	(1) Employers	**2a(1)**		
	(2) Participants	**2a(2)**		
	(3) Others (including rollovers)	**2a(3)**		
b	Noncash contributions	**2b**		
c	Other income	**2c**	245698	
d	Total income (add lines 2a(1), 2a(2), 2a(3), 2b, and 2c)	**2d**		245698
e	Benefits paid (including direct rollovers)	**2e**	58682	
f	Corrective distributions (see instructions)	**2f**		
g	Certain deemed distributions of participant loans (see instructions)	**2g**		
h	Administrative service providers (salaries, fees, and commissions)	**2h**	36709	
i	Other expenses	**2i**	4871	
j	Total expenses (add lines 2e, 2f, 2g, 2h, and 2i)	**2j**		100262
k	Net income (loss) (subtract line 2j from line 2d)	**2k**		145436
l	Transfers to (from) the plan (see instructions)	**2l**		

3 **Specific Assets:** If the plan held assets at any time during the plan year in any of the following categories, check "Yes" and enter the current value of any assets remaining in the plan as of the end of the plan year. Allocate the value of the plan's interest in a commingled trust containing the assets of more than one plan on a line-by-line basis unless the trust meets one of the specific exceptions described in the instructions.

			Yes	No	Amount
a	Partnership/joint venture interests	**3a**		X	
b	Employer real property	**3b**		X	
c	Real estate (other than employer real property)	**3c**		X	
d	Employer securities	**3d**		X	
e	Participant loans	**3e**		X	
f	Loans (other than to participants)	**3f**		X	
g	Tangible personal property	**3g**		X	

Part II Compliance Questions

4 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? Continue to answer "Yes" for any prior year failures until fully corrected. (See instructions and DOL's Voluntary Fiduciary Correction Program.)	4a		X	
b Were any loans by the plan or fixed income obligations due the plan in default as of the close of plan year or classified during the year as uncollectible? Disregard participant loans secured by the participant's account balance.	4b		X	
c Were any leases to which the plan was a party in default or classified during the year as uncollectible?	4c		X	
d Were there any nonexempt transactions with any party-in-interest? (Do not include transactions reported on line 4a.)	4d		X	
e Was the plan covered by a fidelity bond?	4e	X		55949690
f Did the plan have a loss, whether or not reimbursed by the plan's fidelity bond, that was caused by fraud or dishonesty?	4f		X	
g Did the plan hold any assets whose current value was neither readily determinable on an established market nor set by an independent third party appraiser?	4g		X	
h Did the plan receive any noncash contributions whose value was neither readily determinable on an established market nor set by an independent third party appraiser?	4h		X	
i Did the plan at any time hold 20% or more of its assets in any single security, debt, mortgage, parcel of real estate, or partnership/joint venture interest?	4i		X	
j Were all the plan assets either distributed to participants or beneficiaries, transferred to another plan, or brought under the control of the PBGC?	4j		X	
k Are you claiming a waiver of the annual examination and report of an independent qualified public accountant (IQPA) under 29 CFR 2520.104-46? If "No," attach an IQPA's report or 2520.104-50 statement. (See instructions on waiver eligibility and conditions.)	4k	X		
l Has the plan failed to provide any benefit when due under the plan?	4l		X	
m If this is an individual account plan, was there a blackout period? (See instructions and 29 CFR 2520.101-3.)	4m			
n If 4m was answered "Yes," check the "Yes" box if you either provided the required notice or one of the exceptions to providing the notice applied under 29 CFR 2520.101-3	4n			

5a Has a resolution to terminate the plan been adopted during the plan year or any prior plan year? ☐ Yes ☒ No

If "Yes," enter the amount of any plan assets that reverted to the employer this year _____.

5b 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.)

5b(1) Name of plan(s)	**5b(2)** EIN(s)	**5b(3)** PN(s)

5c If the plan is a defined benefit plan, is it covered under the PBGC insurance program (See ERISA section 4021.)? ☒ Yes ☐ No ☐ Not determined.

If "Yes" is checked, enter the My PAA confirmation number from the PBGC premium filing for this plan year 4233422. (See instructions.)

SCHEDULE R (Form 5500)

Department of the Treasury
Internal Revenue Service

Department of Labor
Employee Benefits Security Administration

Pension Benefit Guaranty Corporation

Retirement Plan Information

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

▶ **File as an attachment to Form 5500.**

OMB No. 1210-0110

2019

This Form is Open to Public Inspection.

