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 6047(e), 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

2014

This Form is Open to Public Inspection

Part I Annual Report Identification Information

For calendar plan year 2014 or fiscal plan year beginning 01/01/2014 and ending 12/31/2014

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

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

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

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

Part II Basic Plan Information—enter all requested information

1a Name of plan
RETIREMENT PLAN OF W.R. GRACE & CO. - CT DU PONT HOURLY PLAN

1b Three-digit plan number (PN) ▶ 200

1c Effective date of plan 09/01/2000

2a Plan sponsor's name and address; include room or suite number (employer, if for a single-employer plan)
W.R. GRACE & CO. -CT

7500 GRACE DRIVE, BUILDING 100
COLUMBIA, MD 21044

2b Employer Identification Number (EIN)
13-5114230

2c Plan Sponsor's telephone number
410-531-4000

2d Business code (see instructions)
325100

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.	10/13/2015	JOE QUINN
	Signature of plan administrator	Date	Enter name of individual signing as plan administrator
SIGN HERE	Filed with authorized/valid electronic signature.	10/13/2015	JOE QUINN
	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

Preparer's name (including firm name, if applicable) and address (include room or suite number) (optional)

Preparer's telephone number (optional)

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

ADMINISTRATIVE COMMITTEE

7500 GRACE DRIVE, BUILDING 100
COLUMBIA, MD 21044

3b Administrator's EIN: 13-2880089

3c Administrator's telephone number: 410-531-4000

4 If the name and/or EIN of the plan sponsor has changed since the last return/report filed for this plan, enter the name, EIN and the plan number from the last return/report:

a Sponsor's name

4b EIN

4c PN

5	Total number of participants at the beginning of the plan year	**5**	46
6	Number of participants as of the end of the plan year unless otherwise stated (welfare plans complete only lines **6a(1), 6a(2), 6b, 6c,** and **6d**).		
a(1)	Total number of active participants at the beginning of the plan year	**6a(1)**	31
a(2)	Total number of active participants at the end of the plan year	**6a(2)**	30
b	Retired or separated participants receiving benefits	**6b**	10
c	Other retired or separated participants entitled to future benefits	**6c**	5
d	Subtotal. Add lines **6a(2)**, **6b**, and **6c**.	**6d**	45
e	Deceased participants whose beneficiaries are receiving or are entitled to receive benefits.	**6e**	1
f	Total. Add lines **6d** and **6e**.	**6f**	46
g	Number of participants with account balances as of the end of the plan year (only defined contribution plans complete this item)	**6g**	
h	Number of participants that terminated employment during the plan year with accrued benefits that were less than 100% vested	**6h**	0
7	Enter the total number of employers obligated to contribute to the plan (only multiemployer plans complete this item)	**7**	

8a If the plan provides pension benefits, enter the applicable pension feature codes from the List of Plan Characteristics Codes in the instructions:
1B

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

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)	☐	**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 2014 Form M-1 annual report. If the plan was not required to file the 2014 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

2014

This Form is Open to Public Inspection

For calendar plan year 2014 or fiscal plan year beginning 01/01/2014 and ending 12/31/2014

▶ **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
RETIREMENT PLAN OF W.R. GRACE & CO. - CT DU PONT HOURLY PLAN

B Three-digit plan number (PN) ▶ 200

C Plan sponsor's name as shown on line 2a of Form 5500 or 5500-SF
W.R. GRACE & CO. -CT

D Employer Identification Number (EIN)
13-5114230

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

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

Part I Basic Information

1 Enter the valuation date: Month 01 Day 01 Year 2014

2 Assets:

a Market value	**2a**	3981463
b Actuarial value	**2b**	3983708

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	10	1045542	1045542
b For terminated vested participants	5	149615	149615
c For active participants	31	1317575	1665363
d Total	46	2512732	2860520

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**	6.61%
6 Target normal cost	**6**	176799

Statement by Enrolled Actuary

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

SIGN HERE

Signature of actuary — Date: 08/31/2015

TRICIA SCHWABENBAUER — Type or print name of actuary

14-07200 — Most recent enrollment number

AON CONSULTING, INC. — Firm name

410-547-2990 — Telephone number (including area code)

500 EAST PRATT STREET
BALTIMORE, MD 21202

Address of the firm

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

Part II Beginning of Year Carryover and Prefunding Balances

		(a) Carryover balance	(b) Prefunding balance
7	Balance at beginning of prior year after applicable adjustments (line 13 from prior year)	0	785034
8	Portion elected for use to offset prior year's funding requirement (line 35 from prior year)	0	0
9	Amount remaining (line 7 minus line 8)	0	785034
10	Interest on line 9 using prior year's actual return of 3.41%	0	26770
11	Prior year's excess contributions to be added to prefunding balance:		
	a Present value of excess contributions (line 38a from prior year)		576159
	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 6.43 %		37047
	b(2) Interest on line 38b from prior year Schedule SB, using prior year's actual return		0
	c Total available at beginning of current plan year to add to prefunding balance		613206
	d Portion of (c) to be added to prefunding balance		613206
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)	0	1425010

Part III Funding Percentages

14	Funding target attainment percentage	14	89.44 %
15	Adjusted funding target attainment percentage	15	139.26 %
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	88.62 %
17	If the current value of the assets of the plan is less than 70 percent of the funding target, enter such percentage	17	%

Part IV Contributions and Liquidity Shortfalls

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

(a) Date (MM-DD-YYYY)	(b) Amount paid by employer(s)	(c) Amount paid by employees	(a) Date (MM-DD-YYYY)	(b) Amount paid by employer(s)	(c) Amount paid by employees
			Totals ► 18(b)	0	18(c) 0

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

20 Quarterly contributions and liquidity shortfalls:

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

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

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

Liquidity shortfall as of end of quarter of this plan year

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

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

21 Discount rate:

a Segment rates:

1st segment:	2nd segment:	3rd segment:	
4.99 %	6.32 %	6.99 %	☐ N/A, full yield curve used

b Applicable month (enter code)	**21b**	4
22 Weighted average retirement age	**22**	63

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

Part VI Miscellaneous Items

24 Has a change been made in the non-prescribed actuarial assumptions for the current plan year? If "Yes," see instructions regarding required attachment	☒ Yes	☐ No
25 Has a method change been made for the current plan year? If "Yes," see instructions regarding required attachment	☐ Yes	☒ No
26 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**	176799
b Excess assets, if applicable, but not greater than line 31a	**31b**	0

32 Amortization installments:	Outstanding Balance	Installment
a Net shortfall amortization installment	301822	55942
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**	232741

	Carryover balance	Prefunding balance	Total balance
35 Balances elected for use to offset funding requirement	0	232741	232741

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

Part IX Pension Funding Relief Under Pension Relief Act of 2010 (See Instructions)

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

a Schedule elected ☐ 2 plus 7 years ☐ 15 years

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

42 Amount of acceleration adjustment	**42**	
43 Excess installment acceleration amount to be carried over to future plan years	**43**	

SCHEDULE D (Form 5500)

Department of the Treasury
Internal Revenue Service

Department of Labor
Employee Benefits Security Administration

DFE/Participating Plan Information

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

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

OMB No. 1210-0110

2014

This Form is Open to Public Inspection.

For calendar plan year 2014 or fiscal plan year beginning 01/01/2014 and ending 12/31/2014

A Name of plan
RETIREMENT PLAN OF W.R. GRACE & CO. - CT DU PONT HOURLY PLAN

B Three-digit plan number (PN) ▶ 200

C Plan or DFE sponsor's name as shown on line 2a of Form 5500
W.R. GRACE & CO. -CT

D Employer Identification Number (EIN)
13-5114230

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

a Name of MTIA, CCT, PSA, or 103-12 IE: W.R. GRACE & CO. MASTER RET. TRUST

b Name of sponsor of entity listed in (a): W.R. GRACE & CO.

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)
36-6807393-101	M	4235794

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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 I (Form 5500)

Department of the Treasury
Internal Revenue Service

Department of Labor
Employee Benefits Security Administration

Pension Benefit Guaranty Corporation

Financial Information—Small Plan

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

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

OMB No. 1210-0110

2014

This Form is Open to Public Inspection

For calendar plan year 2014 or fiscal plan year beginning 01/01/2014 and ending 12/31/2014

A Name of plan
RETIREMENT PLAN OF W.R. GRACE & CO. - CT DU PONT HOURLY PLAN

B Three-digit plan number (PN) ▶ 200

C Plan sponsor's name as shown on line 2a of Form 5500
W.R. GRACE & CO. -CT

D Employer Identification Number (EIN)
13-5114230

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

Part I Small Plan Financial Information

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

			(a) Beginning of Year	**(b)** End of Year
1	**Plan Assets and Liabilities:**			
a	Total plan assets	1a	3993011	4235794
b	Total plan liabilities	1b		
c	Net plan assets (subtract line 1b from line 1a)	1c	3993011	4235794
2	**Income, Expenses, and Transfers for this Plan Year:**		**(a)** Amount	**(b)** Total
a	Contributions received or receivable:			
	(1) Employers	2a(1)		
	(2) Participants	2a(2)		
	(3) Others (including rollovers)	2a(3)		
b	Noncash contributions	2b		
c	Other income	2c	358123	
d	Total income (add lines 2a(1), 2a(2), 2a(3), 2b, and 2c)	2d		358123
e	Benefits paid (including direct rollovers)	2e	104563	
f	Corrective distributions (see instructions)	2f		
g	Certain deemed distributions of participant loans (see instructions)	2g		
h	Administrative service providers (salaries, fees, and commissions)	2h		
i	Other expenses	2i	10777	
j	Total expenses (add lines 2e, 2f, 2g, 2h, and 2i)	2j		115340
k	Net income (loss) (subtract line 2j from line 2d)	2k		242783
l	Transfers to (from) the plan (see instructions)	2l		

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

			Yes	No	Amount
a	Partnership/joint venture interests	3a		X	
b	Employer real property	3b		X	
c	Real estate (other than employer real property)	3c		X	
d	Employer securities	3d		X	
e	Participant loans	3e		X	

		Yes	No	Amount
3f Loans (other than to participants)	3f		X	
g Tangible personal property	3g		X	

Part II Compliance Questions

4 During the plan year:		Yes	No	Amount
a Was there a failure to transmit to the plan any participant contributions within the time period described in 29 CFR 2510.3-102? Continue to answer "Yes" for any prior year failures until fully corrected. (See instructions and DOL's Voluntary Fiduciary Correction Program.)	4a		X	
b Were any loans by the plan or fixed income obligations due the plan in default as of the close of plan year or classified during the year as uncollectible? Disregard participant loans secured by the participant's account balance.	4b		X	
c Were any leases to which the plan was a party in default or classified during the year as uncollectible?	4c		X	
d Were there any nonexempt transactions with any party-in-interest? (Do not include transactions reported on line 4a.)	4d		X	
e Was the plan covered by a fidelity bond?	4e	X		15000000
f Did the plan have a loss, whether or not reimbursed by the plan's fidelity bond, that was caused by fraud or dishonesty?	4f		X	
g Did the plan hold any assets whose current value was neither readily determinable on an established market nor set by an independent third party appraiser?	4g		X	
h Did the plan receive any noncash contributions whose value was neither readily determinable on an established market nor set by an independent third party appraiser?	4h		X	
i Did the plan at any time hold 20% or more of its assets in any single security, debt, mortgage, parcel of real estate, or partnership/joint venture interest?	4i		X	
j Were all the plan assets either distributed to participants or beneficiaries, transferred to another plan, or brought under the control of the PBGC?	4j		X	
k Are you claiming a waiver of the annual examination and report of an independent qualified public accountant (IQPA) under 29 CFR 2520.104-46? If "No," attach an IQPA's report or 2520.104-50 statement. (See instructions on waiver eligibility and conditions.)	4k	X		
l Has the plan failed to provide any benefit when due under the plan?	4l		X	
m If this is an individual account plan, was there a blackout period? (See instructions and 29 CFR 2520.101-3.)	4m			
n If 4m was answered "Yes," check the "Yes" box if you either provided the required notice or one of the exceptions to providing the notice applied under 29 CFR 2520.101-3	4n			

5a Has a resolution to terminate the plan been adopted during the plan year or any prior plan year?
If "Yes," enter the amount of any plan assets that reverted to the employer this year ☐ **Yes** ☒ **No** **Amount:**

5b If, during this plan year, any assets or liabilities were transferred from this plan to another plan(s), identify the plan(s) to which assets or liabilities were transferred. (See instructions.)

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

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

Part III Trust Information (optional)

6a Name of trust	**6b** Trust's EIN

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 section 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

2014

This Form is Open to Public Inspection.

For calendar plan year 2014 or fiscal plan year beginning 01/01/2014 and ending 12/31/2014

A Name of plan
RETIREMENT PLAN OF W.R. GRACE & CO. - CT DU PONT HOURLY PLAN

B Three-digit plan number (PN) ▶ 200

C Plan sponsor's name as shown on line 2a of Form 5500
W.R. GRACE & CO. -CT

D Employer Identification Number (EIN)
13-5114230

Part I Distributions

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

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

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

EIN(s): 36-1561860

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

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

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

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

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

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

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

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

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

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

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

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

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

Part III Amendments

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

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

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

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

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

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

Part V Additional Information for Multiemployer Defined Benefit Pension Plans

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

a Name of contributing employer

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

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

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

---

a Name of contributing employer

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

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

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

---

a Name of contributing employer

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

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

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

---

a Name of contributing employer

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

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

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

---

a Name of contributing employer

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

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

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

---

a Name of contributing employer

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

2014

This Form is Open to Public Inspection

For calendar plan year 2014 or fiscal plan year beginning 01/01/2014 and ending 12/31/2014

▶ **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

RETIREMENT PLAN OF W.R. GRACE & CO. -CT DUPONT HOURLY PLAN

B Three-digit plan number (PN) ▶ 200

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

W.R. GRACE & CO.-CT

D Employer Identification Number (EIN)

13-5114230

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

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

Part I Basic Information

1 Enter the valuation date: Month 1 Day 1 Year 2014

2 Assets:

a Market value	**2a**	3,981,463
b Actuarial value	**2b**	3,983,708

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	10	1,045,542	1,045,542
b For terminated vested participants	5	149,615	149,615
c For active participants	31	1,317,575	1,665,363
d Total	46	2,512,732	2,860,520

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**	6.61 %
6 Target normal cost	**6**	176,799

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

Tricia L Schwabenbauer TLS
Signature of actuary

8/31/2015
Date

Tricia Schwabenbauer
Type or print name of actuary

14-07200
Most recent enrollment number

Aon Consulting, Inc.
Firm name

(410) 547-2990
Telephone number (including area code)

500 East Pratt Street

Baltimore MD 21202
Address of the firm

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

Part II Beginning of Year Carryover and Prefunding Balances

	(a) Carryover balance	(b) Prefunding balance
7 Balance at beginning of prior year after applicable adjustments (line 13 from prior year)	0	785,034
8 Portion elected for use to offset prior year's funding requirement (line 35 from prior year)	0	0
9 Amount remaining (line 7 minus line 8)	0	785,034
10 Interest on line 9 using prior year's actual return of 3.41%	0	26770
11 Prior year's excess contributions to be added to prefunding balance:		
a Present value of excess contributions (line 38a from prior year)		576159
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 6.43%		37047
b(2) Interest on line 38b from prior year Schedule SB, using prior year's actual return		0
c Total available at beginning of current plan year to add to prefunding balance		613206
d Portion of (c) to be added to prefunding balance		613206
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)	0	1425010

Part III Funding Percentages

14 Funding target attainment percentage	14	89.44 %
15 Adjusted funding target attainment percentage	15	139.26 %
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	88.62 %
17 If the current value of the assets of the plan is less than 70 percent of the funding target, enter such percentage	17	%

Part IV Contributions and Liquidity Shortfalls

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

(a) Date (MM-DD-YYYY)	(b) Amount paid by employer(s)	(c) Amount paid by employees	(a) Date (MM-DD-YYYY)	(b) Amount paid by employer(s)	(c) Amount paid by employees
			Totals ► 18(b)	0	18(c) 0

19 Discounted employer contributions – see instructions for small plan with a valuation date after the beginning of the year:

a Contributions allocated toward unpaid minimum required contributions from prior years.	19a	0
b Contributions made to avoid restrictions adjusted to valuation date	19b	0
c Contributions allocated toward minimum required contribution for current year adjusted to valuation date	19c	0

20 Quarterly contributions and liquidity shortfalls:

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

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

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

Liquidity shortfall as of end of quarter of this plan year

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

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

21 Discount rate:

a Segment rates:

1st segment:	2nd segment:	3rd segment:	
4.99 %	6.32 %	6.99 %	☐ N/A, full yield curve used

b Applicable month (enter code)	**21b**	4
22 Weighted average retirement age	**22**	63

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

Part VI Miscellaneous Items

24 Has a change been made in the non-prescribed actuarial assumptions for the current plan year? If "Yes," see instructions regarding required attachment	☒ Yes	☐ No
25 Has a method change been made for the current plan year? If "Yes," see instructions regarding required attachment	☐ Yes	☒ No
26 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**	176,799
b Excess assets, if applicable, but not greater than line 31a	**31b**	0

32 Amortization installments:	Outstanding Balance	Installment
a Net shortfall amortization installment	301,822	55,942
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**	232,741

	Carryover balance	Prefunding balance	Total balance
35 Balances elected for use to offset funding requirement	0	232,741	232,741

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

Part IX Pension Funding Relief Under Pension Relief Act of 2010 (See Instructions)

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

a Schedule elected ☐ 2 plus 7 years ☐ 15 years

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

42 Amount of acceleration adjustment	**42**	
43 Excess installment acceleration amount to be carried over to future plan years	**43**	

Schedule SB Attachment (Form 5500)—2014 Plan Year
Retirement Plan of W.R. Grace & Co. – CT Dupont Hourly Plan
EIN: 13-5114230 PN: 200

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

The average retirement age shown in line 22 has been calculated by assuming the following retirement rates and no decrements other than retirement for this calculation. All retirements are assumed to occur at beginning of year.

(a) Age	(b) Rate	(c) Weight	(d) Product (a) x (b) x (c)
55	6.00%	1.0000	3.30
56	5.00%	0.9400	2.63
57	6.00%	0.8930	3.05
58	6.00%	0.8394	2.92
59	6.00%	0.7891	2.79
60	7.00%	0.7417	3.12
61	9.00%	0.6898	3.79
62	12.00%	0.6277	4.67
63	16.00%	0.5524	5.57
64	24.00%	0.4640	7.13
65	31.00%	0.3526	7.11
66	29.00%	0.2433	4.66
67	27.00%	0.1728	3.13
68	26.00%	0.1261	2.23
69	33.00%	0.0933	2.13
70	100.00%	0.0625	4.38
		Weighted Average	62.61

Schedule SB Attachment (Form 5500)—2014 Plan Year
Retirement Plan of W.R. Grace & Co. – CT Dupont Hourly Plan
EIN: 13-5114230 PN: 200

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

Interest Rates for Minimum Funding Purposes	Based on segment rates with a four-month lookback (as of September 2013), each adjusted as needed to fall within the 25-year average interest rate corridor under HATFA
1st Segment Rate	4.99%
2nd Segment Rate	6.32%
3rd Segment Rate	6.99%
Interest Rates for Maximum Tax Purposes	Based on segment rates with a four-month lookback (as of September 2013), without regard to interest rate stabilization
1st Segment Rate	1.37%
2nd Segment Rate	4.05%
3rd Segment Rate	5.06%
Salary Increases	
Minimum Funding Target Normal Cost	See Table 1
Maximum Tax Expected Benefit Increase	See Table 1
Social Security Wage Base Increases	Future wage indices are based on a national wage increase of 3.50% per year.
Retirement Age	
Active Participants	See Table 2
Terminated Vested Participants	See Table 3
Mortality Rates	
Healthy and Disabled	2014 static mortality table for annuitants and non-annuitants per §1.430(h)(3)-1(e)
Withdrawal Rates	See Table 4
Disability Rates	See Table 5
Form of Benefit Payment	See Table 6
Decrement Timing	Beginning of year decrements
Surviving Spouse Benefit	It is assumed that 80% of males and 80% of females have an eligible spouse, and that males are three years older than their spouses.
Valuation Compensation	2013 Regular salary

Schedule SB Attachment (Form 5500)—2014 Plan Year
Retirement Plan of W.R. Grace & Co. – CT Dupont Hourly Plan
EIN: 13-5114230 PN: 200

Benefit and Compensation Limits	Projected benefits and compensation are limited by the current IRC section 415 maximum benefit of $210,000 and the IRC section 401(a)(17) compensation limit of $260,000.
Valuation of Plan Assets	Smoothed fair market value of assets over the current and prior two years, adjusted for contributions, benefit payments, administrative expenses, and expected earnings. The average value of assets calculated in this manner is further limited to not less than 90% nor more than 110% of fair market value. A characteristic of this method is that the expected distribution of the value of plan assets is skewed toward understatement relative to the corresponding market values for expected long-term rates of return in excess of the third segment rate under IRC section 430(h)(2)(C)(iii).
Expected Return on Assets	
2012 Plan Year	6.25% The applicable third segment rate limitation is 7.52%.
2013 Plan Year	6.00% The applicable third segment rate limitation is 6.76%.
Trust Expenses Included in Target Normal Cost	$9,560, actual expenses from prior year with a 5% load
Actuarial Method	Standard unit credit cost method
Valuation Date	January 1, 2014

Table 1

Salary Merit Increase Rates

Age	Rate	Age	Rate
15	7.25%	45	4.25%
16	7.25%	46	4.25%
17	7.25%	47	4.25%
18	7.25%	48	4.25%
19	7.25%	49	4.25%
20	7.25%	50	3.50%
21	7.25%	51	3.50%
22	7.25%	52	3.50%
23	7.25%	53	3.50%
24	7.25%	54	3.50%
25	7.25%	55	3.00%
26	7.25%	56	3.00%
27	7.25%	57	3.00%
28	7.25%	58	3.00%
29	7.25%	59	3.00%
30	6.25%	60+	3.00%
31	6.25%		
32	6.25%		
33	6.25%		
34	6.25%		
35	6.00%		
36	6.00%		
37	6.00%		
38	6.00%		
39	6.00%		
40	4.75%		
41	4.75%		
42	4.75%		
43	4.75%		
44	4.75%		

Table 2

Retirement Rates—Active Participants

Age	Rate
55	6.00%
56	5.00%
57	6.00%
58	6.00%
59	6.00%
60	7.00%
61	9.00%
62	12.00%
63	16.00%
64	24.00%
65	31.00%
66	29.00%
67	27.00%
68	26.00%
69	33.00%
70+	100.00%

Table 3

Retirement Rates—Terminated vested Participants

Age	Rate
55	15.00%
56	5.00%
57	5.00%
58	5.00%
59	6.00%
60	6.00%
61	10.00%
62	20.00%
63	10.00%
64	15.00%
65+	100.00%

Schedule SB Attachment (Form 5500)—2014 Plan Year
Retirement Plan of W.R. Grace & Co. – CT Dupont Hourly Plan
EIN: 13-5114230 PN: 200

Table 4—Page 1 of 2

Withdrawal Rates

	Years of Service			
Age	**0-1**	**2-4**	**5-9**	**10+**
20	18.00%	14.00%	0.00%	0.00%
21	22.00%	18.00%	0.00%	0.00%
22	21.00%	21.00%	15.00%	0.00%
23	23.00%	18.00%	15.00%	0.00%
24	27.00%	18.00%	14.00%	0.00%
25	27.00%	16.00%	13.00%	0.00%
26	24.00%	16.00%	13.00%	0.00%
27	19.00%	14.00%	13.00%	0.00%
28	14.00%	15.00%	12.00%	11.00%
29	13.00%	14.00%	12.00%	11.00%
30	16.00%	13.00%	9.00%	12.00%
31	13.00%	14.00%	10.00%	13.00%
32	12.00%	14.00%	10.00%	8.00%
33	12.00%	12.00%	10.00%	8.00%
34	15.00%	12.00%	9.00%	7.00%
35	12.00%	13.00%	10.00%	6.00%
36	16.00%	12.00%	9.00%	7.00%
37	16.00%	11.00%	9.00%	6.00%
38	16.00%	10.00%	7.00%	6.00%
39	10.00%	11.00%	7.00%	6.00%
40	9.00%	9.00%	8.00%	6.00%
41	8.00%	8.00%	8.00%	6.00%
42	10.00%	8.00%	8.00%	6.00%
43	10.00%	10.00%	8.00%	5.00%
44	10.00%	8.00%	8.00%	6.00%
45	12.00%	9.00%	7.00%	5.00%
46	10.00%	10.00%	6.00%	5.00%
47	12.00%	12.00%	5.00%	4.00%
48	14.00%	13.00%	4.00%	4.00%
49	15.00%	12.00%	6.00%	4.00%

Table 4—Page 2 of 2

Withdrawal Rates

	Years of Service			
Age	**0-1**	**2-4**	**5-9**	**10+**
50	12.00%	12.00%	6.00%	3.00%
51	12.00%	11.00%	6.00%	3.00%
52	11.00%	10.00%	7.00%	3.00%
53	10.00%	9.00%	8.00%	3.00%
54	11.00%	8.00%	7.00%	3.00%
55+	0.00%	0.00%	0.00%	0.00%

Table 5

Disability Rates

Age	Rate	Age	Rate
18	0.04%	48	0.26%
19	0.04%	49	0.29%
20	0.04%	50	0.33%
21	0.04%	51	0.37%
22	0.04%	52	0.41%
23	0.04%	53	0.45%
24	0.04%	54	0.50%
25	0.04%	55	0.55%
26	0.05%	56	0.61%
27	0.05%	57	0.72%
28	0.05%	58	0.83%
29	0.05%	59	0.91%
30	0.05%	60	1.04%
31	0.05%	61	1.19%
32	0.05%	62	1.37%
33	0.06%	63	1.57%
34	0.06%	64	2.04%
35	0.06%	65+	0.00%
36	0.07%		
37	0.07%		
38	0.07%		
39	0.08%		
40	0.08%		
41	0.09%		
42	0.09%		
43	0.10%		
44	0.13%		
45	0.16%		
46	0.19%		
47	0.22%		

Table 6

Form of Benefit Payment

Payment Form	Probability
Single Life Annuity	55.00%
100% Joint and Survivor Annuity	20.00%
75% Joint and Survivor Annuity	5.00%
50% Joint and Survivor Annuity	20.00%

Schedule SB Attachment (Form 5500)—2014 Plan Year
Retirement Plan of W.R. Grace & Co. – CT Dupont Hourly Plan
EIN: 13-5114230 PN: 200

Schedule SB, Part V—Summary of Plan Provisions

General Information	
Original Effective Date	September 1, 2000
Effective Date of Last Amendment	January 1, 2006
Plan Year	January 1 to December 31
Employer Fiscal Year	January 1 to December 31
Employer ID Number	13-5114230
Plan Administrator's ID Number	13-5114230
Plan Number	200
Plan Administrator	Administrative Committee
Eligibility	Date of hire.
Service	
Credited Service	From date of hire.
Vesting Service	1,000 hours of service.
Normal Retirement	
Eligibility	Age 65.
Benefit	Maximum of (a), (b), or (c): (a) 1.2% time FAE(3) times service. (b) [1.5% times FAE(3) times service] – 50%PIA. (c) ⅔% times FAE(3), maximum 10% of FAE(3), plus $9.00 times service.
Average Compensation	Average of highest 36 consecutive months of compensation.
Early Retirement	
Eligibility	Age 50 and 15 years of service.
Benefit	Accrued Benefit reduced 5/12% per month preceding age 65. No reduction if age 58 plus 27 years of service or Rule of 85.

