

## **Case Study - Course CSP Retirement**

### **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
- employer contributions may or may not be dependent on employee contributions
- individuals may contribute up to \$20,000 annually
- such contributions are tax deductible to the individual

The tax assistance available under each of the above two arrangements does not depend on the extent of participation under the other one. For example, an individual could participate in a DC ERP and, if eligible under the plans' rules, also a DB 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 payable as an indemnity for health related services 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 GAAP 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 ERP for its full-time salaried employees;
2. a unit benefit defined benefit 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  
This plan has no assets.

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

Furthermore, eligible 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	Base pay, excluding overtime and bonuses
Normal Retirement Benefit	2% of best average earnings times years of service, subject to tax system maximum  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**

2008 2009 2010 2011 2012

**Participant Summary - January 1**

	2008	2009	2010	2011	2012
<i>Active Participants</i>					
(a) count	4,250	4,118	4,067	3,930	3,792
(b) average age	47.5	48.0	48.5	49.0	49.4
(c) average service	17.8	18.4	18.7	19.2	19.6
(d) average future working lifetime	10.8	10.5	10.7	11.0	10.6
(e) average future working lifetime to vesting (for those not)	N/A	N/A	3.0	3.0	3.0
(f) average plan earnings (prior year)	74,000	75,000	78,000	80,000	83,000
<i>Deferred Vested Participants</i>					
(a) count	-	-	-	-	-
<i>Pensioners (incl beneficiaries)</i>					
(a) count	736	775	804	850	893
(b) average age	69.7	70.5	70.5	68.0	67.5
(c) average annual benefit	20,300	20,800	21,200	21,500	22,000

**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	1,003,940	1,027,990	875,898	982,379	1,046,845
Employer Contributions during prior year	41,645	40,564	40,526	42,348	42,698
Benefit Payments during prior year	(27,000)	(28,000)	(29,000)	(32,000)	(33,000)
Expenses during prior year	-	-	-	-	-
Investment return during prior year	9,405	(164,656)	94,955	54,118	63,417
Market Value of Assets at January 1 of current year	1,027,990	875,898	982,379	1,046,845	1,119,960
Rate of return during prior year	1%	-16%	11%	5%	6%
<i>Average Portfolio Mix During Prior Year:</i>					
(a) Domestic Large Cap Equities	32%	25%	31%	28%	27%
(b) Domestic Small Cap Equities	21%	19%	21%	20%	19%
(c) Domestic Fixed Income	34%	40%	36%	38%	40%
(d) International Equities	7%	9%	5%	7%	6%
(e) Real Estate	3%	4%	4%	4%	5%
(f) Cash	3%	3%	3%	3%	3%
(g) Total	100%	100%	100%	100%	100%
<i>Asset Class Returns during Prior Year:</i>					
(a) Domestic Large Cap Equities	-2%	-30%	15%	3%	2%
(b) Domestic Small Cap Equities	-4%	-40%	20%	8%	7%
(c) Domestic Fixed Income	5%	2%	4%	8%	10%
(d) International Equities	5%	-20%	6%	2%	3%
(e) Real Estate	10%	3%	3%	-5%	-1%
(f) Cash	2%	2%	2%	2%	1%

