

**PROTECTING PARTICIPANTS AND BENEFICIARIES IN A
PHASED RETIREMENT WORLD**

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EXECUTIVE SUMMARY

The U.S. society is aging. The nature of work is changing from work that requires physical strength to work based on knowledge. As a result, workers are beginning to phase into retirement rather than going directly from full-time work to full retirement. From a retirement income perspective, many final average pay defined-benefit plans have features that make phased retirement difficult at best and detrimental at worst. U.S. pension law and regulations present barriers to phased retirement if the phased retiree wants to receive a portion of available pension benefits during phased retirement.

This paper discusses the reasons for the trend toward phased retirement and looks at the legal and actuarial aspects of phased retirement as they apply to a simple defined-benefit plan. The calculation of final average pay is critical to the impact of phased retirement on the ultimate pension benefit. The plan's early retirement reduction and late retirement increase can be set to maintain actuarial equity throughout phased retirement, and this paper demonstrates one way of achieving this equity.

Phased retirement can impact participant and spousal protections. This paper discusses some of those impacts and suggests possible safeguards.

The tables in the Appendix show various retirement patterns and their impact on retirement benefits. They also show the impact of various final average pay definitions on the phased retiree's retirement benefits.

INTRODUCTION¹

As America ages, the workforce will need to change. Because of the lower birth rates that followed the baby boom, the number of young workers declined by 14 percent in the 1990s, and there will be a shortage of talented young workers for decades to come.² There were seven working-age persons for every elderly person in the United States in 1950, but that ratio will drop to less than 3-to-1 by 2030.³ Consequently, employers will want to find ways to retain their productive older workers.

At the same time, since the repeal of mandatory retirement,⁴ so-called “phased,” or gradual, retirement has started to replace the traditional “cliff” retirement pattern that had older workers leaving the workforce suddenly and never coming back.⁵ Many older Americans are staying in or reentering the workforce, especially in part-time and contingent work situations.⁶ According to a

¹ The views expressed in this paper are those of the authors and do not necessarily reflect the views of their employers. The authors wish to thank Gordon W. Clarke, Jr., for his assistance with and review of the tables included in this paper.

² Watson Wyatt, *Demographics & Destiny: Winning the War for Talent*, 1999. Summary available at <http://www.watsonwyatt.com>.

³ Committee for Economic Development "New Opportunities for Older Workers: A Statement on National Policy by the Research and Policy Committee of the Committee for Economic Development," page 2, 1999.

⁴ Mandatory retirement is still allowed for certain highly compensated employees.

⁵ According to one definition, “Phased retirement is any arrangement that enables employees approaching normal retirement age to reduce their work hours and job responsibilities for the purpose of gradually easing into full retirement.” *Id.*

⁶ Diane E. Herz, "Work After Early Retirement: An Increasing Trend Among Men," *Monthly Labor Review*, page 14, 118, Number 4, April 1995; Robert L. Clark and Joseph F. Quinn, "Effects of Pensions on Labor Markets and Retirement," in the Brookings Institution Conference on ERISA After 25 Years: A Framework for Evaluating Pension Reform, Washington, D.C., 31, Sept. 17, 1999; Joseph F. Quinn, "Retirement Patterns and Bridge Jobs in the 1990s," EBRI Issue Brief Number 206 (Washington, DC: Employee Benefit Research Institute, February 1999); William J. Wiatrowski,

recent survey by Watson Wyatt, 16 percent of the companies surveyed now offer phased retirement programs.⁷ Also, according to one estimate, roughly one-third of older workers leave their long-held career jobs in favor of new jobs that serve as a bridge to full retirement.⁸ Another Watson Wyatt survey found phased retirement more prevalent at firms in which workers have an average age of 45 or higher.⁹

Clearly, both employers and employees are interested in phased retirement. Unfortunately, however, the U.S. pension system was not designed with an eye toward phased retirement. Many companies face serious legal impediments to establishing an effective phased retirement program. In 2000, one of the working groups of the ERISA Advisory Council focused on phased retirement,¹⁰ and Representative Earl Pomeroy (D-ND) and Senator Charles Grassley (R-IA) introduced legislation that would change ERISA to permit employers to provide in-service distributions once an employee reaches age 59½ or 30 years of service.¹¹

More and more workers are using phased retirement as a way to ease into retirement rather than going from full-time work to full retirement. This paper explores the impact of phased retirement on benefits provided by a traditional final average pay defined benefit pension plan. The tables in the

"Changing Retirement Age: Ups and Downs," *Monthly Labor Review*, April 2001 – available at <http://stats.bls.gov/pub/mlr/2001/04/art1full.pdf>.

⁷ Watson Wyatt, *supra* note 2.

⁸ Committee for Economic Development, *supra* note 3, at 9.

⁹ Watson Wyatt, *Demographics & Destiny: Winning the War for Talent*, 1999. Summary available at <http://www.watsonwyatt.com>.

¹⁰ Pension & Welfare Benefits Administration, U. S. Department of Labor, "Report of Working Group on Phased Retirement to the Advisory Council on Employee Welfare & Pension Benefit Plans," 2000 – available at <http://www.dol.gov/dol/pwba/public/adcoun/phasedr1.htm>.

¹¹ The Phased Retirement and Liberalization Act (S. 2853/H.R. 4837), 2000.

Appendix show the impact of phased retirement on benefit amounts under various payout patterns. They compare common offsets for benefits paid against continued accruals with an actuarially neutral approach that avoids excessive offsets when only part of the benefit is being paid out during phased retirement. This paper discusses some of the legal, administrative, and public policy concerns of phased retirement.

WHAT IS PHASED RETIREMENT?

Phased retirement is generally used to refer to one of two situations:

- A person is working part-time after retiring from a full-time career job. The part-time job is often unrelated to the career job and it is referred to as a “bridge” job.

- A person works a reduced work schedule in the career job before full retirement from that job.

This paper will focus on the second type of phased retirement described above.

WHY IS PHASED RETIREMENT IMPORTANT TO U.S. RETIREMENT POLICY?

Phased retirement is not a new phenomenon. It is expected to increase in importance for the economy as the large cohort of baby boomers begin to reach retirement age. The baby boom generation is often defined as those born between 1946 and 1964. The oldest baby boomers have

already reached age 55 – a common age for early retirement eligibility in defined benefit plans. Those boomers will begin reaching age 65 in 2011. With increased longevity and more healthy years, many baby boomers will have an active life well beyond age 65. EBRI's 2001 Retirement Confidence Survey found that 26 percent of current retirees say they have worked either full-time or part-time since they retired.¹²

Because our economy is more dependent on knowledge and less on manufacturing, physical strength of workers has become less important. As a result, it is possible to remain highly productive even as physical strength declines. Phased retirement provides a way for older workers to continue using their lifetime skills and knowledge while easing into full retirement. It also allows employers to lose their skilled knowledge workers gradually rather than losing the talents all at once as with traditional cliff retirement. It is expected that employers will want to retain experienced knowledge workers in part to help with the transition to younger, less experienced knowledge workers.

The current U.S. pension system does not facilitate phased retirement, especially for defined benefit plans and for workers who want to begin phased retirement before the normal retirement age and receive benefits from the pension plan while still working. Not all employees will have other sources of income, such as investment income, to supplement their earned income during phased retirement, so they will need access to at least a portion of their pension as they ease into full retirement.

Legislative and regulatory changes that will allow employers and workers to structure phased access

¹² Employee Benefit Research Institute, EBRI 2001 Retirement Surveys: Retirement Confidence Survey (RCS), Minority RCS, and Small Employer Retirement Survey (SERS), EBRI Issue Brief Number 224, June 2001.

to retirement benefits will be necessary if phased retirement is to become an attractive alternative to a significant segment of baby boomers.

ACTUARIAL EQUITY IN PHASED RETIREMENT PAYOUTS

This discussion of actuarial equity begins with the premise that phased retirement should be beneficial to both the employer and the employee. It benefits the employee by allowing him or her to design a phased retirement pattern. As long as that phased retirement is beneficial to the employer, the employer can implement that retirement pattern for that specific employee. The employer can then negotiate a different, or perhaps similar, phased retirement pattern with another employee. The employee enjoys freedom to design his or her transition from full-time work to full retirement. The employer enjoys the productivity and talent of the employee during this transition time.

