SPRING 2015

EXAM RETFRC

Retirement Funding & Regulation Exam – Canada

CASE STUDY

RETFRC morning

Case Study - Course FR Retirement - Canada

National Oil Company - Background

National Oil Company (NOC) is a large well-established company that services oil wells all over Canada. Most of NOC's employees are employed in the province of Ontario. NOC has been in existence for over 30 years and has more than 10,000 full-time salaried and union hourly employees and over 6,000 part-time employees. The full-time workforce is reasonably stable, but turnover in the last 5 years has been greater than desired, due to competitors recruiting NOC's employees.

Normally, an undergraduate degree is a minimum requirement to obtain entry to the salaried workforce and many employees have graduate degrees. About half of NOC's salaried employees are recruited directly from university with the other half coming from competitors.

The company's financial position varies with the price of oil. As oil prices rise, oil companies become increasingly active and in turn require the services of NOC. Conversely, activity slows as oil prices drop. Despite this, the company is usually in a taxable position.

NOC has managed to be successful by staying on the cutting edge of technology. NOC prides itself in being state of the art in processes and software relevant to its industry. This has helped it to stave off competition from both inside and outside of Canada. Although NOC is the largest player in the industry within Canada, there are larger players from outside of the country, with which NOC has to compete. From time to time, there are rumors of a takeover of NOC.

Canadian legislation and social programs will apply to NOC in this case study.

Summary of National Oil's Retirement Benefits

NOC maintains five retirement programs:

- a final-average pay defined benefit (DB) RPP for its full-time salaried employees;
- 2. a flat dollar DB RPP for its full-time hourly union staff;
- 3. a defined contribution (DC) RPP for its part-time workforce; and
- 4. a non-registered pension plan (referred to as the SERP) for its executives that is supplemental to the salaried RPP. This plan has no assets.

Extracts of Retirement Benefits Provisions and Financial Information

National Oil Full-Time Salaried Pension Plan

Eligibility Immediate

Vesting Immediate, effective July 1, 2012

Normal Retirement Age 65

Early Retirement Age 55

Best Average Earnings Average annual earnings during 60 consecutive months in

which earnings were highest

Earnings Base pay, excluding overtime and bonuses

Normal Retirement Benefit 2% of best average earnings times years of service,

subject to legislative maximum

Accrued Benefit Benefit calculated as under the normal retirement benefit

formula using best average earnings and service as of

date of calculation

retirement precedes age 62 for actives participants and

actuarial equivalent for terminated participants

Form of Benefit If with spouse, 60% joint & survivor benefit, without

reduction. If without spouse, single life annuity

Optional Forms of Benefit None

Indexing None

Termination Benefit (1) Lump sum value equal to actuarial present value of

accrued pension payable at age 65; or

(2) Deferred pension

Pre-Retirement Death Benefit Lump sum value equal to actuarial present value of

accrued pension payable at age 65 to named beneficiary

Disability Benefit Accrual of service while on long term disability and

immediate pension without a reduction upon permanent

and total disability

National Oil Full-Time Salaried Pension Plan Reconciliation of Plan Participants (2011 - 2014)

	Active	Pensioners/ Beneficiaries	Total
1. Participants as of January 1, 2011	4,076	773	4,849
- New Entrants/Rehires	250	-	250
- Terminated Nonvested	(100)	· -	(100)
- Terminated Vested (Lump Sum Cashout)	(130)	-	(130).
- Retirement	(45)	45	-
- Death w/ Beneficiary	(5)	5	-
- Death w/o Beneficiary	-	(2)	(2)
- Net change	(30)	48	18
2. Participants as of January 1, 2012	4,046	821	4,867
- New Entrants/Rehires	200	-	200
- Terminated Nonvested	(80)	-	(80)
- Terminated Vested (Lump Sum Cashout)	(90)	_	(90)
- Retirement	(40)	40	
- Death w/ Beneficiary	`(4)	4	-
- Death w/o Beneficiary	-	(14)	(14)
- Net change	(14)	30	16
3. Participants as of January 1, 2013	4,032	851	4,883
- New Entrants/Rehires	150	-	150
- Terminated (Lump Sum Cashout)	(100)	-	(100)
- Retirement	(50)	50	` <u>-</u>
- Death w/ Beneficiary	`(5)	5	-
- Death w/o Beneficiary	-	(14)	(14)
- Net change	(5)	41	36
4. Participants as of January 1, 2014	4,027	892	4,919

National Oil Full-Time Salaried Pension Plan Age/Svc/Earnings as of January 1, 2014

Age (Years)

		۸ ئ	S 5-10	Service (Years) 10-15	15-20	>20	Totals
< 25	# Participants Average Salary	190 37,700	90 49,200			i i	280 41,400
25-35	# Participants Average Salary	250 49,900	130 60,700	85 68,500	20 72,600	I I	485 57,000
35-45	# Participants Average Salary	190 62,800	200 70,300	180 76,400	180 83,000	100 84,600	850 74,300
45-55	# Participants Average Salary	180 66,400	160 68,900	175 77,300	310 80,300	650 82,200	1,475 77,800
55-65	# Participants Average Salary	170 66,100	100	90 74,200	100 80,500	450 80,900	910 76,200
> 65	# Participants Average Salary	3 58,200	10 65,000	5 67,000	4 70,000	5 78,000	27 67,800
Totals	# Participants Average Salary	983 55,900	690 65,200	535 75,000	614 80,800	1,205 81,900	4,027 71,600
	Avg Age Avg Svc Avg Salary	45.9 14.7 71,600					

