

EDUCATION AND EXAMINATION COMMITTEE  
OF THE  
SOCIETY OF ACTUARIES

COURSE 8 RETIREMENT BENEFITS STUDY NOTE

**COURSE 8 RETIREMENT BENEFITS—CANADA  
CASE STUDY**

**REVISED IN 2006**

This case study will be used as a basis for examination questions. Be sure to answer the question asked by referring to the case study. For example, when asked for advantages of a particular plan design to the company referenced in the case study, your response should be limited to that company. Other advantages should not be listed, as they are extraneous to the question and will result in no additional credit. Further, if they conflict with the applicable advantages, no credit will be given.

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## **Case Study - Course 8 Retirement Benefits, Canada**

### **National Oil Company - Background**

National Oil Company (NOC) is a large well-established company that services oil wells all over the country of Gevrey. NOC has been in existence for over 30 years and has more than 10,000 full-time salaried and union hourly employees and up to a further 5,000 non-skilled seasonal employees during the non-winter months. Approximately one-half of the seasonal employees return for another season. 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 Gevrey. Although NOC is the largest player in the industry within Gevrey, 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.

### **Country of Gevrey – Background**

Gevrey is a modern developed country with a simplified tax system. Both corporations and individuals are subject to income tax at a flat rate of 40%. Reasonable operating expenses, including contributions to Eligible Retirement Plans (ERPs), reduce taxable income.

No pension legislation exists apart from the rules outlined herein.

Rules that apply to gain ERP status are as follows:

## *General*

- if a company has one or more ERPs, then all employees are entitled to be in at least one of the company's ERPs.

## *Defined Benefit Plans (DB ERPs)*

- employer contributions may not exceed those recommended by an actuary, in accordance with generally accepted actuarial practice
- employer contributions are an eligible expense to reduce the employer's taxable income
- periodic pensions may not exceed \$3,000 per annum for each year of service regardless of form or commencement age
- periodic pensions cannot commence prior to age 55
- investment earnings generated by the ERP pension fund are not taxable
- pension payments are taxed as received in the hands of the recipient
- no employee contributions are permitted

## *Defined Contribution Plans (DC ERPs)*

- employer contributions for any individual plan member cannot exceed \$20,000 annually
- employer contributions are an eligible expense to reduce the employer's taxable income
- investment earnings generated by the ERP pension fund are not taxable until withdrawn
- benefit distributions are taxed as received in the hands of the recipient
- no employee contributions are permitted

Gevrey's tax system also encourages individuals to save for their retirement through a Personal Pension Account (PPA). The tax rules for PPAs are as follows:

## *Personal Pension Accounts*

- individuals may contribute up to \$20,000 annually to a PPA on a defined contribution basis
- such contributions are tax deductible to the individual
- in addition to the annual contribution limit, individuals may transfer their ERP lump sum termination benefit into their PPA in which case the ERP lump sum is excluded from taxable income until withdrawn from the PPA
- investment earnings on PPAs are not taxable until withdrawn
- withdrawals are subject to tax in the hands of the individual

The tax assistance available under each of the above three arrangements does not depend on the extent of participation under the other two. For example, an individual could participate in a PPA and, if eligible under the plans' rules, also in both a DB ERP and a DC ERP of his or her employer.

### *Supplemental Retirement Plans (SRPs)*

Contributions to a retirement plan that does not meet ERP status are not tax-deductible. Benefits paid to participants under such plans are tax deductible to the company and are taxable to participants, when paid to participants. Such a plan is known as a Supplemental Retirement Plan (SRP). An example of an SRP is a plan that restores the benefits lost by the imposition of the ERP maximums.

### *Retiree Health Care Plans*

Employers in Gevrey may provide health care benefits to retirees and their spouses through a separate plan which is not intended to qualify for ERP status. Benefits (including insurance premiums) paid under such plans are tax deductible to the company when paid on behalf of participants. Benefits are not taxable to plan participants at any time.

\* \* \*

No social security pension system exists in Gevrey and there are no state-provided life or health-care benefits.

For financial reporting purposes, Gevrey adopted CICA Accounting Standards, and NOC applied CICA 3461 as at January 1, 2000 with retroactive restatement at that time.