Disability Retirement	
Eligibility	15 years of service.
Benefit	Accrued Benefit plus 50% of PIA until age 62.
Postponed Retirement	
Eligibility	Actual retirement after age 65.
Benefit	A monthly benefit equal to the Accrued Benefit calculated as of the actual retirement date.
Preretirement Death	
Eligibility	Five years of service or age 55.
Benefit	Accrued Benefit.
Severance Benefit	
Eligibility	
Fewer Than Five Years of Service	0%
Five or More Years of Service	100%
Benefit	Accrued Benefit at age 65.
Normal Form of Payment	
Married	Reduced 50% Joint and Survivor.
Single	Life Annuity.
Optional Methods of Settlement	Reduced benefit to be paid during participant's lifetime with the provision that after his death, a benefit equal to 75% or a multiple of 10% is paid to his beneficiary. Increased retirement benefit paid prior to Social Security Benefit eligibility and reduced benefit paid thereafter in order to provide a uniform income. For the purpose of calculating a Joint and 50% Survivor optional form of benefit, the factors from Appendix C shall be applied, based on the interest rate determined under Appendix A as of the date benefit payments commence.

For the purpose of calculating benefits payable to the former Participant under the Joint and Survivor Option, the factors from Appendix D shall be applied, based on the interest rate determined under Appendix A as of the date benefit payments to the former Participant commence; for the purpose of calculating benefits payable to the former Participant under the Level Income Option, the factors from Appendix B shall be applied, based on the interest rate determined under Appendix A as of the date benefit payments to the former Participant commence.

For the purpose of calculating any other optional form of benefit available, mortality with reference to the UP-84 Mortality Table and 6.5% interest.

APPENDIX A

DETERMINATION OF INTEREST RATE FOR OPTIONAL FORMS

Interest rates will be established quarterly, rounded to the nearest whole percentage and based on the average Pension Benefit Guaranty Corporation immediate annuity rates for the preceding quarter. In no event will the rate be less than 5% or greater than 15%.

APPENDIX B

LEVEL INCOME OPTION FACTORS

1. The benefit payable prior to age 62 is equal to the Primary Social Security Benefit, as such term is defined in the Plan, times the appropriate factor from the following tables, plus the employee's pension determined without regard to the Level Income Option.

2. The benefit payable after age 62 is equal to the benefit calculated above, less the Primary Social Security Benefit, as such term is defined in the Plan.

FACTORS FOR LEVEL INCOME OPTION
INTEREST RATE: 5.0%
MONTHS

AGE AT COMMENCEMENT	0	1	2	3	4	5	6	7	8	9	10	11
61	.9149	.9220	.9291	.9362	.9432	.9503	.9574	.9645	.9716	.9787	.9858	.9929
60	.8388	.8451	.8515	.8578	.8641	.8705	.8768	.8832	.8895	.8958	.9022	.9085
59	.7706	.7762	.7819	.7876	.7933	.7990	.8047	.8104	.8160	.8217	.8274	.8331
58	.7092	.7143	.7195	.7246	.7297	.7348	.7399	.7450	.7501	.7552	.7603	.7655
57	.6540	.6586	.6632	.6678	.6724	.6770	.6816	.6862	.6908	.6954	.7000	.7046
56	.6040	.6082	.6123	.6165	.6207	.6248	.6290	.6332	.6373	.6415	.6456	.6498
55	.5588	.5626	.5663	.5701	.5739	.5776	.5814	.5852	.5889	.5927	.5965	.6003
54	.5177	.5212	.5246	.5280	.5314	.5349	.5383	.5417	.5451	.5485	.5520	.5554
53	.4804	.4835	.4866	.4897	.4929	.4960	.4991	.5022	.5053	.5084	.5115	.5146
52	.4464	.4492	.4520	.4549	.4577	.4606	.4634	.4662	.4691	.4719	.4747	.4776
51	.4153	.4179	.4205	.4231	.4257	.4282	.4308	.4334	.4360	.4386	.4412	.4438
50	.3869	.3892	.3916	.3940	.3963	.3987	.4011	.4034	.4058	.4082	.4106	.4129
49	.3608	.3630	.3651	.3673	.3695	.3717	.3738	.3760	.3782	.3803	.3825	.3847
48	.3369	.3389	.3409	.3428	.3448	.3468	.3488	.3508	.3528	.3548	.3568	.3588
47	.3149	.3167	.3185	.3204	.3222	.3240	.3259	.3277	.3295	.3314	.3332	.3350
46	.2946	.2963	.2980	.2996	.3013	.3030	.3047	.3064	.3081	.3098	.3115	.3132
45	.2759	.2774	.2790	.2806	.2821	.2837	.2852	.2868	.2883	.2899	.2915	.2930

INTEREST RATE: 6.0%
MONTHS

AGE AT COMMENCEMENT	0	1	2	3	4	5	6	7	8	9	10	11
61	.9081	.9158	.9234	.9311	.9387	.9464	.9541	.9617	.9694	.9770	.9847	.9923
60	.8264	.8332	.8400	.8469	.8537	.8605	.8673	.8741	.8809	.8877	.8945	.9013
59	.7536	.7597	.7657	.7718	.7779	.7839	.7900	.7961	.8021	.8082	.8143	.8204
58	.6885	.6939	.6993	.7047	.7102	.7156	.7210	.7264	.7319	.7373	.7427	.7482
57	.6301	.6349	.6398	.6447	.6495	.6544	.6593	.6641	.6690	.6739	.6787	.6836
56	.5776	.5820	.5864	.5907	.5951	.5995	.6038	.6082	.6126	.6170	.6213	.6257
55	.5304	.5343	.5382	.5422	.5461	.5501	.5540	.5579	.5619	.5658	.5697	.5737
54	.4877	.4913	.4948	.4984	.5019	.5055	.5090	.5126	.5161	.5197	.5233	.5268
53	.4491	.4524	.4556	.4588	.4620	.4652	.4684	.4716	.4749	.4781	.4813	.4845
52	.4142	.4171	.4200	.4229	.4258	.4287	.4317	.4346	.4375	.4404	.4433	.4462
51	.3824	.3851	.3877	.3904	.3930	.3957	.3983	.4009	.4036	.4062	.4089	.4115
50	.3535	.3559	.3584	.3608	.3632	.3656	.3680	.3704	.3728	.3752	.3776	.3800
49	.3272	.3294	.3316	.3338	.3360	.3382	.3404	.3426	.3448	.3470	.3492	.3513
48	.3032	.3052	.3072	.3092	.3112	.3132	.3152	.3172	.3192	.3212	.3232	.3252
47	.2812	.2830	.2849	.2867	.2885	.2904	.2922	.2940	.2959	..2977	.2995	.3014
46	.2611	.2628	.2644	.2661	.2678	.2695	.2712	.2728	.2745	.2762	.2779	.2795
45	.2426	.2442	.2457	.2473	.2488	.2503	.2519	.2534	.2549	.2565	.2580	.2596

APPENDIX B

LEVEL INCOME OPTION FACTORS

FACTORS FOR LEVEL INCOME OPTION
INTEREST RATE: 7.0%
MONTHS

AGE AT COMMENCEMENT	0	1	2	3	4	5	6	7	8	9	10	11
61	.9013	.9095	.9177	.9260	.9342	.9424	.9506	.9589	.9671	.9753	.9835	.9918
60	.8140	.8213	.8286	.8359	.8431	.8504	.8577	.8649	.8722	.8795	.8868	.8940
59	.7367	.7431	.7496	.7560	.7625	.7689	.7754	.7818	.7883	.7947	.8012	.8076
58	.6679	.6736	.6794	.6851	.6908	.6966	.7023	.7080	.7138	.7195	.7252	.7310
57	.6066	.6117	.6168	.6220	.6271	.6322	.6373	.6424	.6475	.6526	.6577	.6628
56	.5519	.5564	.5610	.5656	.5701	.5747	.5793	.5838	.5884	.5929	.5975	.6021
55	.5029	.5070	.5110	.5151	.5192	.5233	.5274	.5315	.5355	.5396	.5437	.5478
54	.4589	.4625	.4662	.4699	.4735	.4772	.4809	.4845	.4882	.4919	.4955	.4992
53	.4193	.4226	.4259	.4292	.4325	.4358	.4391	.4424	.4457	.4490	.4523	.4556
52	.3837	.3867	.3897	.3926	.3956	.3986	.4015	.4045	.4075	.4104	.4134	.4164
51	.3516	.3542	.3569	.3596	.3623	.3650	.3676	.3703	.3730	.3757	.3784	.3810
50	.3225	.3249	.3273	.3298	.3322	.3346	.3370	.3394	.3419	.3443	.3467	.3491
49	.2962	.2984	.3005	.3027	.3049	.3071	.3093	.3115	.3137	.3159	.3181	.3203
48	.2723	.2743	.2763	.2782	.2802	.2822	.2842	.2862	.2882	.2902	.2922	.2942
47	.2506	.2524	.2542	.2560	.2578	.2596	.2614	.2632	.2650	.2668	.2687	.2705
46	.2308	.2325	.2341	.2358	.2374	.2390	.2407	.2423	.2440	.2456	.2473	.2489
45	.2128	.2143	.2158	.2173	.2188	.2203	.2218	.2233	.2248	.2263	.2278	.2293

INTEREST RATE: 8.0%
MONTHS

AGE AT COMMENCEMENT	0	1	2	3	4	5	6	7	8	9	10	11
61	.8944	.9032	.9120	.9208	.9296	.9384	.9472	.9560	.9648	.9736	.9824	.9912
60	.8017	.8094	.8171	.8249	.8326	.8403	.8481	.8558	.8635	.8712	.8790	.8867
59	.7199	.7267	.7336	.7404	.7472	.7540	.7608	.7676	.7744	.7812	.7880	.7949
58	.6477	.6537	.6597	.6658	.6718	.6778	.6838	.6898	.6959	.7019	.7079	.7139
57	.5837	.5891	.5944	.5997	.6050	.6104	.6157	.6210	.6264	.6317	.6370	.6424
56	.5269	.5317	.5364	.5411	.5459	.5506	.5553	.5601	.5648	.5695	.5743	.5790
55	.4764	.4806	.4848	.4890	.4932	.4975	.5017	.5059	.5101	.5143	.5185	.5227
54	.4313	.4351	.4389	.4426	.4464	.4501	.4539	.4576	.4614	.4651	.4689	.4726
53	.3911	.3944	.3978	.4012	.4045	.4079	.4112	.4146	.4179	.4213	.4246	.4280
52	.3551	.3581	.3611	.3641	.3671	.3701	.3731	.3761	.3791	.3821	.3851	.3881
51	.3227	.3254	.3281	.3308	.3335	.3362	.3389	.3416	.3443	.3470	.3497	.3524
50	.2937	.2961	.2986	.3010	.3034	.3058	.3082	.3107	.3131	.3155	.3179	.3203
49	.2676	.2698	.2720	.2741	.2763	.2785	.2807	.2828	.2850	.2872	.2894	.2915
48	.2441	.2460	.2480	.2500	.2519	.2539	.2558	.2578	.2598	.2617	.2637	.2656
47	.2228	.2246	.2264	.2281	.2299	.2317	.2334	.2352	.2370	.2388	.2405	.2423
46	.2036	.2052	.2068	.2084	.2100	.2116	.2132	.2148	.2164	.2180	.2196	.2212
45	.1862	.1877	.1891	.1906	.1920	.1935	.1949	.1964	.1978	.1993	.2007	.2022

APPENDIX B

LEVEL INCOME OPTION FACTORS

FACTORS FOR LEVEL INCOME OPTION
INTEREST RATE: 9.0%
MONTHS

AGE AT COMMENCEMENT	0	1	2	3	4	5	6	7	8	9	10	11
61	.8875	.8969	.9063	.9157	.9250	.9344	.9438	.9531	.9625	.9719	.9813	.9906
60	.7893	.7975	.8057	.8139	.8221	.8303	.8384	.8466	.8548	.8630	.8712	.8794
59	.7034	.7105	.7177	.7249	.7320	.7392	.7464	.7535	.7607	.7678	.7750	.7822
58	.6279	.6342	.6404	.6467	.6530	.6593	.6656	.6719	.6782	.6845	.6908	.6971
57	.5614	.5670	.5725	.5780	.5836	.5891	.5946	.6002	.6057	.6113	.6168	.6223
56	.5028	.5077	.5126	.5175	.5224	.5272	.5321	.5370	.5419	.5468	.5517	.5565
55	.4510	.4553	.4597	.4640	.4683	.4726	.4769	.4812	.4856	.4899	.4942	.4985
54	.4051	.4090	.4128	.4166	.4204	.4243	.4281	.4319	.4357	.4396	.4434	.4472
53	.3644	.3678	.3712	.3746	.3780	.3814	.3848	.3882	.3916	.3950	.3984	.4017
52	.3282	.3312	.3343	.3373	.3403	.3433	.3463	.3493	.3524	.3554	.3584	.3614
51	.2960	.2987	.3013	.3040	.3067	.3094	.3121	.3148	.3175	.3202	.3228	.3255
50	.2672	.2696	.2720	.2744	.2768	.2792	.2816	.2840	.2864	.2888	.2912	.2936
49	.2415	.2436	.2458	.2479	.2501	.2522	.2543	.2565	.2586	.2608	.2629	.2651
48	.2185	.2204	.2223	.2242	.2261	.2281	.2300	.2319	.2338	.2357	.2377	.2396
47	.1979	.1996	.2013	.2030	.2047	.2064	.2082	.2099	.2116	.2133	.2150	.2168
46	.1793	.1809	.1824	.1840	.1855	.1871	.1886	.1901	.1917	.1932	.1948	.1963
45	.1627	.1641	.1655	.1669	.1682	.1696	.1710	.1724	.1738	.1752	.1766	.1779

INTEREST RATE: 10.0%
MONTHS

AGE AT COMMENCEMENT	0	1	2	3	4	5	6	7	8	9	10	11
61	.8806	.8906	.9005	.9105	.9204	.9304	.9403	.9503	.9602	.9702	.9801	.9901
60	.7771	.7857	.7944	.8030	.8116	.8202	.8289	.8375	.8461	.8548	.8634	.8720
59	.6870	.6945	.7020	.7095	.7170	.7246	.7321	.7396	.7471	.7546	.7621	.7696
58	.6085	.6150	.6215	.6281	.6346	.6412	.6477	.6543	.6608	.6674	.6739	.6805
57	.5398	.5455	.5512	.5569	.5627	.5684	.5741	.5798	.5856	.5913	.5970	.6027
56	.4796	.4846	.4896	.4946	.4997	.5047	.5097	.5147	.5197	.5247	.5297	.5348
55	.4268	.4312	.4356	.4400	.4444	.4488	.4532	.4576	.4620	.4664	.4708	.4752
54	.3803	.3842	.3880	.3919	.3958	.3997	.4035	.4074	.4113	.4152	.4190	.4229
53	.3393	.3428	.3462	.3496	.3530	.3564	.3598	.3632	.3667	.3701	.3735	.3769
52	.3032	.3062	.3092	.3122	.3152	.3182	.3213	.3243	.3273	.3303	.3333	.3363
51	.2712	.2739	.2765	.2792	.2819	.2845	.2872	.2899	.2925	.2952	.2978	.3005
50	.2429	.2452	.2476	.2499	.2523	.2547	.2570	.2594	.2617	.2641	.2665	.2688
49	.2177	.2193	.2219	.2240	.2261	.2282	.2303	.2324	.2345	.2366	.2387	.2408
48	.1954	.1972	.1991	.2009	.2028	.2047	.2065	.2084	.2103	.2121	.2140	.2158
47	.1755	.1771	.1788	.1804	.1821	.1838	.1854	.1871	.1887	.1904	.1920	.1937
46	.1578	.1592	.1607	.1622	.1637	.1651	.1666	.1681	.1696	.1710	.1725	.1740
45	.1419	.1433	.1446	.1459	.1472	.1485	.1498	.1512	.1525	.1538	.1551	.1564

APPENDIX B

LEVEL INCOME OPTION FACTORS

FACTORS FOR LEVEL INCOME OPTION
INTEREST RATE: 11.0%
MONTHS

AGE AT COMMENCEMENT	0	1	2	3	4	5	6	7	8	9	10	11
61	.8738	.8843	.8948	.9053	.9158	.9264	.9369	.9474	.9579	.9684	.9790	.9895
60	.7650	.7740	.7831	.7922	.8012	.8103	.8194	.8284	.8375	.8466	.8556	.8647
59	.6709	.6788	.6866	.6944	.7023	.7101	.7180	.7258	.7336	.7415	.7493	.7571
58	.5895	.5963	.6031	.6099	.6167	.6234	.6302	.6370	.6438	.6506	.6574	.6642
57	.5188	.5247	.5306	.5365	.5424	.5483	.5542	.5601	.5659	.5718	.5777	.5836
56	.4573	.4624	.4675	.4727	.4778	.4829	.4881	.4932	.4983	.5034	.5086	.5137
55	.4037	.4081	.4126	.4171	.4215	.4260	.4305	.4350	.4394	.4439	.4484	.4528
54	.3568	.3607	.3646	.3685	.3724	.3763	.3802	.3842	.3881	.3920	.3959	.3998
53	.3158	.3192	.3227	.3261	.3295	.3329	.3363	.3397	.3432	.3466	.3500	.3534
52	.2799	.2829	.2859	.2889	.2919	.2949	.2979	.3009	.3038	.3068	.3098	.3128
51	.2483	.2510	.2536	.2562	.2588	.2615	.2641	.2667	.2694	.2720	.2746	.2773
50	.2206	.2229	.2252	.2275	.2298	.2321	.2344	.2368	.2391	.2414	.2437	.2460
49	.1961	.1982	.2002	.2022	.2043	.2063	.2083	.2104	.2124	.2145	.2165	.2185
48	.1745	.1763	.1781	.1799	.1817	.1835	.1853	.1871	.1889	.1907	.1925	.1943
47	.1555	.1571	.1587	.1603	.1618	.1634	.1650	.1666	.1682	.1698	.1714	.1730
46	.1386	.1400	.1414	.1429	.1443	.1457	.1471	.1485	.1499	.1513	.1527	.1541
45	.1237	.1250	.1262	.1274	.1287	.1299	.1312	.1324	.1337	.1349	.1361	.1374

INTEREST RATE: 12.0%
MONTHS

AGE AT COMMENCEMENT	0	1	2	3	4	5	6	7	8	9	10	11
61	.8669	.8780	.8891	.9002	.9113	.9223	.9334	.9445	.9556	.9667	.9778	.9889
60	.7529	.7624	.7719	.7814	.7909	.8004	.8099	.8194	.8289	.8384	.8479	.8574
59	.6552	.6633	.6715	.6796	.6878	.6959	.7041	.7122	.7204	.7285	.7366	.7448
58	.5711	.5781	.5851	.5921	.5991	.6061	.6131	.6201	.6271	.6341	.6412	.6482
57	.4986	.5046	.5106	.5167	.5227	.5288	.5348	.5409	.5469	.5529	.5590	.5650
56	.4359	.4411	.4464	.4516	.4568	.4620	.4672	.4725	.4777	.4829	.4881	.4933
55	.3817	.3862	.3907	.3953	.3998	.4043	.4088	.4133	.4179	.4224	.4269	.4314
54	.3347	.3386	.3425	.3464	.3504	.3543	.3582	.3621	.3660	.3700	.3739	.3778
53	.2938	.2972	.3006	.3040	.3075	.3109	.3143	.3177	.3211	.3245	.3279	.3313
52	.2583	.2612	.2642	.2672	.2701	.2731	.2761	.2790	.2820	.2849	.2879	.2909
51	.2273	.2299	.2325	.2350	.2376	.2402	.2428	.2454	.2479	.2505	.2531	.2557
50	.2002	.2025	.2047	.2070	.2093	.2115	.2138	.2160	.2183	.2205	.2228	.2250
49	.1766	.1785	.1805	.1825	.1845	.1864	.1884	.1904	.1923	.1943	.1963	.1983
48	.1559	.1576	.1593	.1610	.1628	.1645	.1662	.1679	.1697	.1714	.1731	.1748
47	.1377	.1392	.1407	.1422	.1438	.1453	.1468	.1483	.1498	.1513	.1528	.1543
46	.1218	.1231	.1244	.1257	.1271	.1284	.1297	.1311	.1324	.1337	.1350	.1364
45	.1078	.1089	.1101	.1113	.1124	.1136	.1148	.1159	.1171	.1183	.1194	.1206

APPENDIX B

LEVEL INCOME OPTION FACTORS

FACTORS FOR LEVEL INCOME OPTION
INTEREST RATE: 13.0%
MONTHS

AGE AT COMMENCEMENT	0	1	2	3	4	5	6	7	8	9	10	11
61	.8600	.8717	.8834	.8950	.9067	.9184	.9300	.9417	.9533	.9650	.9767	.9883
60	.7411	.7510	.7609	.7708	.7807	.7906	.8006	.8105	.8204	.8303	.8402	.8501
59	.6397	.6482	.6566	.6651	.6735	.6819	.6904	.6988	.7073	.7157	.7242	.7326
58	.5531	.5604	.5676	.5748	.5820	.5892	.5964	.6036	.6109	.6181	.6253	.63Z5
57	.4790	.4852	.4914	.4976	.5037	.5099	.5161	.5223	.5284	.5346	.5408	.5470
56	.4155	.4208	.4261	.4314	.4367	.4420	.4473	.4526	.4579	.4631	.4684	.4737
55	.3609	.3654	.3700	.3745	.3791	.3836	.3882	.3927	.3973	.4018	.4064	.4109
54	.3139	.3178	.3217	.3256	.3295	.3334	.3374	.3413	.3452	.3491	.3530	.3570
53	.2733	.2767	.2801	.2834	.2868	.2902	.2936	.2970	.3003	.3037	.3071	.3105
52	.2383	.2412	.2441	.2470	.2500	.2529	.2558	.2587	.2616	.2645	.2675	.2704
51	.2080	.2105	.2130	.2155	.2181	.2206	.2231	.2257	.2282	.2307	.2332	.2358
50	.1817	.1839	.1861	.1883	.1905	.1927	.1948	.1970	.1992	.2014	.2036	.2058
49	.1589	.1608	.1627	.1646	.1665	.1684	.1703	.1722	.1741	.1760	.1779	.1798
48	.1391	.1408	.1424	.1441	.1457	.1474	.1490	.1507	.1523	.1540	.1556	.1573
47	.1219	.1233	.1248	.1262	.1277	.1291	.1305	.1320	.1334	.1348	.1363	.1377
46	.1069	.1082	.1094	.1107	.1119	.1132	.1144	.1157	.1169	.1182	.1194	.1207
45	.0938	.0949	.0960	.0971	.0982	.0993	.1004	.1015	.1025	.1036	.1047	.1058

INTEREST RATE: 14.0%
MONTHS

AGE AT COMMENCEMENT	0	1	2	3	4	5	6	7	8	9	10	11
61	.8532	.8655	.8777	.8899	.9022	.9144	.9266	.9388	.9511	.9633	.9755	.9878
60	.7294	.7397	.7500	.7603	.7707	.7810	.7913	.8016	.8120	.8223	.8326	.8429
59	.6249	.6333	.6421	.6508	.6595	.6683	.6770	.6857	.6944	.7032	.7119	.7206
58	.5357	.5431	.5505	.5579	.5654	.5728	.5802	.5876	.5950	.6024	.6098	.6172
57	.4602	.4665	.4728	.4791	.4854	.4917	.4980	.5043	.5106	.5169	.5232	.5294
56	.3960	.4013	.4067	.4120	.4174	.4227	.4281	.4335	.4388	.4442	.4495	.4549
55	.3411	.3457	.3503	.3548	.3594	.3640	.3685	.3731	.3777	.3823	.3868	.3914
54	.2943	.2982	.3021	.3060	.3099	.3138	.3177	.3216	.3255	.3294	.3333	.3372
53	.2542	.2575	.2609	.2642	.2675	.2709	.2742	.2776	.2809	.2843	.2876	.2909
52	.2198	.2227	.2255	.2284	.2313	.2341	.2370	.2399	.2427	.2456	.2484	.2513
51	.1903	.1927	.1952	.1977	.2001	.2026	.2050	.2075	.2100	.2124	.2149	.2173
50	.1649	.1670	.1691	.1712	.1733	.1755	.1776	.1797	.1818	.1839	.1860	.1882
49	.1430	.1448	.1467	.1485	.1503	.1521	.1540	.1558	.1576	.1594	.1612	.1631
48	.1242	.1257	.1273	.1289	.1305	.1320	.1336	.1352	.1367	.1383	.1399	.1415
47	.1079	.1093	.1106	.1120	.1133	.1147	.1160	.1174	.1188	.1201	.1215	.1228
46	.093a	.0950	.0962	.0974	.0985	.0997	.1009	.1020	.1032	.1044	.1056	.1067
45	.0817	.0827	.0837	.0847	.0857	.0867	.0878	.0888	.0898	.0908	.0918	.0928