National Oil Full-Time Salaried Pension Plan Solvency Valuation Results

Solvency Valuation - January 1 (numbers in	2012 \$000's) *	2013	2014	2014 Interest Rate Sensitivity
Actuarial Accrued Liability: (a) Active participants (b) Deferred vested participants	850,249	941,068	814,809	923,161
(c) Pensioners (d) Total	288,171 1,138,420	316,266 1,257,334	308,133 1,122,942	342,160 1,265,321
2. Market Value of Assets	832,957	968,997	1,188,326	1,188,326
3. Solvency Deficiency: (1d)-(2)	305,463	288,337	(65,384)	76,995
4. Actuarial Basis (a) Interest - Benefit paid by lump sum	2.4% for 10 years 3.9% thereafter	2.5% for 10 years 3.7% thereafter	3.1% for 10 years 4.6% thereafter	2.1% for 10 years 3.6% thereafter
(a) Interest - Benefit settled by annuity purchase	3.3%	3.0%	3.9%	2.9%
(b) Mortality	UP 1994 - Generational	UP 1994 - Generational	UP 1994 - Generational	UP 1994 - Generational
(c) Retirement age	The age t	hat produces the lar	gest value	
(d) Proportion married and age difference	80% with spou	se, Male spouses ar	e 3 years older	
(e) Asset Valuation Method (f) Actuarial Cost Method	V	Market value of asse	ts	,
(1) Actualial Cost Method		Unit Credit		

^{*} numbers may not add due to rounding

National Oil Full-Time Salaried Pension Plan

Historical Going Concern Actuarial Valuation Results

	2011	2012	2013	2014
Participant Summary - January 1				
Active Participants	, , ; 			
(a) count	4,076	4,046	4,032	4,027
(b) average age	45.2	45.1	46.0	45.9
(c) average service	15.4	15.0	14.7	14.7
(d) average future working lifetime	11.0	11.0	11.0	12.0
(e) average plan earnings (prior year)	67,400	68,000	69,500	71,600
Deferred Vested Participants				
(a) count	-	-	-	-
Pensioners (incl beneficiaries)				
(a) count	773	821	851	892
(b) average age	68.0	67.0	67.7	68.0
(c) average annual benefit	22,000	22,500	22,800	23,100

Plan Assets (numbers in \$000's) *

Change in Plan Assets during Prior Year:				
Market Value of Assets at January 1 of prior year	633,966	748,481	832,957	968,997
Employer Contributions during prior year	92,000	99,000	100,000	120,000
Benefit Payments during prior year	(21,000)	(22,000)	(22,200)	(22,400)
Expenses during prior year	•	-	-	-
Investment return during prior year	43,515	7,476	58,240	121,729
Market Value of Assets at January 1 of current year	748,481	832,957	968,997	1,188,326
Rate of return during prior year	6.5%	1.0%	6.7%	12.0%
Average Portfolio Mix During Prior Year:				
(a) Domestic Large Cap Equities	30%	30%	32%	32%
(b) Domestic Small Cap Equities	10%	10%	8%	8%
(c) Domestic Fixed Income	35%	40%	40%	40%
(d) International Equities	20%	15%	16%	16%
(e) Real Estate	0%	0%	0%	0%
(f) Cash	<u>5%</u>	<u>5%</u>	<u>4%</u>	<u>4%</u>
(g) Total	100%	100%	100%	100%
Asset Class Returns during Prior Year:				
(a) Domestic Large Cap Equities	12%	-9%	7%	13%
(b) Domestic Small Cap Equities	5%	-5%	7%	38%
(c) Domestic Fixed Income	1%	14%	4%	-1%
(d) International Equities	10%	-10%	14%	32%
(e) Real Estate	3%	3%	8%	8%
(f) Cash	1%	1%	1%	1%