Given the premise that phased retirement is beneficial to both the employer and the employee, the financial impact of whether the employee decides to supplement his or her phased retirement income with pension plan distributions should be actuarially neutral. The employer is benefiting from the continued work of the phased retiree.¹³ Although the employer cannot be expected to subsidize the pension payouts during phased retirement, the employer should not expect to receive an actuarial benefit depending on whether or not the employee decides to receive some or all of the accrued pension benefits before full retirement.

If a participant terminates under a pension plan and is eligible to begin receiving pension distributions at early retirement, normal retirement, or any time in between, the employer does not participate in the participant's decision of when to begin pension payments. Similarly, once the phased retirement pattern is negotiated, the employer should have no financial stake in the pension distributions.

The tables in the Appendix, as described below, demonstrate one way of achieving actuarial neutrality in phased retirement payouts. The key to this distribution neutrality is for the plan to make a full actuarial reduction for early retirement distributions, as well as a full actuarial increase for continued employment after normal retirement.¹⁴

ACTUARIAL EQUITY IN PHASED RETIREMENT BENEFIT CALCULATIONS

A traditional final average pay plan that averages, for example, the final five compensation amounts for determining benefits penalizes the phased retiree for continuing to work, because part-time pay during phased retirement would be used in determining final average pay. The result is final average pay that decreases from year to year as a year of full-time pay is dropped from the final five years and a year of part-time pay is added in its place. Once the entire final average is based on part-time pay during phased retirement, the average will begin to increase because of salary increases in the rate of pay as a result of inflation, productivity, merit, and/or promotional increases. However, that average will likely be much smaller than the average just before phased retirement.

¹³ The employer and employee will presumably negotiate a compensation and employment arrangement that is mutually beneficial. This aspect of equity in phased retirement is outside the scope of this paper.

¹⁴ Actuarial assumptions must also be consistent to achieve this actuarial equity. If a defined-benefit plan pays lump sums to phased retirees, this actuarial equity may not be possible because of mandated actuarial assumptions for lump-sum calculations. See Tables B-1, B-2, and B-3 for an illustration of actuarial equity in phased retirement payouts.

The definition of final average pay has a significant impact on the effect of phased retirement on the retirement benefits payable from a final average pay plan. Table C in the Appendix shows several possible definitions of final average pay for a participant who is working 50 percent of a full-time schedule during phased retirement beginning at age 60. The participant receives a 4 percent annual salary increase each year, including during phased retirement.

Many plans use the approach that results in decreasing final average pay described above. Under this approach, shown in the “Decreasing Final Average Pay” column of Table C, the plan might average the final five compensation amounts. Even plans that average the high five of the last 10 compensation amounts will have decreasing final average pay if the participant works a reduced schedule for more than five years and salary increases do not make up for the pay reduction as a result of the reduced work schedule.¹⁵

Instead of having final average pay decrease during phased retirement, the plan could use the highest five consecutive compensation amounts throughout the entire service period. The disadvantage to this approach is that the participant does not benefit from any increases in the rate of pay during phased retirement. Because phased retirement should be structured to benefit both the employee and the employer, it seems unfair not to reflect pay increases in final average pay used to determine the benefit amount.

¹⁵ With today’s low inflation, it is unlikely that salary increases would compensate for the pay reduction from a 50 percent work schedule.

To be sure the worker gets the benefit of pay rate increases during phased retirement, the plan could annualize pay during phased retirement years. This approach is similar to the approach some plans use for participants who do not work a full-time schedule. It is most common to annualize pay when the participant receives a partial year of service when not working a full-time schedule.¹⁶ This approach could be used for phased retirement. If the plan credits a partial year of service for a year in which a participant works less than a threshold number of hours, a participant working part-time while phasing into retirement would receive a partial year of service.¹⁷ In order to avoid double prorating, the plan would then annualize compensation for that year.

A plan could annualize pay during phased retirement and credit a full year of benefit accrual service at the same time. However, this approach gives a disproportionate benefit accrual during phased retirement years by using a full year of benefit accrual service and pay annualized as if the participant received a full year of pay even though the participant is working part-time and phasing into retirement. We have not used this overweighting in the tables in the Appendix.

An alternative to using annualized pay during phased retirement in the calculation of final average pay would be to use a partial year in the divisor of the final average pay fraction. For example, the first year the participant works 50 percent of a full-time schedule, the divisor would be 4.5 and the pay amounts would be the four years just before phased retirement and the first year of phased retirement (not annualized). As Table C shows, this alternative is very close to the alternative that

¹⁶ The authors have encountered plans sponsored by health-care industry employers using this approach.

¹⁷ Some plans credit a full year of benefit accrual service for a year in which the participant earns 2,000 or more hours and credits a fraction of a year equal to hours worked divided by 2,000 for a year in which the participant works at least 1,000 hours but fewer than 2,000 hours. Many other service crediting options are available.

annualizes final average compensation. To avoid an overweighting of the phased retirement years (described above), the plan would need to credit a partial year of service during phased retirement rather than crediting a full year.

In the tables in the Appendix, we have used the approach that annualizes pay and credits partial service during phased retirement. This approach is allowed under current law. The approach that uses a partial year in the divisor of final average pay for each phased retirement year produces very similar results, but it may violate some of the rules that apply to plans that coordinate benefits with Social Security (integrated plans).¹⁸

METHODOLOGY USED IN PAYOUT TABLES IN APPENDIX

The tables in the Appendix illustrate benefit amounts under a simplified phased retirement scenario and a simple final average pay plan. Complete documentation of the formulas used in the tables is provided in the Appendix to allow the reader to develop a spreadsheet model to study other plan and phased retirement designs.

The benefit formula illustrated in the tables is 1 percent of Final Average Pay times Credited Service. No service cap is used in the samples even though it is common for plans to use a service cap as explained below. The benefit is payable annually at the beginning of the year as a single life annuity.

¹⁸ The authors did not research the impact of integration rules on this alternative. Further study of this final average pay alternative should include this research.

The participant in the example is hired at age 25 and begins phased retirement at age 60. The plan's normal retirement age is 65. The participant fully retires at age 70. During phased retirement, the participant works 50 percent of a full-time schedule.

It is not common for an employee to retire from the company at which he or she was hired at age 25. A participant's retirement decision will depend on the expected retirement income from all sources. However, it is cumbersome to show retirement benefits from several employers. This more common type of employment pattern does not provide the most straightforward illustration of various phased retirement designs on retirement plans. We have, instead, chosen to use a career employee to simplify our example.

The participant in the tables is assumed to earn \$25,000 at age 25 and receive 4 percent annual pay increases until full retirement. Final average pay is the average of the last five compensation amounts. Pay is annualized as described elsewhere in this paper for Tables A-2, B-1, B-2, and B-3. For comparison purposes, Table A-1 uses a common definition of final average pay in which the average decreases during phased retirement.

Benefits commencing before normal retirement are reduced actuarially from normal retirement age (65). Benefits commencing after normal retirement are increased actuarially for delayed retirement. These actuarial adjustments are based on 6.15 percent interest and GATT mortality.¹⁹

¹⁹ GATT mortality is commonly used to determine lump-sum distributions under §417(e). It is a male-female blended version of the GAM-83 mortality tables.

DISCUSSION OF PAYOUT TABLES IN APPENDIX

The cliff retirement table shows a common retirement pattern of going directly from full-time work to full-time retirement. The participant in this table works full-time until age 70 and then fully retires and begins receiving \$70,763 annually as a single life annuity.

In Tables A-1, A-2, B-1, B-2, and B-3, the participant begins working 50 percent of a full-time schedule at age 60 in order to phase into retirement. The participant fully retires at age 70. These tables differ in their treatment of final average pay and in the benefit payout pattern during phased retirement.

Table A-1 shows a plan that averages the final five compensation amounts in order to determine benefits. During phased retirement, final average compensation decreases each year until age 65, when the final average uses only pay during phased retirement. Beginning at age 66, final average pay increases as a result of the annual pay increase. The participant receives an annual pay increase in all prior years. However, the pay increase did not prevent final average pay from decreasing because a year of full-time pay was dropped from the average and was replaced by a year of part-time pay. The participant waits until fully retiring at age 70 to begin receiving benefit payments and then begins receiving \$35,383 annually, about half of the benefit received by the cliff retiree.

In contrast, Table A-2 annualizes pay during phased retirement and credits a partial year of service equal to the portion of a full-time schedule worked during phased retirement. As in Table A-1, the participant does not receive any benefit payments until full retirement. The impact of annualized pay

is partially offset by crediting partial service during phased retirement. The rationale for this treatment is discussed in the section of this paper covering actuarial equity in the phased retirement benefit calculation. The participant in Table A-2 receives \$66,342 annually beginning at age 70 compared to \$35,383 received by the participant in Table A-1 – an 87 percent increase in benefit. The comparison of Tables A-1 and A-2 shows the importance of annualizing pay during phased retirement in order to avoid penalizing the participant for phasing into retirement with a significantly reduced retirement benefit.