The investment market in Gevrey is well developed, with substantial trading in government and corporate bonds and equities.

### **Summary of National Oil's Retirement Benefits**

NOC maintains three defined benefit plans:

1. a final-average pay defined benefit (DB) ERP for its full-time salaried employees;
2. a unit benefit DB ERP for its full-time hourly union staff; and
3. a non-eligible pension plan (referred to as the SRP) for its executives that is supplemental to the salaried ERP. This plan has no assets.

In addition, the company has a defined contribution ERP for its seasonal workforce.

Furthermore, full-time salaried and union employees retiring with the company are covered for their lifetime by health benefits.

## **Extracts of Retirement Benefits Provisions and Financial Information**

### National Oil Full-Time Salaried Pension Plan

Eligibility	Immediate
Vesting	100% after 5 years of service
Normal Retirement Age	65
Early Retirement Age	55 with 5 years of service
Best Average Earnings	Average annual earnings during 60 consecutive months in which earnings were highest
Earnings	Basic pay, excluding overtime and bonuses
Normal Retirement Benefit	2% of best average earnings times years of service, subject to tax system maximum
Accrued Benefit	Benefit calculated as under the normal retirement benefit formula using best average earnings and service as of date of calculation
Early Retirement Benefit	Accrued benefit reduced by 0.25% per month that early retirement precedes age 62
Form of Benefit	If married, 50% joint & survivor benefit, without reduction. If not married, single life annuity
Optional Forms of Benefit	None
Indexing	None
Termination Benefit	Lump sum equal to actuarial present value of accrued benefit
Pre-Retirement Death Benefit	Lump sum equal to actuarial present value of accrued benefit payable to named beneficiary
Disability Benefit	None

**National Oil Full-Time Salaried Pension Plan**  
*Historical Actuarial Valuation Results*

2003                      2004                      2005                      2006

**Participant Summary - January 1**

<i>Active Participants</i>				
(a) count	4,243	4,293	4,305	4,268
(b) average age	44.9	44.7	45.6	45.6
(c) average service	15.6	15.5	15.5	15.2
(d) average future working lifetime	11.3	11.7	11.0	11.0
(e) average plan earnings (prior year)	64,000	65,000	67,000	67,200
<i>Deferred Vested Participants</i>				
(a) count	-	-	-	-
<i>Pensioners (incl beneficiaries)</i>				
(a) count	590	612	640	665
(b) average age	70.8	70.7	70.8	70.9
(c) average annual benefit	19,100	19,300	19,500	19,700

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

<i>Change in Plan Assets during Prior Year:</i>				
Market Value of Assets at January 1 of prior year	545,745	529,366	674,861	772,639
Employer Contributions during prior year	31,532	40,145	37,000	39,789
Benefit Payments during prior year	(14,660)	(15,110)	(19,480)	(20,500)
Expenses during prior year	-	-	-	-
Investment return during prior year	(33,251)	120,461	80,257	68,919
Market Value of Assets at January 1 of current year	529,366	674,861	772,639	860,847
Rate of return during prior year	-6%	22%	12%	9%
<i>Average Portfolio Mix During Prior Year:</i>				
(a) Domestic Large Cap Equities	27%	30%	30%	29%
(b) Domestic Small Cap Equities	24%	30%	27%	28%
(c) Domestic Fixed Income	34%	25%	26%	27%
(d) International Equities	8%	11%	13%	11%
(e) Real Estate	3%	2%	2%	3%
(f) Cash	4%	2%	2%	2%
(g) Total	100%	100%	100%	100%
<i>Asset Class Returns during Prior Year:</i>				
(a) Domestic Large Cap Equities	-14%	25%	15%	13%
(b) Domestic Small Cap Equities	-18%	30%	14%	7%
(c) Domestic Fixed Income	9%	5%	7%	3%
(d) International Equities	-16%	40%	12%	17%
(e) Real Estate	4%	3%	3%	12%
(f) Cash	2%	1%	1%	2%

