Solution 1

(a) Current benefit at 62

Sal_5 x 0.02 x 30 = 180,000 or 60% of salary

	ex
Avg assum sal = 300,000	$a_{62} = 9$
LS_{62}	$a_{63} = 8.6$
value of pension 62	1,620,000

value of pension 63/discounted to 62 = $\frac{300,000 \times 1.05 \times 8.6 \times 0.66}{1.08}$

= 1,655,500 (assume 5% s ↑)

= 1,576,666 (if no sal)

Goal is to retain executive. Should try to find reason for expected departure. If the reason is stress, want to enjoy life, health declining, they can offer phased retirement. The CEO can work down to full retirement by age 65. This would allow transition of knowledge, mentoring of future CEO and retention of talent. We will need to address a couple of issues regarding this, calculating future approval maintenance of income, death benefit while disabled, form of pension, (what happens if marital status changes), anti-cut back legislation (in regular DB plan), this offer will have to be voluntary in nature.

Second reason might be protection of benefit or no incentive in the plan to remain. Under the salaried plan, if the member dies the beneficiary receives a lump sum value of the $\max(30 \times 3000 \times \alpha 62)$ however under the supplemental plan the beneficiary would receive 0. If the CEO became disabled he would receive no benefit.

- One first step would be to offer, pre-retirement death and disability under both plans so that the CEO is not worse off is those event happen that if he retired.
- One concern is the plan design, each year the member accrued more service but loose the early retirement subsidy. Can offer additional benefit to account for loss or at least guarantee an increase in benefit that will be higher than the lost subsidy.
- Could also offer back-loading to CEO, he could receive a pension from the plan that would be from 30 yrs of service and receive a lump-sum amount for the service from 62 to 65 (or 61), choice of CEO.

Solution 1 (continued)

- Could also offer stock option to CEO with strict vesting rule stating that if the member leaves before 65, he loose the options, (unless approved by the company).
- Can offer back-loading by having high accrual after 62.
- Can offer to transfer a portion or all of his benefit at 65 instead of all being retirement pension.
- Can offer to fund benefit of executive so his benefit will be secured, either buying an annuity, terminal vesting, secular trust, letter of credit, RCA.
- Can offer optional form of pension

(b) Having 30 years of service and being 62, this executive will be well treated by the company's retirement program and health program.

The first step in the negotiation is to ask the reason the executive is considering retirement.

- alleviate work schedule
- health reason
- pursue other goals

The next step is to evaluate the financial situation of the executive after retirement.

- will benefit (retirement & health) be sufficient to maintain his pre-retirement level of consumption
- will the executive need to find another job
- does the executive have liabilities at retirement (mortgage, personal loan, etc.)

If the executive needs more money at retirement, could ask for more benefits from the SRP plan that would be somehow guarantee to eliminate risk of insolvency or employer refusal to pay at retirement.

I would negotiate a salary rate increase for my client.

If the executive wants to alleviate the work schedule, I would negotiate a phased retirement over the next few years, making sure that my client would be highly compensated in the form of adjustment to pension amount when he will be fully retired.

Solution 1 (continued)

I could also negotiate additional benefits for the executive paid life insurance, prescription drugs.

Tax consequences are also an issue. I would make sure that adverse tax consequence to the executive be paid by NOC.

Finally, I would consider NOC willingness to keep the executive (desired spending level, competitiveness of benefits offered)

(c) With only 8 years of service, the replacement ratio is 16% meaning phased retirement is less effective for this mid-career executive due to low retirement benefits.

- With only 8 years of service instead of 30, we should look at offering extra accrued service
- Could offer extra year of accrued service for every year extra he stayed
- With 8 years of service a retiree has to pay 75% of premium (at retirement exec would have 12 years so he would have to pay 50% of premium)
- Could offer to reduce the medical premium

(d) Professional Integrity

- as an actuary, must act with care and skill and in a professional manner
- need to provide unbiased advice
- would be unethical to provide employee advice to save NOC $, but would disadvantage employee

Conflict of interest – both parties should be aware that I am paid by NOC, but giving advice to employee could be counter to their interest

- both need to agree to me doing the work
- I must be able to act fairly

Standards of practice

- I must follow standards, and if none exist, use generally accepted actuarial principles in this situation.

