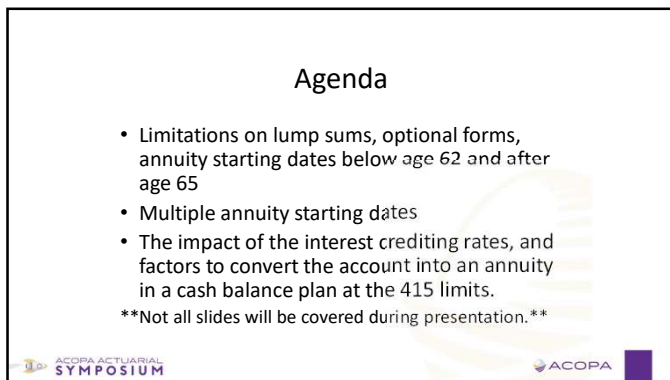
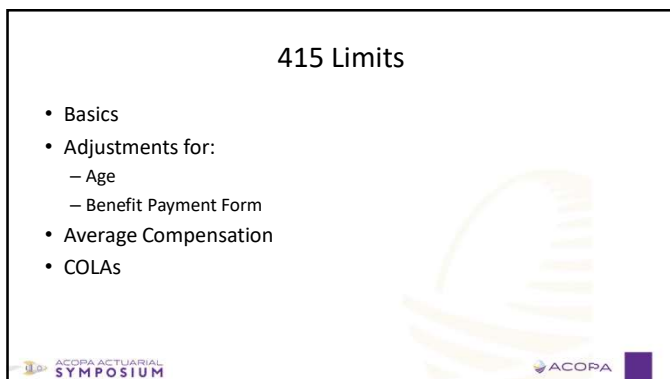




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§415 Limits

- § 1.415(b)-1(a)(3):
 - “Plan provisions...must preclude the possibility that any annual benefit exceeding these limitations will be accrued..., distributed, or otherwise payable in any optional form of benefit...”
- Plan must meet §415:
 - As applied to accrued benefit stated as annuity at NRA
 - At annuity starting date
 - Projected benefit used in funding calculations

3

Basic Assumptions

- §417(e) Segment Rates are 3.43% / 4.46% / 4.88 (Nov 2018)
- Normal Retirement Age (“NRA”) = age 65
- Plan Year = Limitation Year = Calendar Year
- All calculations are for the 2019 Limitation Year
- No forfeiture on death
- Normal form is life annuity
- Individuals in the examples have 10 years of service and accrual under the Plan
- Average compensation is sufficient to justify the maximum benefit

4

Basic Definition of §415 Limits

- Defined Benefit Pension Plans must limit payouts to the lesser of:
 - **DOLLAR LIMIT**
 - Age-adjusted
 - Increased for Cost of Living (2019 annual limit is \$225,000)
 - Phased in over 10 years of accrual
 - (called “participation,” but really accrual)
 - **COMPENSATION LIMIT**
 - Average of 3 highest consecutive years of compensation
 - Each Year’s Compensation is limited to the §401(a)(17)
 - Phased in over 10 years of service

5

§415 Payment Forms

- §415 Limits apply to life annuity or QJSA benefits
 - If QJSA, no reduction, but only if no reduction in Plan
 - §415 QJSA is free **only** if QJSA is free to all participants
 - EA gray book clarification
 - Other forms of payment must be reduced actuarially, even if Plan has no reduction
- §415 Limits based on annual benefit payable **monthly**
 - Lump sum §415 factor must be monthly
 - Can still convert for age based on annual factors

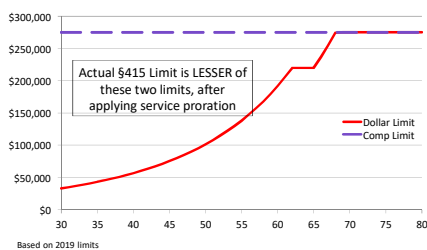
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§415 Limit Timing Adjustments

- §415 Compensation Limit: **same** at all ages
- §415 Dollar Limit: adjusted for **most** ages
 - Under age 62: reduction in Dollar Limit
 - Ages 62 to 65: Dollar Limit is the same
 - Over age 65: increase in Dollar Limit
 - But only until about age 68
 - About age 68: Compensation Limit applies

7

§415 Limits By Age



8

§415 Before Age 62

- Start with age-62 §415 Dollar Limit
- Reduce for pre-62 commencement
 1. Plan's early retirement factors
 2. "415 factors": 5.0% and AMT
 - Whichever produces smaller benefit
 - For "AMT", no pre-retirement mortality to the extent benefit not forfeited on death
 - QPSA without charge is generally treated as no forfeiture, even though QPSA can be as little as 50% of the actuarially reduced benefit payable

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§415 Before Age 62

- Ben is 55 years old
 - Plan's Normal Retirement Age is 62
 - Plan's early retirement reduction: 3% per year from NRA
 - Ben's accrued benefit (payable at NRA, and BEFORE application of §415 Limit) = \$19,000 per month
- Ben wants benefits to commence. What is his monthly benefit?

