

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 2018 This Form is Open to Public Inspection
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Part I	Annual Report Identification Information For calendar plan year 2018 or fiscal plan year beginning <u>01/01/2018</u> and ending <u>12/31/2018</u>
A This return/report is for: <div style="display: flex; justify-content: space-between; margin-top: 5px;"> <div> ☐ a multiemployer plan </div> <div> ☐ a multiple-employer plan (Filers checking this box must attach a list of participating employer information in accordance with the form instructions.) </div> </div> <div style="display: flex; justify-content: space-between; margin-top: 5px;"> <div> ☒ a single-employer plan </div> <div> ☐ a DFE (specify) ____ </div> </div>	
B This return/report is: <div style="display: flex; justify-content: space-between; margin-top: 5px;"> <div> ☐ the first return/report </div> <div> ☒ the final return/report </div> </div> <div style="display: flex; justify-content: space-between; margin-top: 5px;"> <div> ☐ an amended return/report </div> <div> ☐ a short plan year return/report (less than 12 months) </div> </div>	
C If the plan is a collectively-bargained plan, check here. ☐	
D Check box if filing under: <div style="display: flex; justify-content: space-between; margin-top: 5px;"> <div> ☒ Form 5558 </div> <div> ☐ automatic extension </div> <div> ☐ the DFVC program </div> </div> <div style="margin-top: 5px;"> ☐ special extension (enter description) </div>	

Part II	Basic Plan Information—enter all requested information		
1a Name of plan <u>LYONDELLBASELL RETIREMENT PLAN</u>	1b Three-digit plan number (PN) ▶	<u>002</u>	
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) <u>LYONDELL CHEMICAL COMPANY</u> <u>1221 MCKINNEY, SUITE 300</u> <u>HOUSTON, TX 77010-2006</u>	1c Effective date of plan <u>04/01/1989</u>	2b Employer Identification Number (EIN) <u>95-4160558</u>	
	2c Plan Sponsor's telephone number <u>713-309-7200</u>	2d Business code (see instructions) <u>325900</u>	

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.	10/09/2019	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

For Paperwork Reduction Act Notice, see the Instructions for Form 5500.

Form 5500 (2018)
v. 171027

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 10413
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 a(2) Total number of active participants at the end of the plan year b Retired or separated participants receiving benefits..... c Other retired or separated participants entitled to future benefits d Subtotal. Add lines 6a(2) , 6b , and 6c e Deceased participants whose beneficiaries are receiving or are entitled to receive benefits. f Total. Add lines 6d and 6e g Number of participants with account balances as of the end of the plan year (only defined contribution plans complete this item) h Number of participants who terminated employment during the plan year with accrued benefits that were less than 100% vested	6a(1) 6032 6a(2) 0 6b 0 6c 0 6d 0 6e 0 6f 0 6g 6h 85
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: 1A 1C 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) (1) ☐ Insurance (2) ☐ Code section 412(e)(3) insurance contracts (3) ☒ Trust (4) ☐ General assets of the sponsor	9b Plan benefit arrangement (check all that apply) (1) ☐ Insurance (2) ☐ Code section 412(e)(3) insurance contracts (3) ☒ Trust (4) ☐ General assets of the sponsor
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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)** ☒ **R** (Retirement Plan Information)
- (2)** ☐ **MB** (Multiemployer Defined Benefit Plan and Certain Money Purchase Plan Actuarial Information) - signed by the plan actuary
- (3)** ☒ **SB** (Single-Employer Defined Benefit Plan Actuarial Information) - signed by the plan actuary

b General Schedules

- (1)** ☒ **H** (Financial Information)
- (2)** ☐ **I** (Financial Information – Small Plan)
- (3)** ☐ 0 **A** (Insurance Information)
- (4)** ☒ **C** (Service Provider Information)
- (5)** ☒ **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 2018 Form M-1 annual report. If the plan was not required to file the 2018 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 2018 This Form is Open to Public Inspection
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For calendar plan year 2018 or fiscal plan year beginning <u>01/01/2018</u> and ending <u>12/31/2018</u>	
▶ 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 <u>LYONDELLBASELL RETIREMENT PLAN</u>	B Three-digit plan number (PN) ▶ <u>002</u>
C Plan sponsor's name as shown on line 2a of Form 5500 or 5500-SF <u>LYONDELL CHEMICAL COMPANY</u>	D Employer Identification Number (EIN) <u>95-4160558</u>
E Type of plan: ☒ Single ☐ Multiple-A ☐ Multiple-B	F Prior year plan size: ☐ 100 or fewer ☐ 101-500 ☒ More than 500

Part I	Basic Information
1 Enter the valuation date: Month <u>01</u> Day <u>01</u> Year <u>2018</u>	
2 Assets:	
a Market value.....	2a <u>1049823310</u>
b Actuarial value	2b <u>1001422921</u>
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	<u>2311</u> <u>280979707</u> <u>280979707</u>
b For terminated vested participants	<u>2119</u> <u>139699990</u> <u>139699990</u>
c For active participants	<u>6032</u> <u>500976037</u> <u>516964760</u>
d Total	<u>10462</u> <u>921655734</u> <u>937644457</u>
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 <u>5.69 %</u>
6 Target normal cost	6 <u>33914135</u>

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	<u>10/08/2019</u>
<u>PENNY A. BAILEY</u>	Date
Type or print name of actuary	<u>17-05451</u>
	Most recent enrollment number
<u>MERCER</u>	<u>314-588-2500</u>
Firm name	Telephone number (including area code)
<u>701 MARKET ST., SUITE 1100</u> <u>ST. LOUIS, MO 63101-1867</u>	
Address of the firm	

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	118385962
8 Portion elected for use to offset prior year's funding requirement (line 35 from prior year)	0	24869667
9 Amount remaining (line 7 minus line 8)	0	93516295
10 Interest on line 9 using prior year's actual return of <u>14.04</u> %	0	13129688
11 Prior year's excess contributions to be added to prefunding balance:		
a Present value of excess contributions (line 38a from prior year)		16008131
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 <u>5.90</u> %		0
b(2) Interest on line 38b from prior year Schedule SB, using prior year's actual return		2247542
c Total available at beginning of current plan year to add to prefunding balance		18255673
d Portion of (c) to be added to prefunding balance		18255673
12 Other reductions in balances due to elections or deemed elections		12499659
13 Balance at beginning of current year (line 9 + line 10 + line 11d – line 12)	0	112401997

Part III Funding Percentages

14 Funding target attainment percentage	14	94.81%
15 Adjusted funding target attainment percentage	15	106.80%
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	96.51%
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
10/05/2018	2600000	0	02/05/2019	2800000	0
10/09/2018	200000	0	03/05/2019	2800000	0
11/05/2018	2800000	0	04/05/2019	2800000	0
12/07/2018	2800	0	05/06/2019	2800000	0
12/13/2018	2797200	0	06/05/2019	2800000	0
01/07/2019	2800000	0	07/05/2019	2800000	0
Totals ▶			18(b)	33700000	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	31501947

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 II	Beginning of Year Carryover and Prefunding Balances
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		(a) Carryover balance	(b) Prefunding balance
7	Balance at beginning of prior year after applicable adjustments (line 13 from prior year).....		
8	Portion elected for use to offset prior year's funding requirement (line 35 from prior year)		
9	Amount remaining (line 7 minus line 8).....		
10	Interest on line 9 using prior year's actual return of _____%		
11	Prior year's excess contributions to be added to prefunding balance:		
a	Present value of excess contributions (line 38a from prior year).....		
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 _____%.....		
b(2)	Interest on line 38b from prior year Schedule SB, using prior year's actual return.....		
c	Total available at beginning of current plan year to add to prefunding balance.....		
d	Portion of (c) to be added to prefunding balance.....		
12	Other reductions in balances due to elections or deemed elections.....		
13	Balance at beginning of current year (line 9 + line 10 + line 11d – line 12).....		

Part III	Funding Percentages
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14	Funding target attainment percentage	14	%
15	Adjusted funding target attainment percentage.....	15	%
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	%
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
08/05/2019	2800000	0			
09/05/2019	2900000	0			
			Totals ►	18(b)	18(c)

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	
b Contributions made to avoid restrictions adjusted to valuation date	19b	
c Contributions allocated toward minimum required contribution for current year adjusted to valuation date.....	19c	

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

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

21 Discount rate:				
a Segment rates:	1st segment: 3.92%	2nd segment: 5.52%	3rd segment: 6.29%	☐ N/A, full yield curve used
b Applicable month (enter code)				21b 4
22 Weighted average retirement age				22 60
23 Mortality table(s) (see instructions)	Prior regulation:	☐ Prescribed - combined	☒ Prescribed - separate	☐ Substitute
	Current regulation:	☐ 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	33914135	
b Excess assets, if applicable, but not greater than line 31a	31b	0	
32 Amortization installments:	Outstanding Balance		Installment
a Net shortfall amortization installment	48623533		9116840
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	43030975	
	Carryover balance	Prefunding balance	Total balance
35 Balances elected for use to offset funding requirement		25682570	25682570
36 Additional cash requirement (line 34 minus line 35)	36	17348405	
37 Contributions allocated toward minimum required contribution for current year adjusted to valuation date (line 19c)	37	31501947	
38 Present value of excess contributions for current year (see instructions)			
a Total (excess, if any, of line 37 over line 36)	38a	14153542	
b Portion included in line 38a attributable to use of prefunding and funding standard carryover balances	38b	14153542	
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

<div>SCHEDULE C</div> <div>(Form 5500)</div> <div>Department of the Treasury Internal Revenue Service</div> <div>Department of Labor Employee Benefits Security Administration</div> <div>Pension Benefit Guaranty Corporation</div>	<div>Service Provider Information</div> <div>This schedule is required to be filed under section 104 of the Employee Retirement Income Security Act of 1974 (ERISA).</div> <div>▶ File as an attachment to Form 5500.</div>	OMB No. 1210-0110
		2018
		This Form is Open to Public Inspection.

For calendar plan year 2018 or fiscal plan year beginning 01/01/2018 and ending 12/31/2018		
A Name of plan LYONDELLBASELL RETIREMENT PLAN	B Three-digit plan number (PN) ▶	002
C Plan sponsor's name as shown on line 2a of Form 5500 LYONDELL CHEMICAL COMPANY	D Employer Identification Number (EIN) 95-4160558	

Part I	Service Provider Information (see instructions)
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You must complete this Part, in accordance with the instructions, to report the information required for **each person** who received, directly or indirectly, \$5,000 or more in total compensation (i.e., money or anything else of monetary value) in connection with services rendered to the plan or the person's position with the plan during the plan year. If a person received **only** eligible indirect compensation for which the plan received the required disclosures, you are required to answer line 1 but are not required to include that person when completing the remainder of this Part.

1 Information on Persons Receiving Only Eligible Indirect Compensation

- a Check "Yes" or "No" to indicate whether you are excluding a person from the remainder of this Part because they received only eligible indirect compensation for which the plan received the required disclosures (see instructions for definitions and conditions)..... ☐ Yes ☒ No
- b If you answered line 1a "Yes," enter the name and EIN or address of each person providing the required disclosures for the service providers who received only eligible indirect compensation. Complete as many entries as needed (see instructions).

(b) Enter name and EIN or address of person who provided you disclosures on eligible indirect compensation
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2. Information on Other Service Providers Receiving Direct or Indirect Compensation. Except for those persons for whom you answered "Yes" to line 1a above, complete as many entries as needed to list each person receiving, directly or indirectly, \$5,000 or more in total compensation (i.e., money or anything else of value) in connection with services rendered to the plan or their position with the plan during the plan year. (See instructions).

(a) Enter name and EIN or address (see instructions)

MERCER

13-2834414

(b) Service Code(s)	(c) Relationship to employer, employee organization, or person known to be a party-in-interest	(d) Enter direct compensation paid by the plan. If none, enter -0-.	(e) Did service provider receive indirect compensation? (sources other than plan or plan sponsor)	(f) Did indirect compensation include eligible indirect compensation, for which the plan received the required disclosures?	(g) Enter total indirect compensation received by service provider excluding eligible indirect compensation for which you answered "Yes" to element (f). If none, enter -0-.	(h) Did the service provider give you a formula instead of an amount or estimated amount?
11 13 50	NONE	1109611	Yes ☐ No ☒	Yes ☐ No ☐		Yes ☐ No ☐

(a) Enter name and EIN or address (see instructions)

THE BANK OF NEW YORK MELLON

13-5160382

(b) Service Code(s)	(c) Relationship to employer, employee organization, or person known to be a party-in-interest	(d) Enter direct compensation paid by the plan. If none, enter -0-.	(e) Did service provider receive indirect compensation? (sources other than plan or plan sponsor)	(f) Did indirect compensation include eligible indirect compensation, for which the plan received the required disclosures?	(g) Enter total indirect compensation received by service provider excluding eligible indirect compensation for which you answered "Yes" to element (f). If none, enter -0-.	(h) Did the service provider give you a formula instead of an amount or estimated amount?
21 50	NONE	260599	Yes ☐ No ☒	Yes ☐ No ☐		Yes ☐ No ☐

(a) Enter name and EIN or address (see instructions)

PRICEWATERHOUSE COOPERS

13-4008324

(b) Service Code(s)	(c) Relationship to employer, employee organization, or person known to be a party-in-interest	(d) Enter direct compensation paid by the plan. If none, enter -0-.	(e) Did service provider receive indirect compensation? (sources other than plan or plan sponsor)	(f) Did indirect compensation include eligible indirect compensation, for which the plan received the required disclosures?	(g) Enter total indirect compensation received by service provider excluding eligible indirect compensation for which you answered "Yes" to element (f). If none, enter -0-.	(h) Did the service provider give you a formula instead of an amount or estimated amount?
10 50	NONE	115000	Yes ☐ No ☒	Yes ☐ No ☐		Yes ☐ No ☐

2. Information on Other Service Providers Receiving Direct or Indirect Compensation. Except for those persons for whom you answered "Yes" to line 1a above, complete as many entries as needed to list each person receiving, directly or indirectly, \$5,000 or more in total compensation (i.e., money or anything else of value) in connection with services rendered to the plan or their position with the plan during the plan year. (See instructions).

(a) Enter name and EIN or address (see instructions)

CURCIO WEBB

34-6171366

(b) Service Code(s)	(c) Relationship to employer, employee organization, or person known to be a party-in-interest	(d) Enter direct compensation paid by the plan. If none, enter -0-.	(e) Did service provider receive indirect compensation? (sources other than plan or plan sponsor)	(f) Did indirect compensation include eligible indirect compensation, for which the plan received the required disclosures?	(g) Enter total indirect compensation received by service provider excluding eligible indirect compensation for which you answered "Yes" to element (f). If none, enter -0-.	(h) Did the service provider give you a formula instead of an amount or estimated amount?
16 50	NONE	32992	Yes ☐ No ☒	Yes ☐ No ☐		Yes ☐ No ☐

(a) Enter name and EIN or address (see instructions)

(b) Service Code(s)	(c) Relationship to employer, employee organization, or person known to be a party-in-interest	(d) Enter direct compensation paid by the plan. If none, enter -0-.	(e) Did service provider receive indirect compensation? (sources other than plan or plan sponsor)	(f) Did indirect compensation include eligible indirect compensation, for which the plan received the required disclosures?	(g) Enter total indirect compensation received by service provider excluding eligible indirect compensation for which you answered "Yes" to element (f). If none, enter -0-.	(h) Did the service provider give you a formula instead of an amount or estimated amount?
			Yes ☐ No ☐	Yes ☐ No ☐		Yes ☐ No ☐

(a) Enter name and EIN or address (see instructions)

(b) Service Code(s)	(c) Relationship to employer, employee organization, or person known to be a party-in-interest	(d) Enter direct compensation paid by the plan. If none, enter -0-.	(e) Did service provider receive indirect compensation? (sources other than plan or plan sponsor)	(f) Did indirect compensation include eligible indirect compensation, for which the plan received the required disclosures?	(g) Enter total indirect compensation received by service provider excluding eligible indirect compensation for which you answered "Yes" to element (f). If none, enter -0-.	(h) Did the service provider give you a formula instead of an amount or estimated amount?
			Yes ☐ No ☐	Yes ☐ No ☐		Yes ☐ No ☐

Part I Service Provider Information (continued)

3. If you reported on line 2 receipt of indirect compensation, other than eligible indirect compensation, by a service provider, and the service provider is a fiduciary or provides contract administrator, consulting, custodial, investment advisory, investment management, broker, or recordkeeping services, answer the following questions for (a) each source from whom the service provider received \$1,000 or more in indirect compensation and (b) each source for whom the service provider gave you a formula used to determine the indirect compensation instead of an amount or estimated amount of the indirect compensation. Complete as many entries as needed to report the required information for each source.

(a) Enter service provider name as it appears on line 2	(b) Service Codes (see instructions)	(c) Enter amount of indirect compensation
(d) Enter name and EIN (address) of source of indirect compensation	(e) Describe the indirect compensation, including any formula used to determine the service provider's eligibility for or the amount of the indirect compensation.	
(a) Enter service provider name as it appears on line 2	(b) Service Codes (see instructions)	(c) Enter amount of indirect compensation
(d) Enter name and EIN (address) of source of indirect compensation	(e) Describe the indirect compensation, including any formula used to determine the service provider's eligibility for or the amount of the indirect compensation.	
(a) Enter service provider name as it appears on line 2	(b) Service Codes (see instructions)	(c) Enter amount of indirect compensation
(d) Enter name and EIN (address) of source of indirect compensation	(e) Describe the indirect compensation, including any formula used to determine the service provider's eligibility for or the amount of the indirect compensation.	

Part II Service Providers Who Fail or Refuse to Provide Information

4 Provide, to the extent possible, the following information for each service provider who failed or refused to provide the information necessary to complete this Schedule.