\* numbers may not add due to rounding

**National Oil Full-Time Salaried Pension Plan**  
**Historical Actuarial Valuation Results**

	2003	2004	2005	2006
<b>Funding Valuation - January 1 (numbers in \$000's) *</b>				
<b>1 Actuarial Accrued Liability:</b>				
(a) Active participants	502,139	570,617	616,733	633,605
(b) Deferred vested participants	-	-	-	-
(c) Pensioners	98,040	106,304	114,442	134,935
(d) Total	600,179	676,921	731,175	768,540
<b>2 Actuarial Value of Assets</b>	529,366	674,861	772,639	860,847
<b>3 Unfunded Actuarial Accrued Liability: (1d)-(2)</b>	70,813	2,060	(41,464)	(92,306)
<b>4 Normal Cost (beg. Of year)</b>	32,188	36,814	39,789	41,685
<b>5 Change in Unfunded AAL during prior year.</b>				
(a) Unfunded AAL at prior valuation date	7,275	70,813	2,060	(41,464)
(b) Adjustment for Interest	582	5,665	144	(2,799)
(c) Normal Cost w/interest less contributions	382	(6,987)	1,096	1,343
(d) (Gain)/Loss on investment	77,585	(77,110)	(32,404)	(16,115)
(e) (Gain)/Loss on termination	(2,200)	(2,100)	(8,100)	(15,400)
(f) (Gain)/Loss on salary increases less than expected	(12,800)	(19,700)	(13,800)	(23,700)
(g) (Gain)/Loss on mortality	200	(1,400)	(4,000)	(6,800)
(h) (Gain)/Loss on retirement	(1,200)	(2,800)	(4,700)	(7,400)
(i) (Gain)/Loss on assumption changes	-	36,500	19,100	20,000
(j) (Gain)/Loss on expenses	-	-	-	-
(k) (Gain)/Loss on all other factors	988	(821)	(860)	28
(l) Unfunded AAL at current valuation date	70,813	2,060	(41,464)	(92,306)
<b>6 Actuarial Basis</b>				
(a) Interest	8.00%	7.00%	6.75%	6.50%
(b) Salary scale	5.00%	4.00%	3.75%	3.50%
(c) Consumer Price Index	3.50%	3.50%	3.00%	3.00%
(d) Mortality		GAM83		
(e) Turnover		Based on NOC experience for 1986-1988		
(f) Retirement age		Age 62		
(g) Proportion married and age difference		80% married, male spouse 3 years older than female spouse		
(h) Expenses		Assume all expenses paid by company		
(i) Asset Valuation Method		Market value of assets		
(j) Actuarial Cost Method		Projected unit credit		

\* numbers may not add due to rounding

**National Oil Full-Time Salaried Pension Plan**  
**Historical Actuarial Valuation Results**

**2003                      2004                      2005                      2006**

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

<b>1 Reconciliation of funded status at valuation date:</b>				
(a) Accrued Benefit Obligation	(715,313)	(800,936)	(859,770)	(903,903)
(b) Fair Value of Assets	529,366	674,861	772,639	860,847
(c) Funded Status: (a) + (b)	(185,947)	(126,075)	(87,131)	(43,056)
(d) Unamortized net actuarial(gain)/loss	103,136	42,246	(1,630)	(48,770)
(e) Accrued benefit asset/(liability)	(82,811)	(83,829)	(88,762)	(91,826)
<b>2 Pension Expense:</b>				
(a) Service Cost (beg of year)	38,626	44,434	47,699	50,021
(b) Interest Cost	48,530	52,363	53,864	51,902
(c) Expected return on assets	(48,790)	(54,865)	(58,709)	(65,358)
(d) Amortization of past service cost	-	-	-	-
(e) Amortization of net actuarial (gain)/loss	2,797	-	-	-
(f) Pension Expense for year	41,163	41,933	42,853	36,566
<b>3 Actuarial Basis and Supplemental Data</b>				
(a) Discount rate	6.50%	6.25%	6.00%	5.50%
(b) Return on assets	9.00%	8.00%	7.50%	7.50%
(c) Salary scale	4.00%	4.00%	3.75%	3.50%
(d) Consumer Price Index	3.50%	3.50%	3.00%	3.00%
(e) Mortality	GAM83			
(f) Turnover	Based on NOC experience for 1986-1988			
(g) Proportion married and age difference	80% married; male spouses 3 years older than female spouses			
(h) Retirement age	Age 62			
(i) Expenses	Assume all expenses paid by company			
(j) Asset Valuation Method	Market value of assets			
(k) Actuarial Cost Method	Projected unit credit			
(l) Employer contributions	40,145	37,000	39,789	41,685
(m) Benefit payments	(14,660)	(15,110)	(19,480)	(20,500)

