

U.S. Exam Case Study - Course DA Retirement

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
- 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 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 payable as an indemnity for health related services 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 GAAP Accounting Standards.

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 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 salaried ERP. 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

2009 2010 2011 2012 2013

Participant Summary - January 1

| | | | | | |
|--|--------|--------|--------|--------|--------|
| <i>Active Participants</i> | | | | | |
| (a) count | 4,118 | 4,067 | 3,930 | 3,792 | 3,615 |
| (b) average age | 48.0 | 48.5 | 49.0 | 49.4 | 49.8 |
| (c) average service | 18.4 | 18.7 | 19.2 | 19.6 | 19.8 |
| (d) average future working lifetime | 10.5 | 10.7 | 11.0 | 10.6 | 10.5 |
| (e) average future working lifetime to vesting (for those not) | N/A | 3.0 | 3.0 | 3.0 | 3.0 |
| (f) average plan earnings (prior year) | 75,000 | 78,000 | 80,000 | 83,000 | 84,000 |
| <i>Deferred Vested Participants</i> | | | | | |
| (a) count | - | - | - | - | - |
| <i>Pensioners (incl beneficiaries)</i> | | | | | |
| (a) count | 775 | 804 | 850 | 893 | 934 |
| (b) average age | 70.5 | 70.5 | 68.0 | 67.5 | 67.8 |
| (c) average annual benefit | 20,800 | 21,200 | 21,500 | 22,000 | 22,500 |
| Duration of plan liabilities | 16.7 | 16.5 | 16.2 | 16.2 | 16.1 |

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 | 1,027,990 | 875,898 | 982,379 | 1,046,845 | 1,119,960 |
| Employer Contributions during prior year | 40,564 | 40,526 | 42,348 | 42,698 | 43,336 |
| Benefit Payments during prior year | (28,000) | (29,000) | (32,000) | (33,000) | (33,000) |
| Expenses during prior year | - | - | - | - | - |
| Investment return during prior year | (164,656) | 94,955 | 54,118 | 63,417 | 57,944 |
| Market Value of Assets at January 1 of current year | 875,898 | 982,379 | 1,046,845 | 1,119,960 | 1,188,240 |
| Rate of return during prior year | -16% | 11% | 5% | 6% | 5% |
| <i>Average Portfolio Mix During Prior Year:</i> | | | | | |
| (a) Domestic Large Cap Equities | 25% | 31% | 28% | 27% | 25% |
| (b) Domestic Small Cap Equities | 19% | 21% | 20% | 19% | 18% |
| (c) Domestic Fixed Income | 40% | 36% | 38% | 40% | 43% |
| (d) International Equities | 9% | 5% | 7% | 6% | 5% |
| (e) Real Estate | 4% | 4% | 4% | 5% | 4% |
| (f) Cash | 3% | 3% | 3% | 3% | 5% |
| (g) Total | 100% | 100% | 100% | 100% | 100% |
| Duration of Domestic Fixed Income | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 |
| <i>Asset Class Returns during Prior Year:</i> | | | | | |
| (a) Domestic Large Cap Equities | -30% | 15% | 3% | 2% | 3% |
| (b) Domestic Small Cap Equities | -40% | 20% | 8% | 7% | 5% |
| (c) Domestic Fixed Income | 2% | 4% | 8% | 10% | 8% |
| (d) International Equities | -20% | 6% | 2% | 3% | 1% |
| (e) Real Estate | 3% | 3% | -5% | -1% | -1% |
| (f) Cash | 2% | 2% | 2% | 1% | 1% |