At first glance, the relationship between the cliff retirement benefit and the benefit in Table A-2 seems inconsistent. Because Table A-2 annualizes pay, final average pay is the same in both tables. By age 70, the cliff retiree has earned 45 years of service while the Table A-2 phased retiree has earned only 40 years of service. Yet the age 70 benefit in Table A-2 is approximately 94 percent of the cliff retirement benefit, not 89 percent like the credited service relationship. The reason for this result is that the actuarial increase in the normal retirement benefit is more valuable than the additional benefit accruals after normal retirement. As a result, the relationship of the age 70 benefit payments is in proportion to the service relationship at age 65 (normal retirement age).

Tables B-1, B-2, and B-3 use the same annualized pay and partial year of credited service as was used in Table A-2. These tables show the impact on the ultimate benefit of various in-service distribution patterns. The section in this paper discussing the basic legal considerations with phased retirement talks about whether these options are allowed under current law. All three payout

patterns are included as examples of alternatives participants could choose if the statute were changed to facilitate phased retirement.²⁰

In Table B-1, the participant begins receiving 50 percent of the age 60 early retirement benefit (\$9,842) at the beginning of phased retirement. Because only 50 percent of the early retirement benefit is being paid, the offset of benefits received against future benefit accruals is limited to 50 percent of the additional accruals.²¹ As a result, the participant continues earning additional accruals until full retirement at age 70. Upon full retirement, the participant begins receiving \$50,737 annually, and this benefit is payable as a single life annuity for the participant's remaining lifetime. In spite of the different payout pattern, the actuarial value at age 70 of the accumulated benefits received and the benefits to be received in the future is the same for Tables A-2, B-1, B-2, and B-3.²²

Table B-2 shows an alternative allowed under current law. In this table, the participant begins receiving the full accrued benefit equal to \$40,076 at normal retirement while continuing to work 50 percent of a full-time schedule until full retirement at age 70. Because the full accrued benefit is payable during phased retirement, the offset for benefits received applies to the entire accrued benefit. As a result, the participant does not accrue any additional benefits from age 65 to age 70.²³

²⁰ The authors do not suggest one payout pattern is better than another. A phased retiree can select the best payout pattern based on total personal wealth.

²¹ This offset for partial benefit payments is not required under current law. As described elsewhere, current law does not facilitate payment of partial benefits. Current law also makes no effort to achieve actuarial equity when a participant receives in-service distributions.

²² See section on actuarial equity in phased retirement payouts for more discussion of how these equal actuarial values were achieved.

²³ As an alternative, one might want workers in phased retirement to continue to earn additional benefit accruals even beyond the date on which they draw full retirement benefits. One approach would be to increase the annual retirement benefit each year for work done after normal retirement age. For example,

As noted above, the value of the payouts in this alternative equals the value of the payouts in Tables B-1 and B-3, in which the participant earns additional benefits during phased retirement after partial benefit payments begin.

Table B-3 shows a payout pattern in which the participant begins receiving 50 percent of the age 65 accrued benefit beginning at age 65. Because only 50 percent of the age 65 accrued benefit is payable before full retirement, the offset for benefits received before full retirement applies only to 50 percent of the additional benefit accruals. As a result, the participant receives \$20,038 beginning at age 65 and then \$53,209 annually beginning at age 70.

IS PHASED RETIREMENT GOOD PUBLIC POLICY?

Workers currently have the option of easing into retirement without changing jobs. However, we discuss below the pitfalls inherent in the current legal framework. Is it good public policy to change the law to support phased retirement?

On the one hand, one could argue that providing workers with more opportunity to manage the end of their career is good public policy. Rather than forcing employees to change jobs in order to access their retirement benefits, employees would be able to continue their career job at a reduced schedule and receive a portion of their retirement benefits if the law is changed to make this option a realistic one.

the worker in Table B-2 would see a small increase in the \$40,076 benefit at age 66 and beyond to take into account additional accruals for work beyond age 65. Alternatively, a single, larger adjustment might be made to the benefit to be paid once the worker fully retires at age 70.

There is always a concern that employers will force out older workers. Does phased retirement increase the risk that older workers who are not ready to reduce their work schedule will be forced out? There is nothing inherent in phased retirement that increases the opportunity for age discrimination. In fact, phased retirement may offer workers who feel they are being pushed out an additional option of not fully retiring, but reducing their work schedule instead.

If some of the current legal obstacles to a flexible phased retirement program, discussed below, were removed, phased retirement would have to be available on a nondiscriminatory basis. With widely available phased retirement, employers would be faced with the issue of whether a phased retirement program is retaining the highly skilled and effective workers or the ones who are no longer effective. Employers who offer early retirement incentive programs face the same type of problem. The solution to this problem does not lie in the particulars of the retirement program; it lies in effective workforce management.

We believe phased retirement is good public policy as long as the law is changed to facilitate phased retirement programs and protections are put in place to prevent abuse.

BASIC LEGAL CONSIDERATIONS WITH PHASED RETIREMENT

There are many legal considerations that impact a phased retirement program. We will discuss some of the major ones that affect defined-benefit plans. These legal considerations impact three aspects of a phased retirement program:

- Paying partial benefits before full retirement

- Offsetting continuing benefit accruals by the value of in-service distributions

- In-service distributions before the plan's normal retirement age

Paying Partial Benefits Before Full Retirement. Although there is nothing specific in ERISA that prohibits defined-benefit plans from paying partial benefits, there are a number of obstacles that may make these benefits impractical. For example, an employee taking phased retirement might want to receive 50 percent of his accrued benefit while working 50 percent of a full-time work schedule. ERISA and the Internal Revenue Code and related regulations refer to commencement of benefits, calculation of accrued benefits, spousal consent, etc., as they apply to the full pension. The statute and related regulations do not discuss paying some portion of the benefit beginning at one date and then paying the full benefit at a later date.

One question is how the remaining portion of the accrued benefit would be increased during phased retirement after normal retirement. If it were not actuarially increased, the participant would need to

be given a suspension of benefits notice for the portion of the benefit for which payment is delayed. If the benefit is actuarially increased, how will the increase be calculated? Would it apply to the full accrued benefit or only the portion not in pay status? The examples in the Appendix show that the actuarial increase must apply to the entire accrued benefit in order to achieve actuarial equity as defined in this paper.

Tables B-1, B-2, and B-3 show benefit payout patterns if benefits are received during phased retirement. Normal retirement age under all three scenarios is age 65, and the participant works 50 percent of a full-time schedule beginning at age 60 and fully retires at age 70. Table B-1 shows phased retirement with 50 percent of the accrued benefit payable from age 60 through age 69 while the participant is working 50 percent of a full-time schedule and full retirement and full benefit payout at age 70. Table B-2 shows phased retirement with no in-service distributions before normal retirement age and 100 percent of the accrued benefit payable beginning at age 65. Any increase in accrued benefit from ages 65 to 70 would be payable beginning at age 70, when the participant fully retires. Table B-3 shows phased retirement with 50 percent of the age 65 accrued benefit payable from ages 65 to 70 and the full accrued benefit payable beginning at age 70. In all three scenarios, the full accrued benefit has been increased for delayed (full) retirement. The actuarial value of the benefits received is offset against the additional accruals.

Offsetting Continued Accruals for Value of In-Service Distributions. ERISA and the Internal Revenue Code prohibit benefit accruals to be discontinued or the rate of benefit accrual to be

reduced because of the attainment of any age.²⁴ Proposed regulation §1.411(b)-2 pertains to continued benefit accruals beyond normal retirement age.

The plan in Example 3 of §1.411(b)-2 pays out the normal retirement benefit beginning at the participant's normal retirement age. The example shows an acceptable method of offsetting continued benefit accruals against the value of benefits paid out. The accumulated value of the benefits paid out is converted to the annuity that could be purchased with that accumulated value. The annuity value of the cumulative in-service distributions is offset against the cumulative value of additional benefit accruals since normal retirement age.²⁵

The examples in Tables B-1, B-2, and B-3 in the Appendix offset for the value of benefits paid, but they compare the benefit accrual from the time benefit payments begin with the annuity that can be purchased with the cumulative value of benefits received rather than the year-by-year approach in the proposed regulations.