For calendar plan year 2019 or fiscal plan year beginning 01/01/2019 and ending 12/31/2019

A Name of plan
PENSION PLAN FOR HOURLY EMPLOYEES AT EDISON, NJ

B Three-digit plan number (PN) ▶ 012

C Plan sponsor's name as shown on line 2a of Form 5500
EQUISTAR CHEMICALS, LP

D Employer Identification Number (EIN)
76-0550481

Part I Distributions

All references to distributions relate only to payments of benefits during the plan year.

1 Total value of distributions paid in property other than in cash or the forms of property specified in the instructions **1** 0

2 Enter the EIN(s) of payor(s) who paid benefits on behalf of the plan to participants or beneficiaries during the year (if more than two, enter EINs of the two payors who paid the greatest dollar amounts of benefits):

EIN(s): 13-7073479

Profit-sharing plans, ESOPs, and stock bonus plans, skip line 3.

3 Number of participants (living or deceased) whose benefits were distributed in a single sum, during the plan year **3** 0

Part II Funding Information (If the plan is not subject to the minimum funding requirements of section 412 of the Internal Revenue Code or ERISA section 302, skip this Part.)

4 Is the plan administrator making an election under Code section 412(d)(2) or ERISA section 302(d)(2)? ..... ☐ **Yes** ☒ **No** ☐ **N/A**

If the plan is a defined benefit plan, go to line 8.

5 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 ruling letter granting the waiver. **Date:** Month _____ Day _____ Year _____

If you completed line 5, complete lines 3, 9, and 10 of Schedule MB and do not complete the remainder of this schedule.

6 **a** Enter the minimum required contribution for this plan year (include any prior year accumulated funding deficiency not waived) **6a**

b Enter the amount contributed by the employer to the plan for this plan year **6b**

c Subtract the amount in line 6b from the amount in line 6a. Enter the result (enter a minus sign to the left of a negative amount) **6c**

If you completed line 6c, skip lines 8 and 9.

7 Will the minimum funding amount reported on line 6c be met by the funding deadline? ..... ☐ **Yes** ☐ **No** ☐ **N/A**

8 If a change in actuarial cost method was made for this plan year pursuant to a revenue procedure or other authority providing automatic approval for the change or a class ruling letter, does the plan sponsor or plan administrator agree with the change? ..... ☐ **Yes** ☐ **No** ☒ **N/A**

Part III Amendments

9 If this is a defined benefit pension plan, were any amendments adopted during this plan year that increased or decreased the value of benefits? If yes, check the appropriate box. If no, check the "No" box. ..... ☒ **Increase** ☐ **Decrease** ☐ **Both** ☐ **No**

Part IV ESOPs (see instructions). If this is not a plan described under section 409(a) or 4975(e)(7) of the Internal Revenue Code, skip this Part.

10 Were unallocated employer securities or proceeds from the sale of unallocated securities used to repay any exempt loan? ..... ☐ **Yes** ☐ **No**

11 **a** Does the ESOP hold any preferred stock? ..... ☐ **Yes** ☐ **No**

b If the ESOP has an outstanding exempt loan with the employer as lender, is such loan part of a "back-to-back" loan? (See instructions for definition of "back-to-back" loan.) ..... ☐ **Yes** ☐ **No**

12 Does the ESOP hold any stock that is not readily tradable on an established securities market? ..... ☐ **Yes** ☐ **No**

Part V Additional Information for Multiemployer Defined Benefit Pension Plans

13 Enter the following information for each employer that contributed more than 5% of total contributions to the plan during the plan year (measured in dollars). See instructions. *Complete as many entries as needed to report all applicable employers.*

a Name of contributing employer

b EIN **c** Dollar amount contributed by employer

d Date collective bargaining agreement expires *(If employer contributes under more than one collective bargaining agreement, check box* ☐ *and see instructions regarding required attachment. Otherwise, enter the applicable date.)* Month _____ Day _____ Year _____

e Contribution rate information *(If more than one rate applies, check this box* ☐ *and see instructions regarding required attachment. Otherwise, complete lines 13e(1) and 13e(2).)*
(1) Contribution rate (in dollars and cents) _____
(2) Base unit measure: ☐ Hourly ☐ Weekly ☐ Unit of production ☐ Other (specify):