\* numbers may not add due to rounding

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

	2008	2009	2010	2011	2012
<b>Funding Valuation - January 1 (numbers in \$000's) *</b>					
<b>1. Actuarial Accrued Liability:</b>					
(a) Active participants	722,038	745,684	791,900	819,811	849,393
(b) Deferred vested participants	-	-	-	-	-
(c) Pensioners	131,479	141,856	149,994	160,820	172,885
(d) Total	853,517	887,540	941,894	980,631	1,022,278
<b>2. Actuarial Value of Assets</b>	1,027,990	875,898	982,379	1,046,845	1,119,960
<b>3. Unfunded Actuarial Accrued Liability: (1d)-(2)</b>	(174,473)	11,642	(40,485)	(66,214)	(97,682)
<b>4. Normal Cost (beg. Of year)</b>	40,564	40,526	42,348	42,698	43,336
<b>5. Change in Unfunded AAL during prior year:</b>					
(a) Unfunded AAL at prior valuation date	(155,572)	(174,473)	11,642	(40,485)	(66,214)
(b) Adjustment for Interest	(10,501)	(12,213)	815	(2,834)	(4,635)
(c) Normal Cost w/interest less contributions	1,406	1,420	1,419	1,482	1,495
(d) (Gain)/Loss on investment	58,856	237,055	(33,239)	15,011	10,201
(e) (Gain)/Loss on termination	(13,000)	(17,000)	(15,000)	(15,000)	(18,000)
(f) (Gain)/Loss on salary increases less than expected	(7,000)	(12,000)	5,000	(15,000)	(10,000)
(g) (Gain)/Loss on mortality	1,500	1,800	1,300	(1,500)	1,400
(h) (Gain)/Loss on retirement	(7,000)	(13,000)	(12,500)	(8,000)	(12,000)
(i) (Gain)/Loss on assumption changes	(43,000)	-	-	-	-
(j) (Gain)/Loss on expenses	-	-	-	-	-
(k) (Gain)/Loss on all other factors	(161)	54	78	113	70
(l) Unfunded AAL at current valuation date	(174,473)	11,642	(40,485)	(66,214)	(97,682)
<b>6. Actuarial Basis</b>					
(a) Interest	7.00%	7.00%	7.00%	7.00%	7.00%
(b) Salary scale	3.50%	3.50%	3.50%	3.50%	3.50%
(c) Consumer Price Index	3.00%	3.00%	3.00%	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**

	2008	2009	2010	2011	2012
<b>Expense Valuation - January 1 (numbers in \$000's) *</b>					
<b>1. Reconciliation of funded status at valuation date:</b>					
(a) Accumulated Benefit Obligation	(680,663)	(777,235)	(844,146)	(937,268)	(976,523)
(b) Projected Benefit Obligation					
(i) retirees / actives - fully vested	N/A	N/A	(1,121,508)	(1,245,227)	(1,297,381)
(ii) actives - not fully vested	N/A	N/A	(84,415)	(93,727)	(97,652)
(iii) total	(1,047,175)	(1,110,336)	(1,205,922)	(1,338,954)	(1,395,033)
(c) Fair Value of Assets	1,027,990	875,898	982,379	1,046,845	1,119,960
(d) Funded Status: (b) + (c)	(19,184)	(234,437)	(223,543)	(292,109)	(275,073)
(e) Unrecognized (gains)/losses	(71,446)	141,037	111,010	165,426	128,537
(f) Prepaid/(Accrued) expense	N/A	N/A	N/A	N/A	N/A
<b>2. Pension Expense:</b>					
(a) Service Cost (beg. of year)	50,705	52,495	57,065	61,486	62,404
(b) Interest Cost	65,063	66,058	68,667	69,222	72,047
(c) Expected return on assets	(72,434)	(61,751)	(69,234)	(71,023)	(75,946)
(d) Amortization of past service cost	-	-	-	-	-
(e) Amortization of net actuarial (gain)/loss **	-	2,857	-	2,866	-
(f) Pension Expense for year	43,334	59,659	56,498	62,551	58,505
<b>3. Actuarial Basis and Supplemental Data</b>					
(a) Discount rate	6.00%	5.75%	5.50%	5.00%	5.00%
(b) Return on assets	7.00%	7.00%	7.00%	6.75%	6.75%
(c) Salary scale	4.00%	4.00%	4.00%	4.00%	4.00%
(d) Consumer Price Index	3.00%	3.00%	3.00%	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	40,564	40,526	42,348	42,698	43,336
(m) Benefit payments	(27,000)	(28,000)	(29,000)	(32,000)	(33,000)

\* numbers may not add due to rounding

\*\* gains/losses exceeding 10% of the greater of the Projected Benefit Obligation and the Fair Value of Assets are amortized over the average future working lifetime of active participants