APPENDIX B

LEVEL INCOME OPTION FACTORS

FACTORS FOR LEVEL INCOME OPTION
INTEREST RATE: 15.0%
MONTHS

AGE AT COMMENCEMENT	0	1	2	3	4	5	6	7	8	9	10	11
61	.8465	.8593	.8721	.8849	.8977	.9104	.9232	.9360	.9488	.9616	.9744	.9872
60	.7179	.7286	.7393	.7500	.7607	.7714	.7822	.7929	.8036	.8143	.8250	.8358
59	.6098	.6188	.6278	.6368	.6458	.6548	.6638	.6728	.6818	.6908	.6998	.7088
58	.5189	.5264	.5340	.5416	.5492	.5568	.5643	.5719	.5795	.5871	.5947	.6022
57	.4422	.4486	.4549	.4613	.4677	.4741	.4805	.4869	.4933	.4997	.5061	.5125
56	.3773	.3827	.3881	.3935	.3989	.4044	.4098	.4152	.4206	.4260	.4314	.4368
55	.3225	.3270	.3316	.3362	.3408	.3453	.3499	.3545	.3590	.3636	.3682	.3728
54	.2759	.2798	.2837	.2876	.2914	.2953	.2992	.3031	.3069	.3108	.3147	.3186
53	.2364	.2397	.2430	.2463	.2496	.2529	.2561	.2594	.2627	.2660	.2693	.2726
52	.2027	.2055	.2083	.2111	.2140	.2168	.2196	.2224	.2252	.2280	.2308	.2336
51	.1741	.1765	.1788	.1812	.1836	.1860	.1884	.1908	.1932	.1956	.1980	.2003
50	.1496	.1516	.1537	.1557	.1578	.1598	.1618	.1639	.1659	.1680	.1700	.1720
49	.1287	.1305	.1322	.1339	.1357	.1374	.1392	.1409	.1426	.1444	.1461	.1479
48	.1108	.1123	.1138	.1153	.1168	.1183	.1198	.1213	.1228	.1242	.1257	.1272
47	.0955	.0968	.0981	.0993	.1006	.1019	.1032	.1044	.1057	.1070	.1083	.1096
46	.0824	.0835	.0846	.0857	.0868	.0879	.0889	.0900	.0911	.0922	.0933	.0944
45	.0711	.0720	.0730	.0739	.0749	.0758	.0767	.0777	.0786	.0796	.0805	.0814

APPENDIX C

SPOUSE BENEFIT COVERAGE FACTORS

PERCENTAGE REDUCTION IN MONTHLY AMOUNT OF PARTICIPANT'S PENSION TO PROVIDE A SPOUSE WITH A MONTHLY LIFE ANNUITY COMMENCING UPON THE DEATH OF THE PARTICIPANT AND EQUAL TO 50% OF PARTICIPANT'S REDUCED PENSION

Interest Rate: 5.0%
Age of Participant *

AGE OF NAMED SURVIVOR *	30	35	40	45	50	55	60	65	70	75	80
0	6.02	7.91	10.35	13.46	17.25	21.68	26.80	32.81	40.19	48.11	56.13
5	5.73	7.61	10.03	13.13	16.92	21.35	26.47	32.49	39.88	47.82	55.85
10	5.38	7.24	9.65	12.74	16.52	20.95	26.08	32.10	39.52	47.49	55.58
15	4.98	6.80	9.18	12.25	16.01	20.44	25.57	31.61	39.05	47.05	55.19
20	4.52	6.28	8.62	11.65	15.39	19.80	24.93	30.99	38.45	46.50	54.69
25	4.00	5.68	7.95	10.92	14.62	19.01	24.14	30.20	37.70	45.80	54.06
30	3.45	5.02	7.18	10.06	13.70	18.04	23.14	29.20	36.74	44.90	53.25
35	2.89	4.31	6.32	9.07	12.59	16.85	21.91	27.96	35.52	43.75	52.20
40	2.34	3.58	5.40	7.96	11.31	15.44	20.40	26.41	33.98	42.28	50.86
45	1.83	2.87	4.45	6.76	9.88	13.80	18.60	24.50	32.05	40.41	49.12
50	1.39	2.22	3.54	5.54	8.33	11.95	16.50	22.22	29.68	38.07	46.89
55	1.01	1.65	2.71	4.37	6.77	9.99	14.17	19.60	26.89	35.24	44.18
60	.72	1.19	1.99	3.32	5.30	8.04	11.74	16.73	23.70	31.93	40.94
65	.49	.81	1.39	2.39	3.93	6.13	9.21	13.57	19.98	27.87	36.80
70	.32	.52	.92	1.63	2.75	4.40	6.78	10.31	15.88	23.10	31.68
75	.20	.32	.57	1.04	1.82	2.98	4.69	7.34	11.83	18.06	25.89
80	.12	.19	.34	.63	1.14	1.90	3.05	4.77	8.21	13.17	19.84
85	.07	.11	.19	.36	.67	1.15	1.87	3.00	5.30	8.92	14.13
90	.04	.06	.10	.20	.38	.67	1.10	1.80	3.23	5.69	9.45
95	.02	.03	.05	.10	.19	.34	.57	.94	1.71	3.15	5.46
100	.01	.01	.02	.04	.09	.16	.28	.44	.80	1.53	2.75

Interest Rate: 6.0%
Age of Participant *

AGE OF NAMED SURVIVOR *	30	35	40	45	50	55	60	65	70	75	80
0	4.47	6.02	8.07	10.78	14.15	18.17	22.90	28.57	35.74	43.61	51.77
5	4.29	5.83	7.88	10.57	13.94	17.95	22.69	28.36	35.53	43.42	51.59
10	4.08	5.60	7.64	10.32	13.68	17.69	22.42	28.10	35.29	43.19	51.30
15	3.82	5.31	7.33	9.99	13.34	17.35	22.08	27.76	34.95	42.87	51.09
20	3.52	4.97	6.95	9.58	12.91	16.90	21.63	27.31	34.52	42.47	50.72
25	3.17	4.56	6.48	9.07	12.36	16.33	21.04	26.73	33.95	41.93	50.23
30	2.78	4.09	5.93	8.45	11.68	15.61	20.29	25.97	33.21	41.22	49.58
35	2.38	3.57	5.30	7.71	10.65	14.70	19.34	24.99	32.24	40.29	48.72
40	1.97	3.03	4.61	6.86	9.86	13.60	18.14	23.74	30.98	39.07	47.59
45	1.58	2.49	3.87	5.93	8.72	12.28	16.68	22.17	29.37	37.48	46.08
50	1.23	1.97	3.14	4.94	7.47	10.76	14.94	20.25	27.34	35.45	44.13
55	.92	1.50	2.46	3.98	6.18	9.13	12.98	18.02	24.93	32.97	41.71
60	.67	1.11	1.85	3.08	4.92	7.46	10.89	15.54	22.14	30.04	38.80
65	.47	.77	1.32	2.27	3.73	5.79	8.67	12.74	18.83	26.39	35.04
70	.31	.51	.89	1.58	2.66	4.23	6.48	9.81	15.11	22.03	30.31
75	.20	.32	.57	1.04	1.80	2.92	4.56	7.08	11.39	17.37	24.93
80	.12	.20	.34	.64	1.15	1.90	3.01	4.77	8.01	12.79	19.24
85	.07	.11	.20	.37	.69	1.17	1.88	3.00	5.24	8.76	13.83
90	.04	.06	.11	.21	.40	.69	1.12	1.80	3.24	5.66	9.34
95	.02	.03	.05	.10	.20	.36	.60	.94	1.74	3.17	5.45
100	.01	.02	.02	.05	.09	.17	.28	.44	.83	1.56	2.78

FACTORS ARE INTERPOLATED FOR INTERMEDIATE AGE COMBINATIONS.

* AGE SHALL BE CONSIDERED TO BE THE AGE ON THE BIRTHDAY NEAREST TO THE PARTICIPANT'S BENEFIT COMMENCEMENT DATE.

APPENDIX C

SPOUSE BENEFIT COVERAGE FACTORS

PERCENTAGE REDUCTION IN MONTHLY AMOUNT OF PARTICIPANT'S PENSION TO PROVIDE A SPOUSE WITH A MONTHLY LIFE ANNUITY COMMENCING UPON THE DEATH OF THE PARTICIPANT AND EQUAL TO 50% OF PARTICIPANT'S REDUCED PENSION

Interest Rate: 7.0%
Age of Participant *

AGE OF NAMED SURVIVOR *	30	35	40	45	50	55	60	65	70	75	80
0	3.36	4.64	6.38	8.74	11.74	15.39	19.75	25.08	31.98	39.73	47.90
5	3.26	4.52	6.26	8.61	11.61	15.25	19.61	24.94	31.84	39.59	47.78
10	3.13	4.38	6.11	8.45	11.44	15.08	19.44	24.76	31.68	39.43	47.63
15	2.96	4.20	5.90	8.23	11.21	14.84	19.20	24.52	31.44	39.21	47.42
20	2.76	3.97	5.65	7.95	10.91	14.53	18.88	24.20	31.12	38.91	47.14
25	2.53	3.69	5.32	7.59	10.52	14.12	18.45	23.77	30.70	30.50	46.77
30	2.26	3.35	4.93	7.14	10.03	13.58	17.88	23.19	30.12	37.94	46.25
35	1.97	2.98	4.47	6.59	9.40	12.89	17.14	22.42	29.35	37.19	45.55
40	1.67	2.57	3.95	5.95	8.64	12.02	16.19	21.41	28.32	36.18	44.59
45	1.37	2.16	3.38	5.21	7.73	10.97	15.01	20.12	26.97	34.83	43.29
50	1.09	1.74	2.79	4.42	6.71	9.72	13.56	18.51	25.24	33.07	41.57
55	.84	1.36	2.23	3.62	5.64	8.35	11.91	16.61	23.16	30.90	39.43
60	.63	1.03	1.72	2.86	4.58	6.93	10.11	14.45	20.72	28.30	36.82
65	.45	.74	1.26	2.15	3.53	5.47	8.16	11.99	17.77	25.02	33.40
70	.31	.50	.86	1.53	2.57	4.07	6.20	9.35	14.40	21.04	29.04
75	.20	.32	.56	1.02	1.77	2.86	4.43	6.84	10.98	16.73	24.02
80	.13	.20	.35	.64	1.15	1.89	2.98	4.67	7.81	12.44	18.68
85	.08	.12	.20	.38	.70	1.18	1.89	2.98	5.17	8.61	13.53
90	05	.07	.11	.22	.41	.71	1.15	1.81	3.24	5.63	9.23
95	.02	.04	.06	.11	.21	.37	.62	.97	1.77	3.19	5.45
100	.01	.02	.03	.05	.10	.18	.30	.46	.85	1.59	2.80

Interest Rate: 8.0%
Age of Participant *

AGE OF NAMED SURVIVOR *	30	35	40	45	50	55	60	65	70	75	80
0	2.58	3.63	5.12	7.18	9.87	13.18	17.20	22.19	28.81	36.37	44.50
5	2.51	3.56	5.04	7.10	9.79	13.09	17.11	22.09	28.71	36.27	44.41
10	2.43	3.47	4.94	7.00	9.68	12.98	16.99	21.97	28.59	36.16	44.30
15	2.33	3.35	4.81	6.85	9.52	12.82	16.82	21.80	28.43	36.00	44.15
20	2.20	3.20	4.64	6.66	9.31	12.59	16.59	21.57	28.19	35.76	43.94
25	2.04	3.01	4.41	6.41	9.03	12.29	16.28	21.25	27.87	35.46	43.65
30	1.85	2.77	4.13	6.08	8.66	11.89	15.85	20.80	27.43	35.03	43.23
35	1.64	2.50	3.79	5.67	8.19	11.36	15.27	20.20	26.81	34.42	42.66
40	1.42	2.20	3.40	5.18	7.60	10.68	14.52	19.38	25.96	33.58	41.85
45	1.19	1.87	2.95	4.60	6.88	9.83	13.55	18.32	24.84	32.43	40.73
50	.97	1.55	2.49	3.96	6.06	8.81	12.35	16.96	23.36	30.91	39.22
55	.77	1.23	2.02	3.30	5.16	7.67	10.95	15.34	21.56	29.00	37.31
60	.59	.95	1.59	2.66	4.26	6.45	9.41	13.47	19.42	26.71	34.98
65	.43	.70	1.19	2.04	3.34	5.17	7.70	11.29	16.79	23.75	31.87
70	.30	.49	.83	1.47	2.47	3.91	5.93	8.91	13.73	20.11	27.84
75	.20	.32	.55	1.00	1.73	2.79	4.31	6.60	10.58	16.12	23.17
80	.13	.20	.35	.64	1.14	1.88	2.94	4.57	7.61	12.10	18.14
85	.08	.12	.21	.39	.71	1.19	1.89	2.96	5.10	8.46	13.25
90	.05	.07	.12	.23	.42	.73	1.17	1.83	3.24	5.59	9.12
95	.03	.04	.06	.12	.22	.39	.63	.99	1.79	3.21	5.44
100	.01	.02	.03	.05	.10	.18	.31	.47	.87	1.61	2.83

FACTORS ARE INTERPOLATED FOR INTERMEDIATE AGE COMBINATIONS.

* AGE SHALL BE CONSIDERED TO BE THE AGE ON THE BIRTHDAY NEAREST TO THE PARTICIPANT'S BENEFIT COMMENCEMENT DATE.

APPENDIX C

SPOUSE BENEFIT COVERAGE FACTORS

PERCENTAGE REDUCTION IN MONTHLY AMOUNT OF PARTICIPANT'S PENSION TO PROVIDE A SPOUSE WITH A MONTHLY LIFE ANNUITY COMMENCING UPON THE DEATH OF THE PARTICIPANT AND EQUAL TO 50% OF PARTICIPANT'S REDUCED PENSION

Interest Rate: 9.0%
Age of Participant *

AGE OF NAMED SURVIVOR *	30	35	40	45	50	55	60	65	70	75	80
0	2.01	2.89	4.17	5.99	8.40	11.42	15.12	19.78	26.11	33.47	41.49
5	1.97	2.85	4.12	5.93	8.35	11.35	15.05	19.71	26.04	33.39	41.42
10	1.92	2.79	4.05	5.87	8.27	11.28	14.97	19.63	25.96	33.32	41.35
15	1.85	2.71	3.97	5.77	8.17	11.16	14.86	19.51	25.84	33.20	41.23
20	1.77	2.61	3.85	5.63	8.02	11.01	14.69	19.34	25.67	33.03	41.07
25	1.66	2.48	3.69	5.45	7.82	10.79	14.46	19.10	25.42	32.79	40.84
30	1.53	2.31	3.49	5.22	7.54	10.49	14.13	18.75	25.07	32.44	40.51
35	1.38	2.11	3.24	4.91	7.19	10.08	13.68	18.28	24.58	31.95	40.04
40	1.21	1.89	2.94	4.53	6.73	9.54	13.08	17.62	23.89	31.25	39.36
45	1.04	1.64	2.60	4.08	6.16	8.86	12.29	16.74	22.94	30.27	35.39
50	.86	1.38	2.22	3.56	5.48	8.02	11.29	15.59	21.67	28.94	37.06
55	.70	1.12	1.84	3.02	4.74	7.05	10.10	14.20	20.11	27.27	35.36
60	.55	.88	1.47	2.47	3.96	6.02	8.78	12.58	18.24	25.24	33.27
65	.41	.66	1.12	1.93	3.16	4.89	7.27	10.65	15.89	22.57	30.44
70	.29	.47	.80	1.42	2.38	3.75	5.67	8.50	13.11	19.24	26.72
75	.20	.32	.54	.98	1.70	2.72	4.18	6.38	10.20	15.54	22.36
80	.13	.20	.35	.64	1.14	1.86	2.89	4.48	7.42	11.77	17.62
85	.08	.12	.21	.40	.72	1.20	1.89	2.94	5.03	8.31	12.97
90	.05	.07	.12	.23	.44	.74	1.18	1.84	3.24	5.55	9.01
95	.03	.04	.06	.12	.23	.40	.65	1.00	1.81	3.22	5.43
100	.01	.02	.03	.06	.11	.19	.32	.49	.89	1.64	2.85

Interest Rate: 10.0%
Age of Participant *

AGE OF NAMED SURVIVOR *	30	35	40	45	50	55	60	65	70	75	80
0	1.60	2.34	3.44	5.06	7.24	9.99	13.40	17.76	23.81	30.94	38.82
5	1.57	2.31	3.41	5.02	7.20	9.94	13.36	17.71	23.76	30.88	38.77
10	1.54	2.27	3.37	4.98	7.15	9.89	13.30	17.66	23.70	30.83	38.72
15	1.50	2.22	3.31	4.91	7.07	9.81	13.22	17.57	23.61	30.74	38.63
20	1.44	2.15	3.23	4.82	6.97	9.70	13.10	17.44	23.48	30.61	38.50
25	1.37	2.06	3.12	4.69	6.82	9.54	12.92	17.26	23.29	30.42	38.32
30	1.28	1.94	2.97	4.51	6.62	9.31	12.67	16.99	23.02	30.15	38.06
35	1.17	1.80	2.79	4.28	6.35	8.99	12.32	16.61	22.62	29.74	37.67
40	1.05	1.63	2.56	3.99	5.99	8.57	11.84	16.08	22.05	29.16	37.09
45	.91	1.44	2.29	3.63	5.53	8.01	11.19	15.34	21.25	28.32	36.25
50	.77	1.23	1.99	3.21	4.98	7.32	10.35	14.37	20.16	27.17	35.08
55	.64	1.02	1.68	2.76	4.36	6.51	9.35	13.18	18.80	25.69	33.56
60	.51	.82	1.36	2.30	3.70	5.62	8.20	11.77	17.16	23.89	31.69
65	.39	.62	1.06	1.82	2.99	4.63	6.87	10.06	15.06	21.48	29.11
70	.28	.45	.77	1.36	2.29	3.60	5.43	8.11	12.53	18.43	25.67
75	.20	.31	.53	.96	1.66	2.65	4.06	6.16	9.84	15.00	21.60
80	.13	.20	.35	.64	1.13	1.84	2.85	4.38	7.24	11.46	17.13
85	.09	.13	.21	.40	.72	1.20	1.88	2.91	4.96	8.17	12.70
90	.05	.08	.13	.24	.44	.75	1.19	1.84	3.23	5.51	8.90
95	.03	.04	.07	.13	.24	.41	.67	1.02	1.82	3.23	5.41
100	.01	.02	.03	.06	.11	.20	.33	.50	.91	1.66	2.87

FACTORS ARE INTERPOLATED FOR INTERMEDIATE AGE COMBINATIONS.

* AGE SHALL BE CONSIDERED TO BE THE AGE ON THE BIRTHDAY NEAREST TO THE PARTICIPANT'S BENEFIT COMMENCEMENT DATE.

APPENDIX C

SPOUSE BENEFIT COVERAGE FACTORS

PERCENTAGE REDUCTION IN MONTHLY AMOUNT OF PARTICIPANT'S PENSION TO PROVIDE A SPOUSE WITH A MONTHLY LIFE ANNUITY COMMENCING UPON THE DEATH OF THE PARTICIPANT AND EQUAL TO 50% OF PARTICIPANT'S REDUCED PENSION

Interest Rate: 11.0%
Age of Participant *

AGE OF NAMED SURVIVOR *	30	35	40	45	50	55	60	65	70	75	80
0	1.30	1.92	2.88	4.32	6.30	8.82	11.98	16.06	21.83	28.73	36.45
5	1.28	1.91	2.86	4.30	6.27	8.79	11.95	16.02	21.79	28.69	36.41
10	1.26	1.88	2.84	4.27	6.24	8.76	11.91	15.98	21.75	28.64	36.37
15	1.23	1.85	2.80	4.22	6.19	8.70	11.8S	15.92	21.68	28.58	36.30
20	1.19	1.80	2.74	4.16	6.11	8.62	11.76	15.82	21.58	28.48	36.20
25	1.14	1.74	2.66	4.06	6.01	8.49	11.63	15.68	21.44	28.33	36.06
30	1.08	1.65	2.55	3.93	5.85	8.32	11.43	15.47	21.22	28.11	35.84
35	1.00	1.55	2.42	3.76	5.64	8.07	11.15	15.17	20.89	27.78	35.52
40	.91	1.42	2.24	3.53	5.36	7.74	10.76	14.73	20.42	27.28	35.03
45	.80	1.27	2.03	3.25	4.99	7.28	10.23	14.12	19.74	26.56	34.30
50	.69	1.10	1.79	2.91	4.54	6.71	9.53	13.29	18.80	25.55	33.25
55	.58	.93	1.53	2.53	4.02	6.02	8.67	12.26	17.62	24.25	31.90
60	.47	.76	1.27	2.14	3.45	5.26	7.68	11.04	16.17	22.65	30.22
65	.37	.59	1.00	1.72	2.84	4.39	6.50	9.51	14.29	20.48	27.86
70	.28	.43	.74	1.31	2.20	3.46	5.21	7.75	11.99	17.67	24.69
75	.20	.30	.52	.94	1.62	2.58	3.94	5.95	9.50	14.49	20.88
80	.13	.20	.34	.63	1.12	1.82	2.80	4.28	7.06	11.15	16.67
85	.09	.13	.21	.40	.73	1.20	1.88	2.88	4.89	8.02	12.44
90	.05	.08	.13	.24	.45	.76	1.21	1.85	3.22	5.47	8.79
95	.03	.04	.07	.13	.25	.42	.68	1.03	1.84	3.24	5.40
100	.01	.02	.03	.06	.12	.21	.34	.51	.92	1.68	2.89

Interest Rate: 12.0%
Age of Participant *

AGE OF NAMED SURVIVOR *	30	35	40	45	50	55	60	65	70	75	80
0	1.07	1.61	2.45	3.74	5.54	7.86	10.79	14.61	20.12	26.79	34.34
5	1.06	1.59	2.44	3.73	5.52	7.84	10.77	14.58	20.09	26.75	34.30
10	1.05	1.58	2.42	3.70	5.50	7.81	10.74	14.55	20.06	26.72	34.27
15	1.03	1.56	2.39	3.67	5.46	7.77	10.69	14.51	20.00	26.67	34.22
20	1.00	1.52	2.35	3.62	5.41	7.71	10.63	14.43	19.93	26.59	34.14
25	.96	1.48	2.29	3.56	5.33	7.62	10.52	14.32	19.81	26.47	34.02
30	.92	1.42	2.21	3.46	5.21	7.49	10.37	14.16	19.64	26.29	33.84
35	.86	1.34	2.11	3.33	5.05	7.29	10.15	13.91	19.37	26.02	33.57
40	.79	1.24	1.98	3.15	4.83	7.02	9.83	13.55	18.97	25.60	33.15
45	.71	1.12	1.81	2.92	4.53	6.65	9.39	13.03	18.39	24.98	32.51
50	.62	.99	1.61	2.64	4.15	6.17	8.00	12.33	17.58	24.09	31.58
55	.53	.85	1.40	2.33	3.72	5.59	8.06	11.44	16.55	22.94	30.37
60	.44	.70	1.17	1.99	3.23	4.93	7.21	10.37	15.27	21.51	28.85
65	.35	.56	.94	1.63	2.69	4.16	6.17	9.01	13.58	19.54	26.71
70	.27	.42	.71	1.25	2.12	3.33	4.99	7.41	11.48	16.97	23.76
75	.19	.30	.51	.91	1.58	2.52	3.82	5.75	9.18	14.00	20.21
80	.13	.20	.34	.62	1.10	1.79	2.75	4.19	6.88	10.87	16.22
85	.09	.13	.22	.40	.73	1.20	1.87	2.85	4.82	7.88	12.19
90	.06	.08	.13	.25	.46	.77	1.21	1.85	3.20	5.42	8.69
95	.03	.04	.07	.13	.25	.43	.69	1.05	1.85	3.24	5.38
100	.02	.02	.03	.06	.12	.22	.35	.53	.94	1.70	2.90

FACTORS ARE INTERPOLATED FOR INTERMEDIATE AGE COMBINATIONS.

* AGE SHALL BE CONSIDERED TO BE THE AGE ON THE BIRTHDAY NEAREST TO THE PARTICIPANT'S BENEFIT COMMENCEMENT DATE.

APPENDIX C

SPOUSE BENEFIT COVERAGE FACTORS

PERCENTAGE REDUCTION IN MONTHLY AMOUNT OF PARTICIPANT'S PENSION TO PROVIDE A SPOUSE WITH A MONTHLY LIFE ANNUITY COMMENCING UPON THE DEATH OF THE PARTICIPANT AND EQUAL TO 50% OF PARTICIPANT'S REDUCED PENSION

Interest Rate: 13.0%
Age of Participant *

AGE OF NAMED SURVIVOR *	30	35	40	45	50	55	60	65	70	75	80
0	.90	1.36	2.11	3.27	4.92	7.07	9.79	13.37	18.63	25.07	32.44
5	.89	1.35	2.10	3.26	4.91	7.05	9.77	13.35	18.60	25.04	32.40
10	.88	1.34	2.08	3.25	4.89	7.03	9.75	13.33	18.58	25.02	32.38
15	.87	1.33	2.06	3.22	4.87	7.00	9.71	13.29	18.54	24.97	32.34
20	.85	1.30	2.04	3.19	4.82	6.95	9.66	13.23	18.48	24.91	32.27
25	.83	1.27	1.99	3.14	4.76	6.88	9.58	13.15	18.38	24.81	32.18
30	.79	1.23	1.94	3.07	4.68	6.78	9.46	13.01	18.24	24.67	32.03
35	.75	1.17	1.86	2.96	4.55	6.62	9.29	12.81	18.02	24.44	31.80
40	.70	1.09	1.75	2.82	4.37	6.40	9.02	12.51	17.69	24.08	31.44
45	.64	1.00	1.62	2.64	4.13	6.10	8.66	12.08	17.19	23.54	30.88
50	.56	.89	1.46	2.41	3.82	5.70	8.15	11.47	16.49	22.76	30.05
55	.49	.78	1.28	2.15	3.45	5.20	7.52	10.70	15.57	21.73	28.95
60	.41	.65	1.09	1.86	3.03	4.63	6.78	9.76	14.45	20.46	27.59
65	.33	.53	.89	1.54	2.55	3.95	5.85	8.55	12.93	18.66	25.63
70	.26	.40	.68	1.20	2.03	3.20	4.79	7.10	11.01	16.31	22.90
75	.19	.29	.49	.89	1.53	2.45	3.71	5.57	8.88	13.55	19.56
80	.13	.20	.34	.62	1.09	1.77	2.70	4.09	6.71	10.59	15.00
85	.09	.13	.22	.40	.73	1.20	1.86	2.82	4.75	7.74	11.95
90	.06	.08	.13	.25	.46	.78	1.22	1.85	3.19	5.38	8.58
95	.03	.05	.07	.14	.26	.44	.70	1.06	1.86	3.25	5.36
100	.02	.02	.04	.07	.13	.22	.36	.54	.96	1.72	2.92

Interest Rate: 14.0%
Age of Participant *

AGE OF NAMED SURVIVOR *	30	35	40	45	50	55	60	65	70	75	80
0	.76	1.17	1.83	2.89	4.41	6.40	8.93	12.30	17.32	23.54	30.72
5	.76	1.16	1.82	2.88	4.40	6.38	8.92	12.28	17.30	23.52	30.70
10	.75	1.16	1.82	2.87	4.39	6.37	8.90	12.26	17.28	23.50	30.68
15	.75	1.14	1.80	2.86	4.37	6.34	8.88	12.23	17.25	23.46	30.64
20	.73	1.13	1.78	2.83	4.34	6.31	8.84	12.19	17.20	23.41	30.59
25	.71	1.11	1.75	2.79	4.29	6.26	8.77	12.12	17.13	23.33	30.51
30	.69	1.07	1.71	2.74	4.22	6.17	8.68	12.01	17.01	23.21	30.39
35	.66	1.03	1.65	2.66	4.12	6.05	8.53	11.85	16.83	23.02	30.19
40	.62	.97	1.57	2.55	3.98	5.87	8.32	11.60	16.54	22.71	29.87
45	.57	.90	1.46	2.40	3.78	5.62	8.01	11.23	16.11	22.24	29.38
50	.51	.81	1.33	2.21	3.52	5.28	7.58	10.70	15.50	21.55	28.64
55	.45	.71	1.18	1.99	3.21	4.85	7.04	10.03	14.69	20.63	27.65
60	.39	.61	1.02	1.74	2.85	4.36	6.39	9.21	13.69	19.49	26.42
65	.32	.50	.84	1.46	2.43	3.76	5.57	8.13	12.33	17.87	24.62
70	.25	.39	.65	1.15	1.96	3.07	4.60	6.80	10.57	15.69	22.08
75	.19	.28	.48	.86	1.49	2.38	3.60	5.38	8.59	13.11	18.96
80	.13	.20	.33	.61	1.07	1.74	2.66	4.00	6.55	10.32	15.39
85	.09	.13	.22	.40	.72	1.19	1.84	2.78	4.67	7.61	11.72
90	.06	.08	.13	.25	.47	.78	1.22	1.84	3.17	5.33	8.47
95	.03	.05	.07	.14	.26	.45	.71	1.07	1.87	3.25	5.33
100	.02	.02	.04	.07	.13	.23	.37	.55	.97	1.73	2.93

FACTORS ARE INTERPOLATED FOR INTERMEDIATE AGE COMBINATIONS.