The challenge for sponsors designing a balanced phased retirement program is how to offset for partial annuity distributions. In Table B-1, 50 percent of the age 60 accrued benefit is paid from ages 60 to 69, and then the full accrued benefit is paid beginning with full retirement at age 70. If the

²⁴ IRC §411(b)(1)(H) and ERISA §204(b)(1)(H).

²⁵ The proposed regulation applies the offset year by year. It offsets the annuity value at age 66 of the benefit paid out from age 65 to age 66 against the benefit accrual from age 65 to age 66 to determine whether an accrual is required at age 66. It offsets the annuity value at age 67 of the benefits paid out from age 65 to age 67 against the benefit accrual from age 65 to 67 to determine whether an additional benefit accrual is required at age 67. This treatment is consistent with its requirement that the actuarial increase for delayed retirement be applied to the greater of the accrued benefit or the prior year's delayed retirement benefit increased actuarially for an additional year of delayed retirement. In practice, most plans ignore this year-by-year increase requirement in the proposed regulations. Instead, they compare the accrued benefit at age 68, for example, with the normal retirement benefit actuarially increased to age 68.

entire additional benefit accrual were offset by the annuity value of the benefits paid, it is likely that no further benefits would accrue after age 60. The only increase in the benefit ultimately paid out at age 70 over the benefit payable at age 60 would be the elimination of the early retirement reduction that applies at age 60.

In Table B-1, because only 50 percent of the age 60 accrued benefit is being paid out, the offset applies only to half of the additional benefit accrual. As a result, the participant continues accruing at least 50 percent of what would have been accrued if no distributions had been received.

This approach achieves actuarial equity as shown by the comparison of the present value of past and future benefit payments at age 70 in the Summary Present Value Table in the Appendix. If the plan uses a full actuarial reduction before normal retirement and a full actuarial increase after normal retirement, the plan does not experience an actuarial gain or loss as a result of any of the payout scenarios shown in the Appendix.

In-Service Distributions Before Normal Retirement Age. A defined-benefit plan cannot make in-service distributions before the plan's normal retirement age.²⁶ Many defined-benefit plans use age 65 as the normal retirement age, so employees who want to begin phased retirement before the plan's normal retirement age are not able to use pension benefits to supplement earned income during phased retirement. Two-thirds of the companies participating in the Watson Wyatt phased

²⁶ Treas. Reg. §1.401-1(b)(1)(i) states “[a] retirement plan within the meaning of section 401(a) is a plan established and maintained by an employer primarily to provide systematically for the payment of . . . benefits to his employees . . . after retirement.” In PLR 8137048, the IRS applied this regulation and concluded that an employee may not receive a distribution from a pension plan before normal retirement while still an active employee.

retirement survey favor eliminating the restrictions on paying in-service before normal retirement as a way to facilitate phased retirement.²⁷

IMPACT OF PHASED RETIREMENT ON PARTICIPANT PROTECTIONS

One of the purposes of ERISA was to provide protection to participants. Some of the areas of protection will be impacted by phased retirement.

Disclosure. Disclosure of information about the plan and its benefits is one of ERISA's participant protections. Effective communication about the plan lets participants understand and take advantage of the benefits offered. It may be difficult for participants to understand the impact of phased retirement on their ultimate pension benefits. Plan sponsors could provide examples of the expected benefit with and without phased retirement, although there will be an associated administrative cost of this additional communication. The more phased retirement choices available to participants, the more important it will be that participants understand the impact of various choices on their lifetime pension income. It is important to disclose the impact, if any, of reduced pay and credited service on the ultimate retirement benefit. The participant also needs to understand the impact of in-service distributions on the ultimate annuity amount. Some mechanism for helping the participant assess the relative value of various options will help the participant make the best personal choice.

The section below discussing the communication challenges of phased retirement offers some disclosure alternatives.

²⁷ Watson Wyatt, *supra* note 2, at 3.

Vesting.²⁸ Vesting protections will not be impacted by phased retirement. Once a participant becomes vested, a reduced work schedule on account of phased retirement will not reduce the vesting status. If the participant is not fully vested when phased retirement begins, the participant must work sufficient hours in enough plan years to earn additional years of vesting service to become vested in the pension benefit. Participants who commence phased retirement before becoming fully vested – typically five years – are not the focus of protections discussed in this paper.²⁹

Benefit Accrual Rules.³⁰ The benefit accrual rules look at the rate of benefit accrual throughout the full employment period. Their basic purpose is to prevent backloading of benefits,³¹ and the demonstration of compliance of the benefit formula with the rules is typically based on a full-time employee. As a result, a plan that allows phased retirement should not have problems satisfying one of the accrual rules. Participants will continue earning benefit accrual service as long as they work the required number of hours, assuming the plan uses hours to credit service.³²

²⁸ I.R.C. §411(a); ERISA §203.

²⁹ Participants who begin phased retirement before becoming vested are more like those who change from their career job to a bridge job because these participants would not be counting on retirement benefits from their current job to sustain them during their ultimate retirement. The accrual of benefits after a short job tenure is too small to realistically become the primary source of income during retirement. For example, the pension benefit from the final short-tenure job would usually be much less than the Social Security benefit because the employee would have had a long tenure on another job or jobs.

³⁰ I.R.C. §4119b); ERISA §204.

³¹ Backloading refers to benefit accruals that increase steeply either as service increases or after a certain number of years of service. For example, a benefit formula providing 0.25 percent of average pay for each of the first 20 years of service and 2 percent of pay for each of the next five years of service would be considered a back-loaded formula. After 25 years of service, 5 percent of average pay would have been earned during the first 20 years of employment, and 10 percent of average pay would have been earned during the final five years of employment. This formula back-loads the benefit accrual because it provides a much larger value for later years of service.

Nondiscrimination Protection.³³ The mechanical nondiscrimination rules can create problems for employers who try to accommodate employees who want to phase into retirement. Under current law, a defined-benefit plan cannot make in-service distributions before normal retirement age. If the employer considers lowering the normal retirement age to accommodate in-service distributions, the plan must be able to pass nondiscrimination tests using that earlier normal retirement age.³⁴

The impact of phased retirement on final average pay, discussed in the Actuarial Equity in Phased Retirement Benefit Calculations section of this paper, will present a challenge for a sponsor who wants to facilitate phased retirement. If the sponsor decides to annualize pay for those phasing into retirement, the pay definition may fail nondiscrimination tests if a disproportionate share of phased retirees are highly compensated employees.

If phased retirees are the only participants who can receive certain payout options, such as partial benefit distributions, the sponsor must be careful that the effective availability of those options does not discriminate in favor of highly compensated employees. The demographics of those actually taking phased retirement will determine whether these special payout options are discriminatory under current nondiscrimination rules.

³² Plans that use elapsed time for service credits will credit a full year of service for each full year during phased retirement. Plans requiring a certain number of hours for a year of service may credit less than a year of service during phased retirement, depending on the hours actually worked.

³³ I.R.C. §401(a)(4).

³⁴ Of course, there are many other problems for traditional final average pay plans that use an early normal retirement age, such as much higher plan costs unless the benefit formula is modified.

The 2000 ERISA Advisory Council's Working Group on Phased Retirement recommended the following nondiscrimination test alternatives to the Secretary of Labor:

- Permitting a facts and circumstances test for phased retirement provisions in a pension plan as an alternative to passing the mechanical nondiscrimination test.
- Developing safe harbors and/or special rules addressed to phased retirement programs that accommodate their special characteristics.³⁵

IMPACT OF PHASED RETIREMENT ON SPOUSAL PROTECTIONS

The primary areas of spousal protection are the following ERISA requirements.³⁶

- Spousal consent for certain forms of benefit payment
- Amount of qualified surviving spouse annuity (QJSA)³⁷ and qualified preretirement spousal death benefit (QPSA)

Spousal Consent. Spousal consent is an effective protection only if the spouse understands the impact of waiving the QJSA. This communication challenge is not unique to phased retirement. If

³⁵ The Working Group Report on Phased Retirement, November 14, 2000, p.6.

³⁶ See, e.g., Jonathan Barry Forman, "Protecting Spousal Rights in Private Pensions," in Retirement Needs Framework, SOA Monograph M-RS00-1, 55-68 (Society of Actuaries, 2000).

³⁷ A qualified joint and surviving spouse annuity (QJSA), as defined in §417(b), is an annuity that pays the surviving spouse no less than 50 percent and no more than 100 percent of the amount payable while the participant is living and receiving benefits.

the participant works a reduced schedule during phased retirement, but he or she does not elect to receive any pension benefits before full retirement, spousal consent will not be affected by phased retirement.