* numbers may not add due to rounding

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

| | 2009 | 2010 | 2011 | 2012 | 2013 |
|---|-------------|-------------|---|-------------|-------------|
| Expense Valuation - January 1 (numbers in \$000's) * | | | | | |
| 1. Funded Status and Deferred Costs: | | | | | |
| (a) Accumulated Benefit Obligation | (777,235) | (844,146) | (937,268) | (976,523) | (1,005,524) |
| (b) Projected Benefit Obligation | | | | | |
| (i) Vested | N/A | (1,121,508) | (1,245,227) | (1,297,381) | (1,335,911) |
| (ii) Non-vested | N/A | (84,415) | (93,727) | (97,652) | (100,552) |
| (iii) Total | (1,110,336) | (1,205,922) | (1,338,954) | (1,395,033) | (1,436,463) |
| (c) Fair Value of Assets | 875,898 | 982,379 | 1,046,845 | 1,119,960 | 1,188,240 |
| (d) Funded Status: (b) + (c) | (234,437) | (223,543) | (292,109) | (275,073) | (248,223) |
| (e) Unrecognized (gains)/losses | 141,037 | 111,010 | 165,426 | 128,537 | 86,518 |
| 2. Pension Expense: | | | | | |
| (a) Service Cost (beg. of year) | 52,495 | 57,065 | 61,486 | 62,404 | 66,869 |
| (b) Interest Cost | 66,058 | 68,667 | 69,222 | 72,047 | 66,907 |
| (c) Expected return on assets | (61,751) | (69,234) | (71,023) | (75,946) | (77,541) |
| (d) Amortization of past service cost | - | - | - | - | - |
| (e) Amortization of net actuarial (gain)/loss ** | 2,857 | - | 2,866 | - | - |
| (f) Pension Expense for year | 59,659 | 56,498 | 62,551 | 58,505 | 56,235 |
| All plan administrative expenses are paid and accounted for outside of the plan fund. | | | | | |
| 3. Actuarial Basis and Supplemental Data | | | | | |
| (a) Discount rate | 5.75% | 5.50% | 5.00% | 5.00% | 4.50% |
| (b) Return on assets | 7.00% | 7.00% | 6.75% | 6.75% | 6.50% |
| (c) Salary scale | 4.00% | 4.00% | 4.00% | 4.00% | 3.50% |
| (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 | 40,526 | 42,348 | 42,698 | 43,336 | 42,391 |
| (m) Benefit payments | (28,000) | (29,000) | (32,000) | (33,000) | (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 (2009 - 2013)**

| | <u>Active</u> | <u>Pensioners/ Beneficiaries</u> | <u>Total</u> |
|--|---------------|--------------------------------------|--------------|
| 1. Participants as of January 1, 2009 | 4,118 | 775 | 4,893 |
| - 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) |
| 2. Participants as of January 1, 2010 | 4,067 | 804 | 4,871 |
| - 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) |
| 3. Participants as of January 1, 2011 | 3,930 | 850 | 4,780 |
| - 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) |
| 4. Participants as of January 1, 2012 | 3,792 | 893 | 4,685 |
| - New Entrants/Rehires | 54 | - | 54 |
| - Terminated Nonvested | (60) | - | (60) |
| - Terminated Vested (Lump Sum Cashout) | (130) | - | (130) |
| - Retirement | (40) | 40 | - |
| - Death w/ Beneficiary | (1) | 1 | - |
| - Death w/o Beneficiary | - | - | - |
| - Net change | (177) | 41 | (136) |
| 5. Participants as of January 1, 2013 | 3,615 | 934 | 4,549 |

**National Oil Full-Time Salaried Pension Plan
Age/Svc/Earnings as of January 1, 2013**

| Age (Years) | # Participants | Average Salary | Service (Years) | | | | | Totals | |
|----------------|----------------|----------------|-----------------|--------|-------|-------|-------|--------|--------|
| | | | < 5 | 5-10 | 10-15 | 15-20 | >20 | | |
| < 25 | 20 | 45,000 | 20 | 55,000 | - | - | - | 40 | 50,000 |
| 25-35 | 15 | 63,000 | 40 | 70,000 | 110 | 110 | - | 275 | 73,600 |
| 35-45 | 15 | 70,000 | 60 | 75,000 | 200 | 200 | 200 | 675 | 82,300 |
| 45-55 | 5 | 70,000 | 50 | 82,000 | 150 | 400 | 750 | 1,355 | 93,000 |
| 55-65 | 10 | 70,000 | 60 | 80,000 | 80 | 220 | 650 | 1,020 | 82,500 |
| > 65 | - | - | - | - | 50 | 50 | 150 | 250 | 63,000 |
| Totals | 65 | 60,700 | 230 | 75,200 | 590 | 980 | 1,750 | 3,615 | 84,000 |

