

EDUCATION AND EXAMINATION COMMITTEE
OF THE
SOCIETY OF ACTUARIES

COURSE 8 RETIREMENT BENEFITS STUDY NOTE

**COURSE 8 RETIREMENT BENEFITS—U.S.
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 U.S.

National Oil Company - Background

National Oil Company (NOC) is a large well-established company that services oil wells all over the country of Vosne. 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 Vosne. Although NOC is the largest player in the industry within Vosne, 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 Vosne – Background

Vosne 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

Vosne'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 Vosne 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 Vosne and there are no state-provided life or health-care benefits.

For financial reporting purposes, Vosne adopted FASB Accounting Standards.

The investment market in Vosne 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
Funding Valuation - January 1 (numbers in \$000's) *				
1 Actuarial Accrued Liability:				
(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
2 Actuarial Value of Assets	529,366	674,861	772,639	860,847
3 Unfunded Actuarial Accrued Liability: (1d)-(2)	70,813	2,060	(41,464)	(92,306)
4 Normal Cost (beg Of year)	32,188	36,814	39,789	41,685
5 Change in Unfunded AAL during prior year:				
(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)
6 Actuarial Basis				
(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

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

	2003	2004	2005	2006
1 Reconciliation of funded status at valuation date:				
(a) Accumulated Benefit Obligation	(464,953)	(520,608)	(558,850)	(587,537)
(b) Projected Benefit Obligation	(715,313)	(800,936)	(859,770)	(903,903)
(c) Fair Value of Assets	529,366	674,861	772,639	860,847
(d) Funded Status: (b) + (c)	(185,947)	(126,075)	(87,131)	(43,056)
(e) Unrecognized (gains)/losses	103,136	42,246	(1,630)	(48,770)
(f) Prepaid/(Accrued) expense	(82,811)	(83,829)	(88,762)	(91,826)
2 Pension Expense:				
(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
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	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>
1. Participants as of January 1, 2003	4,243	590	4,833
- 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
2. Participants as of January 1, 2004	4,293	612	4,905
- 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
3. Participants as of January 1, 2005	4,305	640	4,945
- 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)
4. Participants as of January 1, 2006	4,268	665	4,933

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

1 Active Participants				
(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
2 Deferred Vested Participants				
(a) count	-	-	-	-
3 Pensioners (incl beneficiaries)				
(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) *

1. Reconciliation of funded status at valuation date:				
(a) Accumulated Benefit Obligation	(8,460)	(10,015)	(11,525)	(13,505)
(b) Projected Benefit Obligation	(21,151)	(25,036)	(28,813)	(33,762)
(c) Fair Value of Assets	-	-	-	-
(d) Funded Status: (b) + (c)	(21,151)	(25,036)	(28,813)	(33,762)
(e) Unrecognized prior service costs	-	-	-	-
(f) Unrecognized (gains)/losses	1,862	3,665	4,910	6,954
(g) Prepaid/(Accrued) expense	(19,289)	(21,371)	(23,902)	(26,809)
2. Pension Expense				
(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
3 Benefit Payments	144	163	181	197
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) 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

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

1 Actuarial Accrued Liability:				
Active Multiplier	\$	75	\$	75
(a) Active participants		281,619		376,579
(b) Deferred vested participants		-		-
(c) Pensioners		91,704		96,561
(d) Total		373,323		473,140
				533,392
				625,582
2 Actuarial Value of Assets		306,622		380,679
3 Unfunded Actuarial Accrued Liability (1d)-(2)		66,701		92,460
4 Normal Cost (beg Of year)		17,384		22,550
5. Change in Unfunded AAL during prior year.				
(a) Unfunded AAL at prior valuation date		32,959		66,701
(b) Adjustment for Interest		2,637		5,336
(c) Normal Cost w/interest less contributions		(2,389)		(6,185)
(d) (Gain)/Loss on investment		34,255		(36,276)
(e) (Gain)/Loss on termination		(1,500)		(8,000)
(f) (Gain)/Loss on salary increases less than expected		-		-
(g) (Gain)/Loss on mortality		200		(1,000)
(h) (Gain)/Loss on retirement		(250)		(500)
(i) (Gain)/Loss on assumption changes		-		73,000
(j) (Gain)/Loss on expenses		-		-
(k) (Gain)/Loss on all other factors		789		(615)
(l) Change in active benefit multiplier		-		-
(m) Unfunded AAL at current valuation date		66,701		92,460
				88,534
				120,655
6 Actuarial Basis				
(a) Interest		8 00%		7 00%
(b) Salary scale		N/A		N/A
(c) Consumer Price Index		3 50%		3 50%
(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%
(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) Accumulated Benefit Obligation		(471,564)		(536,869)		(606,033)		(747,565)
(b) Projected Benefit Obligation		(471,564)		(536,869)		(606,033)		(747,565)
(c) Fair Value of Assets		306,622		380,679		444,857		504,928
(d) Funded Status: (b) + (c)		(164,942)		(156,189)		(161,176)		(242,638)
(e) Unrecognized prior service costs		34,913		31,077		27,240		63,847
(f) Unrecognized (gains)/losses		99,623		84,257		90,154		130,354
(g) Prepaid/(Accrued) expense		(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>
1. Participants as of January 1, 2003	6,437	985	7,422
- 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)
2. Participants as of January 1, 2004	6,376	1,016	7,392
- 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)
3. Participants as of January 1, 2005	6,295	1,034	7,329
- 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)
4. Participants as of January 1, 2006	6,253	1,060	7,313

**National Oil Full-Time Hourly Union 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	160	25,500	99	-	-	-	259	27,700
25-35	251	26,800	97	91	62	-	501	31,200
35-45	275	27,000	348	339	659	441	2,062	39,600
45-55	108	25,000	160	300	688	895	2,151	42,300
55-65	95	24,500	62	94	186	801	1,238	42,100
> 65	8	20,600	9	11	8	6	42	23,600
Totals	897	26,100	775	835	1,603	2,143	6,253	39,800
	Avg Age		31,600	38,400	42,900	46,500		
	Avg Svc	46.5						
	Avg Salary	17.4						
		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

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) Accumulated Postretirement 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