(a) Enter name and EIN or address of service provider (see instructions)	(b) Nature of Service Code(s)	(c) Describe the information that the service provider failed or refused to provide
(a) Enter name and EIN or address of service provider (see instructions)	(b) Nature of Service Code(s)	(c) Describe the information that the service provider failed or refused to provide
(a) Enter name and EIN or address of service provider (see instructions)	(b) Nature of Service Code(s)	(c) Describe the information that the service provider failed or refused to provide
(a) Enter name and EIN or address of service provider (see instructions)	(b) Nature of Service Code(s)	(c) Describe the information that the service provider failed or refused to provide
(a) Enter name and EIN or address of service provider (see instructions)	(b) Nature of Service Code(s)	(c) Describe the information that the service provider failed or refused to provide
(a) Enter name and EIN or address of service provider (see instructions)	(b) Nature of Service Code(s)	(c) Describe the information that the service provider failed or refused to provide

Part III Termination Information on Accountants and Enrolled Actuaries (see instructions)
(complete as many entries as needed)

a Name:	b EIN:
c Position:	
d Address:	e Telephone:

Explanation:

a Name:	b EIN:
c Position:	
d Address:	e Telephone:

Explanation:

a Name:	b EIN:
c Position:	
d Address:	e Telephone:

Explanation:

a Name:	b EIN:
c Position:	
d Address:	e Telephone:

Explanation:

a Name:	b EIN:
c Position:	
d Address:	e Telephone:

Explanation:

<p style="text-align: center;">SCHEDULE D (Form 5500)</p> <p style="text-align: center; font-size: small;">Department of the Treasury Internal Revenue Service</p> <hr/> <p style="text-align: center; font-size: small;">Department of Labor Employee Benefits Security Administration</p>	<p style="text-align: center;">DFE/Participating Plan Information</p> <p style="text-align: center; font-size: small;">This schedule is required to be filed under section 104 of the Employee Retirement Income Security Act of 1974 (ERISA).</p> <p style="text-align: center;">▶ File as an attachment to Form 5500.</p>	<p style="text-align: center; font-size: small;">OMB No. 1210-0110</p> <hr/> <p style="text-align: center; font-size: large;">2018</p> <hr/> <p style="text-align: center; font-size: small;">This Form is Open to Public Inspection.</p>
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For calendar plan year 2018 or fiscal plan year beginning 01/01/2018 and ending 12/31/2018

<p>A Name of plan LYONDELLBASELL RETIREMENT PLAN</p>	<p>B Three-digit plan number (PN) ▶</p>	002
<p>C Plan or DFE sponsor's name as shown on line 2a of Form 5500 LYONDELL CHEMICAL COMPANY</p>	<p>D Employer Identification Number (EIN) 95-4160558</p>	

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)
---------------	--

<p>a Name of MTIA, CCT, PSA, or 103-12 IE: LYONDELLBASELL MASTER TRUST</p>		
<p>b Name of sponsor of entity listed in (a): LYONDELL CHEMICAL COMPANY</p>		
<p>c EIN-PN 95-4160558-009</p>	<p>d Entity code M</p>	<p>e Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions) 0</p>
<p>a Name of MTIA, CCT, PSA, or 103-12 IE:</p>		
<p>b Name of sponsor of entity listed in (a):</p>		
<p>c EIN-PN</p>	<p>d Entity code</p>	<p>e Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions)</p>
<p>a Name of MTIA, CCT, PSA, or 103-12 IE:</p>		
<p>b Name of sponsor of entity listed in (a):</p>		
<p>c EIN-PN</p>	<p>d Entity code</p>	<p>e Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions)</p>
<p>a Name of MTIA, CCT, PSA, or 103-12 IE:</p>		
<p>b Name of sponsor of entity listed in (a):</p>		
<p>c EIN-PN</p>	<p>d Entity code</p>	<p>e Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions)</p>
<p>a Name of MTIA, CCT, PSA, or 103-12 IE:</p>		
<p>b Name of sponsor of entity listed in (a):</p>		
<p>c EIN-PN</p>	<p>d Entity code</p>	<p>e Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions)</p>
<p>a Name of MTIA, CCT, PSA, or 103-12 IE:</p>		
<p>b Name of sponsor of entity listed in (a):</p>		
<p>c EIN-PN</p>	<p>d Entity code</p>	<p>e Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions)</p>
<p>a Name of MTIA, CCT, PSA, or 103-12 IE:</p>		
<p>b Name of sponsor of entity listed in (a):</p>		
<p>c EIN-PN</p>	<p>d Entity code</p>	<p>e Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions)</p>
<p>a Name of MTIA, CCT, PSA, or 103-12 IE:</p>		
<p>b Name of sponsor of entity listed in (a):</p>		
<p>c EIN-PN</p>	<p>d Entity code</p>	<p>e Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions)</p>
<p>a Name of MTIA, CCT, PSA, or 103-12 IE:</p>		
<p>b Name of sponsor of entity listed in (a):</p>		
<p>c EIN-PN</p>	<p>d Entity code</p>	<p>e Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions)</p>
<p>a Name of MTIA, CCT, PSA, or 103-12 IE:</p>		
<p>b Name of sponsor of entity listed in (a):</p>		
<p>c EIN-PN</p>	<p>d Entity code</p>	<p>e Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions)</p>
<p>a Name of MTIA, CCT, PSA, or 103-12 IE:</p>		
<p>b Name of sponsor of entity listed in (a):</p>		
<p>c EIN-PN</p>	<p>d Entity code</p>	<p>e Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions)</p>

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
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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
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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
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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
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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
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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

SCHEDULE H (Form 5500) <small>Department of the Treasury Internal Revenue Service</small> <small>Department of Labor Employee Benefits Security Administration</small> <small>Pension Benefit Guaranty Corporation</small>	Financial Information 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 2018 This Form is Open to Public Inspection
For calendar plan year 2018 or fiscal plan year beginning 01/01/2018 and ending 12/31/2018		
A Name of plan LYONDELLBASELL RETIREMENT PLAN	B Three-digit plan number (PN) ►	002
C Plan sponsor's name as shown on line 2a of Form 5500 LYONDELL CHEMICAL COMPANY	D Employer Identification Number (EIN) 95-4160558	

Part I Asset and Liability Statement			
1 Current value of plan assets and liabilities at the beginning and end of the plan year. Combine the value of plan assets held in more than one trust. Report the value of the plan's interest in a commingled fund containing the assets of more than one plan on a line-by-line basis unless the value is reportable on lines 1c(9) through 1c(14). Do not enter the value of that portion of an insurance contract which guarantees, during this plan year, to pay a specific dollar benefit at a future date. Round off amounts to the nearest dollar. MTIAs, CCTs, PSAs, and 103-12 IEs do not complete lines 1b(1), 1b(2), 1c(8), 1g, 1h, and 1i. CCTs, PSAs, and 103-12 IEs also do not complete lines 1d and 1e. See instructions.			
Assets		(a) Beginning of Year	(b) End of Year
a Total noninterest-bearing cash	1a		
b Receivables (less allowance for doubtful accounts):			
(1) Employer contributions.....	1b(1)	23100000	0
(2) Participant contributions	1b(2)		
(3) Other.....	1b(3)		
c General investments:			
(1) Interest-bearing cash (include money market accounts & certificates of deposit).....	1c(1)		
(2) U.S. Government securities	1c(2)		
(3) Corporate debt instruments (other than employer securities):			
(A) Preferred	1c(3)(A)		
(B) All other.....	1c(3)(B)		
(4) Corporate stocks (other than employer securities):			
(A) Preferred	1c(4)(A)		
(B) Common.....	1c(4)(B)		
(5) Partnership/joint venture interests	1c(5)		
(6) Real estate (other than employer real property).....	1c(6)		
(7) Loans (other than to participants)	1c(7)		
(8) Participant loans.....	1c(8)		
(9) Value of interest in common/collective trusts	1c(9)		
(10) Value of interest in pooled separate accounts	1c(10)		
(11) Value of interest in master trust investment accounts	1c(11)	1027932056	0
(12) Value of interest in 103-12 investment entities.....	1c(12)		
(13) Value of interest in registered investment companies (e.g., mutual funds).....	1c(13)		
(14) Value of funds held in insurance company general account (unallocated contracts).....	1c(14)		
(15) Other	1c(15)		

		(a) Beginning of Year	(b) End of Year
1d	Employer-related investments:		
(1)	Employer securities	1d(1)	
(2)	Employer real property	1d(2)	
e	Buildings and other property used in plan operation	1e	
f	Total assets (add all amounts in lines 1a through 1e)	1f	1051032056 0
Liabilities			
g	Benefit claims payable	1g	
h	Operating payables	1h	285424 0
i	Acquisition indebtedness	1i	
j	Other liabilities	1j	
k	Total liabilities (add all amounts in lines 1g through 1j)	1k	285424 0
Net Assets			
l	Net assets (subtract line 1k from line 1f)	1l	1050746632 0

Part II Income and Expense Statement

2 Plan income, expenses, and changes in net assets for the year. 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. MTIAs, CCTs, PSAs, and 103-12 IEs do not complete lines 2a, 2b(1)(E), 2e, 2f, and 2g.

		(a) Amount	(b) Total
a	Contributions:		
(1)	Received or receivable in cash from: (A) Employers	2a(1)(A)	33700000
	(B) Participants	2a(1)(B)	
	(C) Others (including rollovers)	2a(1)(C)	
(2)	Noncash contributions	2a(2)	
(3)	Total contributions. Add lines 2a(1)(A) , (B) , (C) , and line 2a(2)	2a(3)	33700000
b	Earnings on investments:		
(1)	Interest:		
	(A) Interest-bearing cash (including money market accounts and certificates of deposit)	2b(1)(A)	
	(B) U.S. Government securities	2b(1)(B)	
	(C) Corporate debt instruments	2b(1)(C)	
	(D) Loans (other than to participants)	2b(1)(D)	
	(E) Participant loans	2b(1)(E)	
	(F) Other	2b(1)(F)	
	(G) Total interest. Add lines 2b(1)(A) through (F)	2b(1)(G)	0
(2)	Dividends: (A) Preferred stock	2b(2)(A)	
	(B) Common stock	2b(2)(B)	
	(C) Registered investment company shares (e.g. mutual funds)	2b(2)(C)	
	(D) Total dividends. Add lines 2b(2)(A) , (B) , and (C)	2b(2)(D)	0
(3)	Rents	2b(3)	
(4)	Net gain (loss) on sale of assets: (A) Aggregate proceeds	2b(4)(A)	
	(B) Aggregate carrying amount (see instructions)	2b(4)(B)	
	(C) Subtract line 2b(4)(B) from line 2b(4)(A) and enter result	2b(4)(C)	0
(5)	Unrealized appreciation (depreciation) of assets: (A) Real estate	2b(5)(A)	
	(B) Other	2b(5)(B)	
	(C) Total unrealized appreciation of assets. Add lines 2b(5)(A) and (B)	2b(5)(C)	0

		(a) Amount	(b) Total
(6) Net investment gain (loss) from common/collective trusts	2b(6)		
(7) Net investment gain (loss) from pooled separate accounts	2b(7)		
(8) Net investment gain (loss) from master trust investment accounts	2b(8)		-38276154
(9) Net investment gain (loss) from 103-12 investment entities	2b(9)		
(10) Net investment gain (loss) from registered investment companies (e.g., mutual funds)	2b(10)		
c Other income	2c		
d Total income. Add all income amounts in column (b) and enter total	2d		-4576154

Expenses

e Benefit payment and payments to provide benefits:			
(1) Directly to participants or beneficiaries, including direct rollovers	2e(1)	73284867	
(2) To insurance carriers for the provision of benefits	2e(2)		
(3) Other	2e(3)		
(4) Total benefit payments. Add lines 2e(1) through (3)	2e(4)		73284867
f Corrective distributions (see instructions)	2f		
g Certain deemed distributions of participant loans (see instructions)	2g		
h Interest expense	2h		
i Administrative expenses: (1) Professional fees	2i(1)	348878	
(2) Contract administrator fees	2i(2)	909104	
(3) Investment advisory and management fees	2i(3)	0	
(4) Other	2i(4)	3958909	
(5) Total administrative expenses. Add lines 2i(1) through (4)	2i(5)		5216891
j Total expenses. Add all expense amounts in column (b) and enter total	2j		78501758

Net Income and Reconciliation

k Net income (loss). Subtract line 2j from line 2d	2k		-83077912
l Transfers of assets:			
(1) To this plan	2l(1)		
(2) From this plan	2l(2)		967668720

Part III Accountant's Opinion

3 Complete lines 3a through 3c if the opinion of an independent qualified public accountant is attached to this Form 5500. Complete line 3d if an opinion is not attached.

a The attached opinion of an independent qualified public accountant for this plan is (see instructions):

(1) ☐ Unqualified (2) ☐ Qualified (3) ☒ Disclaimer (4) ☐ Adverse

b Did the accountant perform a limited scope audit pursuant to 29 CFR 2520.103-8 and/or 103-12(d)?

☒ Yes ☐ No

c Enter the name and EIN of the accountant (or accounting firm) below:

(1) Name: PRICEWATERHOUSECOOPERS

(2) EIN: 13-4008324

d The opinion of an independent qualified public accountant is **not attached** because:

(1) ☐ This form is filed for a CCT, PSA, or MTIA. (2) ☐ It will be attached to the next Form 5500 pursuant to 29 CFR 2520.104-50.

Part IV Compliance Questions

4 CCTs and PSAs do not complete Part IV. MTIAs, 103-12 IEs, and GIAs do not complete lines 4a, 4e, 4f, 4g, 4h, 4k, 4m, 4n, or 5. 103-12 IEs also do not complete lines 4j and 4l. MTIAs also do not complete line 4l.

During the plan year:

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.)

b Were any loans by the plan or fixed income obligations due the plan in default as of the close of the plan year or classified during the year as uncollectible? Disregard participant loans secured by participant's account balance. (Attach Schedule G (Form 5500) Part I if "Yes" is checked.)

	Yes	No	Amount
4a		X	
4b		X	

		Yes	No	Amount
c Were any leases to which the plan was a party in default or classified during the year as uncollectible? (Attach Schedule G (Form 5500) Part II if "Yes" is checked.)	4c		X	
d Were there any nonexempt transactions with any party-in-interest? (Do not include transactions reported on line 4a. Attach Schedule G (Form 5500) Part III if "Yes" is checked.).....	4d		X	
e Was this plan covered by a fidelity bond?	4e	X		57334847
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 have assets held for investment? (Attach schedule(s) of assets if "Yes" is checked, and see instructions for format requirements.)	4i		X	
j Were any plan transactions or series of transactions in excess of 5% of the current value of plan assets? (Attach schedule of transactions if "Yes" is checked, and see instructions for format requirements.)	4j		X	
k Were all the plan assets either distributed to participants or beneficiaries, transferred to another plan, or brought under the control of the PBGC?	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)
PDG CHEMICAL INC. PENSION PLAN	76-0550481	004

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 4159418. (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 2018 This Form is Open to Public Inspection.
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For calendar plan year 2018 or fiscal plan year beginning 01/01/2018 and ending 12/31/2018

A Name of plan <u>LYONDELLBASELL RETIREMENT PLAN</u>	B Three-digit plan number (PN) ▶ <u>002</u>
C Plan sponsor's name as shown on line 2a of Form 5500 <u>LYONDELL CHEMICAL COMPANY</u>	D Employer Identification Number (EIN) <u>95-4160558</u>

Part I	Distributions
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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	<u>0</u>
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): <u>13-7073479</u>		
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	<u>192</u>

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.)
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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
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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
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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.
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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

For Paperwork Reduction Act Notice, see the Instructions for Form 5500.

Schedule R (Form 5500) 2018
v. 171027

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

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a Name of contributing employer

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(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

b The plan year immediately preceding the current plan year

c The second preceding plan year

14a**14b****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

b The corresponding number for the second preceding plan year

15a**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

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

16a**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: 34.0% Investment-Grade Debt: 27.0% High-Yield Debt: 1.0% Real Estate: 6.0% Other: 32.0%

- 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):

LYONDELLBASELL RETIREMENT PLAN

FINANCIAL STATEMENTS

**As of December 31, 2018 and 2017
and for the years ended December 31, 2018 and 2017**

LYONDELLBASELL RETIREMENT PLAN

INDEX TO FINANCIAL STATEMENTS

	<u>Page</u>
Report of Independent Auditors	3
Financial Statements:	
Statements of Net Assets Available for Benefits	5
Statements of Changes in Net Assets Available for Benefits	6
Statement of Accumulated Plan Benefits	7
Statement of Changes in Accumulated Plan Benefits	8
Notes to the Financial Statements	9

Supplemental schedules required by 29 CFR 2520.103-10 of the Department of Labor's Rules and Regulations for Reporting and Disclosure under the Employee Retirement Income Security Act of 1974 ("ERISA") have been omitted because they are not applicable.



Report of Independent Auditors

To the Administrator of the LyondellBasell Retirement Plan:

Report on the Financial Statements

We were engaged to audit the accompanying financial statements of the LyondellBasell Retirement Plan (the "Plan"), which comprise the statements of net assets available for benefits as of December 31, 2018 and 2017, and the related statements of changes in net assets available for benefits for the years then ended and the statement of accumulated plan benefits as of December 31, 2017 and the related statement of changes in accumulated plan benefits for the year then ended, and the related notes to the financial statements.