^{*} numbers may not add due to rounding

2011

2012

2013

2014

Going Concern Valuation - January 1 (numbers in \$000's) *

2014 Interest Rate Sensitivity

					Sensitivity
1. Actuarial Accrued Liability:					
(a) Active participants	776,554	756,002	915,409	861,242	1,110,458
(b) Deferred vested participants	-	-	-	•	-
(c) Pensioners	210,874	229,059	252,236	261,334	287,468
(d) Total	987,429	985,061	1,167,645	1,122,576	1,397,925
2. Actuarial Value of Assets	748,481	832,957	968,997	1,188,326	1,188,326
3. Unfunded Actuarial Accrued Liability: (1d)-(2)	238,948	152,104	198,648	(65,750)	209,599
4. Normal Cost (beg. Of year)	50,426	50,400	62,273	58,588	75,541
5. Change in Unfunded AAL during prior year:					
(a) Unfunded AAL at prior valuation date	243,867	238,948	152,104	198,648	
(b) Adjustment for Interest	15,851	14,337	9,126	10,926	· · ·
(c) Normal Cost w/interest less contributions	(46,778)	(48,519)	(49,576)	(57,602)	
(d) (Gain)/Loss on investment	· -	39,743	(5,929)	(65,750)	
(e) (Gain)/Loss on termination	(20,000)	(25,000)	5,000	3,000	
(f) (Gain)/Loss on salary increases less than expected	(25,000)	(30,000)	(14,000)	(7,000)	
(g) (Gain)/Loss on mortality	2,000	2,000	(3,000)	(2,000)	
(h) (Gain)/Loss on retirement	23,000	(5,000)	4,000	(4,000)	
(i) (Gain)/Loss on assumption changes	40,000	-	104,000	(141,100)	,
(j) (Gain)/Loss on expenses	-	-	-	-	
(k) (Gain)/Loss on all other factors	6,007	(34,404)	(3,078)	(872)	
(I) Unfunded AAL at current valuation date	238,948	152,104	198,648	(65,750)	
6. Actuarial Basis					
(a) Interest	6.00%	6.00%	5.50%	5.75%	4.75%
(b) Salary scale	4.00%	4.00%	4.00%	3.50%	3.50%
(c) Consumer Price Index	2.50%	2.50%	2.50%	2.50%	2.50%
(c) consumer that made	1994 Uninsured	1994 Uninsured	1994 Uninsured	1994 Uninsured	
	Pensioner	Pensioner	Pensioner	Pensioner	1994 Uninsured
	Mortality -	Mortality -	Mortality -	Mortality -	Pensioner Mortality
(d) Mortality	Generational	Generational	Generational	Generational	- Generational
(e) Turnover	R	ased on NOC expe	rience for 1996-200	6	
1 ` '	ь	Age		-	
(f) Retirement age	000/	•		, di coo	
(g) Proportion married and age difference	80%	married, husbands	o years older than \	wives	
(h) Expenses	,	Assume all expense	es paid by company		
(i) Asset Valuation Method		Market valu	e of assets		
(j) Actuarial Cost Method		Projected			

^{*} numbers may not add due to rounding

National Oil Full-Time Hourly Union Pension Plan

Eligibility Immediate

Vesting Immediate, effective July 1, 2012

Normal Retirement Age 65

Early Retirement Age 55

Normal Retirement Benefit \$80 per month times all years of service for

terminations/retirements after 2004

Accrued Benefit

Benefit calculated as under the normal retirement benefit

formula based on service and multiplier as of date of calculation

Early Retirement Benefit Unreduced benefit at 62 with 30 years of service, otherwise

reduced by 0.25% per month that early retirement precedes Normal Retirement Age for active participants and actuarial

equivalent for terminated participants

Form of Benefit With a spouse, 60% joint & survivor benefit without reduction

Without a spouse, single life annuity.

Optional Forms of Benefit None

Post-Retirement Indexing Lesser of 1% or CPI each year after pension commencement

(1) Lump sum value equal to actuarial present value of accrued

pension payable at age 65; or

Termination Benefit (2) Deferred pension

Pre-Retirement Death Benefit Lump sum value equal to actuarial present value of accrued

pension payable at age 65 to named beneficiary

Disability Benefit None

National Oil Full-Time Hourly Union Pension Plan Reconciliation of Plan Participants (2011 - 2014)

	Active	Pensioners/ Beneficiaries	Total
1. Participants as of January 1, 2011	6,225	1,135	7,360
- New Entrants/Rehires	300	-	300
- Terminated Nonvested	(50)	-	(50)
- Terminated Vested (Lump Sum Cashout)	(130)	-	(130)
- Retirement	(60)	50	(10)
- Death w/ Beneficiary	-		-
- Death w/o Beneficiary	· -	(35)	(35)
- Net change	60	15	75
2. Participants as of January 1, 2012	6,285	1,150	7,435
- New Entrants/Rehires	250	-	250
- Terminated Nonvested	(40)	-	(40)
- Terminated Vested (Lump Sum Cashout)	(120)	-	(120)
- Retirement	(70)	70	-
- Death w/ Beneficiary	(5)	5	-
- Death w/o Beneficiary	-	(35)	(35)
- Net change	15	40	55
3. Participants as of January 1, 2013	6,300	1,190	7,490
- New Entrants/Rehires	300	-	300
- Terminated Vested (Lump Sum Cashout)	(200)	-	(200)
- Retirement	`(80 <u>)</u>	80	`-
- Death w/ Beneficiary	(5)	5 .	-
- Death w/o Beneficiary	- ` `	(50)	(50)
- Net change	15	35	50
4. Participants as of January 1, 2014	6,315	1,225	7,540

National Oil Full-Time Hourly Union Pension Plan Age/Svc/Earnings as of January 1, 2014

Age (Years)