* AGE SHALL BE CONSIDERED TO BE THE AGE ON THE BIRTHDAY NEAREST TO THE PARTICIPANT'S BENEFIT COMMENCEMENT DATE.

APPENDIX C

SPOUSE BENEFIT COVERAGE FACTORS

PERCENTAGE REDUCTION IN MONTHLY AMOUNT OF PARTICIPANT'S PENSION TO PROVIDE A SPOUSE WITH A MONTHLY LIFE ANNUITY COMMENCING UPON THE DEATH OF THE PARTICIPANT AND EQUAL TO 50% OF PARTICIPANT'S REDUCED PENSION

Interest Rate: 15.0%
Age of Participant *

AGE OF NAMED SURVIVOR *	30	35	40	45	50	55	60	65	70	75	80
0	.66	1.02	1.61	2.58	3.98	5.83	8.20	11.37	16.17	22.18	29.18
5	.66	1.01	1.60	2.57	3.97	5.82	8.19	11.35	16.15	22.16	29.15
10	.65	1.01	1.60	2.56	3.96	5.81	8.18	11.34	16.14	22.14	29.14
15	.65	1.00	1.59	2.55	3.95	5.79	8.16	11.28	16.07	22.07	29.06
20	.64	.99	1.57	2.53	3.93	5.76	8.12	11.28	16.07	22.07	29.06
25	.63	.97	1.55	2.50	3.89	5.72	8.08	11.22	16.01	22.01	28.99
30	.61	.95	1.52	2.46	3.84	5.65	8.00	11.14	15.91	21.90	28.89
35	.59	.91	1.47	2.40	3.76	5.56	7.88	11.00	15.76	21.74	28.72
40	.55	.87	1.41	2.31	3.64	5.41	7.70	10.79	15.52	21.47	28.45
45	.52	.81	1.32	2.19	3.48	5.20	7.44	10.47	15.15	21.06	28.01
50	.47	.74	1.21	2.03	3.26	4.91	7.07	10.02	14.60	20.44	27.34
55	.42	.66	1.09	1.85	2.99	4.54	6.60	9.43	13.89	19.62	26.44
60	..36	.57	.95	1.63	2.68	4.12	6.03	8.70	13.00	18.60	25.33
65	.30	.47	.79	1.38	2.31	3.58	5.30	7.74	11.77	17.13	23.68
70	.24	.37	.62	1.11	1.88	2.96	4.42	6.53	10.15	15.11	21.32
75	.18	.28	.46	.84	1.45	2.32	3.50	5.21	8.31	12.70	18.38
80	.13	.20	.33	.60	1.06	1.71	2.61	3.91	6.39	10.07	15.01
85	.09	.13	.21	.40	.72	1.19	1.83	2.75	4.60	7.47	11.49
90	.06	.08	.14	.25	.47	.79	1.23	1.84	3.15	5.28	8.37
95	.03	.05	.08	.14	.27	.46	.72	1.08	1.88	3.25	5.31
100	.02	.02	.04	.07	.14	.23	.38	.56	.98	1.75	2.94

FACTORS ARE INTERPOLATED FOR INTERMEDIATE AGE COMBINATIONS.

* AGE SHALL BE CONSIDERED TO BE THE AGE ON THE BIRTHDAY NEAREST TO THE PARTICIPANT'S BENEFIT COMMENCEMENT DATE.

APPENDIX D

JOINT AND SURVIVOR OPTION FACTORS

PERCENTAGE REDUCTION IN MONTHLY AMOUNT OF PARTICIPANT'S PENSION TO PROVIDE A NAMED SURVIVOR WITH A MONTHLY LIFE ANNUITY COMMENCING UPON THE DEATH OF THE PARTICIPANT AND EQUAL TO 10% OF PARTICIPANT'S PENSION OTHERWISE PAYABLE

Interest Rate: 5.0%
Age of Participant *

AGE OF NAMED SURVIVOR *	30	35	40	45	50	55	60	65	70	75	80
0	1.28	1.72	2.31	3.11	4.17	5.54	7.33	9.78	13.46	18.58	25.65
5	1.22	1.65	2.23	3.03	4.08	5.43	7.21	9.64	13.29	18.37	25.39
10	1.14	1.56	2.14	2.92	3.96	5.30	7.06	9.47	13.09	18.13	25.09
15	1.05	1.46	2.02	2.79	3.82	5.14	6.88	9.26	12.84	17.81	24.69
20	.95	1.34	1.89	2.64	3.64	4.94	6.65	8.99	12.52	17.42	24.21
25	.83	1.21	1.73	2.45	3.43	4.70	6.37	8.67	12.13	16.94	23.60
30	.71	1.06	1.55	2.24	3.18	4.41	6.03	8.27	11.64	16.34	22.85
35	.59	.90	1.35	2.00	2.88	4.06	5.62	7.78	11.04	15.60	21.91
40	.48	.74	1.14	1.73	2.55	3.66	5.14	7.19	10.32	14.70	20.76
45	.37	.59	.93	1.45	2.19	3.21	4.58	6.51	9.46	13.61	19.37
50	.28	.45	.73	1.17	1.82	2.72	3.96	5.73	8.47	12.33	17.73
55	.20	.34	.56	.91	1.45	2.22	3.31	4.89	7.38	10.92	15.89
60	.14	.24	.41	.69	1.12	1.75	2.66	4.03	6.23	9.42	13.92
65	.10	.16	.28	.49	.82	1.31	2.03	3.15	5.01	7.76	11.70
70	.06	.11	.19	.33	.57	.92	1.46	2.30	3.78	6.03	9.32
75	.04	.06	.11	.21	.37	.61	.98	1.59	2.69	4.42	7.02
80	.02	.04	.07	.13	.23	.39	.63	1.02	1.79	3.04	4.97
85	.01	.02	.04	.07	.14	.23	.38	.62	1.12	1.96	3.30
90	.01	.01	.02	.04	.08	.13	.22	.36	.67	1.21	2.09
95	.00	.01	.01	.02	.04	.07	.12	.19	.35	.65	1.16
100	.00	.00	.00	.01	.02	.03	.05	.09	.16	.31	.57

Interest Rate: 6.0%
Age of Participant *

AGE OF NAMED SURVIVOR *	30	35	40	45	50	55	60	65	70	75	80
0	.94	1.28	1.76	2.42	3.30	4.44	5.95	8.01	11.14	15.50	21.51
5	.90	1.24	1.71	2.37	3.24	4.38	5.87	7.93	11.04	15.38	21.36
10	.85	1.19	1.65	2.30	3.17	4.30	5.79	7.83	10.92	15.23	21.18
15	.79	1.12	1.58	2.22	3.08	4.20	5.67	7.70	10.77	15.04	20.94
20	.73	1.05	1.49	2.12	2.97	4.07	5.52	7.53	10.56	14.79	20.63
25	.65	.96	1.39	2.00	2.82	3.91	5.34	7.31	10.30	14.47	20.24
30	.57	.85	1.26	1.85	2.65	3.70	5.10	7.03	9.96	14.06	19.72
35	.49	.74	1.12	1.67	2.44	3.45	4.80	6.67	9.53	13.53	19.06
40	.40	.63	.97	1.48	2.19	3.15	4.44	6.24	9.00	12.86	18.21
45	.32	.51	.81	1.26	1.91	2.80	4.01	5.71	8.34	12.03	17.15
50	.25	.40	.65	1.04	1.62	2.42	3.52	5.09	7.55	11.02	15.85
55	.19	.30	.50	.83	1.32	2.01	2.99	4.41	6.66	9.87	14.37
60	.14	.22	.38	.64	1.04	1.61	2.45	3.69	5.70	8.62	12.73
65	.09	.16	.27	.47	.77	1.23	1.90	2.93	4.65	7.20	10.84
70	.06	.10	.18	.32	.55	.88	1.39	2.18	3.57	5.67	8.74
75	.04	.07	.11	.21	.37	.60	.96	1.53	2.58	4.22	6.67
80	.02	.04	.07	.13	.23	.39	.62	1.00	1.74	2.94	4.78
85	.01	.02	.04	.08	.14	.24	.38	.62	1.11	1.92	3.22
90	.01	.01	.02	.04	.08	.14	.23	.37	.67	1.20	2.06
95	.00	.01	.01	.02	.04	.07	.12	.19	.35	.66	1.15
100	.00	.00	.00	.01	.02	.03	.06	.09	.17	.32	.57

FACTORS ARE INTERPOLATED FOR INTERMEDIATE AGE COMBINATIONS.

* AGE SHALL BE CONSIDERED TO BE THE AGE ON THE BIRTHDAY NEAREST TO THE PARTICIPANT'S BENEFIT COMMENCEMENT DATE.

APPENDIX D

JOINT AND SURVIVOR OPTION FACTORS

PERCENTAGE REDUCTION IN MONTHLY AMOUNT OF PARTICIPANT'S PENSION TO PROVIDE A NAMED SURVIVOR WITH A MONTHLY LIFE ANNUITY COMMENCING UPON THE DEATH OF THE PARTICIPANT AND EQUAL TO 10% OF PARTICIPANT'S PENSION OTHERWISE PAYABLE

Interest Rate: 7.0%
Age of Participant *

AGE OF NAMED SURVIVOR *	30	35	40	45	50	55	60	65	70	75	80
0	.70	.97	1.36	1.92	2.66	3.64	4.93	6.70	9.42	13.21	18.43
5	.67	.95	1.34	1.89	2.63	3.60	4.88	6.65	9.36	13.13	18.34
10	.65	.92	1.30	1.85	2.59	3.55	4.83	6.59	9.29	13.04	18.23
15	.61	.88	1.26	1.79	2.53	3.49	4.76	6.51	9.19	12.92	18.08
20	.57	.83	1.20	1.73	2.45	3.40	4.66	6.39	9.05	12.76	17.88
25	.52	.77	1.13	1.64	2.35	3.29	4.53	6.24	8.87	12.54	17.61
30	.46	.69	1.04	1.54	2.23	3.15	4.36	6.05	8.64	12.25	17.25
35	.40	.61	.94	1.41	2.08	2.96	4.14	5.79	8.32	11.87	16.77
40	.34	.53	.82	1.27	1.89	2.74	3.87	5.46	7.92	11.37	16.14
45	.28	.44	.70	1.10	1.68	2.47	3.54	5.05	7.40	10.72	15.31
50	.22	.35	.57	.93	1.44	2.16	3.14	4.55	6.77	9.91	14.28
55	.17	.28	.46	.75	1.20	1.83	2.71	3.99	6.04	8.97	13.06
60	.13	.21	.35	.59	.96	1.49	2.25	3.39	5.24	7.92	11.70
65	.09	.15	.25	.44	.73	1.16	1.78	2.73	4.33	6.70	10.07
70	.06	.10	.17	.31	.53	.85	1.32	2.07	3.37	5.35	8.22
75	.04	.06	.11	.21	.36	.59	.93	1.47	2.47	4.03	6.35
80	.03	.04	.07	.13	.23	.39	.61	.98	1.70	2.85	4.61
85	.02	.02	.04	.08	.14	.24	.38	.62	1.09	1.89	3.14
90	.01	.01	.02	.04	.08	.14	.23	.37	.67	1.19	2.04
95	.00	.01	.01	.02	.04	.08	.12	.19	.36	.66	1.15
100	.00	.00	.01	.01	.02	.04	.06	.09	.17	.32	.58

Interest Rate: 8.0%
Age of Participant *

AGE OF NAMED SURVIVOR *	30	35	40	45	50	55	60	65	70	75	80
0	.53	.75	1.08	1.55	2.19	3.04	4.16	5.71	8.10	11.45	16.07
5	.52	.74	1.06	1.53	2.17	3.01	4.13	5.68	8.07	11.40	16.01
10	.50	.72	1.04	1.51	2.14	2.98	4.10	5.64	8.02	11.35	15.94
15	.48	.69	1.01	1.47	2.11	2.94	4.05	5.58	7.95	11.27	15.84
20	.45	.66	.97	1.43	2.05	2.88	3.98	5.51	7.86	11.16	15.71
25	.42	.62	.92	1.37	1.99	2.81	3.89	5.40	7.74	11.01	15.52
30	.38	.57	.86	1.30	1.90	2.70	3.77	5.26	7.57	10.80	15.27
35	.33	.51	.79	1.20	1.79	2.57	3.61	5.07	7.34	10.52	14.91
40	.29	.45	.70	1.09	1.65	2.39	3.40	4.82	7.03	10.13	14.43
45	.24	.38	.61	.96	1.48	2.18	3.14	4.49	6.62	9.62	13.78
50	.20	.31	.51	.83	1.29	1.93	2.82	4.09	6.11	8.97	12.94
55	.15	.25	.41	.68	1.09	1.66	2.46	3.63	5.51	8.19	11.94
60	.12	.19	.32	.55	.89	1.38	2.08	3.12	4.83	7.31	10.80
65	.09	.14	.24	.42	.69	1.09	1.67	2.55	4.04	6.25	9.39
70	.06	.10	.17	.30	.51	.81	1.26	1.96	3.19	5.05	7.75
75	.04	.06	.11	.20	.35	.57	.90	1.42	2.37	3.85	6.05
80	.03	.04	.07	.13	.23	.38	.61	.96	1.65	2.76	4.44
85	.02	.02	.04	.08	.14	.24	.39	.61	1.08	1.85	3.06
90	.01	.01	.02	.05	.09	.15	.24	.37	.67	1.19	2.01
95	.01	.01	.01	.02	.04	.08	.13	.20	.36	.66	1.15
100	.00	.00	.01	.01	.02	.04	.06	.10	.18	.33	.58

FACTORS ARE INTERPOLATED FOR INTERMEDIATE AGE COMBINATIONS.

* AGE SHALL BE CONSIDERED TO BE THE AGE ON THE BIRTHDAY NEAREST TO THE PARTICIPANT'S BENEFIT COMMENCEMENT DATE.

APPENDIX D

JOINT AND SURVIVOR OPTION FACTORS

PERCENTAGE REDUCTION IN MONTHLY AMOUNT OF PARTICIPANT'S PENSION TO PROVIDE A NAMED SURVIVOR WITH A MONTHLY LIFE ANNUITY COMMENCING UPON THE DEATH OF THE PARTICIPANT AND EQUAL TO 10% OF PARTICIPANT'S PENSION OTHERWISE PAYABLE

Interest Rate: 9.0%
Age of Participant *

AGE OF NAMED SURVIVOR *	30	35	40	45	50	55	60	65	70	75	80
0	.41	.60	.87	1.27	1.84	2.58	3.56	4.94	7.08	10.08	14.21
5	.40	.59	.86	1.26	1.82	2.56	3.55	4.91	7.05	10.04	14.17
10	.39	.57	.85	1.25	1.80	2.54	3.52	4.89	7.02	10.01	14.12
15	.38	.56	.83	1.22	1.78	2.52	3.49	4.85	6.98	9.95	14.06
20	.36	.54	.80	1.19	1.74	2.48	3.45	4.80	6.92	9.83	13.97
25	.34	.51	.77	1.15	1.70	2.42	3.38	4.73	6.83	9.77	13.83
30	.31	.47	.72	1.10	1.63	2.34	3.29	4.62	6.70	9.62	13.65
35	.28	.43	.67	1.03	1.55	2.24	3.17	4.48	6.53	9.41	13.30
40	.25	.38	.61	.95	1.44	2.11	3.01	4.28	6.29	9.11	13.01
45	.21	.33	.53	.85	1.31	1.95	2.80	4.03	5.96	8.70	12.42
50	.17	.28	.45	.74	1.16	1.74	2.55	3.70	5.54	8.17	11.81
55	.14	.23	.38	.62	1.00	1.52	2.25	3.31	5.04	7.52	10.97
60	.11	.18	.30	.51	.83	1.28	1.93	2.88	4.47	6.77	10.00
65	.08	.13	.23	.39	.65	1.03	1.57	2.39	3.79	5.85	8.78
70	.06	.09	.16	.29	.49	.78	1.20	1.86	3.02	4.78	7.32
75	.04	.06	.11	.20	.35	.56	.87	1.36	2.28	3.69	5.78
80	.03	.04	.07	.13	.23	.38	.60	.94	1.61	2.67	4.29
85	.02	.02	.04	.08	.14	.24	.38	.61	1.06	1.82	2.99
90	.01	.01	.02	.05	.09	.15	.24	.37	.67	1.18	1.95
95	.01	.01	.01	.02	.05	.08	.13	.20	.37	.67	1.15
100	.00	.00	.01	.01	.02	.04	.06	.10	.18	.33	.59

Interest Rate: 10.0%
Age of Participant *

AGE OF NAMED SURVIVOR *	30	35	40	45	50	55	60	65	70	75	80
0	.32	.48	.71	1.07	1.56	2.22	3.10	4.32	6.26	8.97	12.71
5	.32	.47	.71	1.06	1.55	2.21	3.09	4.31	6.24	8.95	12.69
10	.31	.47	.70	1.05	1.54	2.20	3.07	4.29	6.22	8.93	12.66
15	.30	.45	.68	1.03	1.52	2.18	3.05	4.27	6.19	8.89	12.61
20	.29	.44	.67	1.01	1.50	2.15	3.02	4.23	6.14	8.84	12.55
25	.28	.42	.64	.98	1.47	2.11	2.97	4.18	6.08	8.76	12.45
30	.26	.40	.61	.95	1.42	2.05	2.90	4.10	5.99	8.65	12.31
35	.24	.37	.57	.89	1.36	1.98	2.81	3.99	5.85	8.48	12.11
40	.21	.33	.53	.83	1.27	1.88	2.69	3.84	5.66	8.25	11.62
45	.18	.29	.47	.75	1.17	1.74	2.52	3.63	5.40	7.92	11.40
50	.16	.25	.41	.66	1.05	1.58	2.31	3.36	5.06	7.48	10.83
55	.13	.21	.34	.57	.91	1.39	2.06	3.04	4.64	6.93	10.13
60	.10	.16	.28	.47	.77	1.19	1.79	2.67	4.15	6.29	9.30
65	.08	.13	.21	.37	.62	.97	1.48	2.24	3.55	5.49	8.24
70	.06	.09	.16	.28	.47	.75	1.15	1.77	2.87	4.53	6.93
75	.04	.06	.11	.19	.34	.55	.85	1.31	2.19	3.54	5.53
80	.03	.04	.07	.13	.23	.38	.59	.92	1.56	2.59	4.15
85	.02	.03	.04	.08	.15	.24	.38	.60	1.05	1.78	2.92
90	.01	.02	.0?	.05	.09	.15	.24	.38	.67	1.17	1.96
95	.01	.01	.01	.03	.05	.08	.13	.21	.37	.67	1.15
100	.00	.00	.01	.01	.02	.04	.07	.10	.18	.34	.59

FACTORS ARE INTERPOLATED FOR INTERMEDIATE AGE COMBINATIONS.

* AGE SHALL BE CONSIDERED TO BE THE AGE ON THE BIRTHDAY NEAREST TO THE PARTICIPANT'S BENEFIT COMMENCEMENT DATE.

APPENDIX D

JOINT AND SURVIVOR OPTION FACTORS

PERCENTAGE REDUCTION IN MONTHLY AMOUNT OF PARTICIPANT'S PENSION TO PROVIDE A NAMED SURVIVOR WITH A MONTHLY LIFE ANNUITY COMMENCING UPON THE DEATH OF THE PARTICIPANT AND EQUAL TO 10% OF PARTICIPANT'S PENSION OTHERWISE PAYABLE

Interest Rate: 11.0%
Age of Participant *

AGE OF NAMED SURVIVOR *	30	35	40	45	50	55	60	65	70	75	80
0	.26	.39	.59	.90	1.35	1.94	2.72	3.83	5.59	8.07	11.49
5	.26	.39	.59	.90	1.34	1.93	2.72	3.82	5.58	8.06	11.47
10	.26	.38	.58	.89	1.33	1.92	2.71	3.81	5.57	8.04	11.45
15	.25	.38	.58	.88	1.32	1.91	2.69	3.79	5.54	8.01	11.42
20	.24	.37	.56	.87	1.30	1.89	2.67	3.76	5.51	7.97	11.37
25	.23	.35	.55	.85	1.28	1.86	2.63	3.72	5.46	7.92	11.30
30	.22	.34	.52	.82	1.24	1.82	2.58	3.66	5.39	7.83	11.19
35	.20	.31	.50	.78	1.20	1.76	2.51	3.58	5.29	7.70	11.04
40	.18	.29	.46	.73	1.13	1.68	2.41	3.46	5.14	7.52	10.80
45	.16	.26	.41	.67	1.05	1.57	2.28	3.29	4.93	7.25	10.46
50	.14	.22	.36	.60	.95	1.44	2.11	3.07	4.64	6.88	9.99
55	.12	.19	.31	.52	.84	1.28	1.90	2.80	4.28	6.42	9.39
60	.10	.15	.26	.44	.72	1.11	1.66	2.48	3.87	5.87	8.68
65	.07	.12	.20	.35	.58	.92	1.39	2.11	3.34	5.16	7.75
70	.06	.09	.15	.26	.45	.72	1.10	1.68	2.73	4.30	6.58
75	.04	.06	.10	.19	.33	.53	.82	1.27	2.10	3.40	5.30
80	.03	.04	.07	.13	.23	.37	.58	.90	1.52	2.52	4.01
85	.02	.03	.04	.08	.15	.24	.38	.59	1.03	1.75	2.85
90	.01	.02	.03	.05	.09	.15	.24	.38	.67	1.16	1.93
95	.01	.01	.01	.03	.05	.09	.14	.21	.37	.67	1.14
100	.00	.00	.01	.01	.02	.04	.07	.10	.19	.34	.59

Interest Rate: 12.0%
Age of Participant *

AGE OF NAMED SURVIVOR *	30	35	40	45	50	55	60	65	70	75	80
0	.22	.33	.50	.78	1.17	1.71	2.42	3.43	5.04	7.33	10.47
5	.21	.32	.50	.77	1.17	1.70	2.41	3.42	5.03	7.31	10.46
10	.21	.32	.50	.77	1.16	1.70	2.41	3.41	5.02	7.30	10.44
15	.21	.32	.49	.76	1.16	1.69	2.40	3.40	5.01	7.28	10.42
20	.20	.31	.48	.75	1.14	1.67	2.38	3.38	4.98	7.25	10.38
25	.19	.30	.47	.74	1.13	1.65	2.35	3.35	4.95	7.21	10.33
30	.19	.29	.45	.72	1.10	1.62	2.32	3.30	4.89	7.14	10.25
35	.17	.27	.43	.69	1.06	1.57	2.26	3.23	4.81	7.04	10.12
40	.16	.25	.40	.65	1.01	1.51	2.18	3.14	4.69	6.89	9.94
45	.14	.23	.37	.60	.95	1.43	2.07	3.00	4.51	6.67	9.65
50	.13	.20	.33	.54	.87	1.32	1.93	2.82	4.27	6.36	9.25
55	.11	.17	.28	.48	.77	1.18	1.76	2.59	3.97	5.96	8.74
60	.09	.14	.24	.41	.67	1.04	1.55	2.32	3.61	5.49	8.13
65	.07	.11	.19	.33	.55	.87	1.32	1.98	3.15	4.87	7.31
70	.05	.08	.14	.25	.43	.69	1.05	1.60	2.60	4.10	6.25
75	.04	.06	.10	.18	.32	.52	.80	1.22	2.02	3.26	5.08
80	.03	.04	.07	.13	.22	.37	.57	.87	1.48	2.44	3.83
85	.02	.03	.04	.08	.15	.24	.38	.59	1.01	1.71	2.78
90	.01	.02	.03	.05	.09	.16	.25	.38	.66	1.15	1.91
95	.01	.01	.01	.03	.05	.09	.14	.21	.38	.67	1.14
100	.00	.00	.01	.01	.02	.04	.07	.11	.19	.35	.60

FACTORS ARE INTERPOLATED FOR INTERMEDIATE AGE COMBINATIONS.

* AGE SHALL BE CONSIDERED TO BE THE AGE ON THE BIRTHDAY NEAREST TO THE PARTICIPANT'S BENEFIT COMMENCEMENT DATE.