If the participant elects to receive benefits during phased retirement, spousal consent would be required if the benefit were not payable in the form of a QJSA when phased retirement benefits begin. Upon full retirement, another spousal consent would be required for the additional benefit that will be payable.³⁸ The requirement of multiple spousal consents may be confusing to the spouse, so the plan sponsor should try to ensure that the spouse understands that the initial consent applies only to the initial partial benefit.

Amount of QJSA and QPSA. If a participant elects phased retirement in a final average pay plan and the final average pay decreases during phased retirement, the ultimate retirement benefit may be lower than if the participant continued working full-time. Therefore, the QJSA as well as the QPSA will be lower as a result of lower annual pay during phased retirement.³⁹

When the participant elects to begin receiving a lifetime distribution at an earlier age, the amount of the monthly benefit is smaller than if the benefit had begun at a later age. As a result, the survivor benefit payable to the spouse under the QJSA payment method is smaller than if the participant had not retired as early.

³⁸ Treas. Reg. §1.401(a)-20, Q-9.

³⁹ See Actuarial Equity in Phased Retirement Benefit Calculations section of this paper for a discussion of various final average pay alternatives that could be used in phased retirement programs.

Although it is not reasonable to expect the spouse to have the right to consent to a reduced work schedule as part of phased retirement, there is an erosion of some of the spousal protections on account of phased retirement. Education about the impact of phased retirement on pension benefits could include segments geared to educating spouses about the effect of phased retirement on their portion of the pension benefit.

SUBSIDIZED EARLY RETIREMENT BENEFITS AND PHASED RETIREMENT

Subsidized early retirement benefits are benefits payable before normal retirement that are more valuable than the actuarial equivalent of the normal retirement benefit determined at the early retirement age. Most traditional defined-benefit plans provide subsidized benefits to those who elect to commence benefits before normal retirement.⁴⁰ Do these subsidized early retirement benefits make sense in a phased retirement world?

Subsidized early retirement benefits provide an incentive to participants to retire before normal retirement. If plans are not able to pay partial benefits during phased retirement, as is the case currently, participants must forfeit the early retirement subsidy in order to ease into retirement through phased retirement. On the other hand, participants who do not want to give up the early retirement subsidy are forced to retire from their career job and take a bridge job.

⁴⁰ A common early retirement reduction in a plan with age 65 as the normal retirement age reduces the benefit 20 percent at age 62, 33 percent at age 60, and 50 percent at age 55. An actuarial reduction using 6 percent interest and GAM 94 mortality would reduce the benefit 25 percent, 37 percent, and 58 percent, respectively. The common early retirement reduction provides benefits more valuable (with a lower reduction) than an actuarial reduction and is referred to as subsidized early retirement.

If it is good public policy to allow workers to delay retirement by facilitating phased retirement, is it also good public policy for pension plans to encourage early retirement at the same time? These policies seem contradictory. Making pension plans age-neutral by requiring a full actuarial reduction is one way to eliminate this contradiction.⁴¹ Requiring an actuarial increase for delayed retirement and not allowing suspension of benefits are other ways to ensure actuarial neutrality. As mentioned earlier, Tables B-1, B-2, and B-3 use a full actuarial reduction before normal retirement and a full actuarial increase after normal retirement, achieving actuarial neutrality. Regardless of the payout pattern selected by the participant, the present value of the benefits paid from the plan does not change.

The Phased Retirement Liberalization Act, introduced by Congressman Earl Pomeroy and Senator Charles Grassley in 2000, would allow in-service distributions at the earlier of age 59½, 30 years of service, or normal retirement age.⁴² The bill would eliminate the 10 percent additional income tax on premature distributions for anyone with 30 years of service who is receiving in-service distributions before age 59½. The bill did not address paying partial benefits upon phased retirement.

⁴¹ Pension plans are considered age-neutral if nothing in the plan favors or disadvantages employees on account of age. There are protections to prevent unfair age discrimination, but pension benefits before normal retirement seem to be excluded from that protection. As a result, the plan can provide subsidized early retirement benefits that are most valuable at the earliest retirement age and become less valuable as the participant nears normal retirement. An age-neutral benefit would have the same actuarial value regardless of the age at which the benefit begins. Requiring a full actuarial reduction would require plans to either increase the value of benefits at later ages or reduce the value at earlier ages. See, e.g., Jonathan Barry Forman, "How Federal Pension Laws Influence Work and Retirement Decisions," TAX LAWYER PAGES 143-184, Volume 54, Number 1, 2000.

⁴² The Phased Retirement and Liberalization Act (S. 2853/H.R. 4837), 2000.

EARLY RETIREMENT WINDOWS AND PHASED RETIREMENT

Some employers offer an early retirement window as a means of reducing their workforce. Early retirement windows provide some form of extra benefits as an incentive to participants to retire during a particular time period (the “window”).

If the law and regulations are modified to facilitate phased retirement, early retirement windows take on a new aspect. Can a plan require participants taking an early retirement window to retire fully when the plan otherwise allows participants to receive early retirement benefits and continue working a reduced schedule? Age discrimination rules will likely have an impact on how this conflict would be resolved.

Phased retirement might be an alternative to early retirement windows, depending on the extent of downsizing being targeted. The employer may be able to realize sufficient payroll savings by having a larger number of participants take partial retirement without as large a window subsidy as would be required for employees to take full early retirement. Of course, the law would have to allow in-service distributions for this approach to work.

Early retirement windows present a significant opportunity to discriminate against older workers. These programs are geared toward reducing the workforce, and they are generally available only to older workers. If phased retirement could be an alternative to a window program, it would replace a program that discriminates against older workers with one that gives older workers more choices for managing their retirement.

DEFERRED RETIREMENT OPTION PLANS – DROPS

Some public sector plans include DROPs – Deferred Retirement Option Plans – that allow workers to continue working and have retirement benefits deposited into a separate account that earns interest. The participant receives the value of the DROP account upon full retirement, generally no more than five years after electing to have benefits deposited into the DROP. DROPs are probably not available to private-sector employers though.⁴³

A DROP can be structured to apply once the participant has become eligible for unreduced benefits or to apply also to participants who are eligible for an early retirement subsidy. If it applies to participants who are eligible for unreduced benefits, the DROP lets the participant take the unreduced benefit without having to retire. DROPs would be attractive to participants who do not need retirement income as a supplement during phased retirement.

If the DROP applies to participants eligible for subsidized early retirement benefits, it allows the participant to receive that subsidy without having to terminate employment. The subsidized benefit is deposited in the DROP and earns interest until retirement. At retirement, the subsidized early retirement benefit would be the monthly benefit payable to the participant. As long as the earnings on the DROP are sufficient to protect the value of the early retirement subsidy, the participant will end up with more valuable lifetime benefits because the participant will receive the value of the early

⁴³ The authors did not conduct a study of ERISA to determine whether DROPs would satisfy the ERISA requirements and, therefore, be available to private sector plans. This research would be a helpful addition to the information available on phased retirement options.

retirement subsidy. Even though the benefits paid out after retirement are reduced as if the participant had retired early, the value of the DROP will more than compensate for the cost of the early retirement reduction in the lifetime benefit.

A more equitable alternative to DROPs is to have early retirement benefits reduced for the full actuarial reduction. As a result, there is no economic incentive for retiring early.

ADMINISTRATIVE ISSUES SURROUNDING PHASED RETIREMENT

There is an administrative cost to the employer of allowing participants to continue working while receiving retirement benefits. Benefit calculations are more complicated because they are required at more than one time for each participant. Actuarial fees and internal staff time will be higher in order to maintain data on phased retirees and to calculate their benefits. Also, if the law is changed to permit paying a portion of the accrued benefit during phased retirement, the plan must specify exactly how the ultimate retirement benefit will be adjusted to reflect additional accruals and to reflect the value of benefits paid during phased retirement. In the Appendix, we illustrate calculation alternatives during phased retirement.

COMMUNICATION CHALLENGES RELATED TO PHASED RETIREMENT

Public policy is not well-served if workers enter into phased retirement thinking that they will continue to earn additional pension benefits, only to find out they have earned no additional benefits when they move into full retirement. Safeguards are needed to protect workers. The ideal

protection would require additional benefit accruals if the worker is taking partial benefits during phased retirement, as illustrated in the Appendix.