---

a Name of contributing employer

b EIN **c** Dollar amount contributed by employer

d Date collective bargaining agreement expires *(If employer contributes under more than one collective bargaining agreement, check box* ☐ *and see instructions regarding required attachment. Otherwise, enter the applicable date.)* Month _____ Day _____ Year _____

e Contribution rate information *(If more than one rate applies, check this box* ☐ *and see instructions regarding required attachment. Otherwise, complete lines 13e(1) and 13e(2).)*
(1) Contribution rate (in dollars and cents) _____
(2) Base unit measure: ☐ Hourly ☐ Weekly ☐ Unit of production ☐ Other (specify): _____

---

a Name of contributing employer

b EIN **c** Dollar amount contributed by employer

d Date collective bargaining agreement expires *(If employer contributes under more than one collective bargaining agreement, check box* ☐ *and see instructions regarding required attachment. Otherwise, enter the applicable date.)* Month _____ Day _____ Year _____

e Contribution rate information *(If more than one rate applies, check this box* ☐ *and see instructions regarding required attachment. Otherwise, complete lines 13e(1) and 13e(2).)*
(1) Contribution rate (in dollars and cents) _____
(2) Base unit measure: ☐ Hourly ☐ Weekly ☐ Unit of production ☐ Other (specify): _____

---

a Name of contributing employer

b EIN **c** Dollar amount contributed by employer

d Date collective bargaining agreement expires *(If employer contributes under more than one collective bargaining agreement, check box* ☐ *and see instructions regarding required attachment. Otherwise, enter the applicable date.)* Month _____ Day _____ Year _____

e Contribution rate information *(If more than one rate applies, check this box* ☐ *and see instructions regarding required attachment. Otherwise, complete lines 13e(1) and 13e(2).)*
(1) Contribution rate (in dollars and cents) _____
(2) Base unit measure: ☐ Hourly ☐ Weekly ☐ Unit of production ☐ Other (specify): _____

---

a Name of contributing employer

b EIN **c** Dollar amount contributed by employer

d Date collective bargaining agreement expires *(If employer contributes under more than one collective bargaining agreement, check box* ☐ *and see instructions regarding required attachment. Otherwise, enter the applicable date.)* Month _____ Day _____ Year _____

e Contribution rate information *(If more than one rate applies, check this box* ☐ *and see instructions regarding required attachment. Otherwise, complete lines 13e(1) and 13e(2).)*
(1) Contribution rate (in dollars and cents) _____
(2) Base unit measure: ☐ Hourly ☐ Weekly ☐ Unit of production ☐ Other (specify): _____

---

a Name of contributing employer

b EIN **c** Dollar amount contributed by employer

d Date collective bargaining agreement expires *(If employer contributes under more than one collective bargaining agreement, check box* ☐ *and see instructions regarding required attachment. Otherwise, enter the applicable date.)* Month _____ Day _____ Year _____

e Contribution rate information *(If more than one rate applies, check this box* ☐ *and see instructions regarding required attachment. Otherwise, complete lines 13e(1) and 13e(2).)*
(1) Contribution rate (in dollars and cents) _____
(2) Base unit measure: ☐ Hourly ☐ Weekly ☐ Unit of production ☐ Other (specify): _____

14 Enter the number of participants on whose behalf no contributions were made by an employer as an employer of the participant for:

a The current year	**14a**	
b The plan year immediately preceding the current plan year	**14b**	
c The second preceding plan year	**14c**	

15 Enter the ratio of the number of participants under the plan on whose behalf no employer had an obligation to make an employer contribution during the current plan year to:

a The corresponding number for the plan year immediately preceding the current plan year	**15a**	
b The corresponding number for the second preceding plan year	**15b**	

16 Information with respect to any employers who withdrew from the plan during the preceding plan year:

a Enter the number of employers who withdrew during the preceding plan year	**16a**	
b If line 16a is greater than 0, enter the aggregate amount of withdrawal liability assessed or estimated to be assessed against such withdrawn employers	**16b**	

17 If assets and liabilities from another plan have been transferred to or merged with this plan during the plan year, check box and see instructions regarding supplemental information to be included as an attachment. ☐

Part VI Additional Information for Single-Employer and Multiemployer Defined Benefit Pension Plans

18 If any liabilities to participants or their beneficiaries under the plan as of the end of the plan year consist (in whole or in part) of liabilities to such participants and beneficiaries under two or more pension plans as of immediately before such plan year, check box and see instructions regarding supplemental information to be included as an attachment ☐