\* numbers may not add due to rounding



**National Oil Full-Time Salaried Pension Plan  
Reconciliation of Plan Participants (2003 - 2006)**

	<u>Active</u>	<u>Pensioners/ Beneficiaries</u>	<u>Total</u>
<b>1. Participants as of January 1, 2003</b>	<b>4,243</b>	<b>590</b>	<b>4,833</b>
- New Entrants/Rehires	375	-	375
- Terminated Nonvested	(120)	-	(120)
- Terminated Vested (Lump Sum Cashout)	(175)	-	(175)
- Retirement	(28)	28	-
- Death w/ Beneficiary	(2)	2	-
- Death w/o Beneficiary	-	(8)	(8)
- Net change	50	22	72
<b>2. Participants as of January 1, 2004</b>	<b>4,293</b>	<b>612</b>	<b>4,905</b>
- New Entrants/Rehires	400	-	400
- Terminated Nonvested	(150)	-	(150)
- Terminated Vested (Lump Sum Cashout)	(200)	-	(200)
- Retirement	(35)	35	-
- Death w/ Beneficiary	(3)	3	-
- Death w/o Beneficiary	-	(10)	(10)
- Net change	12	28	40
<b>3. Participants as of January 1, 2005</b>	<b>4,305</b>	<b>640</b>	<b>4,945</b>
- New Entrants/Rehires	250	-	250
- Terminated Nonvested	(115)	-	(115)
- Terminated Vested (Lump Sum Cashout)	(140)	-	(140)
- Retirement	(30)	30	-
- Death w/ Beneficiary	(2)	2	-
- Death w/o Beneficiary	-	(7)	(7)
- Net change	(37)	25	(12)
<b>4. Participants as of January 1, 2006</b>	<b>4,268</b>	<b>665</b>	<b>4,933</b>

**National Oil Full-Time Salaried Pension Plan  
Age/Svc/Earnings as of January 1, 2006**

Age (Years)	# Participants	Average Salary	Service (Years)					Totals
			< 5	5-10	10-15	15-20	>20	
< 25	165	35,900	120	-	-	-	285	
			46,100	-	-	-	40,200	
25-35	215	47,100	158	87	9	-	469	
			58,000	62,000	65,100	-	53,900	
35-45	231	59,400	208	186	211	201	1,037	
			66,300	70,200	76,300	77,800	69,700	
45-55	181	62,600	163	195	310	755	1,604	
			65,200	67,500	75,600	77,800	73,100	
55-65	168	61,200	77	87	81	431	844	
			64,100	68,100	73,900	74,200	70,000	
> 65	4	47,000	5	10	6	4	29	
			52,100	46,200	57,600	53,900	50,700	
Totals	964	53,500	731	565	617	1,391	4,268	
			60,600	67,300	75,300	76,600	67,200	
	Avg Age	45.6						
	Avg Svc	15.2						
	Avg Salary	67,200						

National Oil Full-Time Salaried Supplemental Retirement Plan (SRP)

Eligibility	Immediate
Normal Retirement Age	65
Early Retirement Age	55 with 5 years of service
Accrued Benefit	Accrued Benefit calculated under the provisions of the Salaried Pension Plan without regard to tax system maximums <u>less</u> actual Accrued Benefit under the Salaried Pension Plan
Normal Retirement Benefit	Accrued Benefit
Early Retirement Benefit	Accrued Benefit reduced by 0.25% per month that early retirement precedes age 62
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

Supplemental Retirement Plan  
Historical Valuation Results - January 1

2003                      2004                      2005                      2006