Management's Responsibility for the Financial Statements

Management is responsible for the preparation and fair presentation of the financial statements in accordance with accounting principles generally accepted in the United States of America; this includes the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

Auditors' Responsibility

Our responsibility is to express an opinion on the financial statements based on conducting the audit in accordance with auditing standards generally accepted in the United States of America. Because of the matter described in the Basis for Disclaimer of Opinion paragraph, however, we were not able to obtain sufficient appropriate audit evidence to provide a basis for an audit opinion.

Basis for Disclaimer of Opinion

As permitted by 29 CFR 2520.103-8 of the Department of Labor's Rules and Regulations for Reporting and Disclosure under the Employee Retirement Income Security Act of 1974, the plan administrator instructed us not to perform, and we did not perform, any auditing procedures with respect to the information summarized in Notes 9, 10, and 11, which were certified by The Bank of New York Mellon, the trustee of the Plan, except for comparing such information with the related information included in the financial statements. We have been informed by the plan administrator that the trustee holds the Plan's investment assets and executes investment transactions. The plan administrator has obtained certifications from the trustee as of December 31, 2018 and 2017 and for the years then ended, that the information provided to the plan administrator by the trustee is complete and accurate.

Disclaimer of Opinion

Because of the significance of the matter described in the Basis for Disclaimer of Opinion paragraph, we have not been able to obtain sufficient appropriate audit evidence to provide a basis for an audit opinion. Accordingly, we do not express an opinion on the financial statements.



Report on Form and Content in Compliance with DOL Rules and Regulations

The form and content of the information included in the financial statements, other than that derived from the information certified by the trustee, have been audited by us in accordance with auditing standards generally accepted in the United States of America and, in our opinion, are presented in compliance with the Department of Labor's Rules and Regulations for Reporting and Disclosure under the Employee Retirement Income Security Act of 1974.

Pinewaterhousecoopers LLP

Houston, Texas
September 26, 2019

LYONDELLBASELL RETIREMENT PLAN

STATEMENTS OF NET ASSETS AVAILABLE FOR BENEFITS

	December 31,	
	2018	2017
ASSETS		
Plan interest in the LyondellBasell Master Trust, at fair value	\$ 942,441,642	\$ 1,027,932,056
Employer contributions receivable	25,300,000	23,100,000
Total assets	967,741,642	1,051,032,056
LIABILITIES		
Accrued administrative expenses	72,922	285,424
Total liabilities	72,922	285,424
Net assets available for benefits	\$ 967,668,720	\$ 1,050,746,632

The accompanying notes are an integral part of these financial statements.

LYONDELLBASELL RETIREMENT PLAN

STATEMENTS OF CHANGES IN NET ASSETS AVAILABLE FOR BENEFITS

	For the Year Ended December 31,	
	2018	2017
Investment (loss) income from the LyondellBasell Master Trust	\$ (38,276,154)	\$ 129,795,567
Employer contributions	33,700,000	30,900,000
Benefits paid to participants	(73,284,867)	(71,556,685)
Administrative expenses	<u>(5,216,891)</u>	<u>(6,192,250)</u>
Net (decrease) increase	(83,077,912)	82,946,632
Net assets available for benefits:		
Beginning of year	1,050,746,632	967,800,000
End of year	<u>\$ 967,668,720</u>	<u>\$ 1,050,746,632</u>

The accompanying notes are an integral part of these financial statements.

LYONDELLBASELL RETIREMENT PLAN
STATEMENT OF ACCUMULATED PLAN BENEFITS

	December 31, 2017
Actuarial present value of accumulated plan benefits:	
Vested plan benefits:	
Participants currently receiving benefits	\$ 247,153,628
Other participants	559,020,660
Total vested plan benefits	806,174,288
Non-vested plan benefits	17,997,490
Total actuarial present value of accumulated plan benefits	\$ 824,171,778

The accompanying notes are an integral part of these financial statements.

LYONDELLBASELL RETIREMENT PLAN**STATEMENT OF CHANGES IN ACCUMULATED PLAN BENEFITS**

	For the Year Ended December 31, 2017
Actuarial present value of accumulated plan benefits at beginning of year (January 1, 2017)	<u>\$ 793,559,107</u>
Increase (decrease) during the year attributable to:	
Additional benefits accumulated, including actuarial experience losses	22,075,100
Interest	60,383,940
Benefits paid to participants	(71,556,685)
Change in actuarial assumptions	19,710,316
Net increase	<u>30,612,671</u>
Actuarial present value of accumulated plan benefits at end of year (December 31, 2017)	<u><u>\$ 824,171,778</u></u>

The accompanying notes are an integral part of these financial statements.

LYONDELLBASELL RETIREMENT PLAN

NOTES TO THE FINANCIAL STATEMENTS

1. Description of Plan

General – The LyondellBasell Retirement Plan (the “Plan”) is sponsored by Lyondell Chemical Company (“Lyondell” or “Company”) and is a defined benefit plan for non-represented employees of Lyondell, Equistar Chemicals, LP (“Equistar”), and Houston Refining LP (“HRO”), (collectively, “Lyondell and the participating employers”). The Plan is subject to the provisions of the Employee Retirement Income Security Act of 1974 (“ERISA”). Participants should refer to the Plan document for a complete description of the Plan provisions. The Plan was amended, effective July 1, 2015, to provide that if a grandfathered member terminates employment and then returns to employment on or after July 1, 2015, such grandfathered member will not be eligible to receive any transition credits on or after his reemployment date.

Pension Benefits – Eligible employees become participants in the Plan immediately upon employment and are fully vested in their benefits upon the earlier of completion of three years of service, death or attainment of age 65 while employed. With respect to Plan benefits accrued prior to January 1, 2009, participants are entitled to monthly pension benefits upon retiring on or after the normal retirement age of 65, as defined in the Plan document, and with respect to most participants, the Plan also permits early retirement at a reduced benefit level for participants retiring after reaching age 55 with ten or more years of service as defined in the Plan. If a participant is vested but terminates employment prior to eligibility for normal or early retirement, the participant is eligible for a deferred pension benefit commencing at age 65 or, if the participant terminates with ten or more years of membership service, as early as age 55, subject to reduction for early commencement. Participants receive these accumulated plan benefits as a monthly benefit or in an optional form available under the Plan. These benefits accrued through December 31, 2008 were calculated using the Plan’s final average pay benefit formula as defined in the Plan document.

Benefits accrued from and after January 1, 2009 are calculated using the Plan’s cash balance benefit formula as defined in the Plan document. The cash balance formula credits dollar amounts as a percentage of pay (pay credits) and at a stated interest rate (interest credits). Certain participants (“Grandfathered Members”) are entitled to additional pay credits (“Transition Credits”) under the cash balance formula based on age and benefit service on December 31, 2008 or December 31, 2009, as described in the Plan document. Vested Plan benefits accrued from January 1, 2009 are payable upon separation from service as a monthly benefit or in an optional form available under the Plan.

Some participants may be eligible for frozen benefits accrued under the Equistar Chemicals, LP Retirement Plan, the Houston Refining LP Retirement Plan for Non-Represented Employees, or the Basell Retirement Income Plan (collectively, the “Merged Plans”), which were merged into the Plan effective December 31, 2010, as defined in the Merged Plans.

Death Benefits – If a participant dies, any death benefits are paid to the participant’s beneficiary, as described in the Plan document.

Contributions – All contributions are made by Lyondell and the participating employers and participant contributions are not permitted under the terms of the Plan. A predecessor plan, the Atlantic Richfield Retirement Plan (“ARCO Plan”), allowed, but did not require, participants to make voluntary contributions through February 1993 (See Note 6).

Administration – The Plan is administered by the Benefits Administrative Committee (“BAC”). Mercer is the Plan’s recordkeeper and actuary. Plan assets are maintained in the LyondellBasell Master Trust (“Master Trust”) under the custody of The Bank of New York Mellon (“Trustee”). Management of portfolio assets is directed by external investment managers hired and monitored by the Benefits Finance Committee (“BFC”). Both the BAC and BFC consist of individuals appointed by the Lyondell Board of Directors.

2. Summary of Significant Accounting Policies

Basis of Accounting – The financial statements of the Plan are prepared in accordance with generally accepted accounting principles in the United States of America (“U.S. GAAP”).

LYONDELLBASELL RETIREMENT PLAN

NOTES TO THE FINANCIAL STATEMENTS

Accounting Guidance Issued But Not Adopted as of December 31, 2018 – In February 2017, the Financial Accounting Standards Board (the “FASB”) issued Accounting Standards Update (“ASU”) 2017-06, *Plan Accounting (Topics 960, 962, 965)-Employee Benefit Plan Master Trust Reporting*. The amendments require that for each master trust in a which a plan holds an interest, the plan’s interest in that master trust and any change in that interest, be presented in separate line items in the statement of net assets available for benefits and in the statement of changes in net assets available for benefits, respectively. In addition, the amendments remove the requirement to disclose the percentage interest in the master trust for plans with divided interests and require that all plans disclose the dollar amount of their interest in each of those general types of investments within the plan’s financial statements. This amendment will be effective for periods beginning after December 15, 2018. Early adoption of this ASU is permitted but not required. The adoption of this amendment is not expected to have a material impact on the presentation of the Plan’s financial statements.

Use of Estimates – The preparation of the Plan’s financial statements in conformity with U.S. GAAP requires management to make significant estimates and assumptions that affect the reported amounts of net assets available for benefits and accumulated plan benefits at the date of the financial statements, the changes in net assets available for benefits and changes in accumulated plan benefits during the reporting period, and, when applicable, disclosures of contingent assets and liabilities at the date of the financial statements. Actual results could differ from those estimates.

Investment Valuation and Income Recognition – A separate account for the Plan is maintained by the Master Trust reflecting the Plan’s share of the Master Trust. Interest in the Master Trust is determined on a monthly basis and is based upon the beginning of the month value of the Plan’s interest in the Master Trust plus actual contributions and allocated investment income (loss), less actual distributions and an allocation of administrative expenses. Investments of the Master Trust are stated at fair value. Fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. See Note 11 for discussion of fair value measurements.

From time to time the Master Trust’s investment managers may use derivative financial instruments including forward exchange contracts and future contracts. Derivative instruments are used primarily to mitigate exposure to foreign exchange rate and interest rate fluctuations as well as manage the investment mix in the portfolio. The Master Trust’s interest in funds which utilize such financial instruments is not considered significant to the Plan’s financial statements.

Purchases and sales of securities by the Master Trust are accounted for on a trade date basis (the date the order to buy or sell is originated). Gains or losses on the sale or distribution of securities are computed on a first-in, first-out basis. Dividend income is recorded on the ex-dividend date. Income from other investments is recorded as earned. The net appreciation or depreciation in the fair value of investments, which consist of the realized gains or losses and the unrealized appreciation or depreciation on those investments, is included in “Investment income from the LyondellBasell Master Trust” in the Statements of Changes in Net Assets Available for Benefits.

Interest and dividends earned, net appreciation or depreciation in the fair value of investments, and expenses incurred under the collective investment accounts of the Master Trust are allocated to the Plan based upon the average monthly investment balance in the Master Trust of each plan participating in the trust.

Risks and Uncertainties – The Master Trust invests in a combination of common and preferred stock, fixed income securities, bank common and commingled funds, short-term investments, open ended real estate funds, hedge funds, private equity funds, convertible securities, U.S. government securities, and cash and cash equivalents. Investment securities are exposed to various risks, such as market and credit risks. Changes in the values of investment securities will continue to occur in the near term and such changes could materially affect the amounts reported in the Statements of Net Assets Available for Benefits.

The actuarial present value of accumulated plan benefits is reported based on certain assumptions pertaining to interest rates, inflation rates and employee demographics, all of which are subject to change. Due to uncertainties inherent in the estimations and assumption process, it is at least reasonably possible that changes in these estimates and assumptions in the near term would be material to the financial statements.

LYONDELLBASELL RETIREMENT PLAN

NOTES TO THE FINANCIAL STATEMENTS

Benefits Paid to Participants – Benefits are paid by the Plan and are recorded when paid.

Administrative Expenses – Certain administrative expenses are paid by the Plan and Plan sponsor. Administrative expenses paid by the Master Trust and allocated to the Plan were \$4,284,662 and \$4,034,379 for the years ended December 31, 2018 and 2017, respectively, and are included in “Investment income from the LyondellBasell Master Trust” in the Statements of Changes in Net Assets Available for Benefits. See Note 12 for discussion of related-party transactions.

3. Actuarial Present Value of Accumulated Plan Benefits

Accumulated plan benefits are those future periodic payments, including lump sum distributions, which are attributable under the Plan’s provisions to the service that employees have rendered, as of the beginning of the plan year. Accumulated plan benefits include benefits expected to be paid to: (a) retired or terminated employees or their beneficiaries; (b) beneficiaries of employees who have died; and (c) present employees or their beneficiaries. Benefits under the Plan that were accrued prior to January 1, 2009 are based upon the employee’s years of service and the average of the employee’s highest annual eligible earnings for any consecutive three-year period of the employee’s service during the employee’s last ten years of service. If the employee’s total service before January 1, 2009 is less than three years, the benefits are based upon the average annual eligible earnings for that entire period of service. Benefits accrued under the Plan from January 1, 2009 are based on a notional cash balance account. Benefits accrued under the Merged Plans prior to their merger with and into the Plan are based on years of service and final average pay, as described in the Merged Plans. Benefits payable under all circumstances, including retirement, death, and termination of employment, are included to the extent that the circumstances are deemed attributable to employee services rendered up to the valuation date.

The 2017 actuarial present value of accumulated plan benefits was determined by the Plan’s actuary, Mercer. The actuarial method used to determine the present value of accumulated plan benefits is the projected unit credit actuarial cost method. The more significant assumptions underlying the actuarial valuation are as follows:

	<u>December 31, 2017</u>
Investment return	7.50% per year
Interest rate	7.50% per year
Mortality table	RP-2014 Separate employee/annuitant healthy mortality table for males and females with no collar adjustment (with MP-2014 based mortality improvements from 2006 to 2014 backed out), projected generationally with scale MP-2018
Assumed average retirement age	63 years of age

In the Statement of Changes in Accumulated Plan Benefits, the change in actuarial assumptions was \$19,710,316. This amount represents actuarial assumption changes since January 1, 2017 and includes changes to the assumption used to determine the lump sum conversions and the mortality assumption.

Plan contributions and the actuarial present value of accumulated plan benefits are prepared based upon certain assumptions pertaining to interest rates, inflation rates and employee demographics, all of which are subject to change.

LYONDELLBASELL RETIREMENT PLAN

NOTES TO THE FINANCIAL STATEMENTS

The foregoing actuarial assumptions are based upon the presumption that the Plan will continue. If the Plan were to terminate, different actuarial assumptions and other factors might be applicable in determining the actuarial present value of accumulated plan benefits.

4. Funding Policy

The funding policy of the Company is to satisfy legal minimum funding requirements, as determined under the standard unit credit method, as adopted January 1, 2008, under the Pension Protection Act of 2006 ("PPA"), with the discretion to make additional contributions from time to time. Fluctuations in the return (interest, dividends, and net appreciation or depreciation in fair value) on investments of the Plan from the assumed rate serve to reduce or increase the future contributions required to provide for the benefits defined under the Plan.

Contributions for the years ended December 31, 2018 and 2017 were \$33,700,000 and \$30,900,000, respectively, and, as determined by the Plan's actuaries, met the minimum funding requirements under ERISA and the Internal Revenue Code of 1986 (the "Code"), each as amended by the PPA.

5. Plan Termination

Although it has not expressed any intention to do so, Lyondell has the right, under the terms of the Plan document, to discontinue benefit accruals at any time and to terminate the Plan, subject to the applicable provisions of ERISA and the Code.

Participants' retirement allowances under the Plan are insured to the extent required by law through the Pension Benefit Guaranty Corporation ("PBGC"). If the Plan were to be terminated, priorities of payment of benefits would be made in accordance with the requirements of ERISA and the Code.

Whether all participants receive their benefits should the Plan terminate at some future time will depend on the sufficiency, at that time, of the Plan's net assets to provide for accumulated benefit obligations and may also depend on the financial condition of the Plan sponsor and the level of benefits guaranteed by the PBGC.

6. Voluntary Contributions

Until February 1993, the ARCO Plan allowed, but did not require, participants to make voluntary contributions. Such contributions are either distributed upon termination of employment or, in certain cases, may be converted into an annuity to supplement the regular retirement benefit. As of December 31, 2018 and 2017, voluntary contributions and the accumulated investment income thereon, held in the Master Trust, totaled \$336,583 and \$386,853, respectively. All movements were due to interest income earned net of any withdrawals. Interest earned on these funds is at a current market rate for government interest bearing obligations.

7. Tax Status

U.S. GAAP requires the Plan's management to evaluate tax positions taken by the Plan and recognize a tax liability (or asset) if the Plan has taken an uncertain position that more likely than not would not be sustained upon examination by the Internal Revenue Service ("IRS"). The plan administrator has analyzed the tax positions of the Plan, and has concluded that as of December 31, 2018 and 2017, there are no uncertain positions taken or expected to be taken that would require recognition of a liability (or asset) or disclosure in the financial statements. The Plan is subject to routine audits by taxing jurisdictions; however, there are currently no audits for any tax periods in progress.

The IRS issued a determination letter dated September 4, 2014, stating that the Plan and related Master Trust are designed in accordance with applicable sections of the Code. The Plan has been amended since receiving the determination letter. However, the BAC believes that the Plan is currently designed and being operated in compliance with the applicable requirements of the Code and, therefore, that the related trust is tax-exempt. Accordingly, no provision is made for federal income taxes.