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§415 Before Age 62

1. Limit Accrued Benefit at NRA to §415 Limit:
 $\text{Limited AB} = \min(\$19,000, \$18,750) = \$18,750$
2. Calculate Plan's early reduction:
 $3\% * (\text{age } 62 - \text{age } 55) = 21\% \text{ reduction} \Rightarrow 79.00\%$
3. Calculate §415 early reduction (assume no forfeiture on death):
 $a_{62} \div 1.05^{(62-55)} \div a_{55} \Rightarrow 62.76\%$
4. Calculate limited early retirement benefit
 $\$18,750 * 62.76\% = \$11,768$

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§415 Before Age 62

What if NRA from Example 1 is Age 65?
Note the following calculations are what the regulations require.
Poorly drafted documents may not allow for these results

1. Limit Accrued Benefit at NRA to §415 Limit:
 - Limited AB = min (\$19,000, \$18,750) = \$18,750
2. Calculate ratio of Plan's early retirement benefits:
 - Benefit Age 62: $3\% \times (\text{age } 65 - \text{age } 62) = 9\%$
 - $91\% \times 18,750 = \$17,062$
 - Benefit Age 55: $3\% \times (\text{age } 65 - \text{age } 55) = 30\%$
 - $70\% \times 18,750 = \$13,125$
 - $\$13,125 / \$17,062 \times \$18,750 = \$14,423$

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§415 Before Age 62

3. Reduce 415 limit at age 62 to payment age
4. $\$18,750 \times a_{62} \div 1.05^{(62-55)} \div a_{55} = \$11,768$
5. Benefit Payable is the lesser of \$14,423 and \$11,768

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§415 Before Age 62 When NRA is over 62

- Under IRC 415 and the associated regulations, the maximum dollar benefit is reduced for payment prior to age 62
- Under this rule, the reduced maximum benefit payable at an age below age 62 is the lesser of two amounts:
 - The actuarial equivalent benefit at the payment age of the maximum benefit payable at age 62, determined using 5% interest and 417(e) applicable mortality, and
 - The maximum benefit payable at age 62 times the ratio of the plan benefit payable at the payment age to the plan benefit payable at age 62 (with the plan benefits determined without regard to the maximum benefit and with no future accruals).

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\$415 Before Age 62 When NRA is over 62

- Example

– A plan provides that, if the benefit is payable on or after age 60, the benefit is the age 65 benefit reduced for each year prior to age 65 by 2%, but if the benefit is payable prior to age 60, the benefit is the benefit payable at age 65 reduced by 4% for each year prior to age 65, then the benefit payable at age 55 is being reduced under the 4% rule

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\$415 Before Age 62 When NRA is over 62

- Example

- Fred (age 55) has an accrued benefit of \$10,000 payable at age 65. Fred would like to retire.
- Plan reduction from 62 to 55 is $[100\% - 4\% \times (65 - 55)]$ (the reduction to age 55) / $[100\% - 2\% \times (65 - 62)]$ (the reduction at age 62) = 63.82% (i.e., the maximum benefit payable at age 55 would be 63.82% of the benefit payable at age 62)
- Under the plan factors, the benefit payable at age 55 is \$6,382.
- However, the 415 actuarial reduction factors between ages 62 and 55 is 62.76%. Therefore, the benefit payable under this calculation is 62.76% or \$6,276.
- Actual benefit payable is the lesser of the 2 calculations or \$6,276.

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\$415 After Age 65

- Start with age-65 \$415 Dollar Limit
- Increase for post-age-65 commencement
 1. Plan's late retirement actuarial increase
 2. "415 factors": 5.0% and AMT
 - Whichever produces smaller benefit
 - For "AMT", no mortality if no forfeiture on death
 - QPSA without charge is generally treated as no forfeiture
- Compare to \$415 Compensation Limit

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\$415 After Age 65

- Chris is 67 years old
 - Plan's Normal Retirement Age is 65
 - Plan's late retirement adjustment is to increase the benefit at NRA by 8% per year from NRA
 - Chris's accrued benefit (payable at NRA) = \$21,000 per month
 - Chris' average monthly compensation is \$21,666
- Chris wants to commence. What is his monthly benefit?