19 If the total number of participants is 1,000 or more, complete lines (a) through (c)

a Enter the percentage of plan assets held as:
Stock: _____% Investment-Grade Debt: _____% High-Yield Debt: _____% Real Estate: _____% Other: _____%

b Provide the average duration of the combined investment-grade and high-yield debt:
☐ 0-3 years ☐ 3-6 years ☐ 6-9 years ☐ 9-12 years ☐ 12-15 years ☐ 15-18 years ☐ 18-21 years ☐ 21 years or more

c What duration measure was used to calculate line 19(b)?
☐ Effective duration ☐ Macaulay duration ☐ Modified duration ☐ Other (specify):

20 **PBGC missed contribution reporting requirements.** If this is a multiemployer plan or a single-employer plan that is not covered by PBGC, skip line 20.

a Is the amount of unpaid minimum required contributions for all years from Schedule SB (Form 5500) line 40 greater than zero? ☐ Yes ☒ No

b If line 20a is "Yes," 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_____

Schedule SB, line 26 — Schedule of Active Participant Data

ATTAINED AGE	YEARS OF CREDITED SERVICE										
	UNDER 1	1–4	5–9	10–14	15–19	20–24	25–29	30–34	35–39	40 & UP	TOTAL
Under 25											
25–29		1									1
30–34		1	2								3
35–39											
40–44		2				1					3
45–49		1			1	2					4
50–54		2			1						3
55–59		1				1			1	2	5
60–64											
65–69									1		1
70 & up											
Total		8	2		2	4			2	2	20

In each cell, the top number is the count of active participants for each age/service combination.

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

ACTUARIAL ASSUMPTIONS FOR JANUARY 1, 2019

DISCOUNT RATE SPONSOR ELECTIONS			
• Segment rates or full yield curve	Segment		
• Look-back months	4		
	Stabilized	**Nonstabilized**	
• First 5 years	3.74%	2.28%	
• Next 15 years	5.35%	3.81%	
• Over 20 years	6.11%	4.46%	
MORTALITY SPONSOR ELECTIONS			
• Healthy and disabled participants	Section 430(h)(3) prescribed separate static annuitant and nonannuitant mortality tables. These tables are based on the RP-2014 mortality tables with improvement beyond 2006 removed with static mortality improvement based on the IRS methodology and projection scale MP-2017.		
OTHER ECONOMIC ASSUMPTIONS			
• Salary increases	Not Applicable		
• Flat-dollar benefit increases	Not Applicable		
• Social Security taxable wage base increases	Not Applicable		
• Inflation	2.50% per year		
• Expected investment return	7.50% per year for years 2018 through 2019, 8.00% for year 2017		
• Expenses	Expected administrative expenses (assumed to equal prior year administrative expenses but adjusted for PBGC premiums, with current year PBGC premiums replacing prior year) discounted with the effective interest rate to the beginning of the year are included in normal cost.		
DEMOGRAPHIC ASSUMPTIONS			
• Withdrawal	See table of sample rates. (Withdrawal incidence is assumed to cease when participant first attains eligibility for Early retirement or Normal retirement under the terms of the plan.)		

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

• Disability incidence	50% of 1985 Pension Disability Table, Class 2, Sex Distinct published in the 1986 Proceedings of the Conference of Consulting Actuaries. See table of sample rates.			
• Retirement incidence	**Attained age**	**Percentage**		
	55	5%		
	56	5		
	57	5		
	58	10		
	59	10		
	60	15		
	61	10		
	62	20		
	63	10		
	64	20		
	65	25		
	66	25		
	67	20		
	68	20		
	69	20		
	70 and above	100		
• Benefit commencement age for				
– Future vested deferred	63			
– Current vested deferred	63			
• Spouse assumptions	**MALE PARTICIPANTS**		**FEMALE PARTICIPANTS**	
– Percentage married	85%		60%	
– Spouse age difference	2 years younger		3 years older	
FORM OF PAYMENT	**TEN YEAR CERTAIN & LIFE**	**FIVE YEAR CERTAIN & LIFE**	**100% J&S**	**50% J&S**
• Active retirements	35%	0%	65%	0%
• Future vested deferred	35%	0%	65%	0%
• Future disabilities	35%	0%	65%	0%
• Current vested deferred	35%	0%	65%	0%

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

• Future deaths				
– Unmarried participants	0%	100%	0%	0%
– Married participants	0%	0%	0%	100%
UNPREDICTABLE CONTINGENT EVENT ASSUMPTIONS	Not Applicable			
AT-RISK ASSUMPTIONS	Not Applicable			