LYONDELLBASELL RETIREMENT PLAN

NOTES TO THE FINANCIAL STATEMENTS

8. Reconciliation of Financial Statements to Form 5500

The following is a reconciliation of net assets available for benefits per the financial statements to Form 5500:

	2018
Net assets available for benefits per the financial statements	\$ 967,668,720
Transfer to other plan	(967,668,720)
Net assets available for benefits per Form 5500	\$ —
	2018
Transfer from the plan per the financial statements	\$ —
Transfer from the plan	(967,668,720)
Transfer from the plan per Form 5500	\$ (967,668,720)

The Form 5500 was prepared as if the merger of the Plan and the PDG Chemical Inc. Pension Plan ("PDG") occurred on December 31, 2018. See Note 14.

9. Information Certified by the Plan's Trustee

The plan administrator has elected the method of compliance permitted by Section 29 CFR 2520.103-8 of the Department of Labor's Rules and Regulations for Reporting and Disclosure under ERISA. Accordingly, the Trustee has certified that the following data included in the accompanying financial statements are complete and accurate:

- Plan interest in the Master Trust, at fair value, excluding accrued administrative expenses of \$882,599 and \$1,253,940 at December 31, 2018 and 2017, respectively
- Investment income from the Master Trust
- Investment amounts as shown in Note 10 and Note 11, except for the non-monetary information included in the net asset value per share table as shown in Note 11 which was not certified by the Trustee

10. Interest in LyondellBasell Master Trust

The Master Trust is a pooled investment trust composed of the beneficial interests of certain participating defined benefit plans ("Master Trust Plans") of Lyondell and certain of its subsidiaries and affiliates. The Master Trust consists of a portfolio of investments in a combination of common and preferred stock, fixed income securities, bank common and commingled funds, short-term investments, open ended real estate funds, hedge funds, private equity funds, convertible securities, U.S. government securities, and cash and cash equivalents.

Master Trust Plans do not own specific securities or other assets in the Master Trust but have an undivided interest in the Master Trust. The Plan's undivided interest in the investment holdings of the Master Trust, consisting of total investments, receivables from sales of securities, accrued interest, dividends and payables from purchases of securities, and other payables and receivables, was approximately 61% at both December 31, 2018 and 2017, respectively. Investment income related to the Master Trust is allocated to the Master Trust Plans based upon each plan's average monthly investment balance in the Master Trust.

LYONDELLBASELL RETIREMENT PLAN

NOTES TO THE FINANCIAL STATEMENTS

The net assets of the Master Trust as of December 31, 2018 and 2017 are as follows:

	December 31,	
	2018	2017
Assets		
Investments, at fair value:		
Common and preferred stock	\$ 310,938,008	\$ 395,999,316
Fixed income securities	206,455,667	227,548,720
Commingled funds	389,388,834	414,536,729
Real estate	107,169,222	103,522,601
Hedge funds	231,038,047	255,414,577
Private equity	113,047,719	95,780,543
U.S. government securities	145,695,263	153,961,700
Cash and cash equivalents	27,375,734	44,901,057
Total investments	<u>1,531,108,494</u>	<u>1,691,665,243</u>
Receivables:		
Sales of securities	592,941	785,205
Accrued interest and dividends	5,391,646	14,559,023
Total receivables	<u>5,984,587</u>	<u>15,344,228</u>
Cash - noninterest bearing	20,790	49,229
Total assets	<u>1,537,113,871</u>	<u>1,707,058,700</u>
Liabilities		
Purchase of securities	760,736	2,303,615
Other payables	576,289	9,925,176
Total liabilities	<u>1,337,025</u>	<u>12,228,791</u>
Net assets	<u>\$ 1,535,776,846</u>	<u>\$ 1,694,829,909</u>

LYONDELLBASELL RETIREMENT PLAN

NOTES TO THE FINANCIAL STATEMENTS

The components of total investment (loss) income of the Master Trust for the years ended December 31, 2018 and 2017 are as follows:

	<u>2018</u>	<u>2017</u>
Investment (loss) income:		
Net appreciation in fair value of investments	\$ (79,366,082)	\$ 192,320,668
Interest, dividend and other income:		
Interest income	10,923,038	10,512,817
Dividend income	11,616,976	12,593,529
Other income ^(a)	1,762,427	5,232,609
Total	<u>24,302,441</u>	<u>28,338,955</u>
Total investment (loss) income	<u>\$ (55,063,641)</u>	<u>\$ 220,659,623</u>

^(a) Comprised of income generated from the Master Trust's investment in partnership arrangements.

11. Fair Value Measurements

ASC 820, *Fair Value Measurements*, defines fair value as the exchange price that would be received for an asset or paid to transfer a liability (an exit price) in the principal or most advantageous market for the asset or liability in an orderly transaction between market participants. ASC 820 also specifies a fair value hierarchy based upon the observability of inputs used in valuation techniques. Observable inputs (highest level) reflect market data obtained from independent sources, while unobservable inputs (lowest level) reflect internally-developed market assumptions. In accordance with ASC 820, fair value measurements are classified using the following hierarchy:

Level 1 – Quoted prices for identical instruments in active markets.

Level 2 – Quoted prices for similar instruments in active markets; quoted prices for identical or similar instruments in markets that are not active; and model-derived valuations in which all significant inputs or significant value-drivers are observable in active markets.

Level 3 – Model-derived valuations in which one or more significant inputs or significant value-drivers are unobservable.

When available, quoted market prices are used to determine fair value and such measurements are classified within Level 1. In some cases where market prices are not available, observable market based inputs are used to calculate fair value, in which case the measurements are classified within Level 2. If quoted or observable market prices are not available, fair value is based upon internally-developed models that use, where possible, current market-based parameters such as interest rates, yield curves and currency rates. These measurements are classified within Level 3.

Fair value measurements are classified according to the lowest level input or value-driver that is significant to the valuation. A measurement may therefore be classified within Level 3 even though there may be significant inputs that are readily observable.

Changes in Fair Value Levels – Management reviews the disclosures regarding fair value measurements annually at year end. If an instrument classified as Level 1 subsequently ceases to be actively traded, it is transferred out of Level 1. In such cases, instruments are reclassified as Level 2, unless the measurement of its fair value requires the use of significant unobservable inputs, in which cases it is reclassified as Level 3.

LYONDELLBASELL RETIREMENT PLAN

NOTES TO THE FINANCIAL STATEMENTS

Valuation methodologies used for major investment types measured at fair value include:

Common and preferred stock – Valued at the closing price reported on the active market on which the individual securities are traded.

Fixed income securities – Certain securities that are not traded on an exchange are valued at the closing price reported by pricing services. Other securities are valued based on yields currently available on comparable securities of issuers with similar credit ratings.

Commingled funds – Valued based upon the unit values of such collective trust funds held by the Master Trust at year end. Unit values are based on the fair value of the underlying assets of the fund derived from inputs principally from, or corroborated by, observable market data by correlation or other means.

Real estate – Valued on the basis of a discounted cash flow approach, which includes the future rental receipts, expenses, and residual values as the highest and best use of the real estate from a market participant view as rental property.

Hedge funds – Valued based upon the unit values of such alternative investments held by the Master Trust at year end. Unit values are based on the fair value of the underlying assets of the fund.

Private equity – Valued based upon the unit values of such alternative investments held by the Master Trust at year end. Unit values are based on the fair value of the underlying assets of the fund. Certain securities held in the fund are valued at the closing price reported on the exchange or other established quotation service for over-the-counter securities. Other assets held in the fund are valued based on the most recent financial statements prepared by the fund manager.

Convertible securities – Valued at the quoted prices for similar assets or liabilities in active markets.

U.S. government securities – Certain securities are valued at the closing price reported on the active market on which the individual securities are traded. Other securities are valued based on yields currently available on comparable securities of issuers with similar credit ratings.

Cash and cash equivalents – Valued at the quoted prices for similar assets or liabilities in active markets.

The preceding methods described may produce a fair value calculation that may not be indicative of net realizable value or reflective of future fair values. Furthermore, although the Company believes its valuation methods are appropriate and consistent with other market participants, the use of different methodologies or assumptions to determine the fair value of certain financial instruments could result in a different fair value measurement at the reporting date.

LYONDELLBASELL RETIREMENT PLAN

NOTES TO THE FINANCIAL STATEMENTS

The investments of the Master Trust that are measured at fair value as of December 31, 2018 are summarized below:

	December 31, 2018			
	Fair Value	Level 1	Level 2	Level 3
Common and preferred stock measured at net asset value*	\$ 310,938,008	\$ 310,347,183	\$ 107,700	\$ —
Fixed income securities measured at net asset value*	206,455,667	—	206,455,667	—
Commingled funds measured at net asset value*	389,388,834	—	—	—
Real estate measured at net asset value*	107,169,222	—	—	—
Hedge funds measured at net asset value*	231,038,047	—	—	—
Private equity measured at net asset value*	113,047,719	—	—	—
U.S. government securities	145,695,263	145,695,263	—	—
Cash and cash equivalents	27,375,734	27,375,734	—	—
Total investments in Master Trust	<u>\$ 1,531,108,494</u>	<u>\$ 483,418,180</u>	<u>\$ 206,563,367</u>	<u>\$ —</u>

The investments of the Master Trust that are measured at fair value as of December 31, 2017 are summarized below:

	December 31, 2017			
	Fair Value	Level 1	Level 2	Level 3
Common and preferred stock measured at net asset value*	\$ 395,999,316	\$ 395,328,411	\$ 160,175	\$ —
Fixed income securities measured at net asset value*	227,548,720	—	227,392,055	—
Commingled funds measured at net asset value*	414,536,729	—	—	—
Real estate measured at net asset value*	103,522,601	—	—	—
Hedge funds measured at net asset value*	255,414,577	—	—	—
Private equity measured at net asset value*	95,780,543	—	—	—
U.S. government securities	153,961,700	153,961,700	—	—
Cash and cash equivalents	44,901,057	44,901,057	—	—
Total investments in Master Trust	<u>\$ 1,691,665,243</u>	<u>\$ 594,191,168</u>	<u>\$ 227,552,230</u>	<u>\$ —</u>

* In accordance with Fair Value Measurement Topic 820, Subtopic 10, certain investments that are measured at fair value using the net asset value per share (or its equivalent) practical expedient have not been classified in the fair value hierarchy. The amounts presented in this table are intended to facilitate reconciliation to the Financial Statements.

LYONDELLBASELL RETIREMENT PLAN

NOTES TO THE FINANCIAL STATEMENTS

The following table summarizes investments measured at fair value based on net asset value (NAVs) per share as of December 31, 2018 and 2017, respectively:

	December 31, 2018					
	Fair Value	Unfunded Commitments	Remaining Life	Redemption Frequency (if currently eligible)	Trade to Settlement Terms	Redemption Notice Period
Common and preferred stock ^(a)	\$ 483,126.00	\$ —	N/A	pending market condition	N/A	daily
Fixed income securities ^(b)	—	—	N/A	daily, pending market condition	2 to 5 days	daily
Commingled fund investing in Domestic Equity ^(c)	92,109,982	—	N/A	daily, pending market condition	1 to 3 days	3 to 4 days
Commingled fund investing in International Equity ^(d)	56,079,581	—	N/A	daily, pending market condition	1 to 3 days	3 days
Commingled fund investing in Fixed Income ^(e)	241,199,271	—	N/A	daily, pending market condition	1 to 3 days	3 to 7 days
Real Estate ^(f)	107,169,222	8,016,724	10 years	quarterly, pending market condition	15 to 25 days	45 to 90 days
Hedge Funds ^(g)	231,038,047	—	N/A	monthly, pending market condition	10 to 30 days	20 to 90 days
Private Equity ^(h)	113,047,719	92,408,541	10 years	quarterly, pending market condition	N/A	N/A
Total	<u>\$ 841,126,948</u>	<u>\$ 100,425,265</u>				

LYONDELLBASELL RETIREMENT PLAN

NOTES TO THE FINANCIAL STATEMENTS

December 31, 2017						
	Fair Value	Unfunded Commitments	Remaining Life	Redemption Frequency (if currently eligible)	Trade to Settlement Terms	Redemption Notice Period
Common and preferred stock ^(a)	\$ 510,730	\$ —	N/A	pending market condition	N/A	daily
Fixed income securities ^(b)	156,665	—	N/A	daily, pending market condition	2 to 5 days	daily
Commingled fund investing in Domestic Equity ^(c)	106,952,298	—	N/A	daily, pending market condition	1 to 3 days	3 to 4 days
Commingled fund investing in International Equity ^(d)	63,698,560	—	N/A	daily, pending market condition	1 to 3 days	3 days
Commingled fund investing in Fixed Income ^(e)	243,885,871	—	N/A	daily, pending market condition	1 to 3 days	3 to 7 days
Real Estate ^(f)	103,522,601	10,010,788	10 years	quarterly, pending market condition	15 to 25 days	45 to 90 days
Hedge Funds ^(g)	255,414,577	—	N/A	monthly, pending market condition	10 to 30 days	20 to 90 days
Private Equity ^(h)	95,780,543	87,967,735	10 years	quarterly, pending market condition	N/A	N/A
Total	<u>\$ 869,921,845</u>	<u>\$ 97,978,523</u>				

LYONDELLBASELL RETIREMENT PLAN

NOTES TO THE FINANCIAL STATEMENTS

- (a) This category represents a group of preferred stocks that, when combined with other equity securities of like characteristics seeks to achieve greater returns than the MSCI World Index. At December 31, 2018, there were no redemption restrictions on these funds.
- (b) This category represents a group of fixed income securities that, when combined with other securities of like characteristics, seeks to achieve greater returns than a custom Liability Hedge Benchmark (60% Bloomberg Barclays Long Credit Index, 40% Citigroup 20+ STRIPS Index). At December 31, 2018, there were no redemption restrictions on these funds.
- (c) This category represents a common collective trust fund that seeks to approximate the total return of the S&P 500 Total Return Index. At December 31, 2018, there were no redemption restrictions on this fund.
- (d) This category represents a group of common collective trusts that seek to achieve greater returns than the MSCI Emerging Market Net Dividend Index. At December 31, 2018, there were no redemption restrictions on these funds.
- (e) This category represents a group of common collective trusts that seek to achieve greater returns than the Citigroup World Government Bond Index, and JP Morgan Emerging Markets Global Bond Index. At December 31, 2018, there were no redemption restrictions on these funds.
- (f) This category represents our investments in real estate funds and private real estate limited partnerships that seek to achieve greater returns than the NCREIF Property 1Q in Arrears index. At December 31, 2018, there were no redemption restrictions on these funds. Private real estate partnerships are illiquid investments. As such, the specific redemption restrictions and guidelines are incorporated in a Limited Partnership Agreement, Limited Liability Company Agreement, or other binding agreement as is appropriate for the investment.
- (g) This category represents our investments in hedge funds either directly or through fund of funds that seek to achieve greater returns than the HFRI Fund of Funds Diversified Index. At December 31, 2018, there were no redemption restrictions on these funds.
- (h) This category represents capital commitments to private placement limited partnerships that seek to approximate the total return of the Cambridge Associates U.S. Private Equity 1QA Index over a market cycle. Private equity partnerships are illiquid investments. As such, the specific redemption restrictions and guidelines are incorporated in a Limited Partnership Agreement, Limited Liability Company Agreement, or other binding agreement as is appropriate for the investment.

12. Related-Party Transactions

The Plan, through its interest in the Master Trust, holds shares of short-term investment and S&P Index funds managed by Mellon Capital, a subsidiary of The Bank of New York Mellon, the Trustee of the Plan. These transactions fall under the definition of a party-in-interest transaction; however, the Company does not believe that they give rise to prohibited transactions under ERISA. Fees paid by the Company on behalf of the Plan for certain administrative costs were approximately \$109,642 and \$117,285 in 2018 and 2017, respectively.

13. Commitments and Contingencies

The Plan is subject to commitments and contingencies arising from the ordinary course of business to which the Plan is a party. It is management's belief that the ultimate resolution of these commitments and contingencies will not have a material adverse impact on the Plan's financial statements.

14. Subsequent Events

Effective January 1, 2019, the Plan merged into PDG. Net assets available for benefits of \$967,668,720 were transferred to PDG as of January 1, 2019. Additionally, the actuarial present value of accumulated plan benefits as of January 1, 2019 were transferred to PDG. As of January 1, 2018 the actuarial present value of accumulated plan benefits for the Plan were \$824,171,778. The merged plan was renamed as the LyondellBasell Pension Plan. Lyondell will assume sponsorship of the newly renamed plan.

The Company has evaluated subsequent events through September 26, 2019, the date the financial statements were available to be issued.

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	32	111									143
	51,975	71,104									66,823
	1,415	6,435									5,312
25–29	104	353	96								553
	62,655	77,544	92,602								77,358
	1,824	10,153	24,353								11,052
30–34	92	366	183	44							685
	71,292	86,210	99,605	122,661							90,126
	1,766	11,766	30,841	56,824							18,440
35–39	80	317	180	132	32						741
	87,438	93,633	101,394	112,909	118,208						99,345
	2,363	13,201	30,523	51,948	56,403						25,040
40–44	40	204	148	133	91	38	2				656
	85,303	102,823	110,741	109,493	119,657	110,625	*				*
	2,236	14,006	35,168	51,867	62,896	59,225	*				*
45–49	41	156	136	108	102	152	76	4			775
	94,669	113,552	121,025	107,024	115,041	123,442	125,112	*			*
	2,386	16,728	40,758	56,052	66,129	75,546	76,133	*			*
50–54	20	115	85	98	107	138	198	47			808
	123,409	123,024	114,344	105,535	117,526	119,519	117,814	123,074			117,690
	2,990	16,979	39,283	59,031	74,760	75,127	82,380	90,558			63,622
55–59	24	71	49	86	67	103	229	104	132	9	874
	103,286	128,572	126,279	112,052	106,926	110,970	112,527	113,775	118,343	*	*
	3,132	17,306	43,807	68,656	74,577	72,399	84,601	91,127	100,056	*	*
60–64	6	40	38	33	36	59	119	62	118	85	596
	*	137,538	107,927	102,971	117,498	102,629	105,125	114,875	123,103	125,079	*
	*	20,686	38,567	69,178	87,302	77,772	83,703	93,710	104,776	112,984	*
65–69	2	10	11	14	18	14	31	15	32	32	179
	*	*	*	*	*	*	107,850	*	123,170	117,219	*
	*	*	*	*	*	*	90,164	*	105,034	100,883	*
70 & up			3	3	1	3	1	5	1	5	22
			*	*	*	*	*	*	*	*	*
			*	*	*	*	*	*	*	*	*
Total	441	1,743	929	651	454	507	656	237	283	131	6,032
	*	*	*	*	*	*	*	*	*	*	105,626
	*	*	*	*	*	*	*	*	*	*	47,628

In each cell, the top number is the count of active participants for each age/service combination, the middle number is average base pay for 2017 limited to \$270,000, and the bottom number is the average cash balance amount as of December 31, 2017. Average pay and cash balance are not shown for plans with less than 1,000 active participants or cells with fewer than 20 participants.