Totals	335 44,000	540 49,000	1,970 57,100	2,200 59,700	1,200 63,300	70 62,300	6,315 57,900	
>20			420	870 61,700	730 65,700	5 66,600	2,025 62,900	
15-20	1 1	10 56,600	620 59,800	650 60,500	200 63,100	20 65,300	1,500	
Service (Years) 10-15	1 1	90 54,200	330 57,500	320 60,300	110 62,300	25 64,400	875 59,000	
Se 5-10	80 48,200	100 49,200	310 50,100	210 53,100	85 54,400	15 56,200	800 51,200	
· 5	255 42,700	340 47,300	290 53,400	150 53,300	75 52,800	5 54,200	1,115 49,000	46.2 16.6 57,900
	# Participants Average Salary	Avg Age Avg Svc Avg Salary						
	< 25	25-35	35-45	45-55	55-65	> 65	Totals	, , , ,

National Oil Full-Time Hourly Union Pension Plan

Solvency Valuation Results

2012

2013

2014

Interest Rate Sensitivity

Solvency Valuation - January 1 (numbers in \$000's) *

1. Actuarial Accrued Liability:	4 070 545	4 4 4 0 0 0 4	040.540	4 000 750
(a) Active participants	1,072,545	1,140,691	942,512	1,262,759
(b) Deferred vested participants	007.700	000 000	050 000	270 020
(c) Pensioners	237,728	266,988		278,030
(d) Total	1,310,273	1,407,679	1,196,435	1,540,789
2. Market Value of Assets	693,567	817,919	995,757	995,757
3. Solvency Deficiency: (1d)-(2)	616,706	589,760	200,678	545,032
4. Actuarial Basis				
(a) Interest - Benefit paid by lump sum	2.4% for 10 years	2.5% for 10 years	3.1% for 10 years	2.1% for 10 years
	3.9% thereafter	3.7% thereafter	4.6% thereafter	3.6% thereafter
(a) Interest - Benefit settled by annuity purchase	3.3%	3.0%	3.9%	2.9%
	UP 1994 -	UP 1994 -	UP 1994 -	UP 1994 -
(b) Mortality	Generational	Generational	Generational	Generational
(b) Mortality	Generational	Generational	Generational .	Generational
(c) Retirement age	The age t	· :		
(d) Proportion married and age difference	80% with spou			
(e) Asset Valuation Method	1	Market value of asse	ets	
(f) Actuarial Cost Method		Unit Credit		

^{*} numbers may not add due to rounding

National Oil Full-Time Hourly Union Pension Plan Historical Going Concern Actuarial Valuation Results

	2011	2012	2013	2014
Participant Summary - January 1				
Active Participants				
(a) count	6,225	6,285	6,300	6,315
(b) average age	46.1	45.8	46.3	46.2
(c) average service	17.3	16.8	16.6	16.6
(d) average future working lifetime	10.8	11.0	10.7	10.9
(e) average plan earnings (prior year)	53,100	54,300	56,500	57,900
Deferred Vested Participants				
(a) count	-	-	-	-
Pensioners (incl beneficiaries)				
(a) count	1,135	1,150	1,190	1,225
(b) average age	68.0	67.0	67.8	68.2
(c) average annual benefit	13,400	13,600	14,200	14,300

Plan Assets (numbers in \$000's) *

Change in Plan Assets during Prior Year:				
Market Value of Assets at January 1 of prior year	488,942	606,421	693,567	817,919
Employer Contributions during prior year	100,000	100,000	95,000	95,000
Benefit Payments during prior year	(17,000)	(19,000)	(19,500)	(19,500)
Expenses during prior year	-	-	-	-
Investment return during prior year	34,479	6,146	48,852	102,338
Market Value of Assets at January 1 of current year	606,421	693,567	817,919	995,757
Rate of return during prior year	6.5%	1.0%	6.7%	12.0%
Average Portfolio Mix During Prior Year:				
(a) Domestic Large Cap Equities	30%	30%	32%	32%
(b) Domestic Small Cap Equities	10%	10%	8%	8%
(c) Domestic Fixed Income	35%	40%	40%	40%
(d) International Equities	20%	15%	16%	16%
(e) Real Estate	0%	0%	0%	0%
(f) Cash	<u>5%</u>	<u>5%</u>	<u>4%</u>	<u>4%</u>
(g) Total	100%	100%	100%	100%
Asset Class Returns during Prior Year:				
(a) Domestic Large Cap Equities	12%	-9%	7%	13%
(b) Domestic Small Cap Equities	5%	-5%	7%	38%
(c) Domestic Fixed Income	1%	14%	4%	-1%
(d) International Equities	10%	-10%	14%	32%
(e) Real Estate	3%	3%	8%	8%
(f) Cash	1%	1%	1%	1%