At a minimum, the protections should ensure that participants understand the impact of phased retirement on the ultimate retirement benefit. For example, whether the participant continues to earn benefit accrual service may depend on whether the participant continues working at or above a certain threshold number of hours, for example, 1,000 hours.

Depending on how the plan defines final average pay, phased retirement can have a significant impact on final average pay used to calculate retirement benefits. Various alternatives for calculating final average pay were discussed above and are shown in the documentation for Table C. Any communication about phased retirement must help ensure that the participant understands the impact of phased retirement on the final average pay used in the plan and the impact of final average pay on the pension benefit.

Additional communication material will be needed to explain phased retirement options. The complexity of the communication materials depends on the flexibility of the phased retirement options available to participants. Because phased retirement is an individual arrangement, the communications will need to be tailored to each participant's particular situation. As mentioned above, it would be helpful if a section of the communication were geared to the spouse because spousal benefits will likely be impacted by phased retirement.

The Economic Growth and Tax Relief Reconciliation Act of 2001 (EGTRRA)⁴⁴ enhanced the notice requirements for plans that reduce the rate of future benefit accruals. Although these requirements will not apply to phased retirement, they provide useful guidance on protections that could apply in a plan that facilitates phased retirement. Under the EGTRRA disclosure rules, the average participant should be able to understand the communication, and it must give the participant enough information to understand the impact of the provision on the participant.

Software that allows participants to model their benefits under various phased retirement scenarios can be helpful for participants who are comfortable using these tools. In other situations, the sponsor could use a workbook or a series of benefit exhibits to help participants understand the effect of phased retirement on their retirement benefits.

CONCLUSION

Phased retirement provides employees with important options for managing the end of their working career. It provides employers with a way to retain valuable knowledge workers who no longer want to work full-time. It is important for U.S. pension law and regulations to be modified to facilitate phased retirement, but those changes should include safeguards to protect workers and spouses as they make decisions that will have a lifetime financial impact.

⁴⁴ Economic Growth and Tax Relief Reconciliation Act of 2001, Pub. L. No. 107-16, 115 Stat. 38 (2001).

APPENDIX

LISTING AND BRIEF DESCRIPTION OF TABLES IN THE APPENDIX

Basic Assumptions Used for Retirement Tables [Appendix page v]. This section describes the plan design and provides the demographic assumptions used in the retirement tables that follow in the Appendix. It also describes some underlying principles used in the tables.

Summary Payout Table [Appendix page vii]. This table shows the payouts from the Cliff Retirement Table and Tables A-1, A-2, B-1, B-2, and B-3.

Summary Present Value Table [Appendix page viii]. This table compares the actuarial value at age 70 of the benefits received before age 70 and the lifetime benefits payable after age 70 for the payouts in the Cliff Retirement Table and Tables A-1, A-2, B-1, B-2, and B-3.

Cliff Retirement Table [Appendix page ix]. This table shows benefits under a typical cliff retirement pattern for a participant who works full-time until age 70 and then retires.

Table A-1 [Appendix page x]. This table shows the impact of phased retirement on a participant in a plan that averages compensation in the last five years of employment with no protection for those who do not work a full-time schedule. The participant in this example works 50 percent of a full-time schedule beginning at age 60 and fully retires at age 70. No retirement benefits are received during phased retirement.

Table A-2 [Appendix page xi]. This table shows the impact of phased retirement on a participant in a plan that averages compensation in the last five years of employment and in which compensation is annualized during phased retirement and a partial year of benefit service is earned. The participant in this example works 50 percent of a full-time schedule beginning at age 60 and fully retires at age 70. No retirement benefits are received during phased retirement.

Table B-1 [Appendix page xiv]. This table shows the impact of phased retirement on a participant in a plan that averages compensation in the last five years of employment and in which compensation is annualized during phased retirement and a partial year of benefit service is earned. The participant in this example works 50 percent of a full-time schedule beginning at age 60 and fully retires at age 70. The participant receives 50 percent of the age 60 accrued benefit during phased retirement. Early retirement and deferred retirement benefits are actuarially adjusted. The offset for in-service benefits received is limited to 50 percent of the accrued benefit because the participant is receiving only 50 percent of the age 60 accrued benefit during phased retirement.

Table B-2 [Appendix page xv]. This table shows the impact of phased retirement on a participant in a plan that averages compensation in the last five years of employment and in which compensation is annualized during phased retirement and a partial year of benefit service is earned. The participant in this example works 50 percent of a full-time schedule beginning at age 60 and fully retires at age 70. The participant receives 100 percent of the age 65 (normal retirement age) accrued benefit during phased retirement beginning at age 65. Early retirement and deferred retirement benefits are actuarially adjusted. The offset for in-service benefits received is applied to

the full accrued benefit because the participant is receiving 100 percent of the age 65 accrued benefit.

Table B-3 [Appendix page xvi]. This table shows the impact of phased retirement on a participant in a plan that averages compensation in the last five years of employment and in which compensation is annualized during phased retirement and a partial year of benefit service is earned. The participant in this example works 50 percent of a full-time schedule beginning at age 60 and fully retires at age 70. The participant receives 50 percent of the age 65 (normal retirement age) accrued benefit during phased retirement beginning at age 65. Early retirement and deferred retirement benefits are actuarially adjusted. The offset for in-service benefits received is limited to 50 percent of the accrued benefit because the participant is receiving only 50 percent of the age 65 accrued benefit during phased retirement.

Table C [Appendix page xxi]. This table compares the following definitions of final average compensation:

- o *Decreasing Final Average Pay:* Final average pay is the average of the last five compensation amounts and final average pay decreases during phased retirement.

- o *Non-Decreasing Final Average Pay:* Final average pay is the average of the last five compensation amounts but not less than any prior final average pay. Unlike Decreasing Final Average Pay above, final average pay remains level during phased retirement.

- o *Average With Phased Years Annualized:* Compensation during phased retirement is annualized. Final average pay is the average of the last five compensation amounts using annualized compensation during phased retirement.

- o *Average Using Partial Years to Divide:* A partial year is used in the divisor during phased retirement years and compensation is *not* annualized. Final average compensation averages the last five compensation amounts and divides it by the sum of the portions of a full-time schedule worked in those five years. For example, after two years of working 50 percent of a full-time schedule, the divisor would be 4: 1 for each of the three years in which the participant worked full-time and $\frac{1}{2}$ for each of the two years the participant worked 50 percent of a full-time schedule.

BASIC ASSUMPTIONS USED FOR RETIREMENT TABLES

Underlying principles used in tables:

- Under current law, final average pay can decrease in a plan that uses the high x of the last y if the participant takes phased retirement and receives reduced pay for more than $y - x$ years.
- Before normal retirement, the accrued benefit can decrease as a result of decreasing pay.
- The accrued benefit payable (after early retirement reduction) cannot decrease as a result of decreasing pay.
- Benefits are payable annually at the beginning of the year.

Plan provisions used in tables:

Benefit Formula:

$1\% \times \text{Final Average Pay} \times \text{Credited Service}$ [No service cap]

Normal Payment Method:

Single life annuity payable annually

Final Average Pay (FAP):

Average of the five prior compensation amounts. At age 60, final average pay is the average of the compensation amounts from age 55 through age 59.

Retirement Ages:

Normal retirement: age 65

Early retirement: age 55 with 10 years of service

Early Retirement Reduction and Late Retirement Increase:

Actuarial adjustment using 6.15 percent interest and GATT mortality (blended GAM-83)

Participant information assumed in table:

Hire Age:	25 ⁴⁵
Salary at Hire:	\$25,000
Annual Salary Increase:	4%
Retirement Age:	See individual examples

⁴⁵ The authors understand that it is not all that common for an employee to work for the same employer from age 25 until retirement. A participant's retirement decision will depend on the expected retirement income from all sources. However, it is cumbersome to show retirement benefits from several employers. This more common type of employment pattern does not provide the most straightforward illustration of various phased retirement designs on retirement plans. We have, instead, chosen to use a career employee to simplify our example.