**National Oil Full-Time Salaried Pension Plan  
Reconciliation of Plan Participants (2008 - 2012)**

	<u>Active</u>	<u>Pensioners/ Beneficiaries</u>	<u>Total</u>
<b>1. Participants as of January 1, 2008</b>	<b>4,250</b>	<b>736</b>	<b>4,986</b>
- New Entrants/Rehires	200	-	200
- Terminated Nonvested	(170)	-	(170)
- Terminated Vested (Lump Sum Cashout)	(120)	-	(120)
- Retirement	(40)	40	-
- Death w/ Beneficiary	(2)	2	-
- Death w/o Beneficiary	-	(3)	(3)
- Net change	(132)	39	(93)
<b>2. Participants as of January 1, 2009</b>	<b>4,118</b>	<b>775</b>	<b>4,893</b>
- New Entrants/Rehires	230	-	230
- Terminated Nonvested	(100)	-	(100)
- Terminated Vested (Lump Sum Cashout)	(150)	-	(150)
- Retirement	(30)	30	-
- Death w/ Beneficiary	(1)	1	-
- Death w/o Beneficiary	-	(2)	(2)
- Net change	(51)	29	(22)
<b>3. Participants as of January 1, 2010</b>	<b>4,067</b>	<b>804</b>	<b>4,871</b>
- New Entrants/Rehires	150	-	150
- Terminated Nonvested	(80)	-	(80)
- Terminated Vested (Lump Sum Cashout)	(160)	-	(160)
- Retirement	(45)	45	-
- Death w/ Beneficiary	(2)	2	-
- Death w/o Beneficiary	-	(1)	(1)
- Net change	(137)	46	(91)
<b>4. Participants as of January 1, 2011</b>	<b>3,930</b>	<b>850</b>	<b>4,780</b>
- New Entrants/Rehires	135	-	135
- Terminated Nonvested	(90)	-	(90)
- Terminated Vested (Lump Sum Cashout)	(140)	-	(140)
- Retirement	(42)	42	-
- Death w/ Beneficiary	(1)	1	-
- Death w/o Beneficiary	-	-	-
- Net change	(138)	43	(95)
<b>5. Participants as of January 1, 2012</b>	<b>3,792</b>	<b>893</b>	<b>4,685</b>



**National Oil Full-Time Salaried Pension Plan  
Age/Svc/Earnings as of January 1, 2011**

Age (Years)	# Participants	Service (Years)					Totals
		< 5	5-10	10-15	15-20	>20	
< 25	Average Salary	45,000	55,000	-	-	-	55 49,500
25-35	Average Salary	63,000	68,000	78,000	70,000	-	290 72,200
35-45	Average Salary	70,000	75,000	80,000	85,000	200	705 81,900
45-55	Average Salary	70,000	82,000	90,000	92,000	800	1,470 91,200
55-65	Average Salary	70,000	80,000	75,000	85,000	600	1,025 80,700
> 65	Average Salary	55,000	63,000	55,000	70,000	145	247 66,900
Totals	Average Salary	61,000	74,900	79,400	85,700	1,745	3,792 83,000

Avg Age 49.4  
Avg Svc 19.6  
Avg Salary 83,000

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

2008 2009 2010 2011 2012

**Participant Summary**

<b>1. Active Participants</b>					
(a) count	55	57	59	57	59
(b) average age	53.8	54.3	54.9	55.2	55.7
(c) average service	18.6	18.9	19.4	19.7	20.2
(d) average future working lifetime	6.0	5.9	5.7	5.5	5.3
(e) average future working lifetime to vesting (for those not)	N/A	N/A	2.0	2.0	2.0
(f) average plan earnings (prior year)	340,000	347,000	360,000	370,000	400,000
<b>2. Deferred Vested Participants</b>					
(a) count	-	-	-	-	-
<b>3. Pensioners (incl beneficiaries)</b>					
(a) count	19	21	23	25	28
(b) average age	66.1	65.7	66.1	66.5	67.0
(c) average annual benefit	14,500	15,000	15,300	15,800	16,000