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\$415 After Age 65

1. 415 Limit at age 67
 - $a_{65} \times 1.05^{(67-65)} \div a_{67} \Rightarrow 115.78\%$ increase
 - $\$18,750 \times 115.78\% = \$21,708$
 2. Calculate Plan's late retirement factor:
 - $8\% \times (\text{age } 67 - \text{age } 65) = 16.00\%$ increase
 - $116.00\% \times \$18,750 = \$21,750$
- Benefit payable \$21,708

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Maximum Lump Sums

- Lump Sums = Smallest of (1), (2) and (3):
 1. Rates under the Plan = greater of:
 - a) Plan's conversion rates
 - b) §417(e) conversion rates, if applicable
 2. 5.5% & Applicable Mortality Table (AMT)
 3. Rate that provides a benefit of 105% of value using AMT and applicable rates
- If employer is eligible to set up a SIMPLE (Under IRC 408(p)(2)(C)(i)) generally, less than 101 employees) then (3) is not applicable

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Maximum Lump Sum

Kelsey accrued a benefit of \$16,000. She is 65 years old at 8/1/2019, the NRA under the plan. She wants to take a lump sum settlement.

Plan rates are 6% / 6% / 94GAR

1. Plan Rate APR: 130.39
2. 5.5% Life Annuity & AMT APR: 144.68
3. §417(e) Life Annuity Rate APR: 158.43

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Maximum Lump Sum

Lump Sum is lesser of {Greater of (1)(a) or (1)(b)}, (2), (3):

1. (a) $\$16,000 \times 130.39 = \$2,086,240$
(b) $\$16,000 \times 158.43 = \$2,534,880$
2. $\$18,750 \times 144.68 = \$2,712,750$
3. $\$16,000 \times 158.43 \times 105\% = \$2,661,624$

The plan pays Kelsey a lump sum equal to \$2,534,880

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Annuity Payments

For forms of payment to which §417(e)(3) does not apply, the amount payable is generally the lesser of:

1. The benefit under the Plan, or
2. The actuarial equivalent of \$415 limit using 5.0% and AMT (Special rules apply for QJSAs)

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Annuity Payments

- Bernie is age 75
- Bernie retires with 10-Year Certain & Life (C&L) benefit
- Plan factor for 10 C&L benefit is 98% of the life annuity
- \$415 Average Monthly Pay is \$3,500
- Bernie's accrued benefit is \$3,450 per month

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Annuity Payments

- 10 C&L benefit $\$3,450 \times 0.98 = \$3,381$
- \$415 limitation for optional form
 - APRs using 5% & AMT
 - APR life annuity 112.00
 - APR 10 C&L 123.97
 - Maximum 10 C&L annuity benefit
 $\$3,500 \times 112.00 \div 123.97 = \$3,162$
- Bernie's 10 C&L benefit is limited to \$3,162 per month

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415 Benefits at Unbirthdays

- 415 Limit based on age in years and completed months
- Lump Sum conversion factors are also based on age in years and completed months
- May a plan use age nearest at distribution date? Only if it provides for a smaller benefit than the benefit based on fractional age

26

415 Benefits at Unbirthdays

- Allowable Methods?
 - Linear Interpolation of limits at integral ages
 - Linear Interpolation of APRs with a compound interest discount to actual age
 - Mortality table built using constant force of mortality between integral ages
 - Any other reasonable method
- Using age at last birthday for benefits payable below age 62 would produce a smaller benefit
- Using age at last birthday for benefits payable after age 65 or using age at next birthday before age 62 might violate 415

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§415 COLAs & Distributions

- Cannot give §415 COLA to a participant completely paid out in prior limitation year who does not accrue an additional benefit
 - Gary was age 65 on 12/31/2017 and received an in-service lump sum distribution of his accrued benefit, the §415 limit
 - At the time of his distribution, Gary had 10 years of accrual and benefit formula does not recognize service in excess of 10 years
 - Does Gary's accrue a benefit in 2018 due to the 2018 COLA? NO!
 - However, if Gary still had a §415-limited accrued benefit remaining after distribution, or accrues additional §415-limited benefits (e.g., in 2018), then he is entitled to the 2018 COLA

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§415 Compensation

- Amounts paid while on active duty or during a period of disability may be generally included
- Severance and other post-employment pay. Generally only amounts paid no later than
 - 2½ months after termination or
 - The end of the limitation year that includes the termination date and
 - The amounts would have been includible if paid prior to termination