Summary Payout Table

Comparison of Benefit Payments							
Age	Cliff Retirement	A-1	A-2	B-1	B-2	B-3	Age
60	–	–	–	\$ 9,842	–	–	60
61	–	–	–	9,842	–	–	61
62	–	–	–	9,842	–	–	62
63	–	–	–	9,842	–	–	63
64	–	–	–	9,842	–	–	64
65	–	–	–	9,842	\$40,076	\$20,038	65
66	–	–	–	9,842	40,076	20,038	66
67	–	–	–	9,842	40,076	20,038	67
68	–	–	–	9,842	40,076	20,038	68
69	–	–	–	9,842	40,076	20,038	69
70+	\$70,763	\$35,383	\$66,342	50,737	40,076	53,209	70+

Summary Present Value Table

Comparison of Actuarial Value of Benefits at Age 70						
	Cliff Retirement	A-1	A-2	B-1	B-2	B-3
Accumulated value at age 70 of benefits received from ages 60 to 69	–	–	–	\$150,000	\$252,500	\$126,300
Present value at age 70 of future lifetime benefits	\$680,300	\$340,200	\$637,800	\$487,800	\$385,300	\$511,600
Actuarial value of past and future benefit payments at age 70	\$680,300	\$340,200	\$637,800	\$637,800	\$637,800	\$637,800

Cliff Retirement Table

No Phased Retirement

Age	Salary	Final Average Pay	Benefit From Formula	Accd Ben Adj for Early or Late Ret	Accrued Benefit Payable⁴⁶	Benefit Received	Age
60	\$ 98,653	\$ 87,838	\$30,743	\$19,684	\$19,684	–	60
61	102,599	91,351	32,886	22,934	22,934	–	61
62	106,703	95,005	35,152	26,748	26,748	–	62
63	110,971	98,805	37,546	31,230	31,230	–	63
64	115,410	102,757	40,075	36,510	36,510	–	64
65	120,026	106,867	42,747	42,747	42,747	–	65
66	124,827	111,142	45,568	47,029	47,029	–	66
67	129,820	115,587	48,547	51,869	51,869	–	67
68	135,013	120,211	51,691	57,360	57,360	–	68
69	140,414	125,019	55,008	63,612	63,612	–	69
70+	–	130,020	58,509	70,763	70,763	\$70,763	70+

⁴⁶ Accrued Benefit Adjusted for Early or Late Retirement at current age, but not less than any prior Accrued Benefit Payable.

Table A-1

Benefits Payable Only After 100% Retirement

Decreasing Final Average Pay

Full Year of Service Earned During Phased Retirement

Age	Salary	Final Average Pay	Benefit From Formula	Adjusted Accrued Benefit	Accrued Benefit Payable	Benefit Received	Age
60	\$49,327	\$87,838	\$30,743	\$19,684	\$19,684	–	60
61	51,300	81,486	29,335	20,458	20,458	–	61
62	53,352	74,880	27,706	21,082	21,082	–	62
63	55,486	68,010	25,844	21,496	21,496	–	63
64	57,705	60,865	23,737	21,625	21,625	–	64
65	60,013	53,434	21,374	21,374	21,625	–	65
66	62,414	55,571	22,784	23,515	23,515	–	66
67	64,911	57,794	24,273	25,935	25,935	–	67
68	67,507	60,160	25,845	28,680	28,680	–	68
69	70,207	62,510	27,504	31,807	31,807	–	69
70+	–	65,010	29,255	35,383	35,383	\$35,383	70+

Note: Documentation for this table follows Table A-2.

Table A-2

Benefits Payable Only After 100% Retirement

Final Average Pay Based on Annualized Pay During Phased Retirement

Partial Year of Service Earned During Phased Retirement

Age	Salary	Portion of Year Worked	Annualized Salary	Final Average Pay	Credited Service @ Beginning of Year	Benefit From Formula	Adjusted Accrued Benefit	Accrued Benefit Payable	Benefit Received	Age
60	\$49,327	0.5	\$ 98,654	\$ 87,838	35.0	\$30,743	\$19,684	\$19,684	–	60
61	51,300	0.5	102,600	91,351	35.5	32,430	22,616	22,616	–	61
62	53,352	0.5	106,704	95,005	36.0	34,202	26,025	26,025	–	62
63	55,486	0.5	110,972	98,806	36.5	36,064	29,997	29,997	–	63
64	57,705	0.5	115,410	102,758	37.0	38,020	34,638	34,638	–	64
65	60,013	0.5	120,026	106,868	37.5	40,076	40,076	40,076	–	65
66	62,414	0.5	124,828	111,142	38.0	42,234	44,091	44,091	–	66
67	64,911	0.5	129,822	115,588	38.5	44,501	48,628	48,628	–	67
68	67,507	0.5	135,014	120,212	39.0	46,883	53,775	53,775	–	68
69	70,207	0.5	140,414	125,020	39.5	49,383	59,638	59,638	–	69
70+	–	–	–	130,021	40.0	52,008	66,342	66,342	\$66,342	70+

Note: See next page for documentation of calculations in this table.

DOCUMENTATION OF TABLES A-1 AND A-2

Phased Retirement Assumptions:

- Participant takes phased retirement and works 50 percent of a full-time schedule beginning at age 60 and fully retires at age 70.
- No benefits are payable during phased retirement and full benefits are received at full retirement.

Salary and Final Average Pay (FAP) – Table A-1:

- Salary is \$25,000 at age 25 accumulated to current age at 4 percent salary increase.
- FAP is the average of the prior five years' salary.

Salary and Final Average Pay (FAP) – Table A-2:

- Salary is \$25,000 at age 25 accumulated to current age at 4 percent salary increase.
- Salary is annualized by dividing pay for the year by the percentage of a full-time schedule worked in the year. During phased retirement, because the participant works 50 percent of a full-time schedule, the salary is divided by 0.5.
- FAP is the average of the prior five years' *annualized* salary.

Credited Service @ Beginning of Year – Table A-2:

- A partial year of service equal to the portion of a full-time schedule worked during the year is credited during phased retirement.

Adjusted Accrued Benefit:

- The accrued benefit reduced actuarially for early retirement for ages less than 65 and increased actuarially for late retirement for ages more than 65.

Accrued Benefit Payable:

- The Adjusted Accrued Benefit for the current age, but not less than any prior accrued benefit payable.

Table B-1

**Partial Benefits Payable During Phased Retirement
Full Benefits Paid at Full Retirement
Pay Annualized During Phased Retirement
Partial Year of Service Earned During Phased Retirement
Offset for Benefits Paid Applies Only to Portion of Benefit Earned**

Age	Salary	FAP	Benefit From Formula	Adjusted Accrued Benefit	Cumulative Offset for Benefits Paid	Increase in Benefit After Adj for Benefits Paid	Accd Benefit Payable After Adj for Bens Paid	Benefit Received	Age
60	\$49,327	\$ 87,838	\$30,743	\$19,684	–	\$ 2,777	\$19,684	\$ 9,842	60
61	51,300	91,351	32,430	22,616	\$ 878	2,054	21,738	9,842	61
62	53,352	95,005	34,202	26,025	1,855	4,486	24,170	9,842	62
63	55,486	98,806	36,064	29,997	2,944	7,369	27,053	9,842	63
64	57,705	102,758	38,020	34,638	4,162	10,792	30,476	9,842	64
65	60,013	106,868	40,076	40,076	5,530	14,862	34,546	9,842	65
66	62,414	111,142	42,234	44,091	7,070	17,337	37,021	9,842	66
67	64,911	115,588	44,501	48,628	8,810	20,134	39,818	9,842	67
68	67,507	120,212	46,883	53,775	10,785	23,306	42,990	9,842	68
69	70,207	125,020	49,383	59,638	13,033	26,921	46,605	9,842	69
70+	–	130,021	52,008	66,342	15,605	31,053	50,737	50,737	70+

Note: Documentation of formulas and calculations for this table follow STET Table B-3.

Table B-2

Full Benefits Payable During Phased Retirement After Normal Retirement Age
Full Benefits Paid at Full Retirement
Pay Annualized During Phased Retirement
Partial Year of Service Earned During Phased Retirement
Offset for Benefits Paid Applies to Full Benefit Earned

Age	Salary	FAP	Benefit From Formula	Adjusted Accrued Benefit	Cumulative Offset for Benefits Paid	Increase in Benefit After Adj for Benefits Paid	Accd Benefit Payable After Adj for Bens Paid	Benefit Received	Age
60	\$49,327	\$ 87,838	\$30,743	\$19,684	–	\$ 2,777	\$19,684	–	60
61	51,300	91,351	32,430	22,616	–	2,932	22,616	–	61
62	53,352	95,005	34,202	26,025	–	3,409	26,025	–	62
63	55,486	98,806	36,064	29,997	–	3,972	29,997	–	63
64	57,705	102,758	38,020	34,638	–	4,641	34,638	–	64
65	60,013	106,868	40,076	40,076	–	5,438	40,076	\$40,076	65
66	62,414	111,142	42,234	44,091	\$ 4,015	–	40,076	40,076	66
67	64,911	115,588	44,501	48,628	8,552	–	40,076	40,076	67
68	67,507	120,212	46,883	53,775	13,699	–	40,076	40,076	68
69	70,207	125,020	49,383	59,638	19,562	–	40,076	40,076	69
70+	–	130,021	52,008	66,342	26,266	–	40,076	40,076	70+

Note: Documentation of formulas and calculations for this table follows Table B-3.