**Participant Summary**

<b>1. Active Participants</b>				
(a) count	43	45	47	49
(b) average age	51.9	52.4	52.9	53.1
(c) average service	17.0	17.5	18.1	18.2
(d) average future working lifetime	7.5	7.0	6.5	6.3
(e) average earnings (prior year)	300,000	305,000	310,000	315,000
<b>2. Deferred Vested Participants</b>				
(a) count	-	-	-	-
<b>3. Pensioners (incl beneficiaries)</b>				
(a) count	12	13	14	15
(b) average age	68.5	69.0	69.6	70.4
(c) average annual benefit	12,000	12,500	12,900	13,100

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

<b>1 Reconciliation of funded status at valuation date:</b>				
(a) Accrued Benefit Obligation	(21,151)	(25,036)	(28,813)	(33,762)
(b) Fair Value of Assets	-	-	-	-
(c) Funded Status: (a) + (b)	(21,151)	(25,036)	(28,813)	(33,762)
(d) Unamortized past service costs	-	-	-	-
(e) Unamortized net actuarial (gain)/loss	1,862	3,665	4,910	6,954
(f) Accrued benefit asset/(liability)	(19,289)	(21,371)	(23,902)	(26,809)
<b>2. Pension Expense</b>				
(a) Service cost (beg. of year)	804	911	992	1,074
(b) Interest cost	1,422	1,617	1,783	1,911
(c) Expected ROA	-	-	-	-
(d) Amort of prior svc cost	-	-	-	-
(e) Amort of unrec (gain)/loss	-	166	312	568
(f) Pension Expense for year	2,226	2,693	3,087	3,552
<b>3 Benefit Payments</b>	144	163	181	197
<b>4. Actuarial Basis</b>				
(a) Discount rate	6.50%	6.25%	6.00%	5.50%
(b) Return on assets	9.00%	8.00%	7.50%	7.50%
(c) Salary scale	4.00%	4.00%	3.75%	3.50%
(d) CPI	3.50%	3.50%	3.00%	3.00%
(e) All other assumptions	Same as for Full-time Salaried Pension Plan			

\* numbers may not add due to rounding

National Oil Full-Time Hourly Union Pension Plan

Eligibility	Immediate
Vesting	100% after 5 years of service
Normal Retirement Age	65
Early Retirement Age	55 with 10 years of service
Normal Retirement Benefit	\$75 per month times years of service for terminations/ retirements during 2003, 2004, and 2005  \$80 per month times years of service for terminations/ retirements during 2006 and beyond
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.
Form of Benefit	If married, 50% joint & survivor benefit without reduction  If not married, single life annuity.
Optional Forms of Benefit	None
Post-Retirement Indexing	Lesser of 1% or CPI each year after pension commencement
Termination Benefit	Lump sum equal to actuarial present value of accrued benefit assuming no indexing
Pre-Retirement Death Benefit	Lump sum equal to actuarial present value of accrued benefit assuming no indexing, payable to named beneficiary
Disability Benefit	None

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

2003                      2004                      2005                      2006

**Participant Summary - January 1**

<i>Active Participants</i>				
(a) count	6,437	6,376	6,295	6,253
(b) average age	45.1	45.5	46.4	46.5
(c) average service	16.2	16.7	17.3	17.4
(d) average future working lifetime	11.8	11.5	10.7	10.6
(e) average plan earnings (prior year)	37,100	38,032	39,500	39,800
<i>Deferred Vested Participants</i>				
(a) count	-	-	-	-
<i>Pensioners (incl beneficiaries)</i>				
(a) count	985	1,016	1,034	1,060
(b) average age	71.0	71.5	72.3	72.8
(c) average annual benefit	9,800	9,900	10,000	10,800

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

<i>Change in Plan Assets during Prior Year:</i>				
Market Value of Assets at January 1 of prior year	306,848	306,622	380,679	444,857
Employer Contributions during prior year	19,000	24,000	33,000	34,400
Benefit Payments during prior year	(9,883)	(11,258)	(11,340)	(12,000)
Expenses during prior year	-	-	-	-
Investment return during prior year	(9,342)	61,315	42,518	37,670
Market Value of Assets at January 1 of current year	306,622	380,679	444,857	504,928
Rate of return during prior year	-3%	20%	11%	8%
<i>Average Portfolio Mix During Prior Year:</i>				
(a) Domestic Large Cap Equities	21%	25%	29%	30%
(b) Domestic Small Cap Equities	23%	25%	20%	21%
(c) Domestic Fixed Income	47%	35%	38%	36%
(d) International Equities	2%	10%	8%	9%
(e) Real Estate	2%	2%	2%	2%
(f) Cash	5%	3%	3%	2%
(g) Total	100%	100%	100%	100%
<i>Asset Class Returns during Prior Year:</i>				
(a) Domestic Large Cap Equities	-14%	25%	15%	13%
(b) Domestic Small Cap Equities	-18%	30%	14%	7%
(c) Domestic Fixed Income	9%	5%	7%	3%
(d) International Equities	-16%	40%	12%	17%
(e) Real Estate	4%	3%	3%	12%
(f) Cash	2%	1%	1%	2%