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

<b>1. Reconciliation of funded status at valuation date:</b>					
(a) Accumulated Benefit Obligation	(14,839)	(19,114)	(21,448)	(25,165)	(27,835)
(b) Projected Benefit Obligation					
(i) retirees / actives - fully vested	N/A	N/A	(35,746)	(41,942)	(46,392)
(ii) actives - not fully vested	N/A	N/A	(11,915)	(13,981)	(15,464)
(iii) total	(37,098)	(42,475)	(47,662)	(55,923)	(61,857)
(c) Fair Value of Assets	-	-	-	-	-
(d) Funded Status: (b) + (c)	(37,098)	(42,475)	(47,662)	(55,923)	(61,857)
(e) Unrecognized prior service costs	-	-	-	-	-
(f) Unrecognized (gains)/losses	3,547	5,750	7,219	11,293	12,288
(g) Prepaid/(Accrued) expense	N/A	N/A	N/A	N/A	N/A
<b>2. Pension Expense</b>					
(a) Service cost (beg. of year)	1,162	1,272	1,419	1,439	1,658
(b) Interest cost	2,287	2,506	2,690	2,858	3,165
(c) Expected ROA	-	-	-	-	-
(d) Amort of past service cost	-	-	-	-	-
(e) Amort of unrec (gain)/loss **	-	255	430	1,036	1,151
(f) Pension Expense for year	3,450	4,033	4,539	5,333	5,974
<b>3. Benefit Payments</b>					
	276	315	352	395	448
<b>4. Actuarial Basis</b>					
(a) Discount rate	6.00%	5.75%	5.50%	5.00%	5.00%
(b) Return on assets	N/A	N/A	N/A	N/A	N/A
(c) Salary scale	3.50%	3.50%	3.50%	3.50%	3.50%
(d) CPI	3.00%	3.00%	3.00%	3.00%	3.00%
(e) All other assumptions	Same as for Full-time Salaried Pension Plan				

\* numbers may not add due to rounding

\*\* gains/losses exceeding 10% of the greater of the Projected Benefit Obligation and the Fair Value of Assets are amortized over the average future working lifetime of active participants

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	\$80 per month times years of service for terminations/ retirements prior to 2010  \$81 per month times years of service for terminations/ retirements during 2010 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**

2008 2009 2010 2011 2012

**Participant Summary - January 1**

<i>Active Participants</i>					
(a) count	6,363	6,326	6,285	6,262	6,272
(b) average age	47.8	48.6	49.4	50.0	50.8
(c) average service	18.7	19.3	19.8	20.4	21.0
(d) average future working lifetime	10.2	10.5	10.3	10.1	9.9
(e) average future working lifetime to vesting (for those not)	N/A	N/A	3.4	3.3	3.2
(f) average plan earnings (prior year)	41,000	42,000	43,000	44,000	45,000
<i>Deferred Vested Participants</i>					
(a) count	-	-	-	-	-
<i>Pensioners (incl beneficiaries)</i>					
(a) count	1,088	1,103	1,130	1,153	1,173
(b) average age	70.4	71.4	71.9	72.2	72.4
(c) average annual benefit	11,300	11,400	11,500	11,600	11,700

**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	557,208	597,964	617,450	670,766	744,375
Employer Contributions during prior year	32,000	35,000	40,000	40,000	40,000
Benefit Payments during prior year	(16,000)	(16,000)	(17,000)	(18,000)	(18,000)
Expenses during prior year	-	-	-	-	-
Investment return during prior year	24,756	486	30,315	51,610	71,685
Market Value of Assets at January 1 of current year	597,964	617,450	670,766	744,375	838,061
Rate of return during prior year	4%	0%	5%	8%	9%
<i>Average Portfolio Mix During Prior Year:</i>					
(a) Domestic Large Cap Equities	8%	6%	8%	5%	3%
(b) Domestic Small Cap Equities	0%	0%	0%	0%	0%
(c) Domestic Fixed Income	90%	92%	89%	92%	94%
(d) International Equities	0%	0%	0%	0%	0%
(e) Real Estate	0%	0%	0%	0%	0%
(f) Cash	2%	2%	3%	3%	3%
(g) Total	100%	100%	100%	100%	100%
<i>Asset Class Returns during Prior Year:</i>					
(a) Domestic Large Cap Equities	-2%	-30%	15%	3%	2%
(b) Domestic Small Cap Equities	-4%	-40%	20%	8%	7%
(c) Domestic Fixed Income	5%	2%	4%	8%	10%
(d) International Equities	5%	-20%	6%	2%	3%
(e) Real Estate	10%	3%	3%	-5%	-1%
(f) Cash	2%	2%	2%	2%	1%