APPENDIX D

JOINT AND SURVIVOR OPTION FACTORS

PERCENTAGE REDUCTION IN MONTHLY AMOUNT OF PARTICIPANT'S PENSION TO PROVIDE A NAMED SURVIVOR WITH A MONTHLY LIFE ANNUITY COMMENCING UPON THE DEATH OF THE PARTICIPANT AND EQUAL TO 10% OF PARTICIPANT'S PENSION OTHERWISE PAYABLE

Interest Rate: 13.0%
Age of Participant *

AGE OF NAMED SURVIVOR *	30	35	40	45	50	55	60	65	70	75	80
0	.18	.28	.43	.68	1.04	1.52	2.17	3.09	4.58	6.70	9.62
5	.18	.27	.43	.67	1.03	1.52	2.17	3.08	4.58	6.69	9.60
10	.18	.27	.43	.67	1.03	1.51	2.16	3.08	4.57	6.68	9.59
15	.18	.27	.42	.67	1.02	1.51	2.15	3.07	4.56	6.67	9.57
20	.17	.26	.42	.66	1.01	1.49	2.14	3.05	4.54	6.64	9.55
25	.17	.26	.41	.65	1.00	1.48	2.12	3.03	4.51	6.61	9.50
30	.16	.25	.40	.63	.98	1.45	2.09	2.99	4.47	6.56	9.44
35	.15	.24	.38	.61	.95	1.42	2.05	2.94	4.40	6.48	9.34
40	.14	.22	.36	.58	.91	1.37	1.99	2.86	4.30	6.35	9.19
45	.13	.20	.33	.54	.86	1.30	1.90	2.75	4.16	6.17	8.95
50	.11	.18	.30	.49	.79	1.21	1.78	2.59	3.95	5.90	8.61
55	.10	.16	.26	.44	.71	1.10	1.63	2.40	3.69	5.56	8.17
60	.08	.13	.22	.38	.63	.97	1.45	2.17	3.38	5.15	7.64
65	.07	.11	.18	.31	.52	.82	1.24	1.87	2.97	4.60	6.91
70	.05	.08	.14	.24	.42	.66	1.01	1.53	2.48	3.91	5.95
75	.04	.06	.10	.18	.31	.50	.77	1.18	1.95	3.14	4.88
80	.03	.04	.07	.12	.11	.36	.56	.85	1.44	2.37	3.76
85	.02	.03	.04	.08	.15	.24	.38	.58	1.00	1.68	2.72
90	.01	.02	.03	.05	.09	.16	.25	.38	.66	1.14	1.80
95	.01	.01	.01	.03	.05	.09	.14	.21	.38	.67	1.13
100	.00	.00	.01	.01	.03	.04	.07	.11	.19	.35	.60

Interest Rate: 14.0%
Age of Participant *

AGE OF NAMED SURVIVOR *	30	35	40	45	50	55	60	65	70	75	80
0	.15	.24	.37	.60	.92	1.37	1.96	2.81	4.19	6.17	8.88
5	.15	.24	.37	.59	.92	1.36	1.96	2.80	4.19	6.16	8.87
10	.15	.23	.37	.59	.92	1.36	1.96	2.80	4.18	6.15	8.86
15	.15	.23	.37	.59	.91	1.36	1.95	2.79	4.17	6.14	8.85
20	.15	.23	.36	.58	.91	1.35	1.94	2.78	4.16	6.12	8.83
25	.14	.22	.36	.57	.90	1.34	1.92	2.76	4.14	6.09	8.79
30	.14	.22	.35	.56	.83	1.32	1.90	2.73	4.10	6.05	8.74
35	.13	.21	.34	.55	.86	1.29	1.87	2.69	4.05	5.99	8.66
40	.12	.20	.32	.52	.83	1.25	1.82	2.63	3.97	5.89	8.53
45	.11	.18	.30	.49	.79	1.19	1.74	2.53	3.85	5.73	8.34
50	.10	.16	.27	.45	.73	1.11	1.64	2.40	3.67	5.50	8.04
55	.09	.14	.24	.41	.66	1.02	1.51	2.23	3.45	5.21	7.66
60	.08	.12	.21	.35	.59	.91	1.37	2.03	3.18	4.85	7.20
65	.06	.10	.17	.30	.50	.78	1.18	1.77	2.82	4.36	6.55
70	.05	.08	.13	.23	.40	.63	.97	1.46	2.37	3.73	5.68
75	.04	.06	.10	.17	.30	.49	.75	1.14	1.88	3.02	4.69
80	.03	.04	.07	.12	.22	.35	.55	.83	1.40	2.31	3.65
85	.02	.03	.04	.08	.15	.24	.38	.57	.98	1.65	2.66
90	.01	.02	.03	.05	.09	.16	.25	.38	.66	1.13	1.85
95	.01	.01	.01	.03	.05	.09	.14	.22	.38	.67	1.13
100	.00	.00	.01	.01	.03	.05	.07	.11	.20	.35	.60

FACTORS ARE INTERPOLATED FOR INTERMEDIATE AGE COMBINATIONS.

* AGE SHALL BE CONSIDERED TO BE THE AGE ON THE BIRTHDAY NEAREST TO THE PARTICIPANT'S BENEFIT COMMENCEMENT DATE.

APPENDIX D

JOINT AND SURVIVOR OPTION FACTORS

PERCENTAGE REDUCTION IN MONTHLY AMOUNT OF PARTICIPANT'S PENSION TO PROVIDE A NAMED SURVIVOR WITH A MONTHLY LIFE ANNUITY COMMENCING UPON THE DEATH OF THE PARTICIPANT AND EQUAL TO 10% OF PARTICIPANT'S PENSION OTHERWISE PAYABLE

Interest Rate: 15.0%
Age of Participant *

AGE OF NAMED SURVIVOR *	30	35	40	45	50	55	60	65	70	75	80
0	.13	.21	.33	.53	.83	1.24	1.79	2.57	3.86	5.71	8.25
5	.13	.20	.33	.53	.83	1.24	1.78	2.56	3.86	5.70	8.24
10	.13	.20	.32	.53	.83	1.23	1.78	2.56	3.85	5.69	8.23
15	.13	.20	.32	.52	.82	1.23	1.78	2.55	3.84	5.68	8.22
20	.13	.20	.32	.52	.82	1.22	1.77	2.54	3.83	5.67	8.21
25	.13	.20	.32	.51	.81	1.21	1.76	2.53	3.82	5.65	8.18
30	.12	.19	.31	.50	.80	1.20	1.74	2.51	3.79	5.62	8.14
35	.12	.18	.30	.49	.78	1.18	1.71	2.47	3.75	5.56	8.07
40	.11	.18	.29	.47	.76	1.14	1.67	2.42	3.68	5.48	7.96
45	.10	.16	.27	.45	.72	1.10	1.61	2.34	3.57	5.34	7.79
50	.09	.15	.25	.42	.67	1.03	1.52	2.23	3.42	5.15	7.54
55	.08	.13	.22	.38	.62	.95	1.41	2.08	3.23	4.89	7.20
60	.07	.11	.19	.33	.55	.86	1.28	1.91	2.99	4.58	6.80
65	.06	.09	.16	.28	.47	.74	1.12	1.68	2.67	4.14	6.22
70	.05	.07	.13	.22	.38	.61	.93	1.40	2.26	3.57	5.43
75	.04	.06	.09	.17	.29	.47	.73	1.10	1.82	2.92	4.52
80	.03	.04	.07	.12	.21	.35	.54	.81	1.37	2.24	3.54
85	.02	.03	.04	.08	.15	.24	.37	.57	.97	1.62	2.60
90	.01	.02	.03	.05	.09	.16	.25	.38	.65	1.12	1.83
95	.01	.01	.02	.03	.05	.09	.15	.22	.38	.67	1.12
100	.00	.00	.01	.01	.03	.05	.08	.11	.20	.36	.61

FACTORS ARE INTERPOLATED FOR INTERMEDIATE AGE COMBINATIONS.

* AGE SHALL BE CONSIDERED TO BE THE AGE ON THE BIRTHDAY NEAREST TO THE PARTICIPANT'S BENEFIT COMMENCEMENT DATE.

Plan Changes Since the Prior Year

The funding valuation does not reflect any plan change.

Schedule SB Attachment (Form 5500)—2014 Plan Year
Retirement Plan of W.R. Grace & Co. – CT Dupont Hourly Plan
EIN: 13-5114230 PN: 200

Other Information to Fully and Fairly Disclose the Actuarial Position of the Plan

Due to software limitations with the electronic filing process, information filed electronically cannot be controlled by the Enrolled Actuary. The values on the signed Schedule SB will govern to the extent there are any differences in the entries filed electronically and the actual data contained on the signed Schedule SB.

Schedule SB Attachment (Form 5500)—2014 Plan Year
Retirement Plan of W.R. Grace & Co. – CT Dupont Hourly Plan
EIN: 13-5114230 PN: 200

Schedule SB, line 24—Change in Actuarial Assumptions

The funding valuation reflects the following assumption changes:

- Retirement rates have been updated to better reflect anticipated future experience.
- Withdrawal rates have been updated to better reflect anticipated future experience.
- Salary increase rates have been updated to better reflect anticipated future experience.

Schedule SB Attachment (Form 5500)—2014 Plan Year
Retirement Plan of W.R. Grace & Co. – CT Dupont Hourly Plan
EIN: 13-5114230 PN: 200

Schedule SB, line 26—Schedule of Active Participant Data as of January 1, 2014

Number of Participants

Attained Age	Years of Credited Service									
	<1	1-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+
<25										
25-29										
30-34		1	1							
35-39		1								
40-44		1	2		1					
45-49		2	2	5	1	1				
50-54		3			1					
55-59			4	2	1					
60-64				1						
65-69										
70+				1						

N-31

Schedule SB Attachment (Form 5500)—2014 Plan Year
Retirement Plan of W.R. Grace & Co. – CT Dupont Hourly Plan
EIN: 13-5114230 PN: 200

Schedule SB, line 32—Schedule of Amortization Bases

Type of Base	Present Value of Installment	Date Established	Years Remaining	Amortization Installment
Shortfall	$ 247,528	January 1, 2013	6	$ 46,855
Shortfall	$ 54,294	January 1, 2014	7	$ 9,087

Schedule SB Attachment (Form 5500)—2014 Plan Year
Retirement Plan of W.R. Grace & Co. – CT Dupont Hourly Plan
EIN: 13-5114230 PN: 200

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

The average retirement age shown in line 22 has been calculated by assuming the following retirement rates and no decrements other than retirement for this calculation. All retirements are assumed to occur at beginning of year.

(a) Age	(b) Rate	(c) Weight	(d) Product (a) × (b) × (c)
55	6.00%	1.0000	3.30
56	5.00%	0.9400	2.63
57	6.00%	0.8930	3.05
58	6.00%	0.8394	2.92
59	6.00%	0.7891	2.79
60	7.00%	0.7417	3.12
61	9.00%	0.6898	3.79
62	12.00%	0.6277	4.67
63	16.00%	0.5524	5.57
64	24.00%	0.4640	7.13
65	31.00%	0.3526	7.11
66	29.00%	0.2433	4.66
67	27.00%	0.1728	3.13
68	26.00%	0.1261	2.23
69	33.00%	0.0933	2.13
70	100.00%	0.0625	4.38
		Weighted Average	62.61

Schedule SB Attachment (Form 5500)—2014 Plan Year
Retirement Plan of W.R. Grace & Co. – CT Dupont Hourly Plan
EIN: 13-5114230 PN: 200

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

Interest Rates for Minimum Funding Purposes	Based on segment rates with a four-month lookback (as of September 2013), each adjusted as needed to fall within the 25-year average interest rate corridor under HATFA
1st Segment Rate	4.99%
2nd Segment Rate	6.32%
3rd Segment Rate	6.99%
Interest Rates for Maximum Tax Purposes	Based on segment rates with a four-month lookback (as of September 2013), without regard to interest rate stabilization
1st Segment Rate	1.37%
2nd Segment Rate	4.05%
3rd Segment Rate	5.06%
Salary Increases	
Minimum Funding Target Normal Cost	See Table 1
Maximum Tax Expected Benefit Increase	See Table 1
Social Security Wage Base Increases	Future wage indices are based on a national wage increase of 3.50% per year.
Retirement Age	
Active Participants	See Table 2
Terminated Vested Participants	See Table 3
Mortality Rates	
Healthy and Disabled	2014 static mortality table for annuitants and non-annuitants per §1.430(h)(3)-1(e)
Withdrawal Rates	See Table 4
Disability Rates	See Table 5
Form of Benefit Payment	See Table 6
Decrement Timing	Beginning of year decrements
Surviving Spouse Benefit	It is assumed that 80% of males and 80% of females have an eligible spouse, and that males are three years older than their spouses.
Valuation Compensation	2013 Regular salary

Benefit and Compensation Limits	Projected benefits and compensation are limited by the current IRC section 415 maximum benefit of $210,000 and the IRC section 401(a)(17) compensation limit of $260,000.
Valuation of Plan Assets	Smoothed fair market value of assets over the current and prior two years, adjusted for contributions, benefit payments, administrative expenses, and expected earnings. The average value of assets calculated in this manner is further limited to not less than 90% nor more than 110% of fair market value. A characteristic of this method is that the expected distribution of the value of plan assets is skewed toward understatement relative to the corresponding market values for expected long-term rates of return in excess of the third segment rate under IRC section 430(h)(2)(C)(iii).
Expected Return on Assets	
2012 Plan Year	6.25% The applicable third segment rate limitation is 7.52%.
2013 Plan Year	6.00% The applicable third segment rate limitation is 6.76%.
Trust Expenses Included in Target Normal Cost	$9,560, actual expenses from prior year with a 5% load
Actuarial Method	Standard unit credit cost method
Valuation Date	January 1, 2014

Table 1

Salary Merit Increase Rates

Age	Rate	Age	Rate
15	7.25%	45	4.25%
16	7.25%	46	4.25%
17	7.25%	47	4.25%
18	7.25%	48	4.25%
19	7.25%	49	4.25%
20	7.25%	50	3.50%
21	7.25%	51	3.50%
22	7.25%	52	3.50%
23	7.25%	53	3.50%
24	7.25%	54	3.50%
25	7.25%	55	3.00%
26	7.25%	56	3.00%
27	7.25%	57	3.00%
28	7.25%	58	3.00%
29	7.25%	59	3.00%
30	6.25%	60+	3.00%
31	6.25%		
32	6.25%		
33	6.25%		
34	6.25%		
35	6.00%		
36	6.00%		
37	6.00%		
38	6.00%		
39	6.00%		
40	4.75%		
41	4.75%		
42	4.75%		
43	4.75%		
44	4.75%		

Table 2

Retirement Rates—Active Participants

Age	Rate
55	6.00%
56	5.00%
57	6.00%
58	6.00%
59	6.00%
60	7.00%
61	9.00%
62	12.00%
63	16.00%
64	24.00%
65	31.00%
66	29.00%
67	27.00%
68	26.00%
69	33.00%
70+	100.00%

Table 3

Retirement Rates—Terminated vested Participants

Age	Rate
55	15.00%
56	5.00%
57	5.00%
58	5.00%
59	6.00%
60	6.00%
61	10.00%
62	20.00%
63	10.00%
64	15.00%
65+	100.00%

Table 4—Page 1 of 2

Withdrawal Rates

	Years of Service			
Age	**0-1**	**2-4**	**5-9**	**10+**
20	18.00%	14.00%	0.00%	0.00%
21	22.00%	18.00%	0.00%	0.00%
22	21.00%	21.00%	15.00%	0.00%
23	23.00%	18.00%	15.00%	0.00%
24	27.00%	18.00%	14.00%	0.00%
25	27.00%	16.00%	13.00%	0.00%
26	24.00%	16.00%	13.00%	0.00%
27	19.00%	14.00%	13.00%	0.00%
28	14.00%	15.00%	12.00%	11.00%
29	13.00%	14.00%	12.00%	11.00%
30	16.00%	13.00%	9.00%	12.00%
31	13.00%	14.00%	10.00%	13.00%
32	12.00%	14.00%	10.00%	8.00%
33	12.00%	12.00%	10.00%	8.00%
34	15.00%	12.00%	9.00%	7.00%
35	12.00%	13.00%	10.00%	6.00%
36	16.00%	12.00%	9.00%	7.00%
37	16.00%	11.00%	9.00%	6.00%
38	16.00%	10.00%	7.00%	6.00%
39	10.00%	11.00%	7.00%	6.00%
40	9.00%	9.00%	8.00%	6.00%
41	8.00%	8.00%	8.00%	6.00%
42	10.00%	8.00%	8.00%	6.00%
43	10.00%	10.00%	8.00%	5.00%
44	10.00%	8.00%	8.00%	6.00%
45	12.00%	9.00%	7.00%	5.00%
46	10.00%	10.00%	6.00%	5.00%
47	12.00%	12.00%	5.00%	4.00%
48	14.00%	13.00%	4.00%	4.00%
49	15.00%	12.00%	6.00%	4.00%

Table 4—Page 2 of 2

Withdrawal Rates

	Years of Service			
Age	**0-1**	**2-4**	**5-9**	**10+**
50	12.00%	12.00%	6.00%	3.00%
51	12.00%	11.00%	6.00%	3.00%
52	11.00%	10.00%	7.00%	3.00%
53	10.00%	9.00%	8.00%	3.00%
54	11.00%	8.00%	7.00%	3.00%
55+	0.00%	0.00%	0.00%	0.00%

Table 5

Disability Rates

Age	Rate	Age	Rate
18	0.04%	48	0.26%
19	0.04%	49	0.29%
20	0.04%	50	0.33%
21	0.04%	51	0.37%
22	0.04%	52	0.41%
23	0.04%	53	0.45%
24	0.04%	54	0.50%
25	0.04%	55	0.55%
26	0.05%	56	0.61%
27	0.05%	57	0.72%
28	0.05%	58	0.83%
29	0.05%	59	0.91%
30	0.05%	60	1.04%
31	0.05%	61	1.19%
32	0.05%	62	1.37%
33	0.06%	63	1.57%
34	0.06%	64	2.04%
35	0.06%	65+	0.00%
36	0.07%		
37	0.07%		
38	0.07%		
39	0.08%		
40	0.08%		
41	0.09%		
42	0.09%		
43	0.10%		
44	0.13%		
45	0.16%		
46	0.19%		
47	0.22%		

Table 6

Form of Benefit Payment

Payment Form	Probability
Single Life Annuity	55.00%
100% Joint and Survivor Annuity	20.00%
75% Joint and Survivor Annuity	5.00%
50% Joint and Survivor Annuity	20.00%

Schedule SB Attachment (Form 5500)—2014 Plan Year
Retirement Plan of W.R. Grace & Co. – CT Dupont Hourly Plan
EIN: 13-5114230 PN: 200

Schedule SB, Part V—Summary of Plan Provisions

General Information	
Original Effective Date	September 1, 2000
Effective Date of Last Amendment	January 1, 2006
Plan Year	January 1 to December 31
Employer Fiscal Year	January 1 to December 31
Employer ID Number	13-5114230
Plan Administrator's ID Number	13-5114230
Plan Number	200
Plan Administrator	Administrative Committee
Eligibility	Date of hire.
Service	
Credited Service	From date of hire.
Vesting Service	1,000 hours of service.
Normal Retirement	
Eligibility	Age 65.
Benefit	Maximum of (a), (b), or (c): (a) 1.2% time FAE(3) times service. (b) [1.5% times FAE(3) times service] – 50%PIA. (c) ⅔% times FAE(3), maximum 10% of FAE(3), plus $9.00 times service.
Average Compensation	Average of highest 36 consecutive months of compensation.
Early Retirement	
Eligibility	Age 50 and 15 years of service.
Benefit	Accrued Benefit reduced 5/12% per month preceding age 65. No reduction if age 58 plus 27 years of service or Rule of 85.

Disability Retirement	
Eligibility	15 years of service.
Benefit	Accrued Benefit plus 50% of PIA until age 62.
Postponed Retirement	
Eligibility	Actual retirement after age 65.
Benefit	A monthly benefit equal to the Accrued Benefit calculated as of the actual retirement date.
Preretirement Death	
Eligibility	Five years of service or age 55.
Benefit	Accrued Benefit.
Severance Benefit	
Eligibility	
Fewer Than Five Years of Service	0%
Five or More Years of Service	100%
Benefit	Accrued Benefit at age 65.
Normal Form of Payment	
Married	Reduced 50% Joint and Survivor.
Single	Life Annuity.
Optional Methods of Settlement	Reduced benefit to be paid during participant's lifetime with the provision that after his death, a benefit equal to 75% or a multiple of 10% is paid to his beneficiary. Increased retirement benefit paid prior to Social Security Benefit eligibility and reduced benefit paid thereafter in order to provide a uniform income. For the purpose of calculating a Joint and 50% Survivor optional form of benefit, the factors from Appendix C shall be applied, based on the interest rate determined under Appendix A as of the date benefit payments commence.

For the purpose of calculating benefits payable to the former Participant under the Joint and Survivor Option, the factors from Appendix D shall be applied, based on the interest rate determined under Appendix A as of the date benefit payments to the former Participant commence; for the purpose of calculating benefits payable to the former Participant under the Level Income Option, the factors from Appendix B shall be applied, based on the interest rate determined under Appendix A as of the date benefit payments to the former Participant commence.

For the purpose of calculating any other optional form of benefit available, mortality with reference to the UP-84 Mortality Table and 6.5% interest.

APPENDIX A

DETERMINATION OF INTEREST RATE FOR OPTIONAL FORMS

Interest rates will be established quarterly, rounded to the nearest whole percentage and based on the average Pension Benefit Guaranty Corporation immediate annuity rates for the preceding quarter. In no event will the rate be less than 5% or greater than 15%.

APPENDIX B

LEVEL INCOME OPTION FACTORS

1. The benefit payable prior to age 62 is equal to the Primary Social Security Benefit, as such term is defined in the Plan, times the appropriate factor from the following tables, plus the employee's pension determined without regard to the Level Income Option.

2. The benefit payable after age 62 is equal to the benefit calculated above, less the Primary Social Security Benefit, as such term is defined in the Plan.

FACTORS FOR LEVEL INCOME OPTION
INTEREST RATE: 5.0%
MONTHS

AGE AT COMMENCEMENT	0	1	2	3	4	5	6	7	8	9	10	11
61	.9149	.9220	.9291	.9362	.9432	.9503	.9574	.9645	.9716	.9787	.9858	.9929
60	.8388	.8451	.8515	.8578	.8641	.8705	.8768	.8832	.8895	.8958	.9022	.9085
59	.7706	.7762	.7819	.7876	.7933	.7990	.8047	.8104	.8160	.8217	.8274	.8331
58	.7092	.7143	.7195	.7246	.7297	.7348	.7399	.7450	.7501	.7552	.7603	.7655
57	.6540	.6586	.6632	.6678	.6724	.6770	.6816	.6862	.6908	.6954	.7000	.7046
56	.6040	.6082	.6123	.6165	.6207	.6248	.6290	.6332	.6373	.6415	.6456	.6498
55	.5588	.5626	.5663	.5701	.5739	.5776	.5814	.5852	.5889	.5927	.5965	.6003
54	.5177	.5212	.5246	.5280	.5314	.5349	.5383	.5417	.5451	.5485	.5520	.5554
53	.4804	.4835	.4866	.4897	.4929	.4960	.4991	.5022	.5053	.5084	.5115	.5146
52	.4464	.4492	.4520	.4549	.4577	.4606	.4634	.4662	.4691	.4719	.4747	.4776
51	.4153	.4179	.4205	.4231	.4257	.4282	.4308	.4334	.4360	.4386	.4412	.4438
50	.3869	.3892	.3916	.3940	.3963	.3987	.4011	.4034	.4058	.4082	.4106	.4129
49	.3608	.3630	.3651	.3673	.3695	.3717	.3738	.3760	.3782	.3803	.3825	.3847
48	.3369	.3389	.3409	.3428	.3448	.3468	.3488	.3508	.3528	.3548	.3568	.3588
47	.3149	.3167	.3185	.3204	.3222	.3240	.3259	.3277	.3295	.3314	.3332	.3350
46	.2946	.2963	.2980	.2996	.3013	.3030	.3047	.3064	.3081	.3098	.3115	.3132
45	.2759	.2774	.2790	.2806	.2821	.2837	.2852	.2868	.2883	.2899	.2915	.2930

INTEREST RATE: 6.0%
MONTHS

AGE AT COMMENCEMENT	0	1	2	3	4	5	6	7	8	9	10	11
61	.9081	.9158	.9234	.9311	.9387	.9464	.9541	.9617	.9694	.9770	.9847	.9923
60	.8264	.8332	.8400	.8469	.8537	.8605	.8673	.8741	.8809	.8877	.8945	.9013
59	.7536	.7597	.7657	.7718	.7779	.7839	.7900	.7961	.8021	.8082	.8143	.8204
58	.6885	.6939	.6993	.7047	.7102	.7156	.7210	.7264	.7319	.7373	.7427	.7482
57	.6301	.6349	.6398	.6447	.6495	.6544	.6593	.6641	.6690	.6739	.6787	.6836
56	.5776	.5820	.5864	.5907	.5951	.5995	.6038	.6082	.6126	.6170	.6213	.6257
55	.5304	.5343	.5382	.5422	.5461	.5501	.5540	.5579	.5619	.5658	.5697	.5737
54	.4877	.4913	.4948	.4984	.5019	.5055	.5090	.5126	.5161	.5197	.5233	.5268
53	.4491	.4524	.4556	.4588	.4620	.4652	.4684	.4716	.4749	.4781	.4813	.4845
52	.4142	.4171	.4200	.4229	.4258	.4287	.4317	.4346	.4375	.4404	.4433	.4462
51	.3824	.3851	.3877	.3904	.3930	.3957	.3983	.4009	.4036	.4062	.4089	.4115
50	.3535	.3559	.3584	.3608	.3632	.3656	.3680	.3704	.3728	.3752	.3776	.3800
49	.3272	.3294	.3316	.3338	.3360	.3382	.3404	.3426	.3448	.3470	.3492	.3513
48	.3032	.3052	.3072	.3092	.3112	.3132	.3152	.3172	.3192	.3212	.3232	.3252
47	.2812	.2830	.2849	.2867	.2885	.2904	.2922	.2940	.2959	..2977	.2995	.3014
46	.2611	.2628	.2644	.2661	.2678	.2695	.2712	.2728	.2745	.2762	.2779	.2795
45	.2426	.2442	.2457	.2473	.2488	.2503	.2519	.2534	.2549	.2565	.2580	.2596

APPENDIX B

LEVEL INCOME OPTION FACTORS

FACTORS FOR LEVEL INCOME OPTION
INTEREST RATE: 7.0%
MONTHS

AGE AT COMMENCEMENT	0	1	2	3	4	5	6	7	8	9	10	11
61	.9013	.9095	.9177	.9260	.9342	.9424	.9506	.9589	.9671	.9753	.9835	.9918
60	.8140	.8213	.8286	.8359	.8431	.8504	.8577	.8649	.8722	.8795	.8868	.8940
59	.7367	.7431	.7496	.7560	.7625	.7689	.7754	.7818	.7883	.7947	.8012	.8076
58	.6679	.6736	.6794	.6851	.6908	.6966	.7023	.7080	.7138	.7195	.7252	.7310
57	.6066	.6117	.6168	.6220	.6271	.6322	.6373	.6424	.6475	.6526	.6577	.6628
56	.5519	.5564	.5610	.5656	.5701	.5747	.5793	.5838	.5884	.5929	.5975	.6021
55	.5029	.5070	.5110	.5151	.5192	.5233	.5274	.5315	.5355	.5396	.5437	.5478
54	.4589	.4625	.4662	.4699	.4735	.4772	.4809	.4845	.4882	.4919	.4955	.4992
53	.4193	.4226	.4259	.4292	.4325	.4358	.4391	.4424	.4457	.4490	.4523	.4556
52	.3837	.3867	.3897	.3926	.3956	.3986	.4015	.4045	.4075	.4104	.4134	.4164
51	.3516	.3542	.3569	.3596	.3623	.3650	.3676	.3703	.3730	.3757	.3784	.3810
50	.3225	.3249	.3273	.3298	.3322	.3346	.3370	.3394	.3419	.3443	.3467	.3491
49	.2962	.2984	.3005	.3027	.3049	.3071	.3093	.3115	.3137	.3159	.3181	.3203
48	.2723	.2743	.2763	.2782	.2802	.2822	.2842	.2862	.2882	.2902	.2922	.2942
47	.2506	.2524	.2542	.2560	.2578	.2596	.2614	.2632	.2650	.2668	.2687	.2705
46	.2308	.2325	.2341	.2358	.2374	.2390	.2407	.2423	.2440	.2456	.2473	.2489
45	.2128	.2143	.2158	.2173	.2188	.2203	.2218	.2233	.2248	.2263	.2278	.2293