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

ACTUARIAL ASSUMPTIONS FOR JANUARY 1, 2018

DISCOUNT RATE SPONSOR ELECTIONS	
• Segment rates or full yield curve	Segment
• Look-back months	4
	<u>Stabilized</u> <u>Nonstabilized</u>
• First 5 years	3.92% 1.75%
• Next 15 years	5.52% 3.76%
• Over 20 years	6.29% 4.66%
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-2000 mortality tables projected with mortality improvement to the valuation year plus 7 and 15 years based on Scale AA.
417(e) lump sums	Liabilities are determined based on the underlying annuity used by the plan to determine the lump sum amount, rather than valuing the lump sum payment. This annuity is valued based on funding interest rates rather than 417(e) rates and current year 417(e) unisex mortality.
CASH BALANCE PLANS	
• Interest accumulation rate	2.80%
• Whipsaw calculations	No
• Annuity conversion	
— Mortality table	IRC Section 417(e) unisex mortality for the current plan year
— Interest rate basis	Funding segment rates
FROZEN EQUISTAR PENSION EQUITY BENEFIT	
• Annuity conversion	
— Mortality table	IRC Section 417(e) unisex mortality for the current plan year
— Interest rate basis	Funding segment rates
OTHER ECONOMIC ASSUMPTIONS	
• Salary increases	See table of sample rates
• Flat-dollar benefit increases	Not applicable

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

• Social Security taxable wage base increases	Not applicable
• Inflation	2.50% per year
• Expected investment return	7.50% for year 2018, 8.00% per year for years 2016 through 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 incidence	See table of sample rates. (Withdrawal incidence is assumed to cease when participant attains the earlier of age 55 with 10 years of service or age 65.)
• Disability incidence	60% of 1985 Pension Disability Table, Class 1, Unisex published in the 1986 Proceedings of the Conference of Consulting Actuaries. See table of sample rates.

• Retirement incidence	Attained age	Percentage
	55	12%
	56	12
	57	12
	58	12
	59	12
	60	24
	61	24
	62	24
	63	24
	64	24
	65	36
	66	36
	67	36
	68	36
	69	60
	70 and above	100

(Retirement incidence is assumed to begin when participant first attains the earlier of age 55 with 10 years of service or age 65.)

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

• Benefit commencement age for		
— Cash balance benefit	30% immediate upon termination; 70% defer to age 60	
— Frozen benefits		
– All vested deferred ^{1,2}		
– < 10 years of service	65	
– ≥ 10 years of service	60	
• Spouse assumptions	<u>Male participants</u>	<u>Female participants</u>
— Percentage married	80%	80%
— Spouse age difference	3 years younger	2 years older
Form of payment	<u>Lump sum³</u>	<u>Annuity</u>
• Cash balance benefit	85%	15%
• Other benefits eligible for lump sum ⁴	50%	50%
• Other benefits not eligible for lump sum	0%	100%
Portion of forms of payment above assumed paid as Annuity	<u>Single Life Annuity⁵</u>	<u>100% J&S</u>
• Death benefits	100%	0%
• Other than death benefits		
– Cash balance	33 ⅓%	66 ⅔%
– All other	50%	50%

¹ Vested deferred participants whose service amount is unknown are assumed to have 10 years of service.

² For the portion of Equistar Part A-minimum benefit assumed to be taken as a lump sum, it is assumed to commence immediately upon termination. Otherwise, commencement age assumption follows that shown.

³ Frozen Basell RIP can only be paid as a lump sum for 51% of the benefit (net lump sum election is 25.5%); remaining benefit is split between Life Annuity and 100% J&S as indicated in this section.

⁴ Equistar Part A-minimum benefit is only assumed to follow lump sum election assumption if taken immediately. If not taken immediately (i.e. current vested deferred participant with outstanding Part A benefit), it is assumed to be taken 100% as Annuity.

⁵ Cash balance and frozen Basell RIP single life annuity benefits have no certain period. All others are payable with 5 year certain period.

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

Unpredictable contingent event assumptions	Not applicable
At-risk assumptions	Not applicable

Table of Sample Rates

ATTAINED AGE	PERCENTAGE	
	DISABILITY INCIDENCE	WITHDRAWAL
20	0.018%	13%
25	0.026	11
30	0.038	9
35	0.059	9
40	0.095	8
45	0.155	8
50	0.269	5
55	0.507	5
60	0.722	5
65	0.924	5

ATTAINED AGE	PERCENTAGE
	SALARY INCREASES
20-29	5.6%
30-39	4.5%
40-49	4.0%
50-59	3.7%
60-69	3.1%

ACTUARIAL METHODS FOR FUNDING**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.

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

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:** 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 are 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 ServiceDepartment 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

2018**This Form is Open to Public
Inspection**For calendar plan year 2018 or fiscal plan year beginning 01/01/2018 and ending 12/31/2018▶ **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 LYONDELLBASELL RETIREMENT PLAN		B Three-digit plan number (PN) ▶ 002
C Plan sponsor's name as shown on line 2a of Form 5500 or 5500-SF LYONDELL CHEMICAL COMPANY		D Employer Identification Number (EIN) 95-4160558
E Type of plan: ☒ Single ☐ Multiple-A ☐ Multiple-B		
F Prior year plan size: ☐ 100 or fewer ☐ 101-500 ☒ More than 500		

Part I Basic Information

1 Enter the valuation date: Month <u>01</u> Day <u>01</u> Year <u>2018</u>			
2 Assets:			
a Market value		2a	1,049,823,310
b Actuarial value		2b	1,001,422,921
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	2,311	280,979,707	280,979,707
b For terminated vested participants	2,119	139,699,990	139,699,990
c For active participants	6,032	500,976,037	516,964,760
d Total	10,462	921,655,734	937,644,457
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	5.69%	
6 Target normal cost	6	33,914,135	

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

PENNY A. BAILEY

Type or print name of actuary

MERCER

Firm name

701 MARKET ST., SUITE 1100

ST. LOUIS MO 63101-1867

Address of the firm

10/8/2019

Date

1705451

Most recent enrollment number

314-588-2500

Telephone number (including area code)

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 ☐

For Paperwork Reduction Act Notice, see the Instructions for Form 5500 or 5500-SF.

Schedule SB (Form 5500) 2018
v. 171027

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	118,385,962
8 Portion elected for use to offset prior year's funding requirement (line 35 from prior year)	0	24,869,667
9 Amount remaining (line 7 minus line 8).....	0	93,516,295
10 Interest on line 9 using prior year's actual return of <u>14.04%</u>	0	13,129,688
11 Prior year's excess contributions to be added to prefunding balance:		
a Present value of excess contributions (line 38a from prior year).....		16,008,131
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 <u>5.90%</u>		0
b(2) Interest on line 38b from prior year Schedule SB, using prior year's actual return		2,247,542
c Total available at beginning of current plan year to add to prefunding balance.....		18,255,673
d Portion of (c) to be added to prefunding balance.....		18,255,673
12 Other reductions in balances due to elections or deemed elections		12,499,659
13 Balance at beginning of current year (line 9 + line 10 + line 11d – line 12).....	0	112,401,997

Part III Funding Percentages

14 Funding target attainment percentage	14	94.81%
15 Adjusted funding target attainment percentage.....	15	106.80%
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	96.51%
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
10/05/2018	2,600,000	0			
10/09/2018	200,000	0			
11/05/2018	2,800,000	0			
12/07/2018	2,800	0			
12/13/2018	2,797,200	0			
01/07/2019	2,800,000	0			
02/05/2019	2,800,000	0			
03/05/2019	2,800,000	0			
04/05/2019	2,800,000	0			
05/06/2019	2,800,000	0			
06/05/2019	2,800,000	0			
07/05/2019	2,800,000	0			
08/05/2019	2,800,000	0			
09/05/2019	2,900,000	0			
Totals ▶			18(b)	33,700,000	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	31,501,947

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: 3.92 %	2nd segment: 5.52 %	3rd segment: 6.29 %	☐ N/A, full yield curve used
b Applicable month (enter code)				21b 4
22 Weighted average retirement age				22 60
23 Mortality table(s) (see instructions)	Prior regulation:	☐ Prescribed - combined	☒ Prescribed - separate	☐ Substitute
	Current regulation:	☐ 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	33,914,135	
b Excess assets, if applicable, but not greater than line 31a	31b	0	
32 Amortization installments:			
a Net shortfall amortization installment	Outstanding Balance	Installment	
	48,623,533	9,116,840	
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	43,030,975	
	Carryover balance	Prefunding balance	Total balance
35 Balances elected for use to offset funding requirement		25,682,570	25,682,570
36 Additional cash requirement (line 34 minus line 35)	36	17,348,405	
37 Contributions allocated toward minimum required contribution for current year adjusted to valuation date (line 19c)	37	31,501,947	
38 Present value of excess contributions for current year (see instructions)			
a Total (excess, if any, of line 37 over line 36)	38a	14,153,542	
b Portion included in line 38a attributable to use of prefunding and funding standard carryover balances	38b	14,153,542	
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 60.

(A)	(B)	(C)	(D)	(E)
Retirement age	Retirement Percent	Lx	Number of employees expected to retire (B) x (C)	(A) x (D)
55	12.0%	10,000	1,200	66,000
56	12.0%	8,800	1,056	59,136
57	12.0%	7,744	929	52,969
58	12.0%	6,815	818	47,430
59	12.0%	5,997	720	42,458
60	24.0%	5,277	1,267	75,993
61	24.0%	4,011	963	58,718
62	24.0%	3,048	732	45,357
63	24.0%	2,317	556	35,027
64	24.0%	1,761	423	27,043
65	36.0%	1,338	482	31,311
66	36.0%	856	308	20,347
67	36.0%	548	197	13,220
68	36.0%	351	126	8,587
69	60.0%	224	135	9,294
70	100.00%	90	90	6,286
Total			10,000.00	599,177
Average				59.92

Form 5500, Line 6 – Reconciliation of Number of participants as of the end of the plan year

The LyondellBasell Retirement Plan (EIN/PN 95-4160558/002) was merged into the PDG Chemical Inc. Pension Plan (EIN/PN 76-0550481/004) as of January 1, 2019. The Form 5500 was prepared as if the merger occurred on December 31, 2018. Participants that were transferred from the LyondellBasell Retirement Plan to the PDG Chemical Inc. Pension Plan as of January 1, 2019:

a(1) Total number of active participants, at the beginning of the plan year	6,032
a(2) Total number of active participants at the end of the plan year	6,328
b Retired or separated participants receiving benefits	2,083
c Other retired or separated participants entitled to future benefits	2,217
d Subtotal Add lines 6a(2), 6b, and 6c	10,628
e Deceased participants whose beneficiaries are receiving or entitled to receive benefits	309
f Total. Add lines 6d and 6e	10,937

Form 5500, Schedule H – Line 2l(2) – Transfer of Assets from the Plan

The LyondellBasell Retirement Plan (EIN/PN 95-4160558/002) was merged into the PDG Chemical Inc. Pension Plan (EIN/PN 76-0550481/004) as of January 1, 2019. The Form 5500 was prepared as if the merger occurred on December 31, 2018. The assets that were transferred from the LyondellBasell Retirement Plan to the PDG Chemical Inc. Pension Plan as of January 1, 2019 includes the following:

1b(1) Receivables: Employer contributions	25,300,000
1c(11) Value of interest in master trust investment accounts	942,441,642
f Total assets	967,741,642
1h Operating payables	(72,922)
1l Net assets	967,668,720

*Schedule SB, Part V — Summary of Plan Provisions***SUMMARY OF MAJOR PLAN PROVISIONS**

Effective date and plan year	Original plan: April 1, 1989. Restated plan: January 1, 2014. Plan year: Calendar year.
Status of the plan	The plan has ongoing benefit accruals and new employees are eligible to participate in the plan once they satisfy the participation requirements.
Significant events that occurred during the year	None.

CASH BALANCE BENEFITS (ACCRUED ON AND AFTER JANUARY 1, 2009)**DEFINITIONS**

• Eligible employee	All persons employed by Lyondell Chemical Company; Equistar Chemicals, LP; Basell USA Inc. and (from January 1, 2010) Houston Refining LP, except: (i) project and leased employees, (ii) any division or group of employees excluded by the Board of Directors, and (iii) employees represented by any collective bargaining agent
• Participation	Later of January 1, 2009 and hire date. Later of January 1, 2010 and hire date for active participants of HRO Non-Represented.
• Membership service	All employment with the Company including: (i) any service period recognized for benefit accrual and/or vesting under the terms of any prior plan, including previously excluded services due to minimum age or service requirements, (ii) any period during military or other types of leave of absence granted by the Company, and (iii) the period of layoff due to lack of work or economic or industrial reasons not to exceed one year. Service while employed by Houston Refining LP or Equistar Chemicals, LP and their subsidiaries or affiliates shall also be included for purposes of vesting, participation, and eligibility for early retirement. This service shall not be included for purposes of benefit accrual. Membership service for prior plan benefit accruals was frozen as of December 31, 2008.
• Vesting	Three years of vesting service.
• Grandfathered members	Any eligible employee of the Company as of December 31, 2008, including non-union employees of Basell USA Inc. and Equistar Chemicals, LP. Also, any eligible non-union employee of Houston Refining LP as of December 31, 2009.

Schedule SB, Part V — Summary of Plan Provisions

- Quarterly base pay The portion of a Member's Annual Base Pay paid during a Plan Year quarter.
- Pay credits Equal to 5% of the Member's Quarterly Base Pay.
- Transition credits Based on attained age and benefit service on December 31, 2008 (December 31, 2009 for HRO NR participants) for Grandfathered Members only:

<u>Age plus benefit service</u>	<u>Transition credit percentage</u>
Less than 40	1.0%
40 – 44	1.5%
45 – 49	2.0%
50 – 54	2.5%
55 – 59	3.0%
60 – 64	3.5%
65 – 69	4.0%
70 – 74	4.5%
75 – 79	5.0%
80 – 84	5.5%
85 or more	6.0%

- Interest credits Interest on the account balance as of the end of the prior quarter is added to the account balance at the end of each quarter. The rate credited is based on the 30-year U.S. Treasury constant maturity yields for the third, fourth and fifth months immediately preceding the first day of the calendar quarter.
- Account balance The sum of Pay Credits, Transition Credits, and Interest Credits credited to date of determination.
- Participant contributions None allowed.

ELIGIBILITY FOR BENEFITS

- Normal retirement Retirement at or after age 65.
- Early retirement Retirement before age 65 after completing three years of membership service.
- Deferred vested Termination for reasons other than death or retirement after becoming fully vested. Eligible for commencement at any age.
- Survivor benefit Death while eligible for benefits. Members become fully vested upon death if death occurs during active service and prior to the Member attaining three years of Vesting Service.

PLAN BENEFITS

- Normal retirement benefit Single life annuity which is actuarially equivalent to the Account Balance at the time of payment.

Schedule SB, Part V — Summary of Plan Provisions

• Early retirement benefit	Same as retirement at normal retirement date, based on account balance at commencement date.
• Death with survivor benefit	The spouse of a deceased member of the plan may receive the member's entire Account Balance as a lump sum or as a monthly single life annuity equal to the survivor portion of a 50% joint and survivor annuity, whichever is greater. Other beneficiaries may receive the account balance only as a lump sum.
• Cost of living supplements	None.
• Forms of payment	Benefits may begin at any time after termination of employment with vested benefits for any reason other than death. Optional forms of payment are lump sum, single life annuity, and joint and survivor annuity (50%, 75% or 100%). Normal form of payment for married participants is 50% joint and survivor annuity. All forms of payment are calculated as the Actuarial Equivalent of the participant's account balance.
• Actuarial equivalence for lump sums prior to December 1, 2016 and after December 31, 2018	PPA mortality and interest rates equal to the average of the 3-tiered minimum present value segment rate for the third, fourth and fifth months immediately preceding the first day of the calendar quarter during which the lump sum payment occurs.
• Actuarial equivalence for lump sums after November 30, 2016 and before January 1, 2019	PPA mortality and interest rates equal to the second month immediately preceding the first day of the calendar year during which the lump sum payment occurs (with protection of actuarial equivalence basis above).