\* numbers may not add due to rounding

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

	2008	2009	2010	2011	2012
<b>Funding Valuation - January 1 (numbers in \$000's) *</b>					
<b>1. Actuarial Accrued Liability:</b>					
<b>Active Multiplier</b>	\$	\$	\$	\$	\$
(a) Active participants	540,906	582,597	631,117	691,126	746,593
(b) Deferred vested participants	-	-	-	-	-
(c) Pensioners	132,780	137,059	141,646	145,785	149,593
(d) Total	673,686	719,655	772,763	836,911	896,186
<b>2. Actuarial Value of Assets</b>	597,964	617,450	670,766	744,375	838,061
<b>3. Unfunded Actuarial Accrued Liability: (1d)-(2)</b>	75,721	102,205	101,997	92,536	58,125
<b>4. Normal Cost (beg. Of year)</b>	28,925	30,186	31,875	33,879	35,552
<b>5. Change in Unfunded AAL during prior year:</b>					
(a) Unfunded AAL at prior valuation date	100,134	75,721	102,205	101,997	92,536
(b) Adjustment for Interest	6,008	4,733	6,388	6,375	5,552
(c) Normal Cost w/interest less contributions	(2,107)	(5,360)	(9,177)	(7,383)	(5,289)
(d) (Gain)/Loss on investment	9,156	37,481	8,994	(8,999)	(26,363)
(e) (Gain)/Loss on termination	(11,000)	(10,000)	(12,500)	(15,000)	(8,000)
(f) (Gain)/Loss on salary increases less than expected	-	-	-	-	-
(g) (Gain)/Loss on mortality	750	800	700	700	350
(h) (Gain)/Loss on retirement	(6,000)	(1,000)	(2,000)	(5,000)	(1,000)
(i) (Gain)/Loss on assumption changes	(21,000)	-	-	19,400	-
(j) (Gain)/Loss on expenses	-	-	-	-	-
(k) (Gain)/Loss on all other factors	(220)	(169)	(404)	446	338
(l) Change in active benefit multiplier	-	-	7,792	-	-
(m) Unfunded AAL at current valuation date	75,721	102,205	101,997	92,536	58,125
<b>6. Actuarial Basis</b>					
(a) Interest	6.25%	6.25%	6.25%	6.00%	6.00%
(b) Salary scale	N/A	N/A	N/A	N/A	N/A
(c) Consumer Price Index	3.00%	3.00%	3.00%	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%	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**

	2008	2009	2010	2011	2012
<b>Expense Valuation - January 1 (numbers in \$000's) *</b>					
<b>1. Reconciliation of funded status at valuation date:</b>					
(active multiplier)	\$	\$	\$	\$	\$
(a) Accumulated Benefit Obligation	80	80	81	81	81
(b) Projected Benefit Obligation					
(i) retirees / actives - fully vested	N/A	N/A	(811,668)	(907,401)	(971,977)
(ii) actives - not fully vested	N/A	N/A	(42,719)	(47,758)	(51,157)
(iii) total	(704,050)	(770,203)	(854,387)	(955,159)	(1,023,134)
(c) Fair Value of Assets	597,964	617,450	670,766	744,375	838,061
(d) Funded Status: (b) + (c)	(106,086)	(152,753)	(183,621)	(210,783)	(185,073)
(e) Unrecognized prior service costs	-	-	8,722	7,875	7,029
(f) Unrecognized (gains)/losses	70,856	115,072	132,858	151,756	114,629
(g) Prepaid/(Accrued) expense	N/A	N/A	N/A	N/A	N/A
<b>2. Pension Expense:</b>					
(a) Service Cost (beg. of year)	30,274	32,791	36,087	39,977	41,951
(b) Interest Cost	43,579	45,712	48,509	49,307	52,804
(c) Expected return on assets	(36,448)	(37,767)	(40,936)	(43,434)	(48,821)
(d) Amortization of past service cost	-	-	847	847	847
(e) Amortization of net actuarial (gain)/loss **	44	3,624	4,604	5,568	1,244
(f) Immediate recognition of past service costs & (gains)/losses	-	-	-	-	-
(g) Pension Expense	37,450	44,360	49,111	52,265	48,025
<b>3. Actuarial Basis and Supplemental Data</b>					
(a) Discount rate	6.00%	5.75%	5.50%	5.00%	5.00%
(b) Return on assets	6.00%	6.00%	6.00%	5.75%	5.75%
(c) Salary scale	N/A	N/A	N/A	N/A	N/A
(d) Consumer Price Index	3.00%	3.00%	3.00%	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%	1.00%
(k) Asset Valuation Method	Market value of assets				
(l) Actuarial Cost Method	Projected unit credit				
(m) Employer contributions	35,000	40,000	40,000	40,000	40,000
(n) Benefit payments	(16,000)	(16,000)	(17,000)	(18,000)	(18,000)