INTEREST RATE: 8.0%
MONTHS

AGE AT COMMENCEMENT	0	1	2	3	4	5	6	7	8	9	10	11
61	.8944	.9032	.9120	.9208	.9296	.9384	.9472	.9560	.9648	.9736	.9824	.9912
60	.8017	.8094	.8171	.8249	.8326	.8403	.8481	.8558	.8635	.8712	.8790	.8867
59	.7199	.7267	.7336	.7404	.7472	.7540	.7608	.7676	.7744	.7812	.7880	.7949
58	.6477	.6537	.6597	.6658	.6718	.6778	.6838	.6898	.6959	.7019	.7079	.7139
57	.5837	.5891	.5944	.5997	.6050	.6104	.6157	.6210	.6264	.6317	.6370	.6424
56	.5269	.5317	.5364	.5411	.5459	.5506	.5553	.5601	.5648	.5695	.5743	.5790
55	.4764	.4806	.4848	.4890	.4932	.4975	.5017	.5059	.5101	.5143	.5185	.5227
54	.4313	.4351	.4389	.4426	.4464	.4501	.4539	.4576	.4614	.4651	.4689	.4726
53	.3911	.3944	.3978	.4012	.4045	.4079	.4112	.4146	.4179	.4213	.4246	.4280
52	.3551	.3581	.3611	.3641	.3671	.3701	.3731	.3761	.3791	.3821	.3851	.3881
51	.3227	.3254	.3281	.3308	.3335	.3362	.3389	.3416	.3443	.3470	.3497	.3524
50	.2937	.2961	.2986	.3010	.3034	.3058	.3082	.3107	.3131	.3155	.3179	.3203
49	.2676	.2698	.2720	.2741	.2763	.2785	.2807	.2828	.2850	.2872	.2894	.2915
48	.2441	.2460	.2480	.2500	.2519	.2539	.2558	.2578	.2598	.2617	.2637	.2656
47	.2228	.2246	.2264	.2281	.2299	.2317	.2334	.2352	.2370	.2388	.2405	.2423
46	.2036	.2052	.2068	.2084	.2100	.2116	.2132	.2148	.2164	.2180	.2196	.2212
45	.1862	.1877	.1891	.1906	.1920	.1935	.1949	.1964	.1978	.1993	.2007	.2022

APPENDIX B

LEVEL INCOME OPTION FACTORS

FACTORS FOR LEVEL INCOME OPTION
INTEREST RATE: 9.0%
MONTHS

AGE AT COMMENCEMENT	0	1	2	3	4	5	6	7	8	9	10	11
61	.8875	.8969	.9063	.9157	.9250	.9344	.9438	.9531	.9625	.9719	.9813	.9906
60	.7893	.7975	.8057	.8139	.8221	.8303	.8384	.8466	.8548	.8630	.8712	.8794
59	.7034	.7105	.7177	.7249	.7320	.7392	.7464	.7535	.7607	.7678	.7750	.7822
58	.6279	.6342	.6404	.6467	.6530	.6593	.6656	.6719	.6782	.6845	.6908	.6971
57	.5614	.5670	.5725	.5780	.5836	.5891	.5946	.6002	.6057	.6113	.6168	.6223
56	.5028	.5077	.5126	.5175	.5224	.5272	.5321	.5370	.5419	.5468	.5517	.5565
55	.4510	.4553	.4597	.4640	.4683	.4726	.4769	.4812	.4856	.4899	.4942	.4985
54	.4051	.4090	.4128	.4166	.4204	.4243	.4281	.4319	.4357	.4396	.4434	.4472
53	.3644	.3678	.3712	.3746	.3780	.3814	.3848	.3882	.3916	.3950	.3984	.4017
52	.3282	.3312	.3343	.3373	.3403	.3433	.3463	.3493	.3524	.3554	.3584	.3614
51	.2960	.2987	.3013	.3040	.3067	.3094	.3121	.3148	.3175	.3202	.3228	.3255
50	.2672	.2696	.2720	.2744	.2768	.2792	.2816	.2840	.2864	.2888	.2912	.2936
49	.2415	.2436	.2458	.2479	.2501	.2522	.2543	.2565	.2586	.2608	.2629	.2651
48	.2185	.2204	.2223	.2242	.2261	.2281	.2300	.2319	.2338	.2357	.2377	.2396
47	.1979	.1996	.2013	.2030	.2047	.2064	.2082	.2099	.2116	.2133	.2150	.2168
46	.1793	.1809	.1824	.1840	.1855	.1871	.1886	.1901	.1917	.1932	.1948	.1963
45	.1627	.1641	.1655	.1669	.1682	.1696	.1710	.1724	.1738	.1752	.1766	.1779

INTEREST RATE: 10.0%
MONTHS

AGE AT COMMENCEMENT	0	1	2	3	4	5	6	7	8	9	10	11
61	.8806	.8906	.9005	.9105	.9204	.9304	.9403	.9503	.9602	.9702	.9801	.9901
60	.7771	.7857	.7944	.8030	.8116	.8202	.8289	.8375	.8461	.8548	.8634	.8720
59	.6870	.6945	.7020	.7095	.7170	.7246	.7321	.7396	.7471	.7546	.7621	.7696
58	.6085	.6150	.6215	.6281	.6346	.6412	.6477	.6543	.6608	.6674	.6739	.6805
57	.5398	.5455	.5512	.5569	.5627	.5684	.5741	.5798	.5856	.5913	.5970	.6027
56	.4796	.4846	.4896	.4946	.4997	.5047	.5097	.5147	.5197	.5247	.5297	.5348
55	.4268	.4312	.4356	.4400	.4444	.4488	.4532	.4576	.4620	.4664	.4708	.4752
54	.3803	.3842	.3880	.3919	.3958	.3997	.4035	.4074	.4113	.4152	.4190	.4229
53	.3393	.3428	.3462	.3496	.3530	.3564	.3598	.3632	.3667	.3701	.3735	.3769
52	.3032	.3062	.3092	.3122	.3152	.3182	.3213	.3243	.3273	.3303	.3333	.3363
51	.2712	.2739	.2765	.2792	.2819	.2845	.2872	.2899	.2925	.2952	.2978	.3005
50	.2429	.2452	.2476	.2499	.2523	.2547	.2570	.2594	.2617	.2641	.2665	.2688
49	.2177	.2193	.2219	.2240	.2261	.2282	.2303	.2324	.2345	.2366	.2387	.2408
48	.1954	.1972	.1991	.2009	.2028	.2047	.2065	.2084	.2103	.2121	.2140	.2158
47	.1755	.1771	.1788	.1804	.1821	.1838	.1854	.1871	.1887	.1904	.1920	.1937
46	.1578	.1592	.1607	.1622	.1637	.1651	.1666	.1681	.1696	.1710	.1725	.1740
45	.1419	.1433	.1446	.1459	.1472	.1485	.1498	.1512	.1525	.1538	.1551	.1564

APPENDIX B

LEVEL INCOME OPTION FACTORS

FACTORS FOR LEVEL INCOME OPTION
INTEREST RATE: 11.0%
MONTHS

AGE AT COMMENCEMENT	0	1	2	3	4	5	6	7	8	9	10	11
61	.8738	.8843	.8948	.9053	.9158	.9264	.9369	.9474	.9579	.9684	.9790	.9895
60	.7650	.7740	.7831	.7922	.8012	.8103	.8194	.8284	.8375	.8466	.8556	.8647
59	.6709	.6788	.6866	.6944	.7023	.7101	.7180	.7258	.7336	.7415	.7493	.7571
58	.5895	.5963	.6031	.6099	.6167	.6234	.6302	.6370	.6438	.6506	.6574	.6642
57	.5188	.5247	.5306	.5365	.5424	.5483	.5542	.5601	.5659	.5718	.5777	.5836
56	.4573	.4624	.4675	.4727	.4778	.4829	.4881	.4932	.4983	.5034	.5086	.5137
55	.4037	.4081	.4126	.4171	.4215	.4260	.4305	.4350	.4394	.4439	.4484	.4528
54	.3568	.3607	.3646	.3685	.3724	.3763	.3802	.3842	.3881	.3920	.3959	.3998
53	.3158	.3192	.3227	.3261	.3295	.3329	.3363	.3397	.3432	.3466	.3500	.3534
52	.2799	.2829	.2859	.2889	.2919	.2949	.2979	.3009	.3038	.3068	.3098	.3128
51	.2483	.2510	.2536	.2562	.2588	.2615	.2641	.2667	.2694	.2720	.2746	.2773
50	.2206	.2229	.2252	.2275	.2298	.2321	.2344	.2368	.2391	.2414	.2437	.2460
49	.1961	.1982	.2002	.2022	.2043	.2063	.2083	.2104	.2124	.2145	.2165	.2185
48	.1745	.1763	.1781	.1799	.1817	.1835	.1853	.1871	.1889	.1907	.1925	.1943
47	.1555	.1571	.1587	.1603	.1618	.1634	.1650	.1666	.1682	.1698	.1714	.1730
46	.1386	.1400	.1414	.1429	.1443	.1457	.1471	.1485	.1499	.1513	.1527	.1541
45	.1237	.1250	.1262	.1274	.1287	.1299	.1312	.1324	.1337	.1349	.1361	.1374

INTEREST RATE: 12.0%
MONTHS

AGE AT COMMENCEMENT	0	1	2	3	4	5	6	7	8	9	10	11
61	.8669	.8780	.8891	.9002	.9113	.9223	.9334	.9445	.9556	.9667	.9778	.9889
60	.7529	.7624	.7719	.7814	.7909	.8004	.8099	.8194	.8289	.8384	.8479	.8574
59	.6552	.6633	.6715	.6796	.6878	.6959	.7041	.7122	.7204	.7285	.7366	.7448
58	.5711	.5781	.5851	.5921	.5991	.6061	.6131	.6201	.6271	.6341	.6412	.6482
57	.4986	.5046	.5106	.5167	.5227	.5288	.5348	.5409	.5469	.5529	.5590	.5650
56	.4359	.4411	.4464	.4516	.4568	.4620	.4672	.4725	.4777	.4829	.4881	.4933
55	.3817	.3862	.3907	.3953	.3998	.4043	.4088	.4133	.4179	.4224	.4269	.4314
54	.3347	.3386	.3425	.3464	.3504	.3543	.3582	.3621	.3660	.3700	.3739	.3778
53	.2938	.2972	.3006	.3040	.3075	.3109	.3143	.3177	.3211	.3245	.3279	.3313
52	.2583	.2612	.2642	.2672	.2701	.2731	.2761	.2790	.2820	.2849	.2879	.2909
51	.2273	.2299	.2325	.2350	.2376	.2402	.2428	.2454	.2479	.2505	.2531	.2557
50	.2002	.2025	.2047	.2070	.2093	.2115	.2138	.2160	.2183	.2205	.2228	.2250
49	.1766	.1785	.1805	.1825	.1845	.1864	.1884	.1904	.1923	.1943	.1963	.1983
48	.1559	.1576	.1593	.1610	.1628	.1645	.1662	.1679	.1697	.1714	.1731	.1748
47	.1377	.1392	.1407	.1422	.1438	.1453	.1468	.1483	.1498	.1513	.1528	.1543
46	.1218	.1231	.1244	.1257	.1271	.1284	.1297	.1311	.1324	.1337	.1350	.1364
45	.1078	.1089	.1101	.1113	.1124	.1136	.1148	.1159	.1171	.1183	.1194	.1206

APPENDIX B

LEVEL INCOME OPTION FACTORS

FACTORS FOR LEVEL INCOME OPTION
INTEREST RATE: 13.0%
MONTHS

AGE AT COMMENCEMENT	0	1	2	3	4	5	6	7	8	9	10	11
61	.8600	.8717	.8834	.8950	.9067	.9184	.9300	.9417	.9533	.9650	.9767	.9883
60	.7411	.7510	.7609	.7708	.7807	.7906	.8006	.8105	.8204	.8303	.8402	.8501
59	.6397	.6482	.6566	.6651	.6735	.6819	.6904	.6988	.7073	.7157	.7242	.7326
58	.5531	.5604	.5676	.5748	.5820	.5892	.5964	.6036	.6109	.6181	.6253	.63Z5
57	.4790	.4852	.4914	.4976	.5037	.5099	.5161	.5223	.5284	.5346	.5408	.5470
56	.4155	.4208	.4261	.4314	.4367	.4420	.4473	.4526	.4579	.4631	.4684	.4737
55	.3609	.3654	.3700	.3745	.3791	.3836	.3882	.3927	.3973	.4018	.4064	.4109
54	.3139	.3178	.3217	.3256	.3295	.3334	.3374	.3413	.3452	.3491	.3530	.3570
53	.2733	.2767	.2801	.2834	.2868	.2902	.2936	.2970	.3003	.3037	.3071	.3105
52	.2383	.2412	.2441	.2470	.2500	.2529	.2558	.2587	.2616	.2645	.2675	.2704
51	.2080	.2105	.2130	.2155	.2181	.2206	.2231	.2257	.2282	.2307	.2332	.2358
50	.1817	.1839	.1861	.1883	.1905	.1927	.1948	.1970	.1992	.2014	.2036	.2058
49	.1589	.1608	.1627	.1646	.1665	.1684	.1703	.1722	.1741	.1760	.1779	.1798
48	.1391	.1408	.1424	.1441	.1457	.1474	.1490	.1507	.1523	.1540	.1556	.1573
47	.1219	.1233	.1248	.1262	.1277	.1291	.1305	.1320	.1334	.1348	.1363	.1377
46	.1069	.1082	.1094	.1107	.1119	.1132	.1144	.1157	.1169	.1182	.1194	.1207
45	.0938	.0949	.0960	.0971	.0982	.0993	.1004	.1015	.1025	.1036	.1047	.1058

INTEREST RATE: 14.0%
MONTHS

AGE AT COMMENCEMENT	0	1	2	3	4	5	6	7	8	9	10	11
61	.8532	.8655	.8777	.8899	.9022	.9144	.9266	.9388	.9511	.9633	.9755	.9878
60	.7294	.7397	.7500	.7603	.7707	.7810	.7913	.8016	.8120	.8223	.8326	.8429
59	.6249	.6333	.6421	.6508	.6595	.6683	.6770	.6857	.6944	.7032	.7119	.7206
58	.5357	.5431	.5505	.5579	.5654	.5728	.5802	.5876	.5950	.6024	.6098	.6172
57	.4602	.4665	.4728	.4791	.4854	.4917	.4980	.5043	.5106	.5169	.5232	.5294
56	.3960	.4013	.4067	.4120	.4174	.4227	.4281	.4335	.4388	.4442	.4495	.4549
55	.3411	.3457	.3503	.3548	.3594	.3640	.3685	.3731	.3777	.3823	.3868	.3914
54	.2943	.2982	.3021	.3060	.3099	.3138	.3177	.3216	.3255	.3294	.3333	.3372
53	.2542	.2575	.2609	.2642	.2675	.2709	.2742	.2776	.2809	.2843	.2876	.2909
52	.2198	.2227	.2255	.2284	.2313	.2341	.2370	.2399	.2427	.2456	.2484	.2513
51	.1903	.1927	.1952	.1977	.2001	.2026	.2050	.2075	.2100	.2124	.2149	.2173
50	.1649	.1670	.1691	.1712	.1733	.1755	.1776	.1797	.1818	.1839	.1860	.1882
49	.1430	.1448	.1467	.1485	.1503	.1521	.1540	.1558	.1576	.1594	.1612	.1631
48	.1242	.1257	.1273	.1289	.1305	.1320	.1336	.1352	.1367	.1383	.1399	.1415
47	.1079	.1093	.1106	.1120	.1133	.1147	.1160	.1174	.1188	.1201	.1215	.1228
46	.093a	.0950	.0962	.0974	.0985	.0997	.1009	.1020	.1032	.1044	.1056	.1067
45	.0817	.0827	.0837	.0847	.0857	.0867	.0878	.0888	.0898	.0908	.0918	.0928

APPENDIX B

LEVEL INCOME OPTION FACTORS

FACTORS FOR LEVEL INCOME OPTION
INTEREST RATE: 15.0%
MONTHS

AGE AT COMMENCEMENT	0	1	2	3	4	5	6	7	8	9	10	11
61	.8465	.8593	.8721	.8849	.8977	.9104	.9232	.9360	.9488	.9616	.9744	.9872
60	.7179	.7286	.7393	.7500	.7607	.7714	.7822	.7929	.8036	.8143	.8250	.8358
59	.6098	.6188	.6278	.6368	.6458	.6548	.6638	.6728	.6818	.6908	.6998	.7088
58	.5189	.5264	.5340	.5416	.5492	.5568	.5643	.5719	.5795	.5871	.5947	.6022
57	.4422	.4486	.4549	.4613	.4677	.4741	.4805	.4869	.4933	.4997	.5061	.5125
56	.3773	.3827	.3881	.3935	.3989	.4044	.4098	.4152	.4206	.4260	.4314	.4368
55	.3225	.3270	.3316	.3362	.3408	.3453	.3499	.3545	.3590	.3636	.3682	.3728
54	.2759	.2798	.2837	.2876	.2914	.2953	.2992	.3031	.3069	.3108	.3147	.3186
53	.2364	.2397	.2430	.2463	.2496	.2529	.2561	.2594	.2627	.2660	.2693	.2726
52	.2027	.2055	.2083	.2111	.2140	.2168	.2196	.2224	.2252	.2280	.2308	.2336
51	.1741	.1765	.1788	.1812	.1836	.1860	.1884	.1908	.1932	.1956	.1980	.2003
50	.1496	.1516	.1537	.1557	.1578	.1598	.1618	.1639	.1659	.1680	.1700	.1720
49	.1287	.1305	.1322	.1339	.1357	.1374	.1392	.1409	.1426	.1444	.1461	.1479
48	.1108	.1123	.1138	.1153	.1168	.1183	.1198	.1213	.1228	.1242	.1257	.1272
47	.0955	.0968	.0981	.0993	.1006	.1019	.1032	.1044	.1057	.1070	.1083	.1096
46	.0824	.0835	.0846	.0857	.0868	.0879	.0889	.0900	.0911	.0922	.0933	.0944
45	.0711	.0720	.0730	.0739	.0749	.0758	.0767	.0777	.0786	.0796	.0805	.0814

APPENDIX C

SPOUSE BENEFIT COVERAGE FACTORS

PERCENTAGE REDUCTION IN MONTHLY AMOUNT OF PARTICIPANT'S PENSION TO PROVIDE A SPOUSE WITH A MONTHLY LIFE ANNUITY COMMENCING UPON THE DEATH OF THE PARTICIPANT AND EQUAL TO 50% OF PARTICIPANT'S REDUCED PENSION

Interest Rate: 5.0%
Age of Participant *

AGE OF NAMED SURVIVOR *	30	35	40	45	50	55	60	65	70	75	80
0	6.02	7.91	10.35	13.46	17.25	21.68	26.80	32.81	40.19	48.11	56.13
5	5.73	7.61	10.03	13.13	16.92	21.35	26.47	32.49	39.88	47.82	55.85
10	5.38	7.24	9.65	12.74	16.52	20.95	26.08	32.10	39.52	47.49	55.58
15	4.98	6.80	9.18	12.25	16.01	20.44	25.57	31.61	39.05	47.05	55.19
20	4.52	6.28	8.62	11.65	15.39	19.80	24.93	30.99	38.45	46.50	54.69
25	4.00	5.68	7.95	10.92	14.62	19.01	24.14	30.20	37.70	45.80	54.06
30	3.45	5.02	7.18	10.06	13.70	18.04	23.14	29.20	36.74	44.90	53.25
35	2.89	4.31	6.32	9.07	12.59	16.85	21.91	27.96	35.52	43.75	52.20
40	2.34	3.58	5.40	7.96	11.31	15.44	20.40	26.41	33.98	42.28	50.86
45	1.83	2.87	4.45	6.76	9.88	13.80	18.60	24.50	32.05	40.41	49.12
50	1.39	2.22	3.54	5.54	8.33	11.95	16.50	22.22	29.68	38.07	46.89
55	1.01	1.65	2.71	4.37	6.77	9.99	14.17	19.60	26.89	35.24	44.18
60	.72	1.19	1.99	3.32	5.30	8.04	11.74	16.73	23.70	31.93	40.94
65	.49	.81	1.39	2.39	3.93	6.13	9.21	13.57	19.98	27.87	36.80
70	.32	.52	.92	1.63	2.75	4.40	6.78	10.31	15.88	23.10	31.68
75	.20	.32	.57	1.04	1.82	2.98	4.69	7.34	11.83	18.06	25.89
80	.12	.19	.34	.63	1.14	1.90	3.05	4.77	8.21	13.17	19.84
85	.07	.11	.19	.36	.67	1.15	1.87	3.00	5.30	8.92	14.13
90	.04	.06	.10	.20	.38	.67	1.10	1.80	3.23	5.69	9.45
95	.02	.03	.05	.10	.19	.34	.57	.94	1.71	3.15	5.46
100	.01	.01	.02	.04	.09	.16	.28	.44	.80	1.53	2.75

Interest Rate: 6.0%
Age of Participant *

AGE OF NAMED SURVIVOR *	30	35	40	45	50	55	60	65	70	75	80
0	4.47	6.02	8.07	10.78	14.15	18.17	22.90	28.57	35.74	43.61	51.77
5	4.29	5.83	7.88	10.57	13.94	17.95	22.69	28.36	35.53	43.42	51.59
10	4.08	5.60	7.64	10.32	13.68	17.69	22.42	28.10	35.29	43.19	51.30
15	3.82	5.31	7.33	9.99	13.34	17.35	22.08	27.76	34.95	42.87	51.09
20	3.52	4.97	6.95	9.58	12.91	16.90	21.63	27.31	34.52	42.47	50.72
25	3.17	4.56	6.48	9.07	12.36	16.33	21.04	26.73	33.95	41.93	50.23
30	2.78	4.09	5.93	8.45	11.68	15.61	20.29	25.97	33.21	41.22	49.58
35	2.38	3.57	5.30	7.71	10.65	14.70	19.34	24.99	32.24	40.29	48.72
40	1.97	3.03	4.61	6.86	9.86	13.60	18.14	23.74	30.98	39.07	47.59
45	1.58	2.49	3.87	5.93	8.72	12.28	16.68	22.17	29.37	37.48	46.08
50	1.23	1.97	3.14	4.94	7.47	10.76	14.94	20.25	27.34	35.45	44.13
55	.92	1.50	2.46	3.98	6.18	9.13	12.98	18.02	24.93	32.97	41.71
60	.67	1.11	1.85	3.08	4.92	7.46	10.89	15.54	22.14	30.04	38.80
65	.47	.77	1.32	2.27	3.73	5.79	8.67	12.74	18.83	26.39	35.04
70	.31	.51	.89	1.58	2.66	4.23	6.48	9.81	15.11	22.03	30.31
75	.20	.32	.57	1.04	1.80	2.92	4.56	7.08	11.39	17.37	24.93
80	.12	.20	.34	.64	1.15	1.90	3.01	4.77	8.01	12.79	19.24
85	.07	.11	.20	.37	.69	1.17	1.88	3.00	5.24	8.76	13.83
90	.04	.06	.11	.21	.40	.69	1.12	1.80	3.24	5.66	9.34
95	.02	.03	.05	.10	.20	.36	.60	.94	1.74	3.17	5.45
100	.01	.02	.02	.05	.09	.17	.28	.44	.83	1.56	2.78

FACTORS ARE INTERPOLATED FOR INTERMEDIATE AGE COMBINATIONS.

* AGE SHALL BE CONSIDERED TO BE THE AGE ON THE BIRTHDAY NEAREST TO THE PARTICIPANT'S BENEFIT COMMENCEMENT DATE.