\* numbers may not add due to rounding

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

	2003	2004	2005	2006
<b>Funding Valuation - January 1 (numbers in \$000's) *</b>				
<b>1. Actuarial Accrued Liability:</b>				
Active Multiplier	\$ 75	\$ 75	\$ 75	\$ 80
(a) Active participants	281,619	376,579	435,162	507,668
(b) Deferred vested participants	-	-	-	-
(c) Pensioners	91,704	96,561	98,230	117,914
(d) Total	373,323	473,140	533,392	625,582
<b>2 Actuarial Value of Assets</b>	306,622	380,679	444,857	504,928
<b>3. Unfunded Actuarial Accrued Liability. (1d)-(2)</b>	66,701	92,460	88,534	120,655
<b>4 Normal Cost (beg Of year)</b>	17,384	22,550	25,154	29,176
<b>5 Change in Unfunded AAL during prior year.</b>				
(a) Unfunded AAL at prior valuation date	32,959	66,701	92,460	88,534
(b) Adjustment for Interest	2,637	5,336	6,472	5,976
(c) Normal Cost w/interest less contributions	(2,389)	(6,185)	(10,027)	(8,709)
(d) (Gain)/Loss on investment	34,255	(36,276)	(15,112)	(6,886)
(e) (Gain)/Loss on termination	(1,500)	(8,000)	(6,700)	(10,400)
(f) (Gain)/Loss on salary increases less than expected	-	-	-	-
(g) (Gain)/Loss on mortality	200	(1,000)	(1,200)	(1,900)
(h) (Gain)/Loss on retirement	(250)	(500)	(750)	(550)
(i) (Gain)/Loss on assumption changes	-	73,000	24,200	23,400
(j) (Gain)/Loss on expenses	-	-	-	-
(k) (Gain)/Loss on all other factors	789	(615)	(809)	(539)
(l) Change in active benefit multiplier	-	-	-	31,729
(m) Unfunded AAL at current valuation date	66,701	92,460	88,534	120,655
<b>6 Actuarial Basis</b>				
(a) Interest	8.00%	7.00%	6.75%	6.50%
(b) Salary scale	N/A	N/A	N/A	N/A
(c) Consumer Price Index	3.50%	3.50%	3.00%	3.00%
(d) Mortality		GAM83		
(e) Turnover		Based on NOC experience for 1986-1988		
(f) Retirement age		Age 62, with appropriate early retirement reduction, if any		
(g) Proportion married and age difference		80% married, male spouses 3 years older than female spouses		
(h) Expenses		Assume all expenses paid by company		
(i) Post-retirement indexing	1.00%	1.00%	1.00%	1.00%
(j) Asset Valuation Method		Market value of assets		
(k) Actuarial Cost Method		Unit credit		

\* numbers may not add due to rounding

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

2003                      2004                      2005                      2006