Table of Sample Rates

	PERCENTAGE		
ATTAINED AGE	DISABILITY		WITHDRAWAL
	MALE	FEMALE	
20	0.0320%	0.0275%	10.0%
25	0.0465	0.0480	5.0
30	0.0670	0.0825	5.0
35	0.0995	0.1260	3.5
40	0.1570	0.1785	3.0
45	0.2525	0.2610	3.0
50	0.4150	0.4270	2.0
55	0.7510	0.7450	2.0
60	1.1330	0.8965	2.0
65	1.5140	1.0475	2.0

ACTUARIAL METHODS

Asset 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% and no less than 90% of the fair market value, as defined in IRC Section 430.

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.

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

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

- **Participants included:** The plan sponsor provides us with data on all employees as of the valuation date, but only those employees who have completed the plan's eligibility requirements are included in the valuation of liabilities.

- **Participants excluded:** No actuarial liability is included for nonvested participants who terminated prior to the valuation date. For this purpose, participants with a break in service on the valuation date are treated as terminated participants.

- **Insurance contracts**: The plan does not have any insurance contracts.

Minimum Funding Methods
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 (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

2019

This Form is Open to Public Inspection

For calendar plan year 2019 or fiscal plan year beginning 01/01/2019 and ending 12/31/2019

▶ **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
PENSION PLAN FOR HOURLY EMPLOYEES AT EDISON, NJ

B Three-digit plan number (PN) ▶ 012

C Plan sponsor's name as shown on line 2a of Form 5500 or 5500-SF
EQUISTAR CHEMICALS, LP

D Employer Identification Number (EIN)
76-0550481

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

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

Part I Basic Information

1 Enter the valuation date: Month 01 Day 01 Year 2019

2 Assets:

a Market value	**2a**	1,743,530
b Actuarial value	**2b**	1,822,157

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	14	695,687	695,687
b For terminated vested participants	7	150,187	150,187
c For active participants	20	670,376	769,877
d Total	41	1,516,250	1,615,751

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**	5.67%
6 Target normal cost	**6**	81,310

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

PAB — Signature of actuary

9/10/2020 — Date

PENNY A. BAILEY — Type or print name of actuary

2005451 — Most recent enrollment number

MERCER — Firm name

314-588-2500 — Telephone number (including area code)

701 MARKET ST., SUITE 1100

ST. LOUIS MO 63101-1867 — 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	256,136
8	Portion elected for use to offset prior year's funding requirement (line 35 from prior year)	0	0
9	Amount remaining (line 7 minus line 8)	0	256,136
10	Interest on line 9 using prior year's actual return of -3.82%	0	-9,784
11	Prior year's excess contributions to be added to prefunding balance:		
	a Present value of excess contributions (line 38a from prior year)		26,597
	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 5.83%		1,551
	b(2) Interest on line 38b from prior year Schedule SB, using prior year's actual return		0
	c Total available at beginning of current plan year to add to prefunding balance		28,148
	d Portion of (c) to be added to prefunding balance		28,148
12	Other reductions in balances due to elections or deemed elections	0	63,432
13	Balance at beginning of current year (line 9 + line 10 + line 11d – line 12)	0	211,068

Part III Funding Percentages

14	Funding target attainment percentage	14	99.71%
15	Adjusted funding target attainment percentage	15	112.77%
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	100.46%
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
			Totals ► 18(b)	0	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	0

20 Quarterly contributions and liquidity shortfalls:

a Did the plan have a "funding shortfall" for the prior year? ☒ Yes ☐ No

b If line 20a is "Yes," were required quarterly installments for the current year made in a timely manner? ☒ 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:	
3.74 %	5.35 %	6.11%	☐ N/A, full yield curve used

b Applicable month (enter code)	**21b**	4
22 Weighted average retirement age	**22**	62

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 Is the plan required to provide a Schedule of Active Participants? 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 6)	**31a**	81,310
b Excess assets, if applicable, but not greater than line 31a	**31b**	0

32 Amortization installments:

	Outstanding Balance	Installment
a Net shortfall amortization installment	4,662	758
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**	82,068

	Carryover balance	Prefunding balance	Total balance
35 Balances elected for use to offset funding requirement	0	82,068	82,068