Solution 2

(a) A settlement under FAS88 will occur since purchasing annuities for pensioners
(1) relieves the employer of all future obligations and
(2) is irrevocable

Expense for 1/1/03-6/30/03 = 34,450 x 6/12 = 17,225

	6% before annuity purchase 6/30/03	adjusted for annuity purchase	settlement	after settlement (2)-(3)
PBO	(508,000)	(525,000)	125,000	(400,000)
MVA	320,000	320,000	(125,000)	195,000
Funded Status	(188,000)	(205,000)	0	(205,000)
Unrec PSC	32,995 ϕ	32,995	0	32,995
(G)/L	119,374 #	136,374	(32,470) **	103,904
(accrued)/Prepaid	(35,631) *	(35,631)	(32,470)	(68,101)

$\phi = 34,913 - (3,837 \times .5) = 32,995$

$\# = (35,631) - (188,000) - 32,995 = 119,374$

$* = (30,406) - 34,450 \times .5 + 24,000 \times .5 = (35,631)$

$** = 136,374 \times \frac{125,000}{525,000} = 32,470$

Solution 2 (continued)

	After settlement
PBO	(400,000)
MVA	195,000
FS	(205,000)
Unrec PSC	32,995
(G)/L	103,904
(a)/P	(68,101)

Expense for 6/30/03 – 12/31/03

$$SC=28{,}000\left(1+\frac{.06}{2}\right)\times .5=14{,}420$$

$$IC=400{,}000\left(\frac{.06}{2}\right)-0=12{,}000$$

↓ no benefit since purchased annuities

Exp return on assets = 195,000 (.09/2) = (8,775)

↓

assume remainder of contribution paid on December 31, 2003

$$PSC=3{,}837\times .5=1{,}918$$

$$(g)/l=\left[103{,}904-.1\left(\max \text{ of } (400{,}000,\ 195{,}000)\right)/11.5\right]\times .5=2{,}778$$

	(1/1-6/30)	(7/1-12/31)
FAS87 expense =		14,420+12,000-8,775+1,918+2,778
=	39,566	
FAS88 expense =	32,470	
total FAS expense =	72,036 (39,566 + 32,470)	

Solution 2 (continued)

(b) Settlement accounting depends on participation terms
- If a significant of risk is not transferred, then should keep the asset and liability in the P&L – no settlement
- Participating premium > non participating premium – difference is recognized as a cost. Employer still possibly subject to mortality and investment experience.

(c) Under IAS 19 the impact of the settlement (ie the difference between the contract cost and value of pensioner liability) would immediately impact the (accrued)/prepaid. The unrecognized prior service costs and unrecognized gain/loss will be reflected pro rata by the reduction in the PBO due to the settlement.

(d) demographic information for each retired member:
- age
- sex
- date of birth
- whether a beneficiary or former participant
- eligibility code for COLA increase
- amount of benefit
- date benefits commenced
- form of benefit (Life annuity, 50% J&S, etc.)
- special information (if applicable) [spouse date of birth, sex, age]

Information on plan provisions
namely the post-retirement indexing provision (Min(1% CPI))

Solution 3

(a) in general asset valuation methods:

- should be reasonable
- not biased
- related to market value

reasons not to use market value:

- not easily available
- irrelevant
- too volatile

Asset Methods:

- initial cost
- init cost w/formula modify
- init cost continued w/market value
- current market value
- adjusted market value
- present value
- others

Scheduled recognition methods w/linear-recognition:

- average market value without phase-in
- smoothed market value without phase-in
- recognition with phase in (new plans, new asset method, marked to market)

Scheduled recognition methods with non-linear recognition:

- Recognition using ann. certain
- 40/60 method (40% adj AV + 60% MV)

Other methods: (not too effective in reducing volatility):

- expected value
- corridor around expect income (z% corr. around exp MV proj@× %
- unit method
- present value
- reserve acc

Expected value & corridor probably less volatile then MV

Usually scheduled recognition methods (deferred recognition) used to reduce volatility in asset value. I think smoothed MV without phase-in is most common & effective (could use 3, 4, 5 yrs to amortize gainl/loss over - 5 yrs common)

Solution 3 (continued)

The issue is that even though it defers loss recognition surpluses (gains) are not recognized immediately as economy recovers. Those are most effective to reduce volatility.