\* numbers may not add due to rounding

\*\* gains/losses exceeding 10% of the greater of the Projected Benefit Obligation and the Fair Value of Assets are amortized over the average future working lifetime of active participants

**National Oil Full-Time Hourly Union Pension Plan  
Reconciliation of Plan Participants (2008 - 2012)**

	<u>Active</u>	<u>Pensioners/ Beneficiaries</u>	<u>Total</u>
<b>1. Participants as of January 1, 2008</b>	<b>6,363</b>	<b>1,088</b>	<b>7,451</b>
- New Entrants/Rehires	75	-	75
- Terminated Nonvested	(40)	-	(40)
- Terminated Vested (Lump Sum Cashout)	(50)	-	(50)
- Retirement	(20)	20	-
- Death w/ Beneficiary	(2)	1	(1)
- Death w/o Beneficiary	-	(6)	(6)
- Net change	(37)	15	(22)
<b>2. Participants as of January 1, 2009</b>	<b>6,326</b>	<b>1,103</b>	<b>7,429</b>
- New Entrants/Rehires	110	-	110
- Terminated Nonvested	(60)	-	(60)
- Terminated Vested (Lump Sum Cashout)	(60)	-	(60)
- Retirement	(30)	30	-
- Death w/ Beneficiary	(1)	1	-
- Death w/o Beneficiary	-	(4)	(4)
- Net change	(41)	27	(14)
<b>3. Participants as of January 1, 2010</b>	<b>6,285</b>	<b>1,130</b>	<b>7,415</b>
- New Entrants/Rehires	120	-	120
- Terminated Nonvested	(50)	-	(50)
- Terminated Vested (Lump Sum Cashout)	(70)	-	(70)
- Retirement	(25)	25	-
- Death w/ Beneficiary	(1)	1	-
- Death w/o Beneficiary	3	(3)	-
- Net change	(23)	23	-
<b>4. Participants as of January 1, 2011</b>	<b>6,262</b>	<b>1,153</b>	<b>7,415</b>
- New Entrants/Rehires	130	-	130
- Terminated Nonvested	(40)	-	(40)
- Terminated Vested (Lump Sum Cashout)	(60)	-	(60)
- Retirement	(20)	20	-
- Death w/ Beneficiary	-	-	-
- Death w/o Beneficiary	-	-	-
- Net change	10	20	30
<b>5. Participants as of January 1, 2012</b>	<b>6,272</b>	<b>1,173</b>	<b>7,445</b>



**National Oil Full-Time Hourly Union Pension Plan  
Age/Svc/Earnings as of January 1, 2012**

Age (Years)	# Participants	Average Salary	Service (Years)					Totals
			< 5	5-10	10-15	15-20	>20	
< 25	100	28,000	50	-	-	-	150	
25-35	80	29,000	60	90	62	-	292	
35-45	70	29,000	110	100	700	700	1,680	
45-55	50	32,000	90	125	355	1,500	2,120	
55-65	50	33,000	100	100	200	1,200	1,650	
> 65	15	29,000	10	100	100	155	380	
Totals	365	29,700	420	515	1,417	3,555	6,272	
			35,600	43,200	46,400	47,500	45,000	

Avg Age 50.8  
Avg Svc 21.0  
Avg Salary 45,000

National Oil Part-Time DC Pension Plan

Eligibility	Immediate
Vesting	Immediate
Employee Contributions	Employee may defer between 1% to 20% of pay
Employer Contributions	3% of pay
Plan Fund Investment Options	The employer invests in funds elected by employee
Account Balance	Contributions are accumulated in member's individual account earning a rate of return based on the investments elected by the employee
Loans/Withdrawals	Not permitted.
Benefit on Termination or Retirement	Account balance is payable to employee upon termination or retirement. Employee has the option to leave the balance in the fund or withdraw entire balance immediately upon termination or retirement.
Benefit on Death	Account balance is payable to named beneficiary

**National Oil Part-Time DC Pension Plan**  
 Historical Results - January 1

2008                      2009                      2010                      2011                      2012

**Participant Summary**

(a) number participating during prior year	6,600	6,500	6,400	6,300	6,500
(b) average age	28.5	28.9	29.3	28.8	28.0
(c) average pay	31,000	31,620	32,300	33,000	34,000