Avg Age 49.8
Avg Svc 19.8
Avg Salary 84,000

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

| | 2009 | 2010 | 2011 | 2012 | 2013 |
|--|---------|---------|---------|---------|---------|
| Participant Summary | | | | | |
| 1. Active Participants | | | | | |
| (a) count | 57 | 59 | 57 | 59 | 57 |
| (b) average age | 54.3 | 54.9 | 55.2 | 55.7 | 56.0 |
| (c) average service | 18.9 | 19.4 | 19.7 | 20.2 | 20.5 |
| (d) average future working lifetime | 5.9 | 5.7 | 5.5 | 5.3 | 5.1 |
| (e) average future working lifetime to vesting (for those not) | N/A | 2.0 | 2.0 | 2.0 | 2.0 |
| (f) average plan earnings (prior year) | 347,000 | 360,000 | 370,000 | 400,000 | 410,000 |
| 2. Deferred Vested Participants | | | | | |
| (a) count | - | - | - | - | - |
| 3. Pensioners (incl beneficiaries) | | | | | |
| (a) count | 21 | 23 | 25 | 28 | 30 |
| (b) average age | 65.7 | 66.1 | 66.5 | 67.0 | 67.3 |
| (c) average annual benefit | 15,000 | 15,300 | 15,800 | 16,000 | 16,500 |
| Duration of plan liabilities | 15.0 | 14.5 | 14.0 | 14.5 | 14.0 |

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

| | | | | | |
|--|---|----------|----------|----------|----------|
| 1. Funded Status and Deferred Costs: | | | | | |
| (a) Accumulated Benefit Obligation | (19,114) | (21,448) | (25,165) | (27,835) | (32,502) |
| (b) Projected Benefit Obligation | | | | | |
| (i) Vested | N/A | (35,746) | (41,942) | (46,392) | (54,170) |
| (ii) Non-vested | N/A | (11,915) | (13,981) | (15,464) | (18,057) |
| (iii) Total | (42,475) | (47,662) | (55,923) | (61,857) | (72,227) |
| (c) Fair Value of Assets | - | - | - | - | - |
| (d) Funded Status: (b) + (c) | (42,475) | (47,662) | (55,923) | (61,857) | (72,227) |
| (e) Unrecognized (gains)/losses | 5,750 | 7,219 | 11,293 | 12,288 | 17,133 |
| 2. Pension Expense | | | | | |
| (a) Service cost (beg. of year) | 1,272 | 1,419 | 1,439 | 1,658 | 1,674 |
| (b) Interest cost | 2,506 | 2,690 | 2,858 | 3,165 | 3,314 |
| (c) Expected ROA | - | - | - | - | - |
| (d) Amort of past service cost | - | - | - | - | - |
| (e) Amort of unrec (gain)/loss ** | 255 | 430 | 1,036 | 1,151 | 1,943 |
| (f) Pension Expense for year | 4,033 | 4,539 | 5,333 | 5,974 | 6,932 |
| All plan administrative expenses are paid out of general assets of NOC (outside of plan accounting). | | | | | |
| 3. Benefit Payments | 315 | 352 | 395 | 448 | 495 |
| 4. Actuarial Basis | | | | | |
| (a) Discount rate | 5.75% | 5.50% | 5.00% | 5.00% | 4.50% |
| (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

| | 2009 | 2010 | 2011 | 2012 | 2013 |
|--|--------|--------|--------|--------|--------|
| Participant Summary - January 1 | | | | | |
| <i>Active Participants</i> | | | | | |
| (a) count | 6,326 | 6,285 | 6,262 | 6,272 | 6,220 |
| (b) average age | 48.6 | 49.4 | 50.0 | 50.8 | 50.8 |
| (c) average service | 19.3 | 19.8 | 20.4 | 21.0 | 21.0 |
| (d) average future working lifetime | 10.5 | 10.3 | 10.1 | 9.9 | 9.5 |
| (e) average future working lifetime to vesting (for those not) | N/A | 3.4 | 3.3 | 3.2 | 3.2 |
| (f) average plan earnings (prior year) | 42,000 | 43,000 | 44,000 | 45,000 | 44,900 |
| <i>Deferred Vested Participants</i> | | | | | |
| (a) count | - | - | - | - | - |
| <i>Pensioners (incl beneficiaries)</i> | | | | | |
| (a) count | 1,103 | 1,130 | 1,153 | 1,173 | 1,205 |
| (b) average age | 71.4 | 71.9 | 72.2 | 72.4 | 72.7 |
| (c) average annual benefit | 11,400 | 11,500 | 11,600 | 11,700 | 11,700 |
| Duration of plan liabilities | 14.0 | 14.1 | 14.1 | 14.2 | 14.1 |