^{*} numbers may not add due to rounding

Going Concern Valuation - January 1 (numbers in \$000's) *

Interest Rate

(b) Deferred vested participants (c) Pensioners (d) Total (e) Pensioners (e) Pensioners (f) Total (f) Tota							Sensitivity
(a) Active participants (b) Deferred vested participants (c) Pensioners (d) Total 769,700 768,801 999,703 993,338 1,168,6 2, Actuarial Value of Assets 806,421 693,567 817,919 995,757 995,73 3, Unfunded Actuarial Accrued Liability: (1d)-(2) 163,279 75,235 91,784 (32,218) 172,8 4, Normal Cost (beg. Of year) 33,942 34,218 41,466 43,991 54,5 6, Change in Unfunded AAL during prior year: (a) Unfunded AAL at prior valuation date (b) Adjustment for Interest (b) Adjustment for Interest (c) Gain)/Loss on intermination (g) (Gain)/Loss on termination (g) (Gain)/Loss on termination (g) (Gain)/Loss on termination (g) (Gain)/Loss on retirement (g) (Gain)/Loss on retirement (g) (Gain)/Loss on retirement (g) (Gain)/Loss on expenses	1. Actuarial Accrued Liability:						
(b) Deferred vested participants (c) Pensioners (d) Total (e) Pensioners (d) Total (f) Total (f) Total (g) Retirement in dexing (e) Propriori on married and age difference (f) Total (f) Total (h) Deferred vested participants (g) Proportion married and age difference (h) Spansos (h)	Active Multiplier	\$ 80	\$ 80	•		•	• •
(c) Pensioners (d) Total 769,700 768,801 909,703 963,538 1,168,60	(a) Active participants	587,192	574,865	688	3,339	730,256	912,039
(d) Total	(b) Deferred vested participants	-	•		-	-	0
2. Actuarial Value of Assets 606,421 693,567 817,919 995,75 3. Unfunded Actuarial Accrued Liability: (1d)-(2) 163,279 75,235 91,784 (32,218) 172,8 4. Normal Cost (beg. Of year) 33,942 34,218 41,466 43,991 54,8 5. Change in Unfunded AAL during prior year: (a) Unfunded AAL at prior valuation date 227,176 163,279 75,235 91,784 (b) Adjustment for interest 14,766 9,797 4,514 5,048 (c) Normal Cost wiinterest 14,766 9,797 4,514 5,048 (c) Normal Cost wiinterest 15,048 (d) (Gain)/Loss on investment 12,000 8,000 7,000 (6,000) (6,000) (6) (Gain)/Loss on externination 12,000 8,000 7,000 (6,000) (6) (Gain)/Loss on retirement (26,000) (26,000) (8,000) (9,000) (1) (Gain)/Loss on retirement (26,000) (26,000) (8,000) (9,000) (1) (Gain)/Loss on assumption changes 33,000 - 80,000 500 (1) (Gain)/Loss on expenses	(c) Pensioners	 182,508	193,936				256,610
3. Unfunded Actuarial Accrued Liability: (1d)-(2) 163,279 75,235 91,784 (32,218) 172,54 4. Normal Cost (beg. Of year) 33,942 34,218 41,466 43,991 54,55 5. Change in Unfunded AAL at prior valuation date 227,176 163,279 75,235 91,784 (b) Adjustment for Interest 14,766 9,797 4,514 5,048 (c) Normal Cost wiinterest less contributions (69,790) (67,022) (61,579) (53,866) (d) (Gain)/Loss on investment - 32,670 (4,973) (55,276) (e) (Gain)/Loss on nortality (28,000) (20,000) (9,000) (f) (Gain)/Loss on salary increases less than expected	(d) Total	 769,700	768,801	909	,703	963,538	1,168,649
3. Unfunded Actuarial Accrued Liability: (1d)-(2) 163,279 75,235 91,784 (32,218) 172,54 4. Normal Cost (beg. Of year) 33,942 34,218 41,466 43,991 54,55 5. Change in Unfunded AAL at prior valuation date 227,176 163,279 75,235 91,784 (b) Adjustment for Interest 14,766 9,797 4,514 5,048 (c) Normal Cost wiinterest less contributions (69,790) (67,022) (61,579) (53,866) (d) (Gain)/Loss on investment - 32,670 (4,973) (55,276) (e) (Gain)/Loss on nortality (28,000) (20,000) (9,000) (f) (Gain)/Loss on salary increases less than expected	2. Actuarial Value of Assats	606 421	693 567	817	919	995 757	995,757
4. Normal Cost (beg. Of year) 5. Change in Unfunded AAL at prior valuation date (a) Unfunded AAL at prior valuation date (b) Adjustment for Interest (c) Normal Cost winterest less contributions (d) Gain)/Loss on investment (e) (Gain)/Loss on termination (f) (Gain)/Loss on salary increases less than expected (g) (Gain)/Loss on salary increases less than expected (g) (Gain)/Loss on retirement (g) (Gain)/Loss on retirement (g) (Gain)/Loss on retirement (g) (Gain)/Loss on salary increases less than expected (g) (Gain)/Loss on salary increases less than expected (g) (Gain)/Loss on retirement (g) (Gain)/Loss on retirement (g) (Gain)/Loss on assumption changes (g) (Gain)/Loss on all other factors (g) (Gain)/Loss on expenses (g) (Gain)/Loss on all other factors (g) (Gain)/Loss on all other factors (g) (Gain)/Loss on expenses (g) (Gain)/Loss on all other factors (g) (Gain)/Loss on all other factors (g) (Gain)/Loss on expenses (g) (Gain)/Loss on all other factors (g) (Gain)/Loss on all other factors (g) (Gain)/Loss on expenses (g) (Gain)/Loss on all other factors (g) (Gain)/Loss on all other factors (g) (Gain)/Loss on expenses (g) (Gain)/Loss on all other factors (g) (Gain)/Loss on expenses (g) (Gain)/Loss on all other factors (g) (Gain)/Loss on all other factors (g) (Gain)/Loss on all other factors (g) (Gain)/Loss on expenses (g) (Gain)/Loss on all other factors (g) (Gain)/Loss on all other factors (g) (Gain)/Loss on all other factors (g) (Gain)/Loss on expenses (g) (Gain)/Loss on all other factors (g) (Gain)/Loss on expenses (g) (Gain)/Loss on expenses (g) (Gain)/Loss on expense	2. Actuarial value of Assets	000,421	000,007			r	
5. Change in Unfunded AAL during prior year: (a) Unfunded AAL at prior valuation date 227,176 163,279 75,235 91,784 (b) Adjustment for Interest 14,766 9,797 4,514 5,048 (c) Normal Cost Winterest less contributions (69,790) (67,022) (61,579) (53,886) (d) (Gain)/Loss on vestment - 32,670 (4,973) (55,276) (e) (Gain)/Loss on the termination 12,000 8,000 7,000 (6,000) (f) (Gain)/Loss on salary increases less than expected - - - - (g) (Gain)/Loss on salary increases less than expected - - - - (g) (Gain)/Loss on nestirement (26,000) (21,000) (9,000) (5,000) (h) (Gain)/Loss on nestirement (26,000) (26,000) (6,000) (9,000) (h) (Gain)/Loss on expenses - - - - (k) (Gain)/Loss on salary increases less than expected - - - - (k) (Gain)/Loss on expenses - - - - - -	3. Unfunded Actuarial Accrued Liability: (1d)-(2)	163,279	75,235	91	,784	(32,218)	172,892
(a) Unfunded AAL at prior valuation date (227,176 163,279 75,235 91,784 (b) Adjustment for Interest (14,766 9,797 4,514 5,048 (c) Normal Cost wilnerest less contributions (69,790) (67,022) (61,579) (53,866) (6) (Gain)/Loss on investment - 32,670 (4,973) (55,276) (6) (Gain)/Loss on termination 12,000 8,000 7,000 (6,000) (7) (Gain)/Loss on salary increases less than expected (9) (Gain)/Loss on mortality (28,000) (21,000) (9,000) (5,000) (1) (Gain)/Loss on retirement (26,000) (26,000) (6,000) (9,000) (1) (Gain)/Loss on assumption changes (26,000) (26,000) (6,000) (9,000) (1) (Gain)/Loss on expenses 33,000 - 80,000 500 (1) (Gain)/Loss on assumption changes (33,000 - 0.70 - 0.70 - 0.70 - 0.70 (1) (Gain)/Loss on assumption changes (10,000) (10,00	4. Normal Cost (beg. Of year)	33,942	34,218	4	,466	43,991	54,942
(b) Adjustment for Interest	5. Change in Unfunded AAL during prior year:						·
(b) Adjustment for Interest (c) Normal Cost w/interest less contributions (69,790) (67,022) (61,579) (53,866) (63,000) (63,000) (63,000) (63,000) (63,000) (63,000) (7,000) (63,000) (7,000) (63,000) (7,000) (63,000) (7,000)	(a) Unfunded AAL at prior valuation date	227,176	163,279	75	,235	91,784	
(c) Normal Cost wiinterest less contributions (69,790) (67,022) (61,579) (53,866) (d) (Gain)/Loss on investment - 32,670 (4,973) (55,276) (6,000) (Gain)/Loss on termination 12,000 8,000 7,000 (6,000) (7,000 (6,000) (7,000) (6,000) (7,000) (7,000) (6,000) (7,000) (8,000) (1,000)		14,766	9,797	4	1,514	5,048	
(d) (Gain)/Loss on investment (e) (Gain)/Loss on termination 12,000 8,000 7,000 (6,000) (f) (Gain)/Loss on salary increases less than expected (g) (Gain)/Loss on mortality (28,000) (21,000) (9,000) (5,000) (h) (Gain)/Loss on retirement (26,000) (26,000) (6,000) (9,000) (5,000) (i) (Gain)/Loss on assumption changes 33,000 - 80,000 500 (j) (Gain)/Loss on assumption changes (k) (Gain)/Loss on all other factors 127 (24,489) 6,587 (409) (l) Change in active benefit multiplier (m) Unfunded AAL at current valuation date 6. Actuarial Basis (a) Interest (b) Salary scale (c) Consumer Price Index (d) Mortality (e) Turnover (f) Retirement age (g) Proportion married and age difference (h) Expenses (l) Post-retirement indexing (28,000) (21,000) (9,000) (5,000) (9,000) (9,000) (5,000) (9,000) (9,000) (6,000) (9,00) (9,000) (9,000) (9,00) (9,000) (9,00) (9,00) (9,000) (9,00) (9,00) (9,000) (9,00) (9,00) (9,00) (9,00) (9,00) (9,00) (9,00) (9,00) (9,00) (9,00) (9,00) (9,00) (9,00) (9,00) (9,00) (9,00)		(69,790)	(67,022)	(61	,579)	(53,866)	·
(e) (Gain)/Loss on termination (f) (Gain)/Loss on salary increases less than expected (g) (Gain)/Loss on retirement indexing 12,000 (9,000)		· -	32,670	(4	,973)	(55,276)	