**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	63,069	66,220	65,632	74,104	81,296
Employee Contributions during prior year	10,230	10,277	10,336	10,395	11,050
Company Contributions during prior year	6,138	6,166	6,202	6,237	6,630
Benefit Payments during prior year	(13,860)	(13,650)	(13,440)	(13,230)	(13,650)
Expenses during prior year	-	-	-	-	-
Investment return during prior year	643	(3,381)	5,374	3,790	2,499
Market Value of Assets at January 1 of current year	66,220	65,632	74,104	81,296	87,825
Rate of return during prior year	1%	-5%	8%	5%	3%

\* numbers may not add due to rounding

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

Eligibility	Immediate
Earliest Retirement Age	55 and 10 years of service
Retirement benefit	Retirees and their spouses may elect to participate in a self insured health plan, with 100% the of cost of the plan paid by the employer.
Pre-retirement / termination benefits	None
Spousal Coverage	Coverage continues for the life of the spouse after death of an eligible employee
Benefits Covered	\$0 deductible; \$0 copay No lifetime maximum Office visits Hospital visits  Surgery Prescription drugs
Life Insurance benefit	Effective January 1, 2010: introduced \$50,000 life insurance benefit payable upon death after retirement

Retiree Health and Welfare Program  
Historical Valuation Results

	2008	2009	2010	2011	2012
<b>Expense Valuation Results - January 1 (numbers in \$000's) *</b>					
<b>1. Reconciliation of funded status at valuation date:</b>					
(a) Accumulated Postretirement Benefit Obligation					
(i) actives - fully vested	(816,512)	(915,361)	(724,363)	(806,700)	(924,061)
(ii) actives - not fully vested	N/A	N/A	(316,909)	(345,728)	(396,026)
(iii) retirees	(565,677)	(659,480)	(735,661)	(848,530)	(960,883)
(iv) total	(1,382,189)	(1,574,841)	(1,776,933)	(2,000,958)	(2,280,970)
(b) Fair Value of Assets	0	0	0	0	0
(c) Surplus: (a) + (b)	(1,382,189)	(1,574,841)	(1,776,933)	(2,000,958)	(2,280,970)
(d) Unrecognized past service costs	0	0	20,000	17,318	14,636
(e) Unrecognized (gain)/loss	142,116	226,210	283,624	365,754	492,158
(f) Prepaid/(Accrued) expense	N/A	N/A	N/A	N/A	N/A
<b>2. Expense</b>					
(a) Service cost (beg. of year)	51,032	57,210	63,425	72,027	82,505
(b) Interest cost	85,153	92,923	100,340	102,724	117,124
(c) Expected ROA	0	0	0	0	0
(d) Amort of past service cost	0	0	2,682	2,682	2,682
(e) Amort of unrec (gain)/loss **	373	6,545	10,130	15,857	25,981
(f) Expense for year	136,559	156,678	176,577	193,290	228,292
3. Benefit Payments	28,000	32,000	32,000	37,000	42,000
4. Average Future Working Lifetime to Retirement	10.44	10.50	10.46	10.45	10.16
5. Average Future Working Lifetime to FEA	7.44	7.50	7.46	7.45	7.16
6. Average Future Working Lifetime to Fully Vested (for those not vested)	N/A	N/A	7.46	7.45	7.16
<b>7. Actuarial Assumptions:</b>					
(a) Discount rate	6.00%	5.75%	5.50%	5.00%	5.00%
(b) Return on assets	N/A	N/A	N/A	N/A	N/A
(c) Medical trend					
Initial rate	6.00%	6.00%	6.00%	5.50%	6.00%
Annual decrease	0.50%	0.50%	0.50%	0.50%	0.50%
Ultimate rate	4.50%	4.50%	4.50%	4.50%	5.00%
Year ultimate trend rate reached	2011	2012	2013	2013	2014
(d) CPI	3.00%	3.00%	3.00%	3.00%	3.00%
(e) Per capita claims cost	9,900	11,000	12,000	13,000	14,500
(f) Retirement assumption	Age 62 with 10 years of service				
(g) All other demographic assumptions	Same as those used for pension plans				

\* numbers may not add due to rounding

\*\* gains/losses exceeding 10% of the Accumulated Postretirement Benefit Obligation are amortized over the average future working lifetime of active participants