36 Additional cash requirement (line 34 minus line 35)	**36**	0
37 Contributions allocated toward minimum required contribution for current year adjusted to valuation date (line 19c)	**37**	0
38 Present value of excess contributions for current year (see instructions)		
a Total (excess, if any, of line 37 over line 36)	**38a**	0
b Portion included in line 38a attributable to use of prefunding and funding standard carryover balances	**38b**	0
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 Pension Relief Act of 2010 (See Instructions)

41 If an election was made to use PRA 2010 funding relief for this plan:

a Schedule elected ☐ 2 plus 7 years ☐ 15 years

b Eligible plan year(s) for which the election in line 41a was made ☐ 2008 ☐ 2009 ☐ 2010 ☐ 2011

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

Each employee is assumed to retire in accordance with the table of retirement rates. The proportion of employees expected to retire at each potential retirement age is shown below. The average retirement age is 62.

(A) Retirement age	(B) Retirement Percent	(C) Lx	(D) Number of employees expected to retire (B) x (C)	(E) (A) x (D)
55	5%	10,000	500	27,500
56	5%	9,500	475	26,600
57	5%	9,025	451	25,707
58	10%	8,574	857	49,706
59	10%	7,717	772	45,548
60	15%	6,945	1,042	62,520
61	10%	5,903	590	35,990
62	20%	5,313	1,063	65,906
63	10%	4,250	425	26,775
64	20%	3,825	765	48,960
65	25%	3,060	765	49,725
66	25%	2,295	574	37,884
67	20%	1,721	344	23,048
68	20%	1,377	275	18,700
69	20%	1,102	220	15,180
70	100%	882	882	61,740
TOTAL			**10,000**	**621,489**
AVERAGE				**62.15**

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

ACTUARIAL ASSUMPTIONS FOR JANUARY 1, 2019

DISCOUNT RATE SPONSOR ELECTIONS			
• Segment rates or full yield curve	Segment		
• Look-back months	4		
	Stabilized	**Nonstabilized**	
• First 5 years	3.74%	2.28%	
• Next 15 years	5.35%	3.81%	
• Over 20 years	6.11%	4.46%	
MORTALITY SPONSOR ELECTIONS			
• Healthy and disabled participants	Section 430(h)(3) prescribed separate static annuitant and nonannuitant mortality tables. These tables are based on the RP-2014 mortality tables with improvement beyond 2006 removed with static mortality improvement based on the IRS methodology and projection scale MP-2017.		
OTHER ECONOMIC ASSUMPTIONS			
• Salary increases	Not Applicable		
• Flat-dollar benefit increases	Not Applicable		
• Social Security taxable wage base increases	Not Applicable		
• Inflation	2.50% per year		
• Expected investment return	7.50% per year for years 2018 through 2019, 8.00% for year 2017		
• Expenses	Expected administrative expenses (assumed to equal prior year administrative expenses but adjusted for PBGC premiums, with current year PBGC premiums replacing prior year) discounted with the effective interest rate to the beginning of the year are included in normal cost.		
DEMOGRAPHIC ASSUMPTIONS			
• Withdrawal	See table of sample rates. (Withdrawal incidence is assumed to cease when participant first attains eligibility for Early retirement or Normal retirement under the terms of the plan.)		

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

• Disability incidence	50% of 1985 Pension Disability Table, Class 2, Sex Distinct published in the 1986 Proceedings of the Conference of Consulting Actuaries. See table of sample rates.			
• Retirement incidence	**Attained age**	**Percentage**		
	55	5%		
	56	5		
	57	5		
	58	10		
	59	10		
	60	15		
	61	10		
	62	20		
	63	10		
	64	20		
	65	25		
	66	25		
	67	20		
	68	20		
	69	20		
	70 and above	100		
• Benefit commencement age for				
– Future vested deferred	63			
– Current vested deferred	63			
• Spouse assumptions	**MALE PARTICIPANTS**		**FEMALE PARTICIPANTS**	
– Percentage married	85%		60%	
– Spouse age difference	2 years younger		3 years older	
FORM OF PAYMENT	**TEN YEAR CERTAIN & LIFE**	**FIVE YEAR CERTAIN & LIFE**	**100% J&S**	**50% J&S**
• Active retirements	35%	0%	65%	0%
• Future vested deferred	35%	0%	65%	0%
• Future disabilities	35%	0%	65%	0%
• Current vested deferred	35%	0%	65%	0%

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

• Future deaths				
– Unmarried participants	0%	100%	0%	0%
– Married participants	0%	0%	0%	100%
UNPREDICTABLE CONTINGENT EVENT ASSUMPTIONS	Not Applicable			
AT-RISK ASSUMPTIONS	Not Applicable			