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 | 597,964 | 617,450 | 670,766 | 744,375 | 838,061 |
| Employer Contributions during prior year | 35,000 | 40,000 | 40,000 | 40,000 | 40,000 |
| Benefit Payments during prior year | (16,000) | (17,000) | (18,000) | (18,000) | (18,000) |
| Expenses during prior year | - | - | - | - | - |
| Investment return during prior year | 486 | 30,315 | 51,610 | 71,685 | 64,868 |
| Market Value of Assets at January 1 of current year | 617,450 | 670,766 | 744,375 | 838,061 | 924,929 |
| Rate of return during prior year | 0% | 5% | 8% | 9% | 8% |
| <i>Average Portfolio Mix During Prior Year:</i> | | | | | |
| (a) Domestic Large Cap Equities | 6% | 8% | 5% | 3% | 3% |
| (b) Domestic Small Cap Equities | 0% | 0% | 0% | 0% | 0% |
| (c) Domestic Fixed Income | 92% | 89% | 92% | 94% | 94% |
| (d) International Equities | 0% | 0% | 0% | 0% | 0% |
| (e) Real Estate | 0% | 0% | 0% | 0% | 0% |
| (f) Cash | 2% | 3% | 3% | 3% | 3% |
| (g) Total | 100% | 100% | 100% | 100% | 100% |
| Duration of Domestic Fixed Income | 15.0 | 15.0 | 15.0 | 15.0 | 15.0 |
| <i>Asset Class Returns during Prior Year:</i> | | | | | |
| (a) Domestic Large Cap Equities | -30% | 15% | 3% | 2% | 3% |
| (b) Domestic Small Cap Equities | -40% | 20% | 8% | 7% | 5% |
| (c) Domestic Fixed Income | 2% | 4% | 8% | 10% | 8% |
| (d) International Equities | -20% | 6% | 2% | 3% | 1% |
| (e) Real Estate | 3% | 3% | -5% | -1% | -1% |
| (f) Cash | 2% | 2% | 2% | 1% | 1% |

* numbers may not add due to rounding

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

| | 2009 | 2010 | 2011 | 2012 | 2013 |
|---|-----------|-----------|---|-------------|-------------|
| 1. Funded Status and Deferred Costs: | | | | | |
| (active multiplier) | \$ 80 | \$ 81 | \$ 81 | \$ 81 | \$ 81 |
| (a) Accumulated Benefit Obligation | (770,203) | (854,387) | (955,159) | (1,023,134) | (1,020,505) |
| (b) Projected Benefit Obligation | | | | | |
| (i) Vested | N/A | (811,668) | (907,401) | (971,977) | (969,479) |
| (ii) Non-vested | N/A | (42,719) | (47,758) | (51,157) | (51,025) |
| (iii) Total | (770,203) | (854,387) | (955,159) | (1,023,134) | (1,020,505) |
| (c) Fair Value of Assets | 617,450 | 670,766 | 744,375 | 838,061 | 924,929 |
| (d) Funded Status: (b) + (c) | (152,753) | (183,621) | (210,783) | (185,073) | (95,576) |
| (e) Unrecognized prior service costs | - | 8,722 | 7,875 | 7,029 | 6,182 |
| (f) Unrecognized (gains)/losses | 115,072 | 132,858 | 151,756 | 114,629 | 17,952 |
| 2. Pension Expense: | | | | | |
| (a) Service Cost (beg. of year) | 32,791 | 36,087 | 39,977 | 41,951 | 41,604 |
| (b) Interest Cost | 45,712 | 48,509 | 49,307 | 52,804 | 52,655 |
| (c) Expected return on assets | (37,767) | (40,936) | (43,434) | (48,821) | (53,816) |
| (d) Amortization of past service cost | - | 847 | 847 | 847 | 847 |
| (e) Amortization of net actuarial (gain)/loss ** | 3,624 | 4,604 | 5,568 | 1,244 | - |
| (f) Immediate recognition of past service costs & (gains)/losses | - | - | - | - | - |
| (g) Pension Expense | 44,360 | 49,111 | 52,265 | 48,025 | 41,290 |
| All plan administrative expenses are paid and accounted for outside of the plan fund. | | | | | |
| 3. Actuarial Basis and Supplemental Data | | | | | |
| (a) Discount rate | 5.75% | 5.50% | 5.00% | 5.00% | 5.00% |
| (b) Return on assets | 6.00% | 6.00% | 5.75% | 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 | 40,000 | 40,000 | 40,000 | 40,000 | 40,000 |
| (n) Benefit payments | (16,000) | (17,000) | (18,000) | (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 (2009 - 2013)**