Right now plan uses MV of assets – I would change this if the objective to reduce volatility of funding contributions.

(b) Asset class allocation is responsible for approximately 90% of find return equities very volatile – higher return potential, more risk and higher the % invested here more volatile

- interest sensitive stocks can reduce volatility
- small cap more volatile then large cap
- stocks that operate on opposite cycle of oil industry – can reduce chance of needed extra cont when no funds are available – times are hard
- international equities – good for diversification – not overly coordinated w/domestic equities – can assist stability for plans w/indexing

Real-estate – can be good inflation hedge – considered less volatile then stocks.

Cash (equivalencies) to stable values – low return – enhance liquidity

Fixed income – liabilities (especially not indexed) operate like bonds – can increase stability

- use index funds
- dedication
- immunization
- contingent immunization
- horizon matching
- especially for pensioners liabilities

Derivative – can use as hedge – decrease volatility on equities (futures/forwards) Can be used speculatively (increase volatility)

Solution 3 (continued)

Need to consider liability when establishing asset mix

Asset allocation strategies:
(1) Integrated
(2) Strategic
(3) Tactical
(4) Insured

Solution 4

(a) Perspective of NOC

(i) Compare Benefits
Old $75/mo/year service = 900/yr/yr of service
New = .01 * Avg Sal = .01 * 37,100 = 371/yr
Would have to have Average Pay of 90,000/yr to get same accrual.
Most union employees won't make 90,000 for many years.
Will DC plan make up difference.
1st employee must participate (some too low pay or too young to care)
If they don't contribute, will loose valuable benefit.
If do contribute, still must worry if investment return will be sufficient and what factors will be used if the convert balance to annuity.
Looks like some will do better and others will do worse.
NOC will have a lot of communication to do about changes.
Will Union accept changes? May be difficult to convince them unless put in minimum benefit or add grand-fathering provisions (especially to protect older members)

(ii) Transition issues
Most likely freeze old benefit and add new DB/DC
Complex communication and administration
Could have wear-away but union won't like

(iii) Other NOC issues
3% indexing attractive but expensive
Employees may like lump sum but may not use it wisely
How will lump sum be calculated
Will new changes help attract/retain new employees
What do projected replacement rations look like (do the meet employer objectives/union demands)
Match is a good way to encourage member participants
Need further cost projections, looks like cost could be more or less than current plan
Flat dollar more usual in union plans, easier to negotiate

(b) employee perspective (much overlap from a)
Looks good for younger mobile employees
Like indexing, LS and match
Concerned about older members (transition issues)
Don't like taking investment risk (they will need a lot of education)
Could be difficult to understand/appreciate

Solution 4 (continued)

(c) Asset allocation policy
Consider liabilities
25% in active would seem to indicate more equity
also, more diversification needed, maybe 10-20% in international equity.
Need to do some asset/liability projections
consider current salaried mix and/or existing asset policy
Likely want to recover total equity around 60%
↓ bonds (especially due to current (low interest rate) maybe 30-35%

(d) Considerations in setting investment options

i. May want to comply with 404(C)
have at least 3 investment options
allow trades at least quarterly
provide sufficient education to make informal decisions

ii. other issues
include employer stock
could be good incentive for employees
could be bad if too much and stock ↓
Consider fiduciary issues (loyalty, care, ...)
administrative issue (frequency of valuations, ...)
communication (focused initial meeting/letters, ongoing as well)
#options (may want variety of funds from less to more aggressive to meet needs based on age and risk tolerance)

(e) Socio Economic impact
Although employee contribution may increase
Many low paid young members will not contribute
Result will be wider gap between rich and poor
More need for social programs
More Employers will shift to DC (shifting risk to employees)
Very good for a few if they invest well
For most, not good

Solution 5

(a) Main issues:

- Different framework for benefits in each country
- Must balance local benefit objectives and global benefit objectives
- Must understand that local environment may be complex
  This includes understanding:
  - Statutory and government provided benefits
    - what type of plan
    - bilateral social security treaties (do they exist)
  - Regulatory environment and taxation of benefits
    - is discrimination allowed
    - mandatory indexing
    - accounting rules
  - Economic and labor environment
    - what is inflation
    - do they have unions
- How to set up administration and cost management of local plans
- Need to address temporary transfers, permanent transfers and third country nationals
  - temporary transfers usually stay in home country plan
  - TCN usually in either home plan, host plan or special arrangement – like umbrella plan
  - permanent TCNs usually included in host plan

(b) The company should have a policy that states the company's philosophy and overall attitude for employee benefits.

They should consider the following:

- Total re-numeration
- types and weights
- tax effectiveness
- Competitive practice
  - Where are they located?
  - limit to direct competitors
- Uniformity of treatment
  - same policy for everyone?
  - cross-border evaluations hard to do
- Mergers and Acquisitions
  - will they stay in home plan, move to corporate plan or phase into corporate plan

Solution 5 (continued)

- Costs
  - what will the cost sharing be
  - budgeting and reporting issues
- Employee communications
  - what information will be shared

Solution 6

(a) In setting investment policy-financial objectives and risk tolerance of the plan sponsor need to be understood and considered.

- Define what long-term cost of the plan means
- Need to take into consideration characteristics of the plan

Pension risk needs to be measured in relation to overall corporate risk

- NOC's stock price and business will move in direct relation to the oil stocks and will be exacerbated in down cycles
- 60% in oil companies is risky

Heavy allocation toward equities. Equities have higher expected returns and thus will minimize long term cost of the plan. Also more volatile so pension expense will be more volatile.

- volatility can be controlled with smoothing
- still 80% in equities is high
- recommend reducing equity to 50%

International equities provide good exposure for overall diversifications.

- 5% is low
- recommend increasing to 15%-20%

Real Estate provides a hedge against inflation

- can be volatile in the short term
- recommend reducing to 10%

Bonds allocation is low

- long bonds should be used given duration of liabilities
- Don't immunize now since plan is under-funded
- recommend allocating 40% to bonds-mostly long

Above recommendation is based on qualitative factors. Should conduct a proper asset/liability modeling study to determine optional asset mix.

(b) <u>Inputs</u>

Assumptions to be used to project population forward

- use actual decrement rates, demographic assumptions might be same as those used in actuarial valuation
- reflect any special events (layoffs, windows, et.)
- single retirement age not appropriate
- population growth rate new entrant profile

Solution 6 (continued)

Valuation data
Capital market assumptions – expected returns, standard deviations, correlations for asset classes
Stochastic assumption rules – how do valuation assumptions move in light of underlying economic scenario?
Plan sponsor's goals, risk tolerance, constraints.

Process
Discuss scope of the project
Collect data
Produce liability and cash flow streams. Check these for reasonableness
Produce future financial results for each scenario – combine with liability streams to produce contribution, expense, etc.
Perform Stochastic projections – run a series of random trials
Calculate valuation results for stochastic trials.
Rank results
Produce confidence intervals and produce percentiles
Repeat the analysis for each asset mix
Present results to client – graphical results are helpful in showing comparisons.

(c) Output of study likely presented to senior management. A board presentation will likely be prepared from a subset of the results.

- not uncommon to have multiple meetings – preliminary results, areas for further study, final.

Presentation should state goals and assumptions and focus on 3 decision points

- debt/equity mix
- type of equity
- type of dept

Presentation should show a comparison of values (cash, expense) relative to various asset mixes.