APPENDIX C

SPOUSE BENEFIT COVERAGE FACTORS

PERCENTAGE REDUCTION IN MONTHLY AMOUNT OF PARTICIPANT'S PENSION TO PROVIDE A SPOUSE WITH A MONTHLY LIFE ANNUITY COMMENCING UPON THE DEATH OF THE PARTICIPANT AND EQUAL TO 50% OF PARTICIPANT'S REDUCED PENSION

Interest Rate: 7.0%
Age of Participant *

AGE OF NAMED SURVIVOR *	30	35	40	45	50	55	60	65	70	75	80
0	3.36	4.64	6.38	8.74	11.74	15.39	19.75	25.08	31.98	39.73	47.90
5	3.26	4.52	6.26	8.61	11.61	15.25	19.61	24.94	31.84	39.59	47.78
10	3.13	4.38	6.11	8.45	11.44	15.08	19.44	24.76	31.68	39.43	47.63
15	2.96	4.20	5.90	8.23	11.21	14.84	19.20	24.52	31.44	39.21	47.42
20	2.76	3.97	5.65	7.95	10.91	14.53	18.88	24.20	31.12	38.91	47.14
25	2.53	3.69	5.32	7.59	10.52	14.12	18.45	23.77	30.70	30.50	46.77
30	2.26	3.35	4.93	7.14	10.03	13.58	17.88	23.19	30.12	37.94	46.25
35	1.97	2.98	4.47	6.59	9.40	12.89	17.14	22.42	29.35	37.19	45.55
40	1.67	2.57	3.95	5.95	8.64	12.02	16.19	21.41	28.32	36.18	44.59
45	1.37	2.16	3.38	5.21	7.73	10.97	15.01	20.12	26.97	34.83	43.29
50	1.09	1.74	2.79	4.42	6.71	9.72	13.56	18.51	25.24	33.07	41.57
55	.84	1.36	2.23	3.62	5.64	8.35	11.91	16.61	23.16	30.90	39.43
60	.63	1.03	1.72	2.86	4.58	6.93	10.11	14.45	20.72	28.30	36.82
65	.45	.74	1.26	2.15	3.53	5.47	8.16	11.99	17.77	25.02	33.40
70	.31	.50	.86	1.53	2.57	4.07	6.20	9.35	14.40	21.04	29.04
75	.20	.32	.56	1.02	1.77	2.86	4.43	6.84	10.98	16.73	24.02
80	.13	.20	.35	.64	1.15	1.89	2.98	4.67	7.81	12.44	18.68
85	.08	.12	.20	.38	.70	1.18	1.89	2.98	5.17	8.61	13.53
90	05	.07	.11	.22	.41	.71	1.15	1.81	3.24	5.63	9.23
95	.02	.04	.06	.11	.21	.37	.62	.97	1.77	3.19	5.45
100	.01	.02	.03	.05	.10	.18	.30	.46	.85	1.59	2.80

Interest Rate: 8.0%
Age of Participant *

AGE OF NAMED SURVIVOR *	30	35	40	45	50	55	60	65	70	75	80
0	2.58	3.63	5.12	7.18	9.87	13.18	17.20	22.19	28.81	36.37	44.50
5	2.51	3.56	5.04	7.10	9.79	13.09	17.11	22.09	28.71	36.27	44.41
10	2.43	3.47	4.94	7.00	9.68	12.98	16.99	21.97	28.59	36.16	44.30
15	2.33	3.35	4.81	6.85	9.52	12.82	16.82	21.80	28.43	36.00	44.15
20	2.20	3.20	4.64	6.66	9.31	12.59	16.59	21.57	28.19	35.76	43.94
25	2.04	3.01	4.41	6.41	9.03	12.29	16.28	21.25	27.87	35.46	43.65
30	1.85	2.77	4.13	6.08	8.66	11.89	15.85	20.80	27.43	35.03	43.23
35	1.64	2.50	3.79	5.67	8.19	11.36	15.27	20.20	26.81	34.42	42.66
40	1.42	2.20	3.40	5.18	7.60	10.68	14.52	19.38	25.96	33.58	41.85
45	1.19	1.87	2.95	4.60	6.88	9.83	13.55	18.32	24.84	32.43	40.73
50	.97	1.55	2.49	3.96	6.06	8.81	12.35	16.96	23.36	30.91	39.22
55	.77	1.23	2.02	3.30	5.16	7.67	10.95	15.34	21.56	29.00	37.31
60	.59	.95	1.59	2.66	4.26	6.45	9.41	13.47	19.42	26.71	34.98
65	.43	.70	1.19	2.04	3.34	5.17	7.70	11.29	16.79	23.75	31.87
70	.30	.49	.83	1.47	2.47	3.91	5.93	8.91	13.73	20.11	27.84
75	.20	.32	.55	1.00	1.73	2.79	4.31	6.60	10.58	16.12	23.17
80	.13	.20	.35	.64	1.14	1.88	2.94	4.57	7.61	12.10	18.14
85	.08	.12	.21	.39	.71	1.19	1.89	2.96	5.10	8.46	13.25
90	.05	.07	.12	.23	.42	.73	1.17	1.83	3.24	5.59	9.12
95	.03	.04	.06	.12	.22	.39	.63	.99	1.79	3.21	5.44
100	.01	.02	.03	.05	.10	.18	.31	.47	.87	1.61	2.83

FACTORS ARE INTERPOLATED FOR INTERMEDIATE AGE COMBINATIONS.

* AGE SHALL BE CONSIDERED TO BE THE AGE ON THE BIRTHDAY NEAREST TO THE PARTICIPANT'S BENEFIT COMMENCEMENT DATE.

APPENDIX C

SPOUSE BENEFIT COVERAGE FACTORS

PERCENTAGE REDUCTION IN MONTHLY AMOUNT OF PARTICIPANT'S PENSION TO PROVIDE A SPOUSE WITH A MONTHLY LIFE ANNUITY COMMENCING UPON THE DEATH OF THE PARTICIPANT AND EQUAL TO 50% OF PARTICIPANT'S REDUCED PENSION

Interest Rate: 9.0%
Age of Participant *

AGE OF NAMED SURVIVOR *	30	35	40	45	50	55	60	65	70	75	80
0	2.01	2.89	4.17	5.99	8.40	11.42	15.12	19.78	26.11	33.47	41.49
5	1.97	2.85	4.12	5.93	8.35	11.35	15.05	19.71	26.04	33.39	41.42
10	1.92	2.79	4.05	5.87	8.27	11.28	14.97	19.63	25.96	33.32	41.35
15	1.85	2.71	3.97	5.77	8.17	11.16	14.86	19.51	25.84	33.20	41.23
20	1.77	2.61	3.85	5.63	8.02	11.01	14.69	19.34	25.67	33.03	41.07
25	1.66	2.48	3.69	5.45	7.82	10.79	14.46	19.10	25.42	32.79	40.84
30	1.53	2.31	3.49	5.22	7.54	10.49	14.13	18.75	25.07	32.44	40.51
35	1.38	2.11	3.24	4.91	7.19	10.08	13.68	18.28	24.58	31.95	40.04
40	1.21	1.89	2.94	4.53	6.73	9.54	13.08	17.62	23.89	31.25	39.36
45	1.04	1.64	2.60	4.08	6.16	8.86	12.29	16.74	22.94	30.27	35.39
50	.86	1.38	2.22	3.56	5.48	8.02	11.29	15.59	21.67	28.94	37.06
55	.70	1.12	1.84	3.02	4.74	7.05	10.10	14.20	20.11	27.27	35.36
60	.55	.88	1.47	2.47	3.96	6.02	8.78	12.58	18.24	25.24	33.27
65	.41	.66	1.12	1.93	3.16	4.89	7.27	10.65	15.89	22.57	30.44
70	.29	.47	.80	1.42	2.38	3.75	5.67	8.50	13.11	19.24	26.72
75	.20	.32	.54	.98	1.70	2.72	4.18	6.38	10.20	15.54	22.36
80	.13	.20	.35	.64	1.14	1.86	2.89	4.48	7.42	11.77	17.62
85	.08	.12	.21	.40	.72	1.20	1.89	2.94	5.03	8.31	12.97
90	.05	.07	.12	.23	.44	.74	1.18	1.84	3.24	5.55	9.01
95	.03	.04	.06	.12	.23	.40	.65	1.00	1.81	3.22	5.43
100	.01	.02	.03	.06	.11	.19	.32	.49	.89	1.64	2.85

Interest Rate: 10.0%
Age of Participant *

AGE OF NAMED SURVIVOR *	30	35	40	45	50	55	60	65	70	75	80
0	1.60	2.34	3.44	5.06	7.24	9.99	13.40	17.76	23.81	30.94	38.82
5	1.57	2.31	3.41	5.02	7.20	9.94	13.36	17.71	23.76	30.88	38.77
10	1.54	2.27	3.37	4.98	7.15	9.89	13.30	17.66	23.70	30.83	38.72
15	1.50	2.22	3.31	4.91	7.07	9.81	13.22	17.57	23.61	30.74	38.63
20	1.44	2.15	3.23	4.82	6.97	9.70	13.10	17.44	23.48	30.61	38.50
25	1.37	2.06	3.12	4.69	6.82	9.54	12.92	17.26	23.29	30.42	38.32
30	1.28	1.94	2.97	4.51	6.62	9.31	12.67	16.99	23.02	30.15	38.06
35	1.17	1.80	2.79	4.28	6.35	8.99	12.32	16.61	22.62	29.74	37.67
40	1.05	1.63	2.56	3.99	5.99	8.57	11.84	16.08	22.05	29.16	37.09
45	.91	1.44	2.29	3.63	5.53	8.01	11.19	15.34	21.25	28.32	36.25
50	.77	1.23	1.99	3.21	4.98	7.32	10.35	14.37	20.16	27.17	35.08
55	.64	1.02	1.68	2.76	4.36	6.51	9.35	13.18	18.80	25.69	33.56
60	.51	.82	1.36	2.30	3.70	5.62	8.20	11.77	17.16	23.89	31.69
65	.39	.62	1.06	1.82	2.99	4.63	6.87	10.06	15.06	21.48	29.11
70	.28	.45	.77	1.36	2.29	3.60	5.43	8.11	12.53	18.43	25.67
75	.20	.31	.53	.96	1.66	2.65	4.06	6.16	9.84	15.00	21.60
80	.13	.20	.35	.64	1.13	1.84	2.85	4.38	7.24	11.46	17.13
85	.09	.13	.21	.40	.72	1.20	1.88	2.91	4.96	8.17	12.70
90	.05	.08	.13	.24	.44	.75	1.19	1.84	3.23	5.51	8.90
95	.03	.04	.07	.13	.24	.41	.67	1.02	1.82	3.23	5.41
100	.01	.02	.03	.06	.11	.20	.33	.50	.91	1.66	2.87

FACTORS ARE INTERPOLATED FOR INTERMEDIATE AGE COMBINATIONS.

* AGE SHALL BE CONSIDERED TO BE THE AGE ON THE BIRTHDAY NEAREST TO THE PARTICIPANT'S BENEFIT COMMENCEMENT DATE.

APPENDIX C

SPOUSE BENEFIT COVERAGE FACTORS

PERCENTAGE REDUCTION IN MONTHLY AMOUNT OF PARTICIPANT'S PENSION TO PROVIDE A SPOUSE WITH A MONTHLY LIFE ANNUITY COMMENCING UPON THE DEATH OF THE PARTICIPANT AND EQUAL TO 50% OF PARTICIPANT'S REDUCED PENSION

Interest Rate: 11.0%
Age of Participant *

AGE OF NAMED SURVIVOR *	30	35	40	45	50	55	60	65	70	75	80
0	1.30	1.92	2.88	4.32	6.30	8.82	11.98	16.06	21.83	28.73	36.45
5	1.28	1.91	2.86	4.30	6.27	8.79	11.95	16.02	21.79	28.69	36.41
10	1.26	1.88	2.84	4.27	6.24	8.76	11.91	15.98	21.75	28.64	36.37
15	1.23	1.85	2.80	4.22	6.19	8.70	11.8S	15.92	21.68	28.58	36.30
20	1.19	1.80	2.74	4.16	6.11	8.62	11.76	15.82	21.58	28.48	36.20
25	1.14	1.74	2.66	4.06	6.01	8.49	11.63	15.68	21.44	28.33	36.06
30	1.08	1.65	2.55	3.93	5.85	8.32	11.43	15.47	21.22	28.11	35.84
35	1.00	1.55	2.42	3.76	5.64	8.07	11.15	15.17	20.89	27.78	35.52
40	.91	1.42	2.24	3.53	5.36	7.74	10.76	14.73	20.42	27.28	35.03
45	.80	1.27	2.03	3.25	4.99	7.28	10.23	14.12	19.74	26.56	34.30
50	.69	1.10	1.79	2.91	4.54	6.71	9.53	13.29	18.80	25.55	33.25
55	.58	.93	1.53	2.53	4.02	6.02	8.67	12.26	17.62	24.25	31.90
60	.47	.76	1.27	2.14	3.45	5.26	7.68	11.04	16.17	22.65	30.22
65	.37	.59	1.00	1.72	2.84	4.39	6.50	9.51	14.29	20.48	27.86
70	.28	.43	.74	1.31	2.20	3.46	5.21	7.75	11.99	17.67	24.69
75	.20	.30	.52	.94	1.62	2.58	3.94	5.95	9.50	14.49	20.88
80	.13	.20	.34	.63	1.12	1.82	2.80	4.28	7.06	11.15	16.67
85	.09	.13	.21	.40	.73	1.20	1.88	2.88	4.89	8.02	12.44
90	.05	.08	.13	.24	.45	.76	1.21	1.85	3.22	5.47	8.79
95	.03	.04	.07	.13	.25	.42	.68	1.03	1.84	3.24	5.40
100	.01	.02	.03	.06	.12	.21	.34	.51	.92	1.68	2.89

Interest Rate: 12.0%
Age of Participant *

AGE OF NAMED SURVIVOR *	30	35	40	45	50	55	60	65	70	75	80
0	1.07	1.61	2.45	3.74	5.54	7.86	10.79	14.61	20.12	26.79	34.34
5	1.06	1.59	2.44	3.73	5.52	7.84	10.77	14.58	20.09	26.75	34.30
10	1.05	1.58	2.42	3.70	5.50	7.81	10.74	14.55	20.06	26.72	34.27
15	1.03	1.56	2.39	3.67	5.46	7.77	10.69	14.51	20.00	26.67	34.22
20	1.00	1.52	2.35	3.62	5.41	7.71	10.63	14.43	19.93	26.59	34.14
25	.96	1.48	2.29	3.56	5.33	7.62	10.52	14.32	19.81	26.47	34.02
30	.92	1.42	2.21	3.46	5.21	7.49	10.37	14.16	19.64	26.29	33.84
35	.86	1.34	2.11	3.33	5.05	7.29	10.15	13.91	19.37	26.02	33.57
40	.79	1.24	1.98	3.15	4.83	7.02	9.83	13.55	18.97	25.60	33.15
45	.71	1.12	1.81	2.92	4.53	6.65	9.39	13.03	18.39	24.98	32.51
50	.62	.99	1.61	2.64	4.15	6.17	8.00	12.33	17.58	24.09	31.58
55	.53	.85	1.40	2.33	3.72	5.59	8.06	11.44	16.55	22.94	30.37
60	.44	.70	1.17	1.99	3.23	4.93	7.21	10.37	15.27	21.51	28.85
65	.35	.56	.94	1.63	2.69	4.16	6.17	9.01	13.58	19.54	26.71
70	.27	.42	.71	1.25	2.12	3.33	4.99	7.41	11.48	16.97	23.76
75	.19	.30	.51	.91	1.58	2.52	3.82	5.75	9.18	14.00	20.21
80	.13	.20	.34	.62	1.10	1.79	2.75	4.19	6.88	10.87	16.22
85	.09	.13	.22	.40	.73	1.20	1.87	2.85	4.82	7.88	12.19
90	.06	.08	.13	.25	.46	.77	1.21	1.85	3.20	5.42	8.69
95	.03	.04	.07	.13	.25	.43	.69	1.05	1.85	3.24	5.38
100	.02	.02	.03	.06	.12	.22	.35	.53	.94	1.70	2.90

FACTORS ARE INTERPOLATED FOR INTERMEDIATE AGE COMBINATIONS.

* AGE SHALL BE CONSIDERED TO BE THE AGE ON THE BIRTHDAY NEAREST TO THE PARTICIPANT'S BENEFIT COMMENCEMENT DATE.

APPENDIX C

SPOUSE BENEFIT COVERAGE FACTORS

PERCENTAGE REDUCTION IN MONTHLY AMOUNT OF PARTICIPANT'S PENSION TO PROVIDE A SPOUSE WITH A MONTHLY LIFE ANNUITY COMMENCING UPON THE DEATH OF THE PARTICIPANT AND EQUAL TO 50% OF PARTICIPANT'S REDUCED PENSION

Interest Rate: 13.0%
Age of Participant *

AGE OF NAMED SURVIVOR *	30	35	40	45	50	55	60	65	70	75	80
0	.90	1.36	2.11	3.27	4.92	7.07	9.79	13.37	18.63	25.07	32.44
5	.89	1.35	2.10	3.26	4.91	7.05	9.77	13.35	18.60	25.04	32.40
10	.88	1.34	2.08	3.25	4.89	7.03	9.75	13.33	18.58	25.02	32.38
15	.87	1.33	2.06	3.22	4.87	7.00	9.71	13.29	18.54	24.97	32.34
20	.85	1.30	2.04	3.19	4.82	6.95	9.66	13.23	18.48	24.91	32.27
25	.83	1.27	1.99	3.14	4.76	6.88	9.58	13.15	18.38	24.81	32.18
30	.79	1.23	1.94	3.07	4.68	6.78	9.46	13.01	18.24	24.67	32.03
35	.75	1.17	1.86	2.96	4.55	6.62	9.29	12.81	18.02	24.44	31.80
40	.70	1.09	1.75	2.82	4.37	6.40	9.02	12.51	17.69	24.08	31.44
45	.64	1.00	1.62	2.64	4.13	6.10	8.66	12.08	17.19	23.54	30.88
50	.56	.89	1.46	2.41	3.82	5.70	8.15	11.47	16.49	22.76	30.05
55	.49	.78	1.28	2.15	3.45	5.20	7.52	10.70	15.57	21.73	28.95
60	.41	.65	1.09	1.86	3.03	4.63	6.78	9.76	14.45	20.46	27.59
65	.33	.53	.89	1.54	2.55	3.95	5.85	8.55	12.93	18.66	25.63
70	.26	.40	.68	1.20	2.03	3.20	4.79	7.10	11.01	16.31	22.90
75	.19	.29	.49	.89	1.53	2.45	3.71	5.57	8.88	13.55	19.56
80	.13	.20	.34	.62	1.09	1.77	2.70	4.09	6.71	10.59	15.00
85	.09	.13	.22	.40	.73	1.20	1.86	2.82	4.75	7.74	11.95
90	.06	.08	.13	.25	.46	.78	1.22	1.85	3.19	5.38	8.58
95	.03	.05	.07	.14	.26	.44	.70	1.06	1.86	3.25	5.36
100	.02	.02	.04	.07	.13	.22	.36	.54	.96	1.72	2.92

Interest Rate: 14.0%
Age of Participant *

AGE OF NAMED SURVIVOR *	30	35	40	45	50	55	60	65	70	75	80
0	.76	1.17	1.83	2.89	4.41	6.40	8.93	12.30	17.32	23.54	30.72
5	.76	1.16	1.82	2.88	4.40	6.38	8.92	12.28	17.30	23.52	30.70
10	.75	1.16	1.82	2.87	4.39	6.37	8.90	12.26	17.28	23.50	30.68
15	.75	1.14	1.80	2.86	4.37	6.34	8.88	12.23	17.25	23.46	30.64
20	.73	1.13	1.78	2.83	4.34	6.31	8.84	12.19	17.20	23.41	30.59
25	.71	1.11	1.75	2.79	4.29	6.26	8.77	12.12	17.13	23.33	30.51
30	.69	1.07	1.71	2.74	4.22	6.17	8.68	12.01	17.01	23.21	30.39
35	.66	1.03	1.65	2.66	4.12	6.05	8.53	11.85	16.83	23.02	30.19
40	.62	.97	1.57	2.55	3.98	5.87	8.32	11.60	16.54	22.71	29.87
45	.57	.90	1.46	2.40	3.78	5.62	8.01	11.23	16.11	22.24	29.38
50	.51	.81	1.33	2.21	3.52	5.28	7.58	10.70	15.50	21.55	28.64
55	.45	.71	1.18	1.99	3.21	4.85	7.04	10.03	14.69	20.63	27.65
60	.39	.61	1.02	1.74	2.85	4.36	6.39	9.21	13.69	19.49	26.42
65	.32	.50	.84	1.46	2.43	3.76	5.57	8.13	12.33	17.87	24.62
70	.25	.39	.65	1.15	1.96	3.07	4.60	6.80	10.57	15.69	22.08
75	.19	.28	.48	.86	1.49	2.38	3.60	5.38	8.59	13.11	18.96
80	.13	.20	.33	.61	1.07	1.74	2.66	4.00	6.55	10.32	15.39
85	.09	.13	.22	.40	.72	1.19	1.84	2.78	4.67	7.61	11.72
90	.06	.08	.13	.25	.47	.78	1.22	1.84	3.17	5.33	8.47
95	.03	.05	.07	.14	.26	.45	.71	1.07	1.87	3.25	5.33
100	.02	.02	.04	.07	.13	.23	.37	.55	.97	1.73	2.93

FACTORS ARE INTERPOLATED FOR INTERMEDIATE AGE COMBINATIONS.

* AGE SHALL BE CONSIDERED TO BE THE AGE ON THE BIRTHDAY NEAREST TO THE PARTICIPANT'S BENEFIT COMMENCEMENT DATE.

APPENDIX C

SPOUSE BENEFIT COVERAGE FACTORS

PERCENTAGE REDUCTION IN MONTHLY AMOUNT OF PARTICIPANT'S PENSION TO PROVIDE A SPOUSE WITH A MONTHLY LIFE ANNUITY COMMENCING UPON THE DEATH OF THE PARTICIPANT AND EQUAL TO 50% OF PARTICIPANT'S REDUCED PENSION

Interest Rate: 15.0%
Age of Participant *

AGE OF NAMED SURVIVOR *	30	35	40	45	50	55	60	65	70	75	80
0	.66	1.02	1.61	2.58	3.98	5.83	8.20	11.37	16.17	22.18	29.18
5	.66	1.01	1.60	2.57	3.97	5.82	8.19	11.35	16.15	22.16	29.15
10	.65	1.01	1.60	2.56	3.96	5.81	8.18	11.34	16.14	22.14	29.14
15	.65	1.00	1.59	2.55	3.95	5.79	8.16	11.28	16.07	22.07	29.06
20	.64	.99	1.57	2.53	3.93	5.76	8.12	11.28	16.07	22.07	29.06
25	.63	.97	1.55	2.50	3.89	5.72	8.08	11.22	16.01	22.01	28.99
30	.61	.95	1.52	2.46	3.84	5.65	8.00	11.14	15.91	21.90	28.89
35	.59	.91	1.47	2.40	3.76	5.56	7.88	11.00	15.76	21.74	28.72
40	.55	.87	1.41	2.31	3.64	5.41	7.70	10.79	15.52	21.47	28.45
45	.52	.81	1.32	2.19	3.48	5.20	7.44	10.47	15.15	21.06	28.01
50	.47	.74	1.21	2.03	3.26	4.91	7.07	10.02	14.60	20.44	27.34
55	.42	.66	1.09	1.85	2.99	4.54	6.60	9.43	13.89	19.62	26.44
60	..36	.57	.95	1.63	2.68	4.12	6.03	8.70	13.00	18.60	25.33
65	.30	.47	.79	1.38	2.31	3.58	5.30	7.74	11.77	17.13	23.68
70	.24	.37	.62	1.11	1.88	2.96	4.42	6.53	10.15	15.11	21.32
75	.18	.28	.46	.84	1.45	2.32	3.50	5.21	8.31	12.70	18.38
80	.13	.20	.33	.60	1.06	1.71	2.61	3.91	6.39	10.07	15.01
85	.09	.13	.21	.40	.72	1.19	1.83	2.75	4.60	7.47	11.49
90	.06	.08	.14	.25	.47	.79	1.23	1.84	3.15	5.28	8.37
95	.03	.05	.08	.14	.27	.46	.72	1.08	1.88	3.25	5.31
100	.02	.02	.04	.07	.14	.23	.38	.56	.98	1.75	2.94

FACTORS ARE INTERPOLATED FOR INTERMEDIATE AGE COMBINATIONS.

* AGE SHALL BE CONSIDERED TO BE THE AGE ON THE BIRTHDAY NEAREST TO THE PARTICIPANT'S BENEFIT COMMENCEMENT DATE.

APPENDIX D

JOINT AND SURVIVOR OPTION FACTORS

PERCENTAGE REDUCTION IN MONTHLY AMOUNT OF PARTICIPANT'S PENSION TO PROVIDE A NAMED SURVIVOR WITH A MONTHLY LIFE ANNUITY COMMENCING UPON THE DEATH OF THE PARTICIPANT AND EQUAL TO 10% OF PARTICIPANT'S PENSION OTHERWISE PAYABLE

Interest Rate: 5.0%
Age of Participant *

AGE OF NAMED SURVIVOR *	30	35	40	45	50	55	60	65	70	75	80
0	1.28	1.72	2.31	3.11	4.17	5.54	7.33	9.78	13.46	18.58	25.65
5	1.22	1.65	2.23	3.03	4.08	5.43	7.21	9.64	13.29	18.37	25.39
10	1.14	1.56	2.14	2.92	3.96	5.30	7.06	9.47	13.09	18.13	25.09
15	1.05	1.46	2.02	2.79	3.82	5.14	6.88	9.26	12.84	17.81	24.69
20	.95	1.34	1.89	2.64	3.64	4.94	6.65	8.99	12.52	17.42	24.21
25	.83	1.21	1.73	2.45	3.43	4.70	6.37	8.67	12.13	16.94	23.60
30	.71	1.06	1.55	2.24	3.18	4.41	6.03	8.27	11.64	16.34	22.85
35	.59	.90	1.35	2.00	2.88	4.06	5.62	7.78	11.04	15.60	21.91
40	.48	.74	1.14	1.73	2.55	3.66	5.14	7.19	10.32	14.70	20.76
45	.37	.59	.93	1.45	2.19	3.21	4.58	6.51	9.46	13.61	19.37
50	.28	.45	.73	1.17	1.82	2.72	3.96	5.73	8.47	12.33	17.73
55	.20	.34	.56	.91	1.45	2.22	3.31	4.89	7.38	10.92	15.89
60	.14	.24	.41	.69	1.12	1.75	2.66	4.03	6.23	9.42	13.92
65	.10	.16	.28	.49	.82	1.31	2.03	3.15	5.01	7.76	11.70
70	.06	.11	.19	.33	.57	.92	1.46	2.30	3.78	6.03	9.32
75	.04	.06	.11	.21	.37	.61	.98	1.59	2.69	4.42	7.02
80	.02	.04	.07	.13	.23	.39	.63	1.02	1.79	3.04	4.97
85	.01	.02	.04	.07	.14	.23	.38	.62	1.12	1.96	3.30
90	.01	.01	.02	.04	.08	.13	.22	.36	.67	1.21	2.09
95	.00	.01	.01	.02	.04	.07	.12	.19	.35	.65	1.16
100	.00	.00	.00	.01	.02	.03	.05	.09	.16	.31	.57

Interest Rate: 6.0%
Age of Participant *

AGE OF NAMED SURVIVOR *	30	35	40	45	50	55	60	65	70	75	80
0	.94	1.28	1.76	2.42	3.30	4.44	5.95	8.01	11.14	15.50	21.51
5	.90	1.24	1.71	2.37	3.24	4.38	5.87	7.93	11.04	15.38	21.36
10	.85	1.19	1.65	2.30	3.17	4.30	5.79	7.83	10.92	15.23	21.18
15	.79	1.12	1.58	2.22	3.08	4.20	5.67	7.70	10.77	15.04	20.94
20	.73	1.05	1.49	2.12	2.97	4.07	5.52	7.53	10.56	14.79	20.63
25	.65	.96	1.39	2.00	2.82	3.91	5.34	7.31	10.30	14.47	20.24
30	.57	.85	1.26	1.85	2.65	3.70	5.10	7.03	9.96	14.06	19.72
35	.49	.74	1.12	1.67	2.44	3.45	4.80	6.67	9.53	13.53	19.06
40	.40	.63	.97	1.48	2.19	3.15	4.44	6.24	9.00	12.86	18.21
45	.32	.51	.81	1.26	1.91	2.80	4.01	5.71	8.34	12.03	17.15
50	.25	.40	.65	1.04	1.62	2.42	3.52	5.09	7.55	11.02	15.85
55	.19	.30	.50	.83	1.32	2.01	2.99	4.41	6.66	9.87	14.37
60	.14	.22	.38	.64	1.04	1.61	2.45	3.69	5.70	8.62	12.73
65	.09	.16	.27	.47	.77	1.23	1.90	2.93	4.65	7.20	10.84
70	.06	.10	.18	.32	.55	.88	1.39	2.18	3.57	5.67	8.74
75	.04	.07	.11	.21	.37	.60	.96	1.53	2.58	4.22	6.67
80	.02	.04	.07	.13	.23	.39	.62	1.00	1.74	2.94	4.78
85	.01	.02	.04	.08	.14	.24	.38	.62	1.11	1.92	3.22
90	.01	.01	.02	.04	.08	.14	.23	.37	.67	1.20	2.06
95	.00	.01	.01	.02	.04	.07	.12	.19	.35	.66	1.15
100	.00	.00	.00	.01	.02	.03	.06	.09	.17	.32	.57

FACTORS ARE INTERPOLATED FOR INTERMEDIATE AGE COMBINATIONS.