Table of Sample Rates

	PERCENTAGE		
ATTAINED AGE	DISABILITY		WITHDRAWAL
	MALE	FEMALE	
20	0.0320%	0.0275%	10.0%
25	0.0465	0.0480	5.0
30	0.0670	0.0825	5.0
35	0.0995	0.1260	3.5
40	0.1570	0.1785	3.0
45	0.2525	0.2610	3.0
50	0.4150	0.4270	2.0
55	0.7510	0.7450	2.0
60	1.1330	0.8965	2.0
65	1.5140	1.0475	2.0

ACTUARIAL METHODS

Asset 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% and no less than 90% of the fair market value, as defined in IRC Section 430.

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.

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

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

- **Participants included:** The plan sponsor provides us with data on all employees as of the valuation date, but only those employees who have completed the plan's eligibility requirements are included in the valuation of liabilities.

- **Participants excluded:** No actuarial liability is included for nonvested participants who terminated prior to the valuation date. For this purpose, participants with a break in service on the valuation date are treated as terminated participants.

- **Insurance contracts**: The plan does not have any insurance contracts.

Minimum Funding Methods
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, Part V — Summary of Plan Provisions

SUMMARY OF MAJOR PLAN PROVISIONS

Effective date and plan year	Original plan: April 1, 2006. Restated plan: January 1, 2011. Plan year: Calendar year.
Status of the plan	The plan has ongoing benefit accruals and is closed to new entrants effective February 1, 2015.
Significant events that occurred during the year	None
DEFINITIONS	
• Eligible employee	Any person employed by Equistar Chemicals, LP and its subsidiaries and affiliates that have adopted the plan who is hired to work in Edison, New Jersey and is a member of the International Union of Electronic, Electrical, Salaried Machine and Furniture Workers - Communications Workers of America, AFL-CIO and its Local Union #81496.
• Participation	Employees become participants on the earlier of 1) the first January 1 or July 1 after completing one year of service or 2) the end of the Plan Year beginning after date of hire that the participant completes 1,000 hours of service.
• Vesting service	At least 1,000 hours are required for one year of service. Prior service with Akzo Nobel is included.
• Credited service	At least 1,000 hours are required for one year of service. One month of credited service is earned in the year of retirement for each month in which at least 83 hours are credited. No more than 0.75 years of credited service shall be granted for the period April 1, 2006 to December 31, 2006. Prior service with Akzo Nobel is included.
• Normal retirement age	Age 65
NORMAL RETIREMENT	
• Eligibility	Retirement on or after normal retirement date

Schedule SB, Part V — Summary of Plan Provisions

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Schedule SB, Part V — Summary of Plan Provisions

DISABILITY	
• Eligibility	Disabled after attainment of age 40, completion of ten years of credited service.
• Benefit	Monthly benefit is equal to the normal retirement benefit based on Credited Service at the date of disability.
PRE-RETIREMENT DEATH	
• Eligibility	a) Beneficiaries of unmarried participants who die after satisfying the requirement for normal retirement, early retirement or disability retirement. b) Surviving spouses of married participants who were vested.
• Benefit	Benefit that would have been payable to the beneficiary had the participant elected retirement on his date of death, or earliest commencement under: a) a 5 year certain and life annuity for beneficiaries that satisfy the eligibility requirements under (a) above b) a 50% joint and survivor annuity for beneficiaries that satisfy the eligibility requirements under (b) above.
FORM OF BENEFITS	
• Automatic form for unmarried participants	10 year certain and life annuity
• Automatic form for married participants	50% joint & survivor annuity
• Optional forms of payment	Single life annuity, certain & life annuity (5, 10 and 15 year certain periods). Joint & survivor annuity (50%, 75% and 100%). Full cash refund option.
• Actuarial equivalence	1984 Unisex Pension mortality table and an interest rate of 6.00%.
MISCELLANEOUS	
• Maximum benefits	Annual benefits may not exceed the limits in IRC Section 415. This limit is indexed annually. For 2019, the limit is $225,000.

Benefits Included or Excluded

Unless noted below, all benefits provided by the plan, as restated as of January 1, 2011 and amended through the collective bargaining agreement signed on November 22, 2017 are included in this valuation:

- **Most recent plan amendments included:** The collective bargaining agreement signed on November 22, 2017 is included because it was adopted before the valuation date and is effective by the end of the plan year.