Trends will show through comparisons-volatility

Focus on volatility and stress testing

Solution 6 (continued)

An optimal asset mix will be determined

- do not use an asset only efficient frontier
- use an integrated asset/liability efficient frontier

Consider cost and timing of implementing new asset mix

Consider active v. passive strategies and manager structure

Consider nontraditional asset classes – hedge funds, private equity

Solution 7

(a) Evaluate from the following perspectives:

- support strategic interest of NOC
- cost and cost sharing issues
- total compensation philosophy
- HR goals – attract and retain employees
- adequacy of benefits
- tax implications
- equity amongst all employees
- level of paternalism

Appropriate for NOC to establish ERP because

- TechCo employees covered under Social Security that provides about 50% replacement
- NOC employee covered under ERP provides about 60% (after 30 years)

(b)

- will result in a too generous benefit for TechCo employees
- will provide replacement ratio of about 110% from all sources
- need to consider that NOC will pay 5% to Xanadu government program
- NOC cost will be higher for TechCo employees
- what are NOC objectives?
- should consider coordination or integration with the government benefit in Xandu
  → equity concerns since NOC employees don't have government pension
- a benefit this rich may affect retirement pattern of employees
- consider alternate coverage such as retiree medical

(c) Many options

1. same formula as NOC but integrate with government benefit
   - use an offset approach
   - combined pensions for all employees would then be equivalent
2. provide a DB ERP with a lower accrual rate
3. provide a DC ERP
4. consider requiring employee contributions in all above
5. since employees pay 5% to government plan, NOC could establish DC ERP and contribute 5%
   - helps employees saving since no PPAs.

Solution 8

(a) Need to account for a curtailment as future service is being eliminated.

Pension Expense 1/1/03 – 9/30/03:
Assume 24,000 cont made on 6/30/03

$SC=22,599(0.75)-16,949$

$IC=(471,564+16,949)(0.065)(0.75)-9,883(0.065)(0.75)\frac{3}{8}=23,634$

$ROA=(306,622)(0.09)(0.75)+(24,000)(0.09)(0.25)-9,883(0.75)(0.09)\left(\frac{3}{8}\right)=20,987$

$PSC=3,837(0.75)=2,878$

$(G)/L=4,446(0.75)=3,335$

Exp 1/1/03 – 9/30/03 = 25,809
Cont 1/1/03 – 9/30/03 = 24,000

$P(A)\ 9/30/03=(30,406)-25,809+24,000=(32,215)$

$9/30/03\ PBO=471,564+23,634+16,949-9,883(0.75)=504,735$

$9/30/03\ Assets=306,622+20,987-(0.75)(9,883)+24,000=344,197$

	1/1/03 6.5%	9/30/03 6.5%	Eff Curt	After Curtailment
PBO	(471,564)	(504,735)	0	(504,935)
Assets	306,622	344,197	0	344,197
FS	(164,942)	(160,538)	0	(160,538)
PSC	34,913	32,035	(32,035)	0
(G)/L	99,623	96,288	0	96,288
P/(A)	38,406	(32,215)	(32,035)	(64,250)

Since reduction in future service is 100%, need to recognize 100% of unrecognized PSC of 32,035 which is curtailment loss

Expense 10/1/03 – 12/31/03:
Assume no cont made and no impact on BP's:

Solution 8 (continued)

SC=0

$$\text{IC}=504{,}735(0.065)(0.25)-9{,}883(0.25)(0.065)\left(\tfrac{1}{8}\right)=8{,}182$$

$$\text{ROA}=344{,}197(0.095)(0.25)-9{,}883(0.25)(0.09)\left(\tfrac{1}{8}\right)=7{,}717$$

PSC = 0

$$(\text{G})/\text{L}=\left(96{,}288\text{-}0.1(504{,}735)\right)/\left(8(0.25)\right)=1{,}432$$

↓

assumed average remaining lifetime of was 8

Exp 10/1/03 – 12/31/03 = 1,897

Total Exp = $25{,}809+32{,}035+1{,}897=59{,}741$

Δ from original = 59,741-34,450=25,291

Approximates to losing ¼ of SC due to freeze and recognizing all of PSC due to curtailment. Other components not impacted from freeze.