| | <u>Active</u> | <u>Pensioners/ Beneficiaries</u> | <u>Total</u> |
|--|---------------|--------------------------------------|--------------|
| 1. Participants as of January 1, 2009 | 6,326 | 1,103 | 7,429 |
| - 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) |
| 2. Participants as of January 1, 2010 | 6,285 | 1,130 | 7,415 |
| - 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 | - |
| 3. Participants as of January 1, 2011 | 6,262 | 1,153 | 7,415 |
| - 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 |
| 4. Participants as of January 1, 2012 | 6,272 | 1,173 | 7,445 |
| - New Entrants/Rehires | 100 | - | 100 |
| - Terminated Nonvested | (50) | - | (50) |
| - Terminated Vested (Lump Sum Cashout) | (70) | - | (70) |
| - Retirement | (30) | 30 | - |
| - Death w/ Beneficiary | (1) | 1 | - |
| - Death w/o Beneficiary | (1) | 1 | - |
| - Net change | (52) | 32 | (20) |
| 5. Participants as of January 1, 2013 | 6,220 | 1,205 | 7,425 |

**National Oil Full-Time Hourly Union Pension Plan
Age/Svc/Earnings as of January 1, 2013**

| Age (Years) | # Participants | Average Salary | Service (Years) | | | | | Totals | | |
|----------------|----------------|----------------|-----------------|--------|-------|--------|-------|--------|--------|--------|
| | | | < 5 | 5-10 | 10-15 | 15-20 | >20 | | | |
| < 25 | 50 | 28,000 | 50 | 34,000 | - | - | - | 100 | 31,000 | |
| 25-35 | 60 | 29,000 | 60 | 39,000 | 90 | 44,000 | 60 | - | 270 | 39,600 |
| 35-45 | 70 | 29,000 | 130 | 34,000 | 100 | 43,000 | 700 | 700 | 1,700 | 43,400 |
| 45-55 | 50 | 32,000 | 90 | 37,000 | 100 | 55,000 | 380 | 1,500 | 2,120 | 48,900 |
| 55-65 | 50 | 33,000 | 100 | 36,000 | 100 | 42,000 | 200 | 1,100 | 1,550 | 47,400 |
| > 65 | 15 | 29,000 | 10 | 25,000 | 100 | 29,000 | 100 | 255 | 480 | 30,300 |
| Totals | 295 | 30,000 | 440 | 35,500 | 490 | 42,600 | 1,440 | 3,555 | 6,220 | 44,900 |

Avg Age 50.8
Avg Svc 21.0
Avg Salary 44,900

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

| | 2009 | 2010 | 2011 | 2012 | 2013 |
|--|--------|--------|--------|--------|--------|
| Participant Summary | | | | | |
| (a) number participating during prior year | 6,500 | 6,400 | 6,300 | 6,500 | 6,700 |
| (b) average age | 28.9 | 29.3 | 28.8 | 28.0 | 28.0 |
| (c) average pay | 31,620 | 32,300 | 33,000 | 34,000 | 36,000 |