Schedule SB, Part V — Summary of Plan Provisions

- **Plan amendments excluded:** *None*

- **Late retirement increases:**

  – *Active participants:* The plan provides benefit suspension notices to participants who work beyond normal retirement; therefore, late retirement actuarial increases only apply to participants who defer retirement beyond age 70½.

  – *Deferred vested participants:* Current deferred vested participants over normal retirement age are valued including the late retirement actuarial increase. The plan distributes benefits to all deferred vested participants upon attaining age 65; any participants that are unpaid after age 65 because they cannot be located are not significant.

- **Internal Revenue Code limitations:** The limitations of Internal Revenue Code Section 415(b) and 401(a)(17) have been incorporated into our calculations.

- **IRC Section 416 rules for top-heavy plans:** We did not test whether this plan is top-heavy (when the present value of benefits for key employees equals or exceeds 60% of the present value for all participants). However, we expect that the plan is not top-heavy due to the large number of rank-and-file participants; therefore, the funding target and target normal cost do not reflect any liability for top-heavy benefit accruals.

PLAN PROVISIONS

Additional Benefits Included or Excluded

- **IRC Section 436 benefit restrictions:**
  – *Unpredictable contingent event benefits:* This valuation excludes restricted contingent event benefits that occurred before the valuation date but includes contingent event benefits which are expected to occur on or after the valuation date regardless of anticipated funding-based limitations.

  – *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 plan's funding target *does not reflect any limitation on benefit accruals*. The target normal cost does not reflect any limitation on benefit accruals.

- **Unpredictable contingent event benefits:** *The plan does not have any unpredictable contingent event benefits.*

Schedule SB, Part V — Summary of Plan Provisions

- **Scheduled benefit increases:** *Scheduled benefit increases effective after the end of the current plan year are excluded from minimum funding requirements.*

PLAN PROVISION CHANGES SINCE PRIOR VALUATION

Maximum benefit amounts under IRS rules were updated from 2018 to 2019.

For funding, scheduled benefit increases effective since the prior valuation have been included.

Schedule SB, line 24 — Change in Actuarial Assumptions

The withdrawal, retirement, disability, commencement timing, percent married and spouse age difference assumptions were updated based on a demographic experience study conducted for the period from 2013 to 2017.

Schedule SB, line 26 — Schedule of Active Participant Data

ATTAINED AGE	YEARS OF CREDITED SERVICE										
	UNDER 1	1–4	5–9	10–14	15–19	20–24	25–29	30–34	35–39	40 & UP	TOTAL
Under 25											
25–29		1									1
30–34		1	2								3
35–39											
40–44		2				1					3
45–49		1			1	2					4
50–54		2			1						3
55–59		1				1			1	2	5
60–64											
65–69									1		1
70 & up											
Total		8	2		2	4			2	2	20

In each cell, the top number is the count of active participants for each age/service combination.

Schedule SB, line 32 — Schedule of Amortization Bases

The total shortfall amortization charge is the sum of the individual shortfall amortization installment for each plan year since the IRC Section 430 changes made by the Pension Protection Act of 2006 (PPA) took effect for the plan. Although an individual shortfall amortization installment can be negative, the combined shortfall amortization charge cannot be less than $0.

SHORTFALL BASES					
YEAR ESTABLISHED		OUTSTANDING BALANCE	YEARS REMAINING		2019 INSTALLMENT
2019	$	4,662	7	$	758
Total	$	4,662		$	758

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

Each employee is assumed to retire in accordance with the table of retirement rates. The proportion of employees expected to retire at each potential retirement age is shown below. The average retirement age is 62.

(A) Retirement age	(B) Retirement Percent	(C) Lx	(D) Number of employees expected to retire (B) x (C)	(E) (A) x (D)
55	5%	10,000	500	27,500
56	5%	9,500	475	26,600
57	5%	9,025	451	25,707
58	10%	8,574	857	49,706
59	10%	7,717	772	45,548
60	15%	6,945	1,042	62,520
61	10%	5,903	590	35,990
62	20%	5,313	1,063	65,906
63	10%	4,250	425	26,775
64	20%	3,825	765	48,960
65	25%	3,060	765	49,725
66	25%	2,295	574	37,884
67	20%	1,721	344	23,048
68	20%	1,377	275	18,700
69	20%	1,102	220	15,180
70	100%	882	882	61,740
TOTAL			**10,000**	**621,489**
AVERAGE				**62.15**

Schedule SB, Part V — Summary of Plan Provisions

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