(b) Impact on the 2003 pension expense = 0
no change since benefit accrue as if no change until December 31, 2003

Impact on the 2004 pension expense =
No curtailment since employees continue to accrue service and benefits

SC: $22{,}599*1{,}065*\frac{50}{75}=16{,}045$

Interest Cost:

$$\left(\left[(471{,}564+22{,}599)*1{,}065-9{,}883*\left(1+\frac{6.5\%}{2}\right)\right]+16{,}045\right)*0.065-9{,}883*\left(\frac{6.5\%}{2}\right)$$

assumes no change in discount rate for 2004 =

$$(516{,}079+16{,}045)*6.5\%-9{,}883*6.5\%=34{,}267$$

Solution 8 (continued)

Assume 9% invest return in 2003:

EROA: $(306{,}622 * 1.09 + 24{,}000 * 1.045 - 9{,}883 * 1.045) * 0.09 + (24{,}000 - 9{,}883) * 0.045 - (32{,}043)$

PSC	3,837	no change
Unrec (G)/L	4,446	no change
	26,552	

PE decreases from 2003 due to SC being an $50 benefit multiplier instead of $75

(c) Effect of NOC's proposal from employee and employer perspective

- Employee perspective
  - would greatly impair ability of workers to afford retirement
  - damage worker morale
  - save jobs, though
  - likely many workers couldn't retire as early as planned – possibly postpone
- Employer perspective
  - would result in one-time acting charge for the curtailment, but would reduce expense by about 80% going forward
  - would save on contributions, too.
  - May be difficult after change to get workers to retire since can't afford
  - May be difficult to attract and retain new employees if benefits aren't competitive

Solution 9

Pension Benefits

- Plan Design
  - Benefit designs are different
  - Best if ABC employees can be merged into one of NOC's plan
  - Alternative would be to keep separate plans, but that will be administratively difficult
  - I would recommend that NOC will base future benefits on NOC's formula, 2% of pay times service and offset that by ABC's accrued benefit at the sale date (with service and pay frozen). This should be factored into estimating the new liability amount and the subsequent purchase price
  - ABC's employees will not be penalized by the freeze on pay at job change, since the total benefit is based on NOC's plan.
- Assumptions – for the pension plan, NOC should value the liabilities using the following assumptions
  - 8% interest rate instead of ABC's 8.5%, since NOC will probably keep same asset allocation
  - Retirement age 62 – same for both, but should reflect expectations for the group. May understate liability
  - GAM 83 Mortality, same for both, although there are more recent tables
  - Asset method and cost method same for both
  - Salary Scale 5%, same for both, but should reflect expectations for the group
  - Add Termination Rates, otherwise, liabilities are overstated. Should also reflect expectations for the group.
- To the extent the new liability will be greater than the assets, I would recommend a reduction in purchase price by that amount for NOC
  - The implied surplus of $25 million may not be there with a liability recalculation
  - The disposition of surplus, if any, must be settled. Who owns any surplus?

Solution 9 (continued)

- Accrued Benefits
  - These need to be carefully defined. It is not clear if the accrued benefits include future pay or current pay only
  - It is also unclear what "substantially similar benefits" means. Does this mean benefits with ABC are frozen and ABC's employees will accrue benefits in NOC's plan based on future service only or will past service continue to earning future salary increases?
  - If NOC freezes current benefits, they may realize a windfall
- Integration issues
  - I would eliminate post-retirement indexation. This is an administrative burden and NOC's plan does not have that feature.
  - I would change early retirement age from 60 to 55 & 5 in order to be consistent with NOC's plan
  - I would change the early retirement reduction from actuarial equivalence to 0.25%/ month prior to age 62. NOC's plan is more generous, but I feel it's important to treat the employees the same and provide the same provisions. ABC shouldn't object to this, though they may not want to pay for it. If that's the case, I think NOC should pay for it.
  - The termination and pre-retirement death benefits are the same.

<u>Post-retirement medical benefits</u>

- Makes sense that NOC would provide this coverage
  - The plans are identical, so this is equitable treatment
  - Won't have any administrative integration issues
  - ABC's ee's are already aware of design
- NOC will want to scrutinize ABC's postretirement medical assumptions in determining cash payments
  - Impact of assumptions on postretirement medical benefits different from the impact of same assumptions on pension benefits.
  - Interest rate assumption used should be the same as accounting, 6.5%, not 8.5%
  - Mortality is GAM 83, same as for NOC's plan. Consider more recent table.
  - Turnover – incorrect to assume no turnover. Not all ee's make it to retirement. This inflates cost (which is fine for NOC, but in all fairness should have rates). Can base rates on ABC's experience or use standard table, or NOC's table.