LAKE CHARLES HOURLY PARTICIPANTS

DEFINITIONS	
• Eligible employee	All hourly collectively bargained employees of Lyondell Chemical Company at the Lake Charles Plant, excluding leased employees.
• Plan eligibility	Date of hire.
• Benefit service	All service from January 1, 1997 or hire date (transfer date of Olin transferees) if later.
• Vesting service	One year for each calendar year in which 1,000 hours are worked. Past service with Olin will also be recognized. Participants are fully vested upon completion of five years of vesting service.
• Accrued benefit	Years of benefit service multiplied by benefit rates as follows:

		Retirement on or after						
	<u>Pension</u>							
	<u>group</u>	<u>7/1/1997</u>	<u>7/1/1998</u>	<u>7/1/1999</u>	<u>7/1/2000</u>	<u>7/1/2003</u>	<u>7/1/2007</u>	<u>7/1/2008</u>
	1	\$30.00	\$31.00	\$33.00	\$36.00	\$40.00	\$42.00	\$42.50
	2	30.50	31.50	33.50	36.50	40.50	42.50	43.00
	3	31.00	32.00	34.00	37.00	41.00	43.00	43.50
	4	31.50	32.50	34.50	37.50	41.50	43.50	44.00
	5	32.00	33.00	35.00	38.00	42.00	44.00	44.50
	6	32.50	33.50	35.50	38.50	42.50	44.50	45.00
ELIGIBILITY FOR BENEFITS								
•	Normal retirement	Retirement at or after age 65.						
•	Early retirement	Retirement before age 65 after both attaining age 55 and completing 15 years of service.						
•	Deferred vested	Termination for reasons other than death or retirement after becoming fully vested. Eligible for commencement at age 65 or age 55 with 10 or more years of service.						
•	Deferred survivor benefit	Death while not eligible for normal or early retirement benefits, with five or more years of vesting service and a surviving spouse.						
•	Survivor benefit	Death while eligible for normal or early retirement, with a surviving spouse.						
PLAN BENEFITS								
•	Normal retirement	Accrued benefit determined at retirement.						
•	Early retirement	Accrued benefit at early retirement date reduced by 1/3 of 1% for each month that the member's early retirement date precedes age 62.						
•	Deferred vested	Accrued benefit at date of termination payable at age 65 or as early as age 55 with at least 10 years of service reduced using the following factors based on age at commencement:						

Schedule SB, Part V — Summary of Plan Provisions

	<u>Age</u>	<u>Factor</u>
	55	31.5%
	56	35.1
	57	39.2
	58	43.7
	59	48.9
	60	54.8
	61	61.6
	62	69.3
	63	78.1
	64	88.3
	65	100.0
• Death with deferred survivor benefit	The amount the member's spouse would have received had the member terminated employment at the earlier of date of death or actual termination date, survived to the earliest date a deferred benefit could have commenced, retired with a 50% joint and survivor option, and died the next day. Payments to the spouse begin on the earliest date a deferred benefit could have commenced.	
• Death with survivor benefit	The amount the member's spouse would have received if the member had retired on the date of death and elected the 50% joint and survivor option with the spouse as beneficiary, and died the next day.	
• Normal form of payment	Life annuity subject to an automatic actuarially equivalent 50% joint and survivor option.	
• Optional forms of payment	<ul style="list-style-type: none"> • 100%, 75%, 50%, or 25% joint and survivor options. • 5 or 10 years certain and continuous options. • Level income option. 	

Schedule SB, Part V — Summary of Plan Provisions

- Actuarial equivalence for alternative forms of payment
- Amount of an alternative form of benefit which has a value equivalent to the benefit or benefits otherwise payable under the plan, computed using the factors in the following tables:

<u>Age at benefit commencement</u>	<u>100% J&S</u>	<u>75% J&S</u>	<u>50% J&S</u>	<u>25% J&S</u>
70 and older	.712	.767	.832	.9125
69	.719	.773	.837	.9150
68	.726	.780	.841	.9175
67	.734	.786	.846	.9200
66	.741	.793	.852	.9225
65	.749	.799	.857	.9250
64	.757	.806	.862	.9275
63	.765	.813	.867	.9300
62	.772	.819	.871	.9325
61	.779	.825	.876	.9350
60	.787	.831	.881	.9375
59	.793	.837	.885	.9400
58	.800	.842	.889	.9425
57	.807	.848	.893	.9450
56	.813	.853	.897	.9475
55	.819	.858	.900	.9500

Schedule SB, Part V — Summary of Plan Provisions

- Actuarial equivalence for alternative forms of payment (continued)

<u>Age at benefit commencement</u>	<u>5 Certain & Life</u>	<u>10 Certain & Life</u>	<u>Social Security leveling income option</u>
70 and older	.963	.900	N/A
69	.967	.901	N/A
68	.971	.910	N/A
67	.974	.918	N/A
66	.977	.927	N/A
65	.980	.934	1.00
64	.983	.941	.92
63	.985	.948	.84
62	.987	.954	.76
61	.988	.959	.68
60	.990	.963	.60
59	.991	.967	.56
58	.992	.970	.52
57	.992	.973	.48
56	.993	.976	.44
55	.994	.978	.40

If member is more than five years older than the joint annuitant, the retirement factor shall be decreased as follows for each year over five that the member is older than the joint annuitant's age:

	<u>100% J&S</u>	<u>75% J&S</u>	<u>50% J&S</u>	<u>25% J&S</u>
Subtract:	.01	.0075	.0050	.0025

If joint annuitant is more than five years older than the member, the retirement factor shall be increased (but never greater than 1.0) as follows for each year over five that the joint annuitant is older than the member:

	<u>100% J&S</u>	<u>75% J&S</u>	<u>50% J&S</u>	<u>25% J&S</u>
Add:	.01	.0075	.0050	.0025

- Maximum on benefits and pay

All benefits and pay for any calendar year may not exceed the maximum limitations for that year as defined in the Internal Revenue Code. The plan provides for increasing the dollar limits automatically as such changes become effective.

Schedule SB, Part V — Summary of Plan Provisions

FROZEN LYONDELL BENEFIT

DEFINITIONS

• Eligible employee	<p>All persons employed by Lyondell Chemical Company, both full and part time, except</p> <ul style="list-style-type: none"> (i) project and leased employees, (ii) any division or group of employees excluded by the Board of Directors, and (iii) Lake Charles and Beaver Valley hourly employees.
• Participation	<p>The completion of two years of service, reduced to one year after June 30, 2002. Immediate participation is provided for:</p> <ul style="list-style-type: none"> (i) any salaried participant of the Retirement Plan for Former ARCO Chemical Employees (former ACC participants), and (ii) any covered employee of Lyondell Chemical Company as of June 30, 2002. <p>After December 31, 2008, prior plan benefits were frozen.</p>
• Membership service	<p>All employment with the Company including:</p> <ul style="list-style-type: none"> (i) any service period recognized for benefit accrual and/or vesting under the terms of any prior plan, including previously excluded services due to minimum age or service requirements, (ii) any period during military or other types of leave of absence granted by the Company, and (iii) the period of layoff due to lack of work or economic or industrial reasons not to exceed one year. <p>Service while employed by Houston Refining LP or Equistar Chemicals, LP and their subsidiaries or affiliates shall also be included for purposes of vesting, participation, and eligibility for early retirement. This service shall not be included for purposes of benefit accrual. Membership service for prior plan benefit accruals were frozen as of December 31, 2008.</p>
• Vesting	<p>For participants of the plan on or before June 30, 2002, participants were fully vested as of their participation date. On or after July 1, 2002, participants are fully vested after completion of five years of service. On or after January 1, 2009, participants are fully vested after completion of three years of service.</p>
• Transition participant	<p>Both age 50 or older and at least five years of vesting service as of June 30, 2002.</p>
• Annual base pay	<p>Base salary wages excluding all extra pay such as overtime, premiums, bonuses, or other allowances. Base wages deferred under the Company's Executive Salary Deferral Plan are also excluded.</p>

Schedule SB, Part V — Summary of Plan Provisions

• Average final base pay	The average of the highest three consecutive calendar years of annual base pay during the member's last ten years of membership service ending December 31, 2008. For NOVA transferees, their average final base pay is calculated as their average base pay as of September 30, 1996 indexed at 3% per year.																																		
• Accumulated contributions	<p>Voluntary contributions or contributions previously required for membership, with interest compounded annually.</p> <p>The accumulated contribution is converted to an annuity using the rates in the following table:</p> <table> <tr> <th><u>Age at benefit commencement</u></th><th><u>Annuity factor</u></th></tr> <tr><td>70 and older</td><td>8.60</td></tr> <tr><td>69</td><td>8.86</td></tr> <tr><td>68</td><td>9.04</td></tr> <tr><td>67</td><td>9.24</td></tr> <tr><td>66</td><td>9.44</td></tr> <tr><td>65</td><td>9.63</td></tr> <tr><td>64</td><td>9.63</td></tr> <tr><td>63</td><td>9.63</td></tr> <tr><td>62</td><td>9.63</td></tr> <tr><td>61</td><td>9.63</td></tr> <tr><td>60</td><td>9.63</td></tr> <tr><td>59</td><td>10.70</td></tr> <tr><td>58</td><td>10.86</td></tr> <tr><td>57</td><td>11.01</td></tr> <tr><td>56</td><td>11.17</td></tr> <tr><td>55</td><td>11.33</td></tr> </table>	<u>Age at benefit commencement</u>	<u>Annuity factor</u>	70 and older	8.60	69	8.86	68	9.04	67	9.24	66	9.44	65	9.63	64	9.63	63	9.63	62	9.63	61	9.63	60	9.63	59	10.70	58	10.86	57	11.01	56	11.17	55	11.33
<u>Age at benefit commencement</u>	<u>Annuity factor</u>																																		
70 and older	8.60																																		
69	8.86																																		
68	9.04																																		
67	9.24																																		
66	9.44																																		
65	9.63																																		
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60	9.63																																		
59	10.70																																		
58	10.86																																		
57	11.01																																		
56	11.17																																		
55	11.33																																		
• Social Security integration level	Frozen at \$28,600 in 2008.																																		
• Part A benefit, not former ACC participants	<p>The sum of:</p> <p>(i) 1.18% of average final base pay, not exceeding Social Security integration level, times years of membership service prior to July 1, 2002 not in excess of 35 years; plus</p> <p>(ii) 1.54% of average final base pay in excess of Social Security integration level, times years of membership service prior to July 1, 2002 not in excess of 35 years; plus</p> <p>(iii) 1.45% of average final base pay times membership service prior to July 1, 2002 in excess of 35 years.</p>																																		

Schedule SB, Part V — Summary of Plan Provisions

<ul style="list-style-type: none"> Part A benefit, former ACC participants 	<p>The sum of:</p> <ul style="list-style-type: none"> (i) 1.15% of average final base pay up to Social Security integration level, times membership service prior to July 1, 2002 not in excess of 15 years; plus (ii) 1.5% of average final base pay in excess of Social Security integration level, times membership service prior to July 1, 2002 not in excess of 15 years; plus (iii) 1.25% of average final base pay, up to Social Security integration level, times years of membership service prior to July 1, 2002 in excess of 15 years, but not in excess of 35 years; plus
	<ul style="list-style-type: none"> (iv) 1.6% of average final base pay in excess of Social Security integration level, times membership service prior to July 1, 2002 in excess of 15 years, but not in excess of 35 years; plus (v) 1.6% of average final base pay times membership service prior to July 1, 2002 in excess of 35 years.
<ul style="list-style-type: none"> Part A minimum benefit 	Member's accrued benefit as of June 30, 2002.
<ul style="list-style-type: none"> Part B benefit 	1.45% of average final base pay times membership service accrued beginning July 1, 2002.
<ul style="list-style-type: none"> Monthly pension benefit 	One-twelfth of the Part A benefit plus Part B benefit, not less than Part A minimum benefit.
<ul style="list-style-type: none"> NOVA transferees 	Participants who terminated employment with ARCO Chemical Company and immediately commenced employment with NOVA Chemicals, Inc. due to the sale of ARCO Chemical Company's plastic business to NOVA Chemicals, Inc. on September 30, 1996. All such employees are fully vested in their plan benefit at September 30, 1996.
<ul style="list-style-type: none"> Supplemental pension benefit for ACC participants 	For retirements on or before June 30, 2002 or for transition participants, if participant commences benefits early, and does not terminate from the plan before reaching age 55, participant is entitled to a supplemental pension payable until first eligible for Social Security. The supplemental payment is 0.5% of average final base pay as of June 30, 2002 up to the Social Security integration level times years of membership service prior to July 1, 2002.

ELIGIBILITY FOR BENEFITS

<ul style="list-style-type: none"> Normal retirement 	Retirement at or after age 65.
<ul style="list-style-type: none"> Early retirement 	Retirement before age 65 after both attaining age 55 and completing ten years of membership service.
<ul style="list-style-type: none"> Deferred vested 	Termination for reasons other than death or retirement after becoming fully vested. Eligible for commencement at age 65 or age 55 with ten or more years of service.
<ul style="list-style-type: none"> Deferred survivor benefit 	Death while not eligible for normal or early retirement benefits, with five or more years of vesting service.

Schedule SB, Part V — Summary of Plan Provisions

• Survivor benefit	Death while eligible for normal or early retirement.
PLAN BENEFITS	
• Normal retirement	Monthly pension benefit determined as of retirement date.
• Early retirement	<p>For benefits paid as a monthly annuity: the sum of (a) and (b), minimum (c)</p> <p>(a) Monthly Part A benefit reduced 5/12 of 1% for each month that the member's early retirement date precedes age 60;</p> <p>(b) Monthly Part B benefit reduced 4/12 of 1% for each month that the member's early retirement date precedes age 65 for the first five years, and 3/12 of 1% for the next five years;</p> <p>(c) Monthly Part A minimum benefit reduced 5/12 of 1% for each month that the member's early retirement date precedes age 60.</p>
• Early retirement (continued)	<p>For benefits paid as a lump sum: (a), but not less than (b)</p> <p>(a) Actuarial present value of the monthly pension benefit (transition participants receive present value of subsidized early retirement benefit for Part A);</p> <p>(b) Actuarial present value of the monthly Part A minimum benefit reduced 5/12 of 1% for each month that the member's early retirement date precedes age 60.</p>
• Deferred vested benefit for non-transition participants	<p>Less than 10 years of service:</p> <p><i>For benefits paid as a monthly annuity:</i></p> <p>Monthly pension benefit payable at age 65.</p> <p><i>For benefits paid as a lump sum:</i></p> <p>Actuarial present value of the Part A minimum benefit payable at age 65. Any residual benefits to be paid as a monthly annuity.</p> <p>More than 10 years of service:</p> <p><i>For benefits paid as a monthly annuity:</i> the sum of (a) and (b), minimum (c):</p>

Schedule SB, Part V — Summary of Plan Provisions

(a) Monthly Part A benefit.

(b) Monthly Part B benefit

(a) and (b) are reduced using the following factors based on age at commencement:

<u>Age</u>	<u>Factor</u>
55	40%
56	44
57	48
58	52
59	57
60	62
61	68
62	75
63	82
64	91
65	100

(c) Monthly Part A minimum benefit determined as of early retirement date, reduced 5/12 of 1% for each month that the member's early retirement date precedes age 60.

For benefits paid as a lump sum:

Actuarial present value of the Part A minimum benefit reduced 5/12 of 1% for each month that the member's early retirement date precedes age 60. Any residual benefits to be paid as a monthly annuity.

- Deferred vested benefit for transition participants

Less than 10 years of service:*For benefits paid as a monthly annuity:*

Monthly pension benefit payable at age 65.

For benefits paid as a lump sum:

Actuarial present value of the benefit payable at age 65.

More than 10 years of service:*For benefits paid as a monthly annuity: the sum of (a) and (b), minimum (c):*

Schedule SB, Part V — Summary of Plan Provisions

- (a) Monthly Part A benefit reduced 5/12 of 1% for each month that the member's early retirement date precedes age 60;
- (b) Monthly Part B benefit reduced using the following factors based on age at commencement:

<u>Age</u>	<u>Factor</u>
55	40%
56	44
57	48
58	52
59	57
60	62
61	68
62	75
63	82
64	91
65	100

- (c) Monthly Part A minimum benefit determined as of early retirement date, reduced 5/12 of 1% for each month that the member's early retirement date precedes age 60.

For benefits paid as a lump sum: the sum of (a) and (b), minimum (c)

- (a) Actuarial present value of the Part A benefit reduced 5/12 of 1% for each month that the member's early retirement date precedes age 60.

- (b) Actuarial present value of the monthly Part B benefit

- (c) Actuarial present value of the monthly Part A minimum benefit reduced 5/12 of 1% for each month that the member's early retirement date precedes age 60.

- Disability benefit

Disability before July 1, 2002

Normal retirement benefit determined as of the earlier of a participant's recovery from disability if they are not reemployed with LyondellBasell, or their benefit at normal retirement date.

Disability on or after July 1, 2002

Normal retirement benefit determined as of the earlier of a participant's recovery from disability if they are not reemployed with LyondellBasell, or their benefit determined one year from the date of disability.