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

1 Reconciliation of funded status at valuation date:								
(active multiplier)	\$	75	\$	75	\$	75	\$	80
(a) Accrued Benefit Obligation		(471,564)		(536,869)		(606,033)		(747,565)
(b) Fair Value of Assets		306,622		380,679		444,857		504,928
(c) Funded Status: (a) + (b)		(164,942)		(156,189)		(161,176)		(242,638)
(d) Unamortized past service costs		34,913		31,077		27,240		63,847
(e) Unamortized net actuarial (gain)/loss		99,623		84,257		90,154		130,354
(f) Accrued benefit asset/(liability)		(30,406)		(40,856)		(43,782)		(48,436)
2 Pension Expense:								
(a) Service Cost (beg of year)		22,599		25,932		28,927		35,012
(b) Interest Cost		31,799		34,823		37,757		42,712
(c) Expected return on assets		(28,231)		(31,324)		(34,229)		(38,807)
(d) Amortization of prior service cost		3,837		3,837		3,837		7,652
(e) Amortization of net actuarial (gain)/loss		4,446		2,658		2,762		5,245
(f) Pension Expense		34,450		35,926		39,054		51,813
3 Actuarial Basis and Supplemental Data								
(a) Discount rate		6.50%		6.25%		6.00%		5.50%
(b) Return on assets		9.00%		8.00%		7.50%		7.50%
(c) Salary scale		N/A		N/A		N/A		N/A
(d) Consumer Price Index		3.50%		3.50%		3.00%		3.00%
(e) Mortality		GAM83						
(f) Turnover		Based on NOC experience for 1986-1988						
(g) Retirement age		Age 62, with appropriate early retirement reduction, if any						
(h) Proportion married and age difference		80% married, male spouses 3 years older than female spouses						
(i) Expenses		Assume all expenses paid by company						
(j) Post-retirement indexing		1.00%		1.00%		1.00%		1.00%
(k) Asset Valuation Method		Market value of assets						
(l) Actuarial Cost Method		Projected unit credit						
(m) Employer contributions		24,000		33,000		34,400		37,000
(n) Benefit payments		(9,883)		(11,258)		(11,340)		(12,000)

\* numbers may not add due to rounding



**National Oil Full-Time Hourly Union Pension Plan  
Reconciliation of Plan Participants (2003 - 2006)**

	<u>Active</u>	<u>Pensioners/ Beneficiaries</u>	<u>Total</u>
<b>1. Participants as of January 1, 2003</b>	<b>6,437</b>	<b>985</b>	<b>7,422</b>
- New Entrants/Rehires	200	-	200
- Terminated Nonvested	(100)	-	(100)
- Terminated Vested (Lump Sum Cashout)	(120)	-	(120)
- Retirement	(40)	40	-
- Death w/ Beneficiary	(1)	1	-
- Death w/o Beneficiary	-	(10)	(10)
- Net change	(61)	31	(30)
<b>2. Participants as of January 1, 2004</b>	<b>6,376</b>	<b>1,016</b>	<b>7,392</b>
- New Entrants/Rehires	120	-	120
- Terminated Nonvested	(75)	-	(75)
- Terminated Vested (Lump Sum Cashout)	(100)	-	(100)
- Retirement	(25)	25	-
- Death w/ Beneficiary	(1)	1	-
- Death w/o Beneficiary	-	(8)	(8)
- Net change	(81)	18	(63)
<b>3. Participants as of January 1, 2005</b>	<b>6,295</b>	<b>1,034</b>	<b>7,329</b>
- New Entrants/Rehires	150	-	150
- Terminated Nonvested	(80)	-	(80)
- Terminated Vested (Lump Sum Cashout)	(75)	-	(75)
- Retirement	(35)	35	-
- Death w/ Beneficiary	(2)	2	-
- Death w/o Beneficiary	-	(11)	(11)
- Net change	(42)	26	(16)
<b>4. Participants as of January 1, 2006</b>	<b>6,253</b>	<b>1,060</b>	<b>7,313</b>

**National Oil Full-Time Hourly Union Pension Plan  
Age/Svc/Earnings as of January 1, 2006**

Age (Years)	Service (Years)					Totals
	< 5	5-10	10-15	15-20	>20	
< 25	# Participants 160 Average Salary 25,500	99 31,300	- -	- -	- -	259 27,700
25-35	# Participants 251 Average Salary 26,800	97 31,800	91 37,800	62 38,300	- -	501 31,200
35-45	# Participants 275 Average Salary 27,000	348 32,200	339 39,400	659 44,300	441 46,600	2,062 39,600
45-55	# Participants 108 Average Salary 25,000	160 32,200	300 38,600	688 43,000	895 46,800	2,151 42,300
55-65	# Participants 95 Average Salary 24,500	62 28,700	94 36,400	186 39,900	801 46,400	1,238 42,100
> 65	# Participants 8 Average Salary 20,600	9 21,600	11 25,700	8 24,600	6 25,100	42 23,600
Totals	# Participants 897 Average Salary 26,100	775 31,600	835 38,400	1,603 42,900	2,143 46,500	6,253 39,800
	Avg Age 17.4 Avg Svc 39,800					