Solution 9 (continued)

- Should have retirement rates, not 100% at age 62. Clear from age service table that there are ee's over age 65. Base on ABC's experience or use standard table, or NOC's table
- Should have a trend assumption, use NOC's
- Other missing assumptions include CPI, spouse election%, plan participation %, group premium per insured, morbidity
- I recommend having ABC revalue using the following assumptions:
  - 6.5% discount rate
  - Retirement/termination rates based on ABC's or NOC's experience. Must consider which one is more appropriate under the circumstances
  - Use NOC's trend, CPI assumptions
  - Add other assumptions including participation and spouse election %
  - Make sure cost method is modified PUC and determine cost based on that
- Purchase price should reflect these more realistic assumptions

- Summary – NOC will be providing the same benefits to ABC's employees as the salaried employees. In my proposal, ABC's employees will have better provisions and thus will be happy. They would suffer no loss from changing employment due to the offset approach. Offsets would have to be kept for benefit calculations, but overall, it's easier to administer a set of plan provisions to all employees. I would also clarify this in the agreement because it is too vague otherwise.

Solution 10

(a)

(i) Will require cash for severance benefits

- If the pension plan is used to pay for the severance benefits, then there would be a curtailment, plus accounting for the special termination benefits.
- How are the severance benefits structured? If based on service, there are a substantial number of people with over 20 years that could be costly.
- Since the pension plan pays out lump sums at termination, there would be a large reduction in pension assets. Also the plans would need to be highly liquid to be able to pay all of the lump sums out.
- Would decrease future expense and contribution requirements.

(ii) There will be savings under NOC Salaried Plan, Hourly Plan, Active and Retiree Benefits Programs

- If insufficient personal planning is done, it is possible not enough people will go
- Could alleviate some of the expense problems
- Enhancement would be nice for employees close to retirement that would be severely negatively impacted by losing their jobs.
- People tend to leave happier under this option than the first one.
- Not as much of a cash payout under this option.
- More retirees to keep track of in the future.
- Will reduce payroll but depending on the enhancement, may not have a huge impact on contribution or expense requirements.
- People who just miss cut-off tend to be upset
- Communication is important
- There are potentially higher costs under pension plan and retiree medical

(iii) Difficult to define

- Depending on how it's structured, it could be used effectively and result in a decrease in operating expense.

Solution 10 (continued)

- Legislation not accommodating phased retirement
- Will help with the development of newer staff rather than just kicking out the experienced older employees.

Things to consider

- Threshold age/service
- HCE's – treated differently
- Eligibility
- Death Benefit during partial retirement
- uniform availability
- maintenance of income
- pension amount while partially retired
- voluntary nature
- age discrimination in employment
- payment form
- other considerations-post retirement, welfare benefits
- rehired participants
- formal definition
- future benefit increase
- anti-cutback in accrued benefits
- DC plans

(b)

(i) If severance benefits are paid out of the pension plan, there will curtailment accounting with special termination benefits for the layoff part, PBO will go down or salaried and SRP plans $\Rightarrow$ curtailment. There are no PSC bases in either of those plans, so nothing to worry about there. The salaried and SRP plans curtailment gains would first be offset by the unrecognized losses that are present in each plan. Although there is a curtailment for the Union plan, there is only a portion of the PSC bases attributable to the people laid off that needs to be recognized. PBO doesn't change.

Solution 10 (continued)

(ii) The window would result in a curtailment for the plans. The PBO would likely increase in all cases if the enhancement is good and will therefore be a curtailment loss. Since all of the plans have an unrecognized loss instead of a gain, there is no offset. The hourly plan would have to also recognize a portion of the PSC bases associated with the employees that take the window. Special termination benefits change for enhancements provided.

(iii) Not sure. It depends on the structure of the phased retirement. If future accruals are reduced as a result, there could be a curtailment depending on how many people elect to take it.