* AGE SHALL BE CONSIDERED TO BE THE AGE ON THE BIRTHDAY NEAREST TO THE PARTICIPANT'S BENEFIT COMMENCEMENT DATE.

APPENDIX D

JOINT AND SURVIVOR OPTION FACTORS

PERCENTAGE REDUCTION IN MONTHLY AMOUNT OF PARTICIPANT'S PENSION TO PROVIDE A NAMED SURVIVOR WITH A MONTHLY LIFE ANNUITY COMMENCING UPON THE DEATH OF THE PARTICIPANT AND EQUAL TO 10% OF PARTICIPANT'S PENSION OTHERWISE PAYABLE

Interest Rate: 7.0%
Age of Participant *

AGE OF NAMED SURVIVOR *	30	35	40	45	50	55	60	65	70	75	80
0	.70	.97	1.36	1.92	2.66	3.64	4.93	6.70	9.42	13.21	18.43
5	.67	.95	1.34	1.89	2.63	3.60	4.88	6.65	9.36	13.13	18.34
10	.65	.92	1.30	1.85	2.59	3.55	4.83	6.59	9.29	13.04	18.23
15	.61	.88	1.26	1.79	2.53	3.49	4.76	6.51	9.19	12.92	18.08
20	.57	.83	1.20	1.73	2.45	3.40	4.66	6.39	9.05	12.76	17.88
25	.52	.77	1.13	1.64	2.35	3.29	4.53	6.24	8.87	12.54	17.61
30	.46	.69	1.04	1.54	2.23	3.15	4.36	6.05	8.64	12.25	17.25
35	.40	.61	.94	1.41	2.08	2.96	4.14	5.79	8.32	11.87	16.77
40	.34	.53	.82	1.27	1.89	2.74	3.87	5.46	7.92	11.37	16.14
45	.28	.44	.70	1.10	1.68	2.47	3.54	5.05	7.40	10.72	15.31
50	.22	.35	.57	.93	1.44	2.16	3.14	4.55	6.77	9.91	14.28
55	.17	.28	.46	.75	1.20	1.83	2.71	3.99	6.04	8.97	13.06
60	.13	.21	.35	.59	.96	1.49	2.25	3.39	5.24	7.92	11.70
65	.09	.15	.25	.44	.73	1.16	1.78	2.73	4.33	6.70	10.07
70	.06	.10	.17	.31	.53	.85	1.32	2.07	3.37	5.35	8.22
75	.04	.06	.11	.21	.36	.59	.93	1.47	2.47	4.03	6.35
80	.03	.04	.07	.13	.23	.39	.61	.98	1.70	2.85	4.61
85	.02	.02	.04	.08	.14	.24	.38	.62	1.09	1.89	3.14
90	.01	.01	.02	.04	.08	.14	.23	.37	.67	1.19	2.04
95	.00	.01	.01	.02	.04	.08	.12	.19	.36	.66	1.15
100	.00	.00	.01	.01	.02	.04	.06	.09	.17	.32	.58

Interest Rate: 8.0%
Age of Participant *

AGE OF NAMED SURVIVOR *	30	35	40	45	50	55	60	65	70	75	80
0	.53	.75	1.08	1.55	2.19	3.04	4.16	5.71	8.10	11.45	16.07
5	.52	.74	1.06	1.53	2.17	3.01	4.13	5.68	8.07	11.40	16.01
10	.50	.72	1.04	1.51	2.14	2.98	4.10	5.64	8.02	11.35	15.94
15	.48	.69	1.01	1.47	2.11	2.94	4.05	5.58	7.95	11.27	15.84
20	.45	.66	.97	1.43	2.05	2.88	3.98	5.51	7.86	11.16	15.71
25	.42	.62	.92	1.37	1.99	2.81	3.89	5.40	7.74	11.01	15.52
30	.38	.57	.86	1.30	1.90	2.70	3.77	5.26	7.57	10.80	15.27
35	.33	.51	.79	1.20	1.79	2.57	3.61	5.07	7.34	10.52	14.91
40	.29	.45	.70	1.09	1.65	2.39	3.40	4.82	7.03	10.13	14.43
45	.24	.38	.61	.96	1.48	2.18	3.14	4.49	6.62	9.62	13.78
50	.20	.31	.51	.83	1.29	1.93	2.82	4.09	6.11	8.97	12.94
55	.15	.25	.41	.68	1.09	1.66	2.46	3.63	5.51	8.19	11.94
60	.12	.19	.32	.55	.89	1.38	2.08	3.12	4.83	7.31	10.80
65	.09	.14	.24	.42	.69	1.09	1.67	2.55	4.04	6.25	9.39
70	.06	.10	.17	.30	.51	.81	1.26	1.96	3.19	5.05	7.75
75	.04	.06	.11	.20	.35	.57	.90	1.42	2.37	3.85	6.05
80	.03	.04	.07	.13	.23	.38	.61	.96	1.65	2.76	4.44
85	.02	.02	.04	.08	.14	.24	.39	.61	1.08	1.85	3.06
90	.01	.01	.02	.05	.09	.15	.24	.37	.67	1.19	2.01
95	.01	.01	.01	.02	.04	.08	.13	.20	.36	.66	1.15
100	.00	.00	.01	.01	.02	.04	.06	.10	.18	.33	.58

FACTORS ARE INTERPOLATED FOR INTERMEDIATE AGE COMBINATIONS.

* AGE SHALL BE CONSIDERED TO BE THE AGE ON THE BIRTHDAY NEAREST TO THE PARTICIPANT'S BENEFIT COMMENCEMENT DATE.

APPENDIX D

JOINT AND SURVIVOR OPTION FACTORS

PERCENTAGE REDUCTION IN MONTHLY AMOUNT OF PARTICIPANT'S PENSION TO PROVIDE A NAMED SURVIVOR WITH A MONTHLY LIFE ANNUITY COMMENCING UPON THE DEATH OF THE PARTICIPANT AND EQUAL TO 10% OF PARTICIPANT'S PENSION OTHERWISE PAYABLE

Interest Rate: 9.0%
Age of Participant *

AGE OF NAMED SURVIVOR *	30	35	40	45	50	55	60	65	70	75	80
0	.41	.60	.87	1.27	1.84	2.58	3.56	4.94	7.08	10.08	14.21
5	.40	.59	.86	1.26	1.82	2.56	3.55	4.91	7.05	10.04	14.17
10	.39	.57	.85	1.25	1.80	2.54	3.52	4.89	7.02	10.01	14.12
15	.38	.56	.83	1.22	1.78	2.52	3.49	4.85	6.98	9.95	14.06
20	.36	.54	.80	1.19	1.74	2.48	3.45	4.80	6.92	9.83	13.97
25	.34	.51	.77	1.15	1.70	2.42	3.38	4.73	6.83	9.77	13.83
30	.31	.47	.72	1.10	1.63	2.34	3.29	4.62	6.70	9.62	13.65
35	.28	.43	.67	1.03	1.55	2.24	3.17	4.48	6.53	9.41	13.30
40	.25	.38	.61	.95	1.44	2.11	3.01	4.28	6.29	9.11	13.01
45	.21	.33	.53	.85	1.31	1.95	2.80	4.03	5.96	8.70	12.42
50	.17	.28	.45	.74	1.16	1.74	2.55	3.70	5.54	8.17	11.81
55	.14	.23	.38	.62	1.00	1.52	2.25	3.31	5.04	7.52	10.97
60	.11	.18	.30	.51	.83	1.28	1.93	2.88	4.47	6.77	10.00
65	.08	.13	.23	.39	.65	1.03	1.57	2.39	3.79	5.85	8.78
70	.06	.09	.16	.29	.49	.78	1.20	1.86	3.02	4.78	7.32
75	.04	.06	.11	.20	.35	.56	.87	1.36	2.28	3.69	5.78
80	.03	.04	.07	.13	.23	.38	.60	.94	1.61	2.67	4.29
85	.02	.02	.04	.08	.14	.24	.38	.61	1.06	1.82	2.99
90	.01	.01	.02	.05	.09	.15	.24	.37	.67	1.18	1.95
95	.01	.01	.01	.02	.05	.08	.13	.20	.37	.67	1.15
100	.00	.00	.01	.01	.02	.04	.06	.10	.18	.33	.59

Interest Rate: 10.0%
Age of Participant *

AGE OF NAMED SURVIVOR *	30	35	40	45	50	55	60	65	70	75	80
0	.32	.48	.71	1.07	1.56	2.22	3.10	4.32	6.26	8.97	12.71
5	.32	.47	.71	1.06	1.55	2.21	3.09	4.31	6.24	8.95	12.69
10	.31	.47	.70	1.05	1.54	2.20	3.07	4.29	6.22	8.93	12.66
15	.30	.45	.68	1.03	1.52	2.18	3.05	4.27	6.19	8.89	12.61
20	.29	.44	.67	1.01	1.50	2.15	3.02	4.23	6.14	8.84	12.55
25	.28	.42	.64	.98	1.47	2.11	2.97	4.18	6.08	8.76	12.45
30	.26	.40	.61	.95	1.42	2.05	2.90	4.10	5.99	8.65	12.31
35	.24	.37	.57	.89	1.36	1.98	2.81	3.99	5.85	8.48	12.11
40	.21	.33	.53	.83	1.27	1.88	2.69	3.84	5.66	8.25	11.62
45	.18	.29	.47	.75	1.17	1.74	2.52	3.63	5.40	7.92	11.40
50	.16	.25	.41	.66	1.05	1.58	2.31	3.36	5.06	7.48	10.83
55	.13	.21	.34	.57	.91	1.39	2.06	3.04	4.64	6.93	10.13
60	.10	.16	.28	.47	.77	1.19	1.79	2.67	4.15	6.29	9.30
65	.08	.13	.21	.37	.62	.97	1.48	2.24	3.55	5.49	8.24
70	.06	.09	.16	.28	.47	.75	1.15	1.77	2.87	4.53	6.93
75	.04	.06	.11	.19	.34	.55	.85	1.31	2.19	3.54	5.53
80	.03	.04	.07	.13	.23	.38	.59	.92	1.56	2.59	4.15
85	.02	.03	.04	.08	.15	.24	.38	.60	1.05	1.78	2.92
90	.01	.02	.0?	.05	.09	.15	.24	.38	.67	1.17	1.96
95	.01	.01	.01	.03	.05	.08	.13	.21	.37	.67	1.15
100	.00	.00	.01	.01	.02	.04	.07	.10	.18	.34	.59

FACTORS ARE INTERPOLATED FOR INTERMEDIATE AGE COMBINATIONS.

* AGE SHALL BE CONSIDERED TO BE THE AGE ON THE BIRTHDAY NEAREST TO THE PARTICIPANT'S BENEFIT COMMENCEMENT DATE.

APPENDIX D

JOINT AND SURVIVOR OPTION FACTORS

PERCENTAGE REDUCTION IN MONTHLY AMOUNT OF PARTICIPANT'S PENSION TO PROVIDE A NAMED SURVIVOR WITH A MONTHLY LIFE ANNUITY COMMENCING UPON THE DEATH OF THE PARTICIPANT AND EQUAL TO 10% OF PARTICIPANT'S PENSION OTHERWISE PAYABLE

Interest Rate: 11.0%
Age of Participant *

AGE OF NAMED SURVIVOR *	30	35	40	45	50	55	60	65	70	75	80
0	.26	.39	.59	.90	1.35	1.94	2.72	3.83	5.59	8.07	11.49
5	.26	.39	.59	.90	1.34	1.93	2.72	3.82	5.58	8.06	11.47
10	.26	.38	.58	.89	1.33	1.92	2.71	3.81	5.57	8.04	11.45
15	.25	.38	.58	.88	1.32	1.91	2.69	3.79	5.54	8.01	11.42
20	.24	.37	.56	.87	1.30	1.89	2.67	3.76	5.51	7.97	11.37
25	.23	.35	.55	.85	1.28	1.86	2.63	3.72	5.46	7.92	11.30
30	.22	.34	.52	.82	1.24	1.82	2.58	3.66	5.39	7.83	11.19
35	.20	.31	.50	.78	1.20	1.76	2.51	3.58	5.29	7.70	11.04
40	.18	.29	.46	.73	1.13	1.68	2.41	3.46	5.14	7.52	10.80
45	.16	.26	.41	.67	1.05	1.57	2.28	3.29	4.93	7.25	10.46
50	.14	.22	.36	.60	.95	1.44	2.11	3.07	4.64	6.88	9.99
55	.12	.19	.31	.52	.84	1.28	1.90	2.80	4.28	6.42	9.39
60	.10	.15	.26	.44	.72	1.11	1.66	2.48	3.87	5.87	8.68
65	.07	.12	.20	.35	.58	.92	1.39	2.11	3.34	5.16	7.75
70	.06	.09	.15	.26	.45	.72	1.10	1.68	2.73	4.30	6.58
75	.04	.06	.10	.19	.33	.53	.82	1.27	2.10	3.40	5.30
80	.03	.04	.07	.13	.23	.37	.58	.90	1.52	2.52	4.01
85	.02	.03	.04	.08	.15	.24	.38	.59	1.03	1.75	2.85
90	.01	.02	.03	.05	.09	.15	.24	.38	.67	1.16	1.93
95	.01	.01	.01	.03	.05	.09	.14	.21	.37	.67	1.14
100	.00	.00	.01	.01	.02	.04	.07	.10	.19	.34	.59

Interest Rate: 12.0%
Age of Participant *

AGE OF NAMED SURVIVOR *	30	35	40	45	50	55	60	65	70	75	80
0	.22	.33	.50	.78	1.17	1.71	2.42	3.43	5.04	7.33	10.47
5	.21	.32	.50	.77	1.17	1.70	2.41	3.42	5.03	7.31	10.46
10	.21	.32	.50	.77	1.16	1.70	2.41	3.41	5.02	7.30	10.44
15	.21	.32	.49	.76	1.16	1.69	2.40	3.40	5.01	7.28	10.42
20	.20	.31	.48	.75	1.14	1.67	2.38	3.38	4.98	7.25	10.38
25	.19	.30	.47	.74	1.13	1.65	2.35	3.35	4.95	7.21	10.33
30	.19	.29	.45	.72	1.10	1.62	2.32	3.30	4.89	7.14	10.25
35	.17	.27	.43	.69	1.06	1.57	2.26	3.23	4.81	7.04	10.12
40	.16	.25	.40	.65	1.01	1.51	2.18	3.14	4.69	6.89	9.94
45	.14	.23	.37	.60	.95	1.43	2.07	3.00	4.51	6.67	9.65
50	.13	.20	.33	.54	.87	1.32	1.93	2.82	4.27	6.36	9.25
55	.11	.17	.28	.48	.77	1.18	1.76	2.59	3.97	5.96	8.74
60	.09	.14	.24	.41	.67	1.04	1.55	2.32	3.61	5.49	8.13
65	.07	.11	.19	.33	.55	.87	1.32	1.98	3.15	4.87	7.31
70	.05	.08	.14	.25	.43	.69	1.05	1.60	2.60	4.10	6.25
75	.04	.06	.10	.18	.32	.52	.80	1.22	2.02	3.26	5.08
80	.03	.04	.07	.13	.22	.37	.57	.87	1.48	2.44	3.83
85	.02	.03	.04	.08	.15	.24	.38	.59	1.01	1.71	2.78
90	.01	.02	.03	.05	.09	.16	.25	.38	.66	1.15	1.91
95	.01	.01	.01	.03	.05	.09	.14	.21	.38	.67	1.14
100	.00	.00	.01	.01	.02	.04	.07	.11	.19	.35	.60

FACTORS ARE INTERPOLATED FOR INTERMEDIATE AGE COMBINATIONS.

* AGE SHALL BE CONSIDERED TO BE THE AGE ON THE BIRTHDAY NEAREST TO THE PARTICIPANT'S BENEFIT COMMENCEMENT DATE.

APPENDIX D

JOINT AND SURVIVOR OPTION FACTORS

PERCENTAGE REDUCTION IN MONTHLY AMOUNT OF PARTICIPANT'S PENSION TO PROVIDE A NAMED SURVIVOR WITH A MONTHLY LIFE ANNUITY COMMENCING UPON THE DEATH OF THE PARTICIPANT AND EQUAL TO 10% OF PARTICIPANT'S PENSION OTHERWISE PAYABLE

Interest Rate: 13.0%
Age of Participant *

AGE OF NAMED SURVIVOR *	30	35	40	45	50	55	60	65	70	75	80
0	.18	.28	.43	.68	1.04	1.52	2.17	3.09	4.58	6.70	9.62
5	.18	.27	.43	.67	1.03	1.52	2.17	3.08	4.58	6.69	9.60
10	.18	.27	.43	.67	1.03	1.51	2.16	3.08	4.57	6.68	9.59
15	.18	.27	.42	.67	1.02	1.51	2.15	3.07	4.56	6.67	9.57
20	.17	.26	.42	.66	1.01	1.49	2.14	3.05	4.54	6.64	9.55
25	.17	.26	.41	.65	1.00	1.48	2.12	3.03	4.51	6.61	9.50
30	.16	.25	.40	.63	.98	1.45	2.09	2.99	4.47	6.56	9.44
35	.15	.24	.38	.61	.95	1.42	2.05	2.94	4.40	6.48	9.34
40	.14	.22	.36	.58	.91	1.37	1.99	2.86	4.30	6.35	9.19
45	.13	.20	.33	.54	.86	1.30	1.90	2.75	4.16	6.17	8.95
50	.11	.18	.30	.49	.79	1.21	1.78	2.59	3.95	5.90	8.61
55	.10	.16	.26	.44	.71	1.10	1.63	2.40	3.69	5.56	8.17
60	.08	.13	.22	.38	.63	.97	1.45	2.17	3.38	5.15	7.64
65	.07	.11	.18	.31	.52	.82	1.24	1.87	2.97	4.60	6.91
70	.05	.08	.14	.24	.42	.66	1.01	1.53	2.48	3.91	5.95
75	.04	.06	.10	.18	.31	.50	.77	1.18	1.95	3.14	4.88
80	.03	.04	.07	.12	.11	.36	.56	.85	1.44	2.37	3.76
85	.02	.03	.04	.08	.15	.24	.38	.58	1.00	1.68	2.72
90	.01	.02	.03	.05	.09	.16	.25	.38	.66	1.14	1.80
95	.01	.01	.01	.03	.05	.09	.14	.21	.38	.67	1.13
100	.00	.00	.01	.01	.03	.04	.07	.11	.19	.35	.60

Interest Rate: 14.0%
Age of Participant *

AGE OF NAMED SURVIVOR *	30	35	40	45	50	55	60	65	70	75	80
0	.15	.24	.37	.60	.92	1.37	1.96	2.81	4.19	6.17	8.88
5	.15	.24	.37	.59	.92	1.36	1.96	2.80	4.19	6.16	8.87
10	.15	.23	.37	.59	.92	1.36	1.96	2.80	4.18	6.15	8.86
15	.15	.23	.37	.59	.91	1.36	1.95	2.79	4.17	6.14	8.85
20	.15	.23	.36	.58	.91	1.35	1.94	2.78	4.16	6.12	8.83
25	.14	.22	.36	.57	.90	1.34	1.92	2.76	4.14	6.09	8.79
30	.14	.22	.35	.56	.83	1.32	1.90	2.73	4.10	6.05	8.74
35	.13	.21	.34	.55	.86	1.29	1.87	2.69	4.05	5.99	8.66
40	.12	.20	.32	.52	.83	1.25	1.82	2.63	3.97	5.89	8.53
45	.11	.18	.30	.49	.79	1.19	1.74	2.53	3.85	5.73	8.34
50	.10	.16	.27	.45	.73	1.11	1.64	2.40	3.67	5.50	8.04
55	.09	.14	.24	.41	.66	1.02	1.51	2.23	3.45	5.21	7.66
60	.08	.12	.21	.35	.59	.91	1.37	2.03	3.18	4.85	7.20
65	.06	.10	.17	.30	.50	.78	1.18	1.77	2.82	4.36	6.55
70	.05	.08	.13	.23	.40	.63	.97	1.46	2.37	3.73	5.68
75	.04	.06	.10	.17	.30	.49	.75	1.14	1.88	3.02	4.69
80	.03	.04	.07	.12	.22	.35	.55	.83	1.40	2.31	3.65
85	.02	.03	.04	.08	.15	.24	.38	.57	.98	1.65	2.66
90	.01	.02	.03	.05	.09	.16	.25	.38	.66	1.13	1.85
95	.01	.01	.01	.03	.05	.09	.14	.22	.38	.67	1.13
100	.00	.00	.01	.01	.03	.05	.07	.11	.20	.35	.60

FACTORS ARE INTERPOLATED FOR INTERMEDIATE AGE COMBINATIONS.

* AGE SHALL BE CONSIDERED TO BE THE AGE ON THE BIRTHDAY NEAREST TO THE PARTICIPANT'S BENEFIT COMMENCEMENT DATE.

APPENDIX D

JOINT AND SURVIVOR OPTION FACTORS

PERCENTAGE REDUCTION IN MONTHLY AMOUNT OF PARTICIPANT'S PENSION TO PROVIDE A NAMED SURVIVOR WITH A MONTHLY LIFE ANNUITY COMMENCING UPON THE DEATH OF THE PARTICIPANT AND EQUAL TO 10% OF PARTICIPANT'S PENSION OTHERWISE PAYABLE

Interest Rate: 15.0%
Age of Participant *

AGE OF NAMED SURVIVOR *	30	35	40	45	50	55	60	65	70	75	80
0	.13	.21	.33	.53	.83	1.24	1.79	2.57	3.86	5.71	8.25
5	.13	.20	.33	.53	.83	1.24	1.78	2.56	3.86	5.70	8.24
10	.13	.20	.32	.53	.83	1.23	1.78	2.56	3.85	5.69	8.23
15	.13	.20	.32	.52	.82	1.23	1.78	2.55	3.84	5.68	8.22
20	.13	.20	.32	.52	.82	1.22	1.77	2.54	3.83	5.67	8.21
25	.13	.20	.32	.51	.81	1.21	1.76	2.53	3.82	5.65	8.18
30	.12	.19	.31	.50	.80	1.20	1.74	2.51	3.79	5.62	8.14
35	.12	.18	.30	.49	.78	1.18	1.71	2.47	3.75	5.56	8.07
40	.11	.18	.29	.47	.76	1.14	1.67	2.42	3.68	5.48	7.96
45	.10	.16	.27	.45	.72	1.10	1.61	2.34	3.57	5.34	7.79
50	.09	.15	.25	.42	.67	1.03	1.52	2.23	3.42	5.15	7.54
55	.08	.13	.22	.38	.62	.95	1.41	2.08	3.23	4.89	7.20
60	.07	.11	.19	.33	.55	.86	1.28	1.91	2.99	4.58	6.80
65	.06	.09	.16	.28	.47	.74	1.12	1.68	2.67	4.14	6.22
70	.05	.07	.13	.22	.38	.61	.93	1.40	2.26	3.57	5.43
75	.04	.06	.09	.17	.29	.47	.73	1.10	1.82	2.92	4.52
80	.03	.04	.07	.12	.21	.35	.54	.81	1.37	2.24	3.54
85	.02	.03	.04	.08	.15	.24	.37	.57	.97	1.62	2.60
90	.01	.02	.03	.05	.09	.16	.25	.38	.65	1.12	1.83
95	.01	.01	.02	.03	.05	.09	.15	.22	.38	.67	1.12
100	.00	.00	.01	.01	.03	.05	.08	.11	.20	.36	.61

FACTORS ARE INTERPOLATED FOR INTERMEDIATE AGE COMBINATIONS.

* AGE SHALL BE CONSIDERED TO BE THE AGE ON THE BIRTHDAY NEAREST TO THE PARTICIPANT'S BENEFIT COMMENCEMENT DATE.

Plan Changes Since the Prior Year

The funding valuation does not reflect any plan change.

Schedule SB Attachment (Form 5500)—2014 Plan Year
Retirement Plan of W.R. Grace & Co. – CT Dupont Hourly Plan
EIN: 13-5114230 PN: 200

Other Information to Fully and Fairly Disclose the Actuarial Position of the Plan

Due to software limitations with the electronic filing process, information filed electronically cannot be controlled by the Enrolled Actuary. The values on the signed Schedule SB will govern to the extent there are any differences in the entries filed electronically and the actual data contained on the signed Schedule SB.

Schedule SB Attachment (Form 5500)—2014 Plan Year
Retirement Plan of W.R. Grace & Co. – CT Dupont Hourly Plan
EIN: 13-5114230 PN: 200

Schedule SB, line 24—Change in Actuarial Assumptions

The funding valuation reflects the following assumption changes:

- Retirement rates have been updated to better reflect anticipated future experience.
- Withdrawal rates have been updated to better reflect anticipated future experience.
- Salary increase rates have been updated to better reflect anticipated future experience.

Schedule SB Attachment (Form 5500)—2014 Plan Year
Retirement Plan of W.R. Grace & Co. – CT Dupont Hourly Plan
EIN: 13-5114230 PN: 200

Schedule SB, line 26—Schedule of Active Participant Data as of January 1, 2014

Number of Participants

Attained Age	Years of Credited Service									
	<1	1-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+
<25										
25-29										
30-34		1	1							
35-39		1								
40-44		1	2		1					
45-49		2	2	5	1	1				
50-54		3			1					
55-59			4	2	1					
60-64				1						
65-69										
70+				1						

N-31

Schedule SB Attachment (Form 5500)—2014 Plan Year
Retirement Plan of W.R. Grace & Co. – CT Dupont Hourly Plan
EIN: 13-5114230 PN: 200

Schedule SB, line 32—Schedule of Amortization Bases

Type of Base	Present Value of Installment	Date Established	Years Remaining	Amortization Installment
Shortfall	$ 247,528	January 1, 2013	6	$ 46,855
Shortfall	$ 54,294	January 1, 2014	7	$ 9,087