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 | 66,220 | 65,632 | 74,104 | 81,296 | 87,825 |
| Employee Contributions during prior year | 10,277 | 10,336 | 10,395 | 11,050 | 12,060 |
| Company Contributions during prior year | 6,166 | 6,202 | 6,237 | 6,630 | 7,236 |
| Benefit Payments during prior year | (13,650) | (13,440) | (13,230) | (13,650) | (14,070) |
| Expenses during prior year | - | - | - | - | - |
| Investment return during prior year | (3,381) | 5,374 | 3,790 | 2,499 | 4,522 |
| Market Value of Assets at January 1 of current year | 65,632 | 74,104 | 81,296 | 87,825 | 97,573 |
| Rate of return during prior year | -5% | 8% | 5% | 3% | 5% |

* 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

2009 2010 2011 2012 2013

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

| | | | | | |
|--|-------------|--------------------------------------|-------------|-------------|-------------|
| 1. Funded Status and Deferred Costs: | | | | | |
| (a) Accumulated Postretirement Benefit Obligation | | | | | |
| (i) actives - fully vested | (915,361) | (724,363) | (806,700) | (924,061) | (1,032,703) |
| (ii) actives - not fully vested | N/A | (316,909) | (345,728) | (396,026) | (442,587) |
| (iii) retirees | (659,480) | (735,661) | (848,530) | (960,883) | (1,069,370) |
| (iv) total | (1,574,841) | (1,776,933) | (2,000,958) | (2,280,970) | (2,544,660) |
| (b) Fair Value of Assets | 0 | 0 | 0 | 0 | 0 |
| (c) Surplus: (a) + (b) | (1,574,841) | (1,776,933) | (2,000,958) | (2,280,970) | (2,544,660) |
| (d) Unrecognized past service costs | 0 | 20,000 | 17,318 | 14,636 | 11,954 |
| (e) Unrecognized (gain)/loss | 226,210 | 283,624 | 365,754 | 492,158 | 572,238 |
| 2. Expense | | | | | |
| (a) Service cost (beg. of year) | 57,210 | 63,425 | 72,027 | 82,505 | 92,206 |
| (b) Interest cost | 92,923 | 100,340 | 102,724 | 117,124 | 117,579 |
| (c) Expected ROA | 0 | 0 | 0 | 0 | 0 |
| (d) Amort of past service cost | 0 | 2,682 | 2,682 | 2,682 | 2,682 |
| (e) Amort of unrec (gain)/loss ** | 6,545 | 10,130 | 15,857 | 25,981 | 32,204 |
| (f) Expense for year | 156,678 | 176,577 | 193,290 | 228,292 | 244,670 |
| All plan administrative and claims expenses are included in the claims costs used to determine the plan liability. | | | | | |
| 3. Benefit Payments | 32,000 | 32,000 | 37,000 | 42,000 | 48,000 |
| 4. Average Future Working Lifetime to Retirement | 10.50 | 10.46 | 10.45 | 10.16 | 9.87 |
| 5. Average Future Working Lifetime to FEA | 7.50 | 7.46 | 7.45 | 7.16 | 6.87 |
| 6. Average Future Working Lifetime to Fully Vested (for those not vested) | N/A | 7.46 | 7.45 | 7.16 | 6.87 |
| 7. Duration of plan liabilities | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 |
| 8. Actuarial Assumptions: | | | | | |
| (a) Discount rate | 5.75% | 5.50% | 5.00% | 5.00% | 4.50% |
| (b) Return on assets | N/A | N/A | N/A | N/A | N/A |
| (c) Medical trend | | | | | |
| Initial rate | 6.00% | 6.00% | 5.50% | 6.00% | 6.00% |
| Annual decrease | 0.50% | 0.50% | 0.50% | 0.50% | 0.50% |
| Ultimate rate | 4.50% | 4.50% | 4.50% | 5.00% | 5.00% |
| Year ultimate trend rate reached | 2012 | 2013 | 2013 | 2014 | 2015 |
| (d) CPI | 3.00% | 3.00% | 3.00% | 3.00% | 3.00% |
| (e) Per capita claims cost | 11,000 | 12,000 | 13,000 | 14,500 | 15,500 |
| (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