Schedule SB, Part V — Summary of Plan Provisions

<ul style="list-style-type: none"> Death with deferred survivor benefit 	<p>The amount the member's spouse would have received if the member had terminated employment on the date of death, survived to the earliest date that a deferred allowance could have commenced, retired with a 50% joint and survivor annuity with the spouse or other designated beneficiary as beneficiary, and died the next day. Benefits are payable to the spouse, if married, or the most recent designated beneficiary (or estate, if no designation) if not married.</p>
<ul style="list-style-type: none"> Death with survivor benefit 	<p>The amount the member's spouse would have received if the member had retired on the date of death and elected an immediate 50% joint and survivor annuity with the member's spouse or other designated beneficiary as beneficiary, and died the next day. Benefits are payable to the spouse, if married, or the most recent designated beneficiary (or estate, if no designation) if not married.</p>
<ul style="list-style-type: none"> Forms of payment 	<p>Survivor benefits may be paid in one of the following forms:</p> <ul style="list-style-type: none"> (i) an annuity beginning at the member's earliest retirement age or later (ii) an actuarially equivalent single cash payment as soon as practicable after the date of death (iii) an annuity beginning as soon as practicable after the date of death <p>If a participant is unmarried, the benefit is payable to the beneficiary or estate only as an actuarially equivalent single cash payment as soon as administratively possible.</p> <p>The normal form of payment for monthly pension benefits is a life annuity with a 60-payment guarantee if the member has no spouse as of the date payments begin, or a 50% joint and survivor annuity if the member is married at the date payments begin.</p>
	<p>Optional forms of payment for members prior to July 1, 2002 include:</p> <ul style="list-style-type: none"> (i) reserve benefit option (ii) joint & survivor annuity (100%, 75%, 50%, 25%) (iii) 120- or 240-months certain and life annuity or a life only annuity (iv) lump sum payment (v) level income option <p>Optional forms of payment for all other members include:</p> <ul style="list-style-type: none"> (i) joint and survivor annuity (100%, 75%, 50%) (ii) life only annuity (iii) lump sum payment

Schedule SB, Part V — Summary of Plan Provisions

- Actuarial equivalence for alternative forms of payment

Amount of an alternative form of benefit (other than a lump sum) which has a value equivalent to the benefit or benefits otherwise payable under the plan, computed using the factors in the following tables:

<u>Age at benefit commencement</u>	<u>100% J&S</u>	<u>75% J&S</u>	<u>50% J&S</u>	<u>25% J&S</u>
70 and older	.712	.767	.832	.9125
69	.719	.773	.837	.9150
68	.726	.780	.841	.9175
67	.734	.786	.846	.9200
66	.741	.793	.852	.9225
65	.749	.799	.857	.9250
64	.757	.806	.862	.9275
63	.765	.813	.867	.9300
62	.772	.819	.871	.9325
61	.779	.825	.876	.9350
60	.787	.831	.881	.9375
59	.793	.837	.885	.9400
58	.800	.842	.889	.9425
57	.807	.848	.893	.9450
56	.813	.853	.897	.9475
55	.819	.858	.900	.9500

Schedule SB, Part V — Summary of Plan Provisions

- Actuarial equivalence for alternative forms of payment (continued)

<u>Age at benefit commencement</u>	<u>10 Certain & Life</u>	<u>20 Certain & Life</u>	<u>Social Security leveling income option</u>
70 and older	.900	.800	N/A
69	.901	.800	N/A
68	.910	.800	N/A
67	.918	.800	N/A
66	.927	.800	N/A
65	.934	.800	1.00
64	.941	.800	.92
63	.948	.801	.84
62	.954	.817	.76
61	.959	.832	.68
60	.963	.846	.60
59	.967	.859	.56
58	.970	.871	.52
57	.973	.882	.48
56	.976	.893	.44
55	.978	.902	.40

If member is more than five years older than the joint annuitant, the retirement factor shall be decreased as follows for each year over five that the member is older than the joint annuitant's age:

	<u>100% J&S</u>	<u>75% J&S</u>	<u>50% J&S</u>	<u>25% J&S</u>
Subtract:	.01	.0075	.0050	.0025

If joint annuitant is more than five years older than the member, the retirement factor shall be increased (but never greater than 1.0) as follows for each year over five that the joint annuitant is older than the member:

	<u>100% J&S</u>	<u>75% J&S</u>	<u>50% J&S</u>	<u>25% J&S</u>
Add:	.01	.0075	.0050	.0025

The initial annuity for the reserve option is equal to 88% of the basic allowance.

- Actuarial equivalence for lump sums prior to December 1, 2016 and after December 31, 2018
PPA mortality and interest rates equal to the average of the 3-tiered minimum present value segment rate for the third, fourth and fifth months immediately preceding the first day of the calendar quarter during which the lump sum payment occurs.
- Actuarial equivalence for lump sums after November 30, 2016 and before January 1, 2019
PPA mortality and interest rates equal to the second month immediately preceding the first day of the calendar year during which the lump sum payment occurs (with protection of actuarial equivalence basis above).

Schedule SB, Part V — Summary of Plan Provisions

• Maximum on benefits and pay	All benefits and pay for any calendar year may not exceed the maximum limitations for that year as defined in the Internal Revenue Code. The plan provides for increasing the dollar limits automatically as such changes become effective.
• Special provisions for NOVA transferees	NOVA transferees are credited with service with NOVA for vesting and retirement eligibility purposes only. Their average final base pay calculated as of September 30, 1996 shall be increased by 3% on October 1, 1997 and each October thereafter, provided they are employed by NOVA.

FROZEN EQUISTAR BENEFIT**DEFINITIONS**

• Eligible employee	All salaried, non-union employees.
• Participation	The completion of one year of eligibility service. Immediate participation is provided for: <ul style="list-style-type: none"> (i) an employee who was previously employed by Lyondell Chemical Company or Millennium Chemicals, Inc. and became an employee on January 1, 1998; (ii) an employee who was previously employed by Occidental Petroleum Corporation and became an employee on June 1, 1998; (iii) any employee of Equistar Chemicals, LP as of June 30, 2002; and (iv) any employee of Equistar Chemicals, LP as of December 31, 2008. Plan frozen at December 31, 2008. Any employee hired after December 31, 2008 is not eligible.
• Normal retirement date	First of month coincident with or next following the attainment of age 65.
• Membership service	All employment with the Company while a member of the plan, including: <ul style="list-style-type: none"> (i) any period during military or other types of leave of absence granted by the Company; (ii) the period of a layoff due to lack of work or economic or industrial reasons not to exceed one year. Membership service was frozen as of December 31, 2008.
• Eligibility service	The same definition as membership service; however, service with prior employers, including Lyondell Chemical Company, Millennium Chemicals, Inc., or Occidental Petroleum Corporation, is generally included. Participants continue to accrue eligibility service after December 31, 2008.
• Vesting	Participants of the plan on or before June 30, 2002 are fully vested as of their Participation date. On or after December 31, 2008, participants are vested after completion of three years of eligibility service.
• Monthly earnings	Base pay of an employee for services rendered to the Company during a particular month.

Schedule SB, Part V — Summary of Plan Provisions

- Final average earnings The average of the highest thirty-six consecutive calendar months of monthly earnings during the participant's last one-hundred and twenty calendar months of eligibility service prior to December 31, 2008 times 12.

ELIGIBILITY FOR BENEFITS

- Transition participant Both age 50 or older and at least five years of eligibility service as of June 30, 2002.
- Normal retirement Retirement at normal retirement date.
- Postponed retirement Retirement after normal retirement date.
- Early retirement Retirement before age 65 after both attaining age 55 and completing ten years of membership service.
- Vested benefit Termination for reason other than death or retirement after vesting date.
- Survivor benefit Death with a surviving spouse or designated beneficiary.

PLAN BENEFITS

- Part A minimum benefit (lump sum form) The product of (a), (b), and (c):
(a) Membership service up to June 30, 2002;
(b) Final average earnings as of June 30, 2002;
(c) Benefit percentage at age of benefit commencement:

<u>Age</u>	<u>Benefit percentage</u>
Under 35	3%
35 – 39	4
40 – 44	5
45 – 49	6
50 – 54	9
55 – 59	13
60 and over	15

- Part A growth benefit (lump sum form) The product of (a), (b), and (c):
(a) Membership service up to June 30, 2002;
(b) Final average earnings as of December 31, 2008 less final average earnings as of June 30, 2002;
(c) Benefit percentage at age 65 of 15%.

- Part A regular benefit (lump sum form) The product of (a), (b), and (c):
(a) Membership service up to June 30, 2002;
(b) Final average earnings as of December 31, 2008;
(c) Benefit percentage at age of benefit commencement:

<u>Age</u>	<u>Benefit percentage</u>
Under 35	3%
35 – 39	4
40 – 44	5
45 – 49	6
50 – 54	9
55 – 59	13
60 and Over	15

Schedule SB, Part V — Summary of Plan Provisions

• Part B benefit	1.45% of final average earnings as of December 31, 2008 times membership service accrued between June 30, 2002 and December 31, 2008.
• Monthly accrued benefit	The sum of (a) and (b): (a) Part A regular benefit at age 65 converted to a monthly annuity, (b) Part B benefit.
• Normal retirement benefit	Monthly accrued benefit determined as of retirement date.
• Early retirement benefit	Non-transition participants <i>For benefits paid as a monthly annuity: the sum of (a) and (b)</i> (a) Monthly Part A regular benefit determined as of early retirement date; (b) Monthly Part B benefit determined as of early retirement date, reduced 4/12 of 1% per month that the member's early retirement date precedes age 65 for the first five years, and 3/12 of 1% per month for the next five years.
	<i>For benefits paid as a lump sum: the sum of (a), (b) and (c)</i> (a) Part A minimum benefit determined as of early retirement date; (b) Actuarially reduced Part A growth benefit; (c) Actuarial present value of the Part B benefit.
	Transition participants <i>For benefits paid as a monthly annuity: the sum of (a) and (b)</i> (a) Monthly Part A regular benefit determined as of early retirement date; (b) Monthly Part B benefit determined as of early retirement date, reduced 4/12 of 1% per month that the member's early retirement date precedes age 65 for the first five years, and 3/12 of 1% per month for the next five years.
	<i>For benefits paid as a lump sum: the sum of (a) and (b)</i> (a) Part A regular benefit; (b) Actuarial present value of the Part B benefit.
• Vested benefit for non-transition participants	Less than 10 years of service: <i>For benefits paid as a monthly annuity: the sum of (a) and (b)</i> (a) Monthly Part A regular benefit (Part A minimum benefit may commence at termination); (b) Part B benefit payable at age 65.
• Vested benefit for non-transition participants (continued)	<i>For benefits paid as a lump sum:</i> • Part A minimum benefit. (May only be taken as a lump sum at termination. All deferred benefits must be taken as a monthly annuity).

Schedule SB, Part V — Summary of Plan Provisions

More than 10 years of service:*For benefits paid as a monthly annuity: the sum of (a) and (b)*

- (a) Monthly Part A minimum benefit;
- (b) Monthly Part A growth benefit plus the Part B benefit reduced using the following factors based on age at commencement:

<u>Age</u>	<u>Rate</u>
55	40%
56	44
57	48
58	52
59	57
60	62
61	68
62	75
63	82
64	91
65	100

For benefits paid as a lump sum:

- Part A minimum benefit. (May only be taken as a lump sum at termination. All deferred benefits must be taken as a monthly annuity).

- Vested benefit for transition participants

Less than 10 years of service:*For benefits paid as a monthly annuity: the sum of (a) and (b)*

- (a) Monthly Part A regular benefit (may commence at termination);
- (b) Part B benefit, payable at age 65.

Schedule SB, Part V — Summary of Plan Provisions

<ul style="list-style-type: none"> Vested benefit for transition participants (continued) 	<p><i>For benefits paid as a lump sum: the sum of (a) and (b)</i></p> <p>(a) Part A regular benefit (may be taken at termination);</p> <p>(b) Actuarial present value of the Part B benefit, payable at age 65.</p>																								
	<p>More than 10 years of service:</p> <p><i>For benefits paid as a monthly annuity: the sum of (a) and (b)</i></p> <p>(a) Monthly Part A regular benefit (may commence at termination);</p> <p>(b) Monthly Part B benefit reduced using the following factors based on age at commencement:</p> <table data-bbox="649 651 941 1129"> <thead> <tr> <th><u>Age</u></th><th><u>Rate</u></th></tr> </thead> <tbody> <tr><td>55</td><td>40%</td></tr> <tr><td>56</td><td>44</td></tr> <tr><td>57</td><td>48</td></tr> <tr><td>58</td><td>52</td></tr> <tr><td>59</td><td>57</td></tr> <tr><td>60</td><td>62</td></tr> <tr><td>61</td><td>68</td></tr> <tr><td>62</td><td>75</td></tr> <tr><td>63</td><td>82</td></tr> <tr><td>64</td><td>91</td></tr> <tr><td>65</td><td>100</td></tr> </tbody> </table>	<u>Age</u>	<u>Rate</u>	55	40%	56	44	57	48	58	52	59	57	60	62	61	68	62	75	63	82	64	91	65	100
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	<p><i>For benefits paid as a lump sum: the sum (a) and (b)</i></p> <p>(a) Part A regular benefit (may be taken at termination);</p> <p>(b) Actuarial present value of the Part B benefit.</p>																								
<ul style="list-style-type: none"> Disability benefit 	<p><i>Disability before July 1, 2002</i></p> <ul style="list-style-type: none"> Normal retirement benefit determined as of the earlier of a participant's recovery from disability if they are not reemployed with LyondellBasell, or their benefit at normal retirement date. <p><i>Disability on or after July 1, 2002</i></p> <ul style="list-style-type: none"> Normal retirement benefit determined as of the earlier of a participant's recovery from disability if they are not reemployed with LyondellBasell, or their benefit determined one year from the date of disability. 																								
<ul style="list-style-type: none"> Survivor benefits 	<ul style="list-style-type: none"> Service on or before June 30, 2002 – the amount the surviving spouse would have received if the participant had terminated and elected an immediate 50% joint and survivor benefit the day before his or her death. Service on or after July 1, 2002 – the amount the surviving spouse would have received if the member had terminated on his or her date of death, survived to their earliest retirement age (age 55 if more than 10 years of service, age 65 otherwise), elected an immediate 50% joint and survivor annuity, and died the next day. 																								

Schedule SB, Part V — Summary of Plan Provisions

<ul style="list-style-type: none"> Survivor benefits (continued) 	<p>These benefits may be paid in one of the following forms:</p> <ul style="list-style-type: none"> (i) an annuity beginning at the member's earliest retirement age or later; (ii) an actuarially equivalent lump sum payment as soon as practicable after the date of death; (iii) an annuity beginning as soon as practicable after the date of death. <ul style="list-style-type: none"> If a participant is unmarried, the benefit is payable to the beneficiary or estate only as an actuarially equivalent single cash payment as soon as administratively practicable.
<ul style="list-style-type: none"> Forms of payment 	<p>Survivor benefits are payable only as described above. Monthly pension benefits are paid in the form of a five-year certain and life annuity if the participant has no spouse as of the date payments begin, or if the participant so elects. Otherwise, benefits are paid as a 50% joint and survivor annuity.</p> <p>Optional forms of payment:</p> <ul style="list-style-type: none"> (vi) Single life annuity (vii) joint & survivor annuity (100%, 75%, 50%) (viii) 120- or 240-months certain and life annuity (if member before June 30, 2002) (ix) lump sum payment (if retirement is on or after June 30, 2002, must be age 55 and have at least 10 years of membership service or be age 65 to receive lump sum)
<ul style="list-style-type: none"> Actuarial equivalence for alternate forms of payment 	<p>Amount of an alternative form of benefit (other than a lump sum) which has a value equivalent to the benefit or benefits otherwise payable under the plan, computed using the following tables.</p>

Schedule SB, Part V — Summary of Plan Provisions

<u>Age at benefit commencement</u>	<u>100% J&S</u>	<u>75% J&S</u>	<u>50% J&S</u>
70 and older	.712	.767	.832
69	.719	.773	.837
68	.726	.780	.841
67	.734	.786	.846
66	.741	.793	.852
65	.749	.799	.857
64	.757	.806	.862
63	.765	.813	.867
62	.772	.819	.871
61	.779	.825	.876
60	.787	.831	.881
59	.793	.837	.885
58	.800	.842	.889
57	.807	.848	.893
56	.813	.853	.897
55	.819	.858	.900

<u>Age at benefit commencement</u>	<u>10 Certain & Life</u>	<u>20 Certain & Life</u>
70 and older	.900	.800
69	.901	.800
68	.910	.800
67	.918	.800
66	.927	.800
65	.934	.800
64	.941	.800
63	.948	.801
62	.954	.817
61	.959	.832
60	.963	.846
59	.967	.859
58	.970	.871
57	.973	.882
56	.976	.893
55	.978	.902

Schedule SB, Part V — Summary of Plan Provisions

<ul style="list-style-type: none">Actuarial equivalence for alternate forms of payment (continued)	<ul style="list-style-type: none">If member is more than five years older than the joint annuitant, the retirement factor shall be decreased as follows for each year over five that the member is older than the joint annuitant's age:<table><tr><td></td><td><u>100% J&S</u></td><td><u>50% J&S</u></td></tr><tr><td>Subtract:</td><td>.01</td><td>.0050</td></tr></table>		<u>100% J&S</u>	<u>50% J&S</u>	Subtract:	.01	.0050
	<u>100% J&S</u>	<u>50% J&S</u>					
Subtract:	.01	.0050					
	<ul style="list-style-type: none">If joint annuitant is more than five years older than the member, the retirement factor shall be increased (but never greater than 1.0) as follows for each year over five that the joint annuitant is older than the member:<table><tr><td></td><td><u>100% J&S</u></td><td><u>50% J&S</u></td></tr><tr><td>Add:</td><td>.01</td><td>.0050</td></tr></table>		<u>100% J&S</u>	<u>50% J&S</u>	Add:	.01	.0050
	<u>100% J&S</u>	<u>50% J&S</u>					
Add:	.01	.0050					
<ul style="list-style-type: none">Actuarial equivalence	PPA mortality and interest rates equal to the average of the 3-tiered minimum present value segment rate for the third, fourth and fifth months immediately preceding the first day of the calendar quarter during which the lump sum payment occurs.						
<ul style="list-style-type: none">Actuarial equivalence for lump sums prior to December 1, 2016 and after December 31, 2018	PPA mortality and interest rates equal to the average of the 3-tiered minimum present value segment rate for the third, fourth and fifth months immediately preceding the first day of the calendar quarter during which the lump sum payment occurs.						
<ul style="list-style-type: none">Actuarial equivalence for lump sums after November 30, 2016 and before January 1, 2019	PPA mortality and interest rates equal to the second month immediately preceding the first day of the calendar year during which the lump sum payment occurs (with protection of actuarial equivalence basis above).						
<ul style="list-style-type: none">Maximum on benefits and pay	All benefits and pay for any calendar year may not exceed the maximum limitations for that year as defined in the Internal Revenue Code. The plan provides for increasing the dollar limits automatically as such changes become effective.						