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§415 Average Compensation

- Breaks in service/gaps:
 - Ignored for average compensation
 - May only ignore gaps when there is a severance of employment
- Less than 3 years of service:
 - Average is based on years and fractions of a year
 - But not less than one year
 - Limitation Year is calendar year
 - Lindsey was hired on 7/1/2016 and terminates on 12/31/17
 - Total pay is \$60,000 (2016) and \$120,000 (2017)
 - §415 Average pay for Lindsey is \$120,000 at 12/31/2017

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§415 Average Compensation

- Let's revisit Lindsey's employment history
- Lindsey was hired on 7/1/16 and terminated on 12/31/17
- Total pay is \$60,000 (2016) and \$120,000 (2017)
- Lindsey is now re-hired on 1/1/19
- 2019 compensation is \$500,000
- Lindsey terminates 12/31/19
- §415 average pay for Lindsey is $(\$60,000 + \$120,000 + \$280,000) \div 2\frac{1}{2} \text{ years} = \$153,333$

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Application of §401(a)(17)

- Regulation limits benefits to the lesser of:
 - Age 65 dollar limit (actuarially decreased before age 62 and increased after age 65) and,
 - High 3 year pay where each year is limited to the §401(a)(17) limit
 - Interesting public policy basis. Value of the §415 limitations decline after approximately age 68
- 2007 accrued benefit grandfathered
 - The document supported that interpretation
 - The plan conformed with prior guidance AND
 - The provisions were adopted and in effect by April 4, 2007

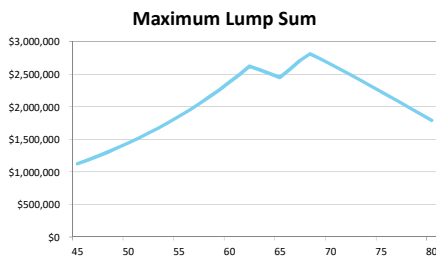
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\$415 Compensation Limit

- George is age 70
- Plan accrual: 7 years
- Employer service: 9 years
- Average pay = average of limits = $\$270,000/12 = \$22,500$
- Prorated Compensation Limit = $\$22,500 * 9 \div 10 = \$20,250$
- \$415 Dollar Limit at age 70: \$27,297
- Prorated Dollar Limit: $\$27,297 * 7 \div 10 = \$19,108$
- Actual Limit = \$19,108
- Dollar Limit applies

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\$415 Maximum LS by Age



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\$415 Limit: Declining...

- Implications of Flat \$415 Annuity Limit:
 - Must manage declining lump sum value at older ages
 - Cannot grant actuarial increases in excess of \$415 Limit
 - If possible, suspend benefit
 - Only if plan document provides for suspension
 - Only if suspension notice given
 - If participant has low hours, is terminated, or is past April 1st following CY of age 70%, then cannot suspend benefits
 - \$411 Regs: must commence benefits to avoid a forfeiture
 - Reflecting past distributions in \$415 Limit (i.e., “MASDs”)

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§411(a) Issues

- 411(a) generally requires that the benefit payable in an optional form be equivalent to the accrued benefit
- Several places where the regulations point out a conflict between §411(a) and §415
 - Tom's §415 average compensation is \$120,000. He is at the plan's Normal Retirement Age with a \$10,000 monthly benefit.
 - If the plan does not provide for suspension of benefits, then Tom must start receiving benefits even if still employed.
 - If Tom does not commence benefit payments, the plan will violate §411 because Tom cannot receive an actuarial adjustment to his benefit

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COLAs on §415 Average Compensation

- Larry retired in 2010 and takes an annual benefit of \$20,000 starting at age 65. §415 pay is \$25,000
- 7 years later, the employer would like to increase Larry's benefit
- Post retirement COLAs brings his average pay limit to \$27,796
- Since Larry has been receiving a benefit that is not subject to §417(e)(3) and his annuity is less than his adjusted high 3 year average, his benefit may be increased to \$27,796

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Multiple Annuity Starting Dates

- 401(a)(9) Method
- AEA Method
- §415 Compensation Limit
- §415 Dollar Limit

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Multiple Annuity Starting Dates

- MASDs: multiple distributions counting against §415
 - In-service distributions
 - Prior plans that were terminated
 - §401(a)(9) payments
 - §415 COLA adjustments to benefits in pay status
 - Payments to alternate payees
 - Top 25 restrictions under §1.401(a)(4)-5
 - Participants in multi-employer and single-employer plans
 - Lump sums to retirees at plan termination
 - Bifurcated benefits resulting from §436 restrictions

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MASDs and §415

- §415 Regulations:
 - “Reserved”
 - Preamble: “The benefit payable at each annuity starting date must comply with §415 when aggregated with all past payments.”
 - §415 regulations introduce concept of MASDs, but give little guidance!
 - Except withdrawn proposed regulations
 - And except for 401(a)(9) regulations...