(f) (Gain)/Loss on salary increases less than expected (g) (Gain)/Loss on mortality (gain)/Loss on mortality (gain)/Loss on mortality (gain)/Loss on retriement (gain)/Loss on experiment (gain)/Loss on assumption changes (gain)/Loss on expenses (gain)/Loss on expenses (gain)/Loss on expenses (gain)/Loss on all other factors (gain)/Loss on assumption changes (gain)/Loss on expenses (gain)/Loss on expenses (gain)/Loss on assumption changes (gain)/Loss on expenses (gain)/Loss on expe		12,000	8,000	7	,000	(6,000)	
(g) (Gain)/Loss on mortality (28,000) (21,000) (9,000) (5,000) (h) (Gain)/Loss on retirement (26,000) (26,000) (6,000) (9,000) (i) (Gain)/Loss on expenses 33,000 - 80,000 500 (ii) (Gain)/Loss on expenses	(f) (Gain)/Loss on salary increases less than expected	-	-		-	-	
(h) (Gain)/Loss on retirement (26,000) (26,000) (6,000) (9,000) (1) (Gain)/Loss on assumption changes (33,000 - 80,000 500 (1) (Gain)/Loss on expenses		(28,000)	(21,000)	(9	9,000)	(5,000)	,
(i) (Gain)/Loss on assumption changes (j) (Gain)/Loss on expenses (k) (Gain)/Loss on all other factors (l) Change in active benefit multiplier (m) Unfunded AAL at current valuation date 6. Actuarial Basis (a) Interest (b) Salary scale (c) Consumer Price Index Consumer		(26,000)	(26,000)	(6	3,000)	(9,000)	
(i) (Gain)/Loss on expenses (k) (Gain)/Loss on all other factors (k) (Gain)/Loss on all other factors (l) Change in active benefit multiplier (m) Unfunded AAL at current valuation date 6. Actuarial Basis (a) Interest (b) Salary scale (c) Consumer Price Index (d) Mortality (d) Mortality (e) Turnover (f) Retirement age (g) Proportion married and age difference (h) Expenses (i) Post-retirement indexing 127 (24,489) 6,587 (409)	1 ' ' ' '		-	80	0,000	500	
(k) (Gain)/Loss on all other factors 127 (24,489) 6,587 (409) (l) Change in active benefit multiplier - - - - - - - - - - - - - - - - -	1 1/ 1	· -	-		_	-	
(i) Change in active benefit multiplier (m) Unfunded AAL at current valuation date 6. Actuarial Basis (a) Interest (b) Salary scale (c) Consumer Price Index 6.00% 6.00% 5.50% 5.75% 4.7 6.00% 6.00% 5.50% 5.75% 4.7 6.00% 6.00% 5.50% 5.75% 4.7 6.00% 6.00% 5.50% 5.75% 4.7 6.00% 6.00% 5.50% 5.75% 4.7 6.00% 6.		127	(24,489)	6	5,587	(409)	
(m) Unfunded AAL at current valuation date 6. Actuarial Basis (a) Interest (b) Salary scale (c) Consumer Price Index 6.00% 6.00% 5.50% 5.75% 4.7 N/A N/A N/A N/A (c) Consumer Price Index Consumer		_	-		_	-	
(a) Interest 6.00% 6.00% 5.50% 5.75% (b) Salary scale N/A		 163,279	 75,235	91	,784	(32,218)	
(a) Interest 6.00% 6.00% 5.50% 5.75% (b) Salary scale N/A	6. Actuarial Basis						
(b) Salary scale (c) Consumer Price Index N/A N/A		6.00%	6.00%		5.50%	5.75%	4.75%
(c) Consumer Price Index 2.50% 2.50% 2.50% 1994 Uninsured Pensioneer Mortality - (d) Mortality (e) Turnover (f) Retirement age (g) Proportion married and age difference (h) Expenses (i) Post-retirement indexing 2.50% 2.50% 2.50% 1994 Uninsured Pensioneer Mortality - GAM 1994 GAM	1 , /	N/A	N/A		N/A	. N/A	N/A
1994 Uninsured Pensioner Mortality - 1994 Uninsured P		2.50%	2,50%	2	2.50%	2,50%	2.50%
(d) Mortality (e) Turnover (f) Retirement age (g) Proportion married and age difference (h) Expenses (i) Post-retirement indexing GAM 1994 GAM 199						Pensioner	
(e) Turnover Based on NOC experience for 1996 - 2006 (f) Retirement age Age 62, with the appropriate early retirement reduction, if any (g) Proportion married and age difference (h) Expenses Assume all expenses paid by company (i) Post-retirement indexing Based on NOC experience for 1996 - 2006 Age 62, with the appropriate early retirement reduction, if any 80% married, husbands 3 years older than wives Assume all expenses paid by company	(d) Mortality	GAM 1994	GAM 1994	GAM	1994	•	Generational
(f) Retirement age (g) Proportion married and age difference (h) Expenses (i) Post-retirement indexing Age 62, with the appropriate early retirement reduction, if any 80% married, husbands 3 years older than wives Assume all expenses paid by company 1%				ience for 199	3 - 20	06	
(g) Proportion married and age difference 80% married, husbands 3 years older than wives (h) Expenses Assume all expenses paid by company (i) Post-retirement indexing 1%	1 \ ' '						
(h) Expenses Assume all expenses paid by company (i) Post-retirement indexing 1%							
(i) Post-retirement indexing				•			
(i) I dot follower indowing							
(i) Asset Valuation Method Market value of assets	(j) Asset Valuation Method						
(k) Actuarial Cost Method Unit credit							