National Oil Part-Time DC Pension Plan

Eligibility	Immediate
Vesting	Immediate
Employer Contributions	90¢ per hour worked
Plan Fund	The employer invests the contributions in GIC's. There are no employee investment choices.
Account Balance	Contributions are accumulated in member's individual account earning interest at the rate of return earned by the Plan Fund
Loans	Not permitted.
Benefit on Termination or Retirement	Account balance is transferred to a PPA 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**

2003                      2004                      2005                      2006

**Participant Summary**

(a) number participating during prior year	5,900	6,200	6,300	6,250
(b) average age	29.5	30.0	30.5	30.9
(c) average hours worked in prior year	1,285	1,290	1,295	1,280
(d) average earnings per hour in prior year	15.75	16.25	16.75	17.00

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

<i>Change in Plan Assets during Prior Year.</i>				
Market Value of Assets at January 1 of prior year	34,191	36,767	39,871	43,496
Employer Contributions during prior year	6,823	7,198	7,343	7,200
Benefit Payments during prior year	(4,600)	(4,853)	(4,950)	(4,854)
Expenses during prior year	-	-	-	-
Investment return during prior year	353	759	1,232	1,787
Market Value of Assets at January 1 of current year	36,767	39,871	43,496	47,629
Rate of return during prior year	1%	2%	3%	4%

\* numbers may not add due to rounding

National Oil Full-Time Salaried and Union Retiree Health Benefit Program

Eligibility Immediate

Earliest Retirement Age 55

Benefits Retirees and their spouses may elect to participate in a fully insured group health plan, with the portion of premium paid by the plan as shown below:

<u>Years of service at Retirement</u>	<u>Plan</u>	<u>Retiree/Spouse</u>
0 - 4	0%	100%
5 - 9	25%	75%
10 - 14	50%	50%
15 - 19	75%	25%
20 +	100%	0%

Retiree Health and Welfare Program  
Historical Valuation Results

2003                      2004                      2005                      2006

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

1. Reconciliation of funded status at valuation date:				
(a) Accrued Benefit Obligation				
(i) actives	(421,727)	(459,512)	(527,314)	(599,006)
(ii) retirees	(281,151)	(315,532)	(355,166)	(404,722)
(iii) total	(702,878)	(775,044)	(882,481)	(1,003,728)
(b) Market Value of Assets	0	0	0	0
(c) Surplus: (a) + (b)	(702,878)	(775,044)	(882,481)	(1,003,728)
(d) Unrecognized prior service costs	0	0	0	0
(e) Unrecognized (gain)/loss	37,273	46,463	86,489	132,274
(f) Prepaid/(accrued) expense	(665,604)	(728,580)	(795,992)	(871,454)
2. Expense				
(a) Service cost (beg. of year)	34,411	36,782	40,770	45,039
(b) Interest cost	47,314	50,130	54,792	57,077
(c) Expected ROA	0	0	0	0
(d) Amort of prior svc cost	0	0	0	0
(e) Amort of unrec (gain)/loss	0	0	0	0
(f) Expense for year	81,726	86,912	95,562	102,116
3. Benefit Payments	18,750	19,500	20,100	22,000
4. Actuarial Basis				
(a) Discount rate	6.50%	6.25%	6.00%	5.50%
(b) Return on assets	9.00%	8.00%	7.50%	7.50%
(c) Medical trend				
Initial rate	7.00%	6.50%	6.00%	5.50%
Annual decrease	0.50%	0.50%	0.50%	0.50%
Ultimate rate	4.50%	4.50%	4.50%	4.50%
Year ultimate trend rate reached	2008	2008	2008	2008
(d) CPI	3.50%	3.50%	3.00%	3.00%
(e) group premium per insured	8,125	8,300	8,450	8,800
(f) demographic assumptions	Same as those used for pension plans			

\* numbers may not add due to rounding