Table B-3

Partial Benefits Payable During Phased Retirement After Normal Retirement Age
Full Benefits Paid at Full Retirement
Pay Annualized During Phased Retirement
Partial Year of Service Earned During Phased Retirement
Offset for Benefits Paid Applies Only to Portion of Benefit Earned

Age	Salary	FAP	Benefit From Formula	Adjusted Accrued Benefit	Cumulative Offset for Benefits Paid	Increase in Benefit After Adj for Benefits Paid	Accd Benefit Payable After Adj for Bens Paid	Benefit Received	Age
60	\$49,327	\$ 87,838	\$30,743	\$19,684	–	\$ 2,777	\$19,684	–	60
61	51,300	91,351	32,430	22,616	–	2,932	22,616	–	61
62	53,352	95,005	34,202	26,025	–	3,409	26,025	–	62
63	55,486	98,806	36,064	29,997	–	3,972	29,997	–	63
64	57,705	102,758	38,020	34,638	–	4,461	34,638	–	64
65	60,013	106,868	40,076	40,076	–	5,438	40,076	\$20,038	65
66	62,414	111,142	42,234	44,091	\$ 2,007	2,008	42,084	20,038	66
67	64,911	115,588	44,501	48,628	4,276	4,276	44,352	20,038	67
68	67,507	120,212	46,883	53,775	6,850	6,850	46,926	20,038	68
69	70,207	125,020	49,383	59,638	9,781	9,781	49,857	20,038	69
70+	–	130,021	52,008	66,342	13,133	13,133	53,209	53,209	70+

Note: See next page for documentation of formulas and calculations for this table.

DOCUMENTATION OF TABLES B-1, B-2, AND B-3

Phased Retirement Assumptions:

- Participant takes phased retirement and works 50 percent of a full-time schedule beginning at age 60.
- Participant fully retires at age 70.

Salary and Final Average Pay:

- Salary is \$25,000 at age 25 accumulated to current age at 4 percent salary increase.
- FAP is the average of the prior five years' annualized salaried whereby annualized salary is the actual salary divided by portion of the year worked.

Benefit From Formula:

- Benefit formula shown above using final average pay and credited service whereby credited service is the sum of all prior portions of year worked.
- Partial year of service is credited during phased retirement.

Adjusted Accrued Benefit:

- The accrued benefit reduced actuarially for early retirement for ages before normal retirement age and increased actuarially for years after normal retirement age.
- Formula for early retirement reduction to age x: Benefit from Formula ${}_{65} \frac{N_{65}}{N_x}$ but not less than any prior adjusted accrued benefit.
- Formula for late retirement increase to age y: Benefit from Formula ${}_{65} \frac{N_{65}}{N_y}$ but not less than the benefit from formula at age y.

Cumulative Offset for Benefits Paid:

- The adjustment reflects the annual benefit that could be purchased with the benefits that were received in prior years.
- Prior benefit payments are actuarially increased to the current age.
- This formula follows Example 3 of §1.411(b)-2.
- PRBA = phased retirement beginning age.

- Accumulation of prior benefits paid: $\text{Ben Paid} \times \frac{\sum_{i=1}^{x-1} D_i}{D_x} = \text{Ben Paid} \times \frac{N_{PRBA} - N_x}{D_x}$.

- Annuity purchased by accumulation of prior benefits paid: $\text{Ben Paid} \times \frac{\frac{N_{PRBA} - N_x}{D_x}}{\frac{N_x}{D_x}} = \text{Ben Paid} \times \frac{N_{PRBA} - N_x}{N_x}$.

Increase in Accrued Benefit After Adjustment for Benefits Paid:

- PRBA = the age at which benefit payments begin during phased retirement.
- PR % = percentage of accrued benefit received during phased retirement.
- Before age at which benefits are paid = Accrued Benefit Payable_x – Accrued Benefit Payable After Adjustment for Benefits Paid_{x-1}.
- Beginning with age at which benefits are first paid (this adjustment is the *cumulative* increase in the accrued benefit at age PRBA) =

$$\text{Max}[0, (\text{Accrued Benefit Payable}_x - \text{Accrued Benefit Payable}_{\text{PRBA}}) \times \text{PR}\% - \text{Cumulative Offset}_x]$$

$$+ (1 - \text{PR}\%) \times (\text{Accrued Benefit Payable}_x - \text{Accrued Benefit Payable}_{\text{PRBA}})$$

Accrued Benefit Payable After Adjustment for Benefits Paid:

- Before PRBA, the prior year's accrued benefit payable after adjustment for benefits paid plus the current year's increase in accrued benefit after adjustment for benefits paid.
- Beginning with the age at which benefits are first paid,

$$\text{Accrued Benefit Payable}_{\text{PRBA}} + \text{Increase in Accrued Benefit After Adjustment for Benefits Paid}_x.$$

Benefit Payout Assumptions — Table B-1

- 50 percent of the accrued benefit at initial phased retirement is payable during phased retirement.
- Accrued benefit payable after adjustment for benefits paid at full retirement begins at that age.

Benefit Payout Assumptions— Table B-2:

- 100 percent of the accrued benefit is payable beginning at normal retirement.
- Accrued benefit payable after adjustment for benefits paid at full retirement begins at that age.

Benefit Payout Assumptions — Table B-3:

- 50 percent of the accrued benefit is payable beginning at normal retirement.
- Accrued benefit payable after adjustment for benefits paid at full retirement begins at that age.

Table C

Various Final Average Pay Alternatives

Age	Salary	Decreasing Final Average Pay	Non-Decreasing Final Average Pay	Annualized Phased Years	Average With Phased Years Annualized	Divide by Partial Years	Average Using Partial Years to Divide	Age
55	\$81,087	–	–	\$81,087	–	1.0	–	55
56	84,330	–	–	84,330	–	1.0	–	56
57	87,703	–	–	87,703	–	1.0	–	57
58	91,211	–	–	91,211	–	1.0	–	58
59	94,859	–	–	94,859	–	1.0	–	59
60	49,327	\$87,838	\$87,838	98,654	\$87,838	0.5	\$87,838	60
61	51,300	81,486	87,838	102,600	91,351	0.5	90,540	61
62	53,352	74,880	87,838	106,704	95,055	0.5	93,600	62
63	55,486	68,010	87,838	110,972	98,806	0.5	97,157	63
64	57,705	60,865	87,838	115,410	102,758	0.5	101,441	64
65	60,013	53,434	87,838	120,026	106,868	0.5	106,868	65
66	62,414	55,571	87,838	124,828	111,142	0.5	111,142	66
67	64,911	57,794	87,838	129,822	115,588	0.5	115,588	67
68	67,507	60,106	87,838	135,014	120,212	0.5	120,212	68
69	70,207	62,510	87,838	140,414	125,020	0.5	125,020	69
70	–	65,010	87,838	–	130,021	0.0	130,021	70

Note: See next page for documentation of this table.

DOCUMENTATION OF TABLE C

Basic Assumptions:

- Hire age = 25
- Starting salary = \$25,000
- Annual salary increase = 4%
- Years to Average in Final Average Pay = 5
- Percentage of Full-Time Work During Phased Retirement = 50%
- Phased Retirement Beginning Age = 60
- Full Retirement Age = 70

Salary:

- Prior year's salary multiplied by $1 + \text{salary increase}$.

Decreasing Final Average Pay:

- Final average pay is the average of the prior five years of salary.

Non-Decreasing Final Average Pay:

- Final average pay is the average of the prior five years of salary, but not less than any prior final average pay.

Annualized Phased Years:

- During phased retirement, salary is annualized by dividing the pay received by (1 - % of full-time schedule worked during phased retirement).
- Annualized salary at age 61 equals $\$51,300 \div (1 - 0.5) = \$102,600$

Average With Phased Years Annualized:

- Final average pay is the average of the prior five years of annualized salary.

Divide by Partial Years:

- Portion of full-time worked in current year.

Average Using Partial Years to Divide:

- Final average pay is the sum of the prior five years of salary divided by the sum of the prior five years' portions of full-time schedule worked.