^{*} numbers may not add due to rounding

National Oil Full-Time Salaried Supplemental Executive Retirement Plan (SERP)

Eligibility Immediate

Normal Retirement Age 65

Early Retirement Age 55

Salaried Pension Plan without regard to legislative maximums <u>less</u> actual Accrued Benefit under the

Salaried Pension Plan

Early Retirement Benefit Accrued benefit reduced by 0.25% per month that early

retirement precedes age 62 for actives participants

Commencement Date and Form

of Benefit

Must be same as under Salaried Pension Plan

Indexing None

Termination Benefit None

Pre-Retirement Death Benefit None

Disability Benefit None

<u>Historical Valuation Results - January 1</u>	2011	2012	2013	2014
Participant Summary				
1. Active Participants				
(a) count	60	60	58	54
(b) average age	50.0	51.0	51.5	50.0
(c) average service	17.0	18.0	18.2	18.0
(d) average future working lifetime	8.8	8.8	8.5	9.0
(e) average earnings (prior year)	350,000	350,000	370,000	410,000
2. Deferred Vested Participants				
(a) count	-	-	-	-
3. Pensioners (incl beneficiaries)				
(a) count	30	30	32	35
(b) average age	66.1	67.1	67.9	67.0
(c) average annual benefit	22,000	22,000	24,000	25,000

Valuation Results (numbers in \$000's) *

1. Reconciliation of funded status at valuation date:					
(a) Accrued Benefit Obligation	(80,454)	(91,110)	(104,508)	(97,443)	
(b) Fair Value of Assets (c) Funded Status: (a) + (b)	(80,454)	(91,110)	(104,508)	(97,443)	
2. Service Cost	1,791	2,041	2,366	1,865	
3. Benefit Payments	660	660	768	875	
4. Actuarial Basis					
(a) Discount rate	5.50%	5.00%	4.50%	5.75%	
(b) Salary scale	3.50%	3.50%	3.50%	3.50%	
(c) CPI	2.50%	2.50%	2.50%	2.50%	
(d) All other assumptions	Same as the Salaried Plan				

^{*} numbers may not add due to rounding

National Oil Part-Time DC Pension Plan

Eligibility

Immediate

Vesting

Immediate, effective July 1, 2012

Employer Contributions - Base

Employer Contributions - Match

3% of base pay

100% on the first 3% and 50% thereafter

Employee Contributions

Up to 6% of base pay

Plan Fund

The employer invests the contributions in a balanced fund. There are no employee investment choices.

Account Balance

Contributions are accumulated in member's individual account earning investment income at the rate of return earned by the Plan Fund.

Benefit on Termination or

Retirement

Account balance is transferred to a LIRA/LIF for the member after one year from date of termination or retirement, unless employee has since returned to

employment with NOC.

Benefit on Death

Account balance is payable to named beneficiary

National Oil Part-Time DC Pension Plan

Historical Results - January 1

	2011	2012	2013	2014
Participant Summary				
(a) number participating during prior year	6,800	7,200	7,100	7,200
(b) average age	30.8	31.0	31.4	31.0
(c) average base pay	31,000	31,000	31,900	32,000

Plan Assets (numbers in \$000's) *

Investment return during prior year Market Value of Assets at January 1 of current year	119.341	137.575	160.752	189,569
Expenses during prior year	- 7.284	- 1,278	- 7,276	- 13,474
Benefit Payments during prior year	(6,120)	(6,480)	(7,881)	(8,849
Company Contributions during prior year	13,702	14,508	14,722	14,976
Employee Contributions during prior year	8,432	8,928	9,060	9,216
Change in Plan Assets during Prior Year: Market Value of Assets at January 1 of prior year	96,044	119,341	137,575	160,752

^{*} numbers may not add due to rounding