FROZEN HRO BENEFIT**DEFINITIONS**

<ul style="list-style-type: none"> Eligible employee 	All persons employed by Houston Refining LP (the Company), both full and part-time, except Project and Leased Employees, and any division or group of employees excluded by the Board of Directors.
<ul style="list-style-type: none"> Participation 	Two years of employment. Plan frozen at December 31, 2009. Any employee hired after December 31, 2009 is not eligible.

Schedule SB, Part V — Summary of Plan Provisions

• Membership service	<p>All employment with the Company while a member of the plan, including:</p> <ul style="list-style-type: none"> (i) any period during military or other types of leave of absence granted by the Company, (ii) the period of a layoff due to lack of work or economic or industrial reasons not to exceed one year, (iii) extra service granted through the restoration of Lost Service Agreement. <p>For the purposes of benefit accruals, membership service was frozen as of December 31, 2009.</p>
• Minimum membership service	<p>The sum of:</p> <ul style="list-style-type: none"> (i) membership service, (ii) any period of service when a participant is directly or indirectly compensated but is not earning membership service, (iii) continuous periods not to exceed 60 days when a participant is not earning membership service due to, for example, a layoff, (iv) periods of disability. <p>For the purposes of benefit accruals, membership service was frozen as of December 31, 2009.</p>
• Vesting service	<p>Prior to July 1, 1976: the greater of membership service or one year for each 12-month period measured from employment date and after age 18 in which at least 1,000 hours are worked.</p> <p>After June 30, 1976: one year for each 12-month period measured from July 1, 1976 in which at least 1,000 hours are worked.</p>
• Annual base pay	Base salary wages excluding all extra pay such as overtime, premiums, bonuses, or other allowances.
• Average final base pay	The average of the highest three consecutive calendar years of annual base pay during the member's last ten years of membership service prior to December 31, 2009.
• Disability	A participant is considered disabled if they are eligible to receive benefits under the Company's LTD plan.

Schedule SB, Part V — Summary of Plan Provisions

• Monthly pension benefit	<p>One-twelfth of the greater of (a) or (b), not less than (c) where:</p> <p>(a) \$156 per year of minimum membership service. This minimum does not apply to participants who terminate prior to retirement for any reason other than death.</p> <p>(b) (i) 1.18% of average final base pay, not exceeding the Social Security integration level, times years of membership service not in excess of 35 years; plus</p> <p>(ii) 1.54% of average final base pay in excess of the Social Security integration level times years of membership service not in excess of 35 years; plus</p> <p>(iii) 1.45% of average final base pay times membership service in excess of 35 years.</p> <p>(c) the member's accrued benefit as of December 31, 1988 under the prior formula.</p> <p>The monthly pension benefit was frozen as of December 31, 2008 for transferred participants who were receiving a cash balance benefit in the LyondellBasell Retirement Plan as of January 1, 2009.</p> <p>The monthly pension benefit was frozen as of December 31, 2009 for all others.</p>
• Social Security Integration Level	Frozen at \$30,000 in 2009.

ELIGIBILITY FOR BENEFITS

• Normal retirement	Retirement at or after age 65.
• Early retirement	Retirement before age 65 after both attaining age 55 and completing ten years of membership service. For this purpose, membership service includes membership service under other LyondellBasell Companies plans and certain predecessor plans.
• Deferred vested	Termination for reasons other than death or retirement after completing two or more years of vesting service.
• Deferred survivor benefit	Death while not eligible for normal or early retirement benefits, with two or more years of vesting service.
• Survivor benefit	Death while eligible for normal or early retirement.

PLAN BENEFITS

• Normal retirement	Monthly pension benefit determined as of retirement date.
• Early retirement	Monthly pension benefit determined as of early retirement date, reduced 5/12 of 1% for each month that the member's early retirement date precedes age 60.
• Termination with deferred vested benefit	Monthly pension benefit determined as of termination date, payable from age 65. If member has 10 or more years of membership service, commencement age can be as early as 55 with a reduction of 5/12 of 1% for each month that the member's early retirement date precedes age 60.

Schedule SB, Part V — Summary of Plan Provisions

• Disability	Normal retirement benefit determined as of the earlier of a participant's recovery from disability if they are not reemployed with LyondellBasell, or their benefit at normal retirement date.
• Death with deferred survivor benefit	The amount the member's spouse would have received if the member had terminated employment on the date of death, survived to the earliest date that a deferred allowance could have commenced, retired with a 50% joint and survivor annuity with the spouse or other designated beneficiary as beneficiary, and died the next day. Benefits are payable to the spouse, if married, or the most recent designated beneficiary (or estate, if no designation) if not married.
• Death with survivor benefit	The amount the member's spouse would have received if the member had terminated employment on the date of death, retired with a 50% joint and survivor annuity with the spouse or other designated beneficiary as beneficiary, and died the next day. Benefits are payable to the spouse, if married, or the most recent designated beneficiary (or estate, if no designation) if not married.
• Forms of payment	<p>Deferred survivor and survivor benefits are payable only as described above. The normal form of payment for monthly pension benefits is a life annuity with a 60-payment guarantee if the member has no spouse as of the date payments begin and a 50% joint and survivor annuity if the member is married as of the date payments begin. Optional forms of payment include:</p> <p>Option I: Reserve benefit option</p> <p>Option II: Joint & survivor annuity (100%, 75%, 50%, 25%)</p> <p>Option III: 120- or 240-months certain and life annuity</p> <p>Option IV: Lump sum payment</p> <p>Option V: Level income option</p>

Schedule SB, Part V — Summary of Plan Provisions

- Actuarial equivalence for alternative forms of payment Amount of an alternative form of benefit (other than a lump sum) which has a value equivalent to the benefit or benefits otherwise payable under the plan, computed using the rates in the following tables.

<u>Age at benefit commencement</u>	<u>100% J&S</u>	<u>75% J&S</u>	<u>50% J&S</u>	<u>25% J&S</u>
70 and older	.712	.767	.832	.9125
69	.719	.773	.837	.9150
68	.726	.780	.841	.9175
67	.734	.786	.846	.9200
66	.741	.793	.852	.9225
65	.749	.799	.857	.9250
64	.757	.806	.862	.9275
63	.765	.813	.867	.9300
62	.772	.819	.871	.9325
61	.779	.825	.876	.9350
60	.787	.831	.881	.9375
59	.793	.837	.885	.9400
58	.800	.842	.889	.9425
57	.807	.848	.893	.9450
56	.813	.853	.897	.9475
55	.819	.858	.900	.9500

Schedule SB, Part V — Summary of Plan Provisions

• Actuarial equivalence for alternative forms of payment (continued)	<u>Age at benefit commencement</u>	<u>10 Certain & Life</u>	<u>20 Certain & Life</u>	<u>Social Security leveling income option</u>	
	70 and older	.900	.800	N/A	
	69	.901	.800	N/A	
	68	.910	.800	N/A	
	67	.918	.800	N/A	
	66	.927	.800	N/A	
	65	.934	.800	1.00	
	64	.941	.800	.92	
	63	.948	.801	.84	
	62	.954	.817	.76	
	61	.959	.832	.68	
	60	.963	.846	.60	
	59	.967	.859	.56	
	58	.970	.871	.52	
	57	.973	.882	.48	
	56	.976	.893	.44	
	55	.978	.902	.40	
	If member is more than five years older than the joint annuitant, the retirement factor shall be decreased as follows for each year over five that the member is older than the joint annuitant's age:				
		<u>100% Benefit</u>	<u>75% Benefit</u>	<u>50% Benefit</u>	<u>25% Benefit</u>
	Subtract:	.01	.0075	.0050	.0025
If joint annuitant is more than five years older than the member, the retirement factor shall be increased (but never greater than 1.0) as follows for each year over five that the joint annuitant is older than the member:					
	<u>100% Benefit</u>	<u>75% Benefit</u>	<u>50% Benefit</u>	<u>25% Benefit</u>	
Add:	.01	.0075	.0050	.0025	
The initial annuity for the reserve option is equal to 88% of the basic allowance.					
• Actuarial equivalence for lump sum prior to December 1, 2016 and after December 31, 2018	PPA mortality and interest rates equal to the average of the 3-tiered minimum present value segment rate for the third, fourth and fifth months immediately preceding the first day of the calendar quarter during which the lump sum payment occurs.				
• Actuarial equivalence for lump sums after November 30, 2016 and before January 1, 2019	PPA mortality and interest rates equal to the second month immediately preceding the first day of the calendar year during which the lump sum payment occurs (with protection of actuarial equivalence basis above).				

Schedule SB, Part V — Summary of Plan Provisions

- **Maximum on benefits and pay** All benefits and pay for any calendar year may not exceed the maximum limitations for that year as defined in the Internal Revenue Code. The plan provides for increasing the dollar limits automatically as such changes become effective.

FROZEN BASELL BENEFIT**DEFINITIONS**

- **Eligible employee** All persons employed by Basell USA, Inc., except
 - (i) temporary and leased employees,
 - (ii) non-resident aliens,
 - (iii) members of collectively bargained units not covered by the plan,
 - (iv) highly compensated employees who have voluntarily waived participation in the plan, and
 - (v) employees covered by a separate pension plan to which the Employer contributes.
- **Participation** Later of hire date and transfer date.
Plan frozen at December 31, 2007. Any employee hired after January 1, 2006 is not eligible.
- **Credited service** A participant's period of service in years and months in which a participant accrues earnings. The total months of credited service divided by 12 shall be the years of credited service, even if the months of credited service have not been consecutive.

Prior service under Hercules Incorporated Pension Plan is included.

For former Republic Plastics employees, no credited service is granted prior to December 31, 1988.
- **Service** At least six months of earnings are required for one year of vesting service.

Prior service under Hercules Incorporated Pension Plan is included.
- **Final average earnings** Average monthly earnings for the highest five consecutive years during the last 10 years of service. Final average earnings were frozen as of December 31, 2007.
- **Social security integration point** Half of the social security tax base in effect for the 12 months immediately prior to the earlier of: the effective date of retirement or termination and December 31, 2007.

ELIGIBILITY FOR BENEFITS

- **Normal retirement** Age 65 and 10 years of credited service.

Schedule SB, Part V — Summary of Plan Provisions

• Unreduced early retirement	Eligibility for unreduced early retirement is as follows:																		
	<table> <tr> <th><u>Age</u></th><th><u>Credited service</u></th></tr> <tr> <td>55</td><td>30</td></tr> <tr> <td>56</td><td>29</td></tr> <tr> <td>57</td><td>28</td></tr> <tr> <td>58</td><td>27</td></tr> <tr> <td>59</td><td>26</td></tr> <tr> <td>60</td><td>20</td></tr> <tr> <td>61</td><td>15</td></tr> <tr> <td>62+</td><td>10</td></tr> </table>	<u>Age</u>	<u>Credited service</u>	55	30	56	29	57	28	58	27	59	26	60	20	61	15	62+	10
<u>Age</u>	<u>Credited service</u>																		
55	30																		
56	29																		
57	28																		
58	27																		
59	26																		
60	20																		
61	15																		
62+	10																		
• Early retirement	Age 55 and 10 years of credited service																		
• Deferred vested	5 years of vesting service																		
• Disability	In receipt of benefits under Long-Term Disability Income Plan.																		
• Special retirement benefit	Participants who are age 52 with 10 years of service on December 31, 1999 and retire between July 1, 1999 and July 1, 2000. Fourteen employees who met these criteria were excluded from eligibility.																		
• Pre-retirement death	Beneficiaries of participants who are vested and actively employed or who are vested terminated participants and who have elected this coverage.																		
PLAN BENEFITS																			
• Normal retirement	<p>Sum of (i) and (ii):</p> <p>(i) 1.20% of final average earnings up to the social security integration point plus 1.60% of final average earnings in excess of such integration point multiplied by years and months of credited service before January 1, 1996.</p> <p>(ii) 1.30% of final average earnings up to the social security integration point plus 1.70% of final average earnings in excess of such integration point multiplied by years and months of credited service between December 31, 1995 and December 31, 2007.</p> <p>The benefit for certain non-qualified plan participants will not be less than the Minimum Normal Retirement Benefit specified in Appendix D of the plan document.</p>																		
• Early retirement	Monthly benefit is equal to the accrued normal retirement benefit deferred to age 65, or an immediate pension equal to the accrued benefit reduced by 5% each year preceding the date the participant would be eligible for unreduced early retirement benefits.																		
• Deferred vested	As described under normal retirement benefit above based on credited service and earnings at termination. A participant may elect to receive payment of a vested benefit as early as age 55. The benefit that would have been payable at age 65 will be actuarially reduced as described in the Plan.																		
• Actuarial equivalence for deferred vested benefit	1971 TPF&C Forecast Mortality Tables for Males, ages set back one year using an interest assumption of 8% per annum.																		

Schedule SB, Part V — Summary of Plan Provisions

• Disability	Continued service credit up to December 31, 2007 while receiving benefits under Company Long-Term Disability Income Plan.								
• Special retirement benefit	As described under normal retirement benefits above, but participants receive an additional three years of credited service and unreduced early retirement benefits.								
• Pre retirement death benefit (Surviving spouse's benefit)	<p>Benefit that would have been payable to beneficiary had the participant elected retirement on his date of death under either the 50% or 100% contingent annuity option.</p> <p>Reduction for pre retirement death benefit:</p> <p>(i) Spouse beneficiary for active employees:</p> <p>a. 50% contingent annuity option – no reduction</p> <p>b. 100% contingent annuity option – reduced 0.4% per year</p> <p>(ii) Non-spouse beneficiary for active employees:</p> <p>a. 50% contingent annuity option – reduced 0.5% per year</p> <p>b. 100% contingent annuity option – reduced 0.9% per year</p> <p>(iii) Vested terminated participants (50% contingent annuity option only):</p> <table> <tr> <th><u>Age at coverage</u></th><th><u>Charge per year coverage</u></th></tr> <tr> <td>Up to age 44</td><td>0.1% per year</td></tr> <tr> <td>Age 45 to 50</td><td>0.25% per year</td></tr> <tr> <td>Age 50 and over</td><td>0.5% per year</td></tr> </table>	<u>Age at coverage</u>	<u>Charge per year coverage</u>	Up to age 44	0.1% per year	Age 45 to 50	0.25% per year	Age 50 and over	0.5% per year
<u>Age at coverage</u>	<u>Charge per year coverage</u>								
Up to age 44	0.1% per year								
Age 45 to 50	0.25% per year								
Age 50 and over	0.5% per year								
• Optional forms	<p>(a) Life annuity.</p> <p>(b) 50%, 75% or 100% joint and survivor annuity.</p> <p>(c) 51% of life annuity benefit paid out as an actuarially equivalent lump sum, with the remaining 49% paid out as elected by the participant.</p>								
• Actuarial equivalence for joint and survivor optional forms	1971 TPF&C Forecast Mortality Tables for Males, ages set back one year using a 6% interest assumption.								
• Actuarial equivalence for lump sums prior to December 1, 2016 and after December 31, 2018	PPA mortality and interest rates equal to the average of the 3-tiered minimum present value segment rate for the third, fourth and fifth months immediately preceding the first day of the calendar quarter during which the lump sum payment occurs.								
• Actuarial equivalence for lump sums after November 30, 2016 and before January 1, 2019	PPA mortality and interest rates equal to the second month immediately preceding the first day of the calendar year during which the lump sum payment occurs (with protection of actuarial equivalence basis above).								
MISCELLANEOUS									
• Maximum compensation	Compensation for any 12-month period used to determine accrued benefits may not exceed the limits in IRC Section 401(a)(17) for the calendar year in which the 12-month period begins. This limit is indexed annually. For 2018, the limit is \$275,000.								
• Maximum benefits	Annual benefits may not exceed the limits in IRC Section 415. This limit is indexed annually. For 2018, the limit is \$220,000.								

*Schedule SB, Part V — Summary of Plan Provisions***Benefits Included or Excluded**

Unless noted below, all benefits provided by the plan, as restated as of January 1, 2014 and amended through the Third Amendment to the LyondellBasell Retirement Plan, executed on December 27, 2017, are included in this valuation:

- **Most recent plan amendments included:** The Third Amendment to the LyondellBasell Retirement Plan, executed on December 27, 2017, is included because it was adopted by the valuation date and is effective by the end of the plan year.
- 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 70 ½.
 - Deferred vested participants: Current deferred vested participants over normal retirement age are not valued including the late retirement actuarial increases. 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:** The limitations of Internal Revenue Code Sections 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 percent 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 SPECIFIC TO FUNDING

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 Benefits Included or Excluded.

Schedule SB, Part V — Summary of Plan Provisions

- *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.

PLAN PROVISION CHANGES SINCE PRIOR VALUATION

- Maximum compensation amounts and maximum benefit amounts under IRS rules were updated from 2017 to 2018.
- The Plan was amended to change the lookback and stability period used for 417(e) purposes.

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		2018 INSTALLMENT
2016	\$	18,906,798	5	\$	4,077,597
2017		8,585,776	6		1,589,617
2018		21,130,959	7		3,449,626
Total	\$	48,623,533		\$	9,116,840

Schedule SB, line 24 — Change in Actuarial Assumptions

ACTUARIAL ASSUMPTION CHANGES SINCE PRIOR VALUATION

- The cash balance interest accumulation rate decreased from 2.86% to 2.80%.
- The expected investment return changed from 8.00% to 7.50%.