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§401(a)(9) Regs & MASDs

- §401(a)(9) regulations on MASDs:
- Gives brief description of how MASDs comply with 401(a)(9) & 415
- Several examples demonstrate valuable concepts
- §401(a)(9) is the only §415 MASD guidance:
 - Simply says that any modification of a payment stream is treated as a second annuity starting date for 415 and 417
 - Entire payment stream (including modification, such as lump sum, that constitutes the second ASD) must satisfy 415 as of first ASD

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401(a)(9) Method & MASDs

- 401(a)(9) submitted Comment Letter on §415 for MASDs:
 - Expands on 401(a)(9) concept
- With multiple ASDs, two separate calculations:
 - Does the income stream resulting from the combination of all benefits at all ASDs comply with §415 measured at First ASD?
 - Ensures that entire payment stream does not exceed the maximum which could have been paid with a single ASD
 - Does the total income stream payable at or after each new ASD, taking into account all benefits payable after that ASD, comply with §415 when measured at that particular ASD?
 - Ensures that §415 limit is not increased at second ASD by failing to use entire §415 limit at an earlier ASD

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401(a)(9) Method & MASDs

Specific Methodology

1. Discount revised annuity stream (which includes all payments related to all ASDs) to First ASD
 - For payments not subject to §417(e)(3), discount at 5.0% (or plan rate, if higher)
 - For payments subject to §417(e)(3), discount at 5.5% (or plan rate or adjusted applicable interest rates, if higher)
 - Use rates applicable to the ASD being tested
 - If payments subject to life contingencies, use AMT
2. Convert discounted PV to life annuity at First ASD
3. Compare resultant annuity with §415 limit as of First ASD

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401(a)(9) Method & MASDs

Specific Methodology

4. Discount annuity stream payable at or after 2nd ASD to 2nd ASD
 - Same rules for setting discount rate(s) and mortality as in (1)
5. Convert discounted PV to life annuity at 2nd ASD
6. Compare resultant annuity with §415 limit as of 2nd ASD
7. Repeat steps (4), (5), and (6) for 3rd and later ASDs, if any
8. Benefit must meet §415 at both (or all) ASDs

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401(a)(9) Method

- Ted's §415 average compensation is \$140,000
- Monthly accrued benefit at age 70 is \$10,000
- At age 70, his \$10,000 monthly benefit commences payment as life annuity
- At age 75 the plan terminates
- Ted elects a \$1,084,400 lump sum on plan termination
- Does this satisfy §415 under the 401(a)(9) method?

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401(a)(9) Method

- Ted's §415 average compensation is \$140,000
- Ted's revised income stream at First ASD is:
 - Life annuity for 5 years, and
 - Lump sum of the remaining payments at the 6th year
- Since the revised income stream was based on life contingencies, discount for interest and the AMT
- Since the revised income stream was not payable for Ted's life, it is subject to §417(e)(3)
 - Value revised income stream at 5.5%

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401(a)(9) Method

Payment Year	Annual Amount	Discounted Value at Age 70*
1 through 5	\$ 120,000	\$ 526,225
6 th	1,084,400	765,712
Total	\$1,853,700	\$1,291,937

*Discounted at 5.5% and the Applicable Mortality Table

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401(a)(9) Method

- At First ASD: \$415 annual benefit (payable monthly) derived from present value of revised income stream:
 $\$1,291,937 \div 127.58 \times 12 = \$121,518$
- At Second ASD: benefit provided by lump sum at age 75:
 $\$1,084,400 \div 108.44 (5\frac{1}{2}\% \text{ AMT}) \times 12 = \$120,000$
- Since \$121,518 and \$120,000 are less than Ted's \$415 average compensation of \$140,000 and the dollar limit, the plan meets 415 at both ASDs and may pay lump sum

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401(a)(9) Method

Payment Year	Annual Amount	Discounted Value at Age 70*
1 through 5	\$ 120,000	\$ 540,618
6 th	1,084,400	829,712
Total	\$1,853,700	\$1,370,330

*Same as prior example except the benefit payable is an annuity certain. Then discount is 5.5% and no mortality

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401(a)(9) Method

- At First ASD: \$415 annual benefit (payable monthly) derived from present value of revised income stream:
 $\$1,370,330 \div 127.58 \times 12 = \$128,891$
- At Second ASD: benefit provided by lump sum at age 75:
 $\$1,084,400 \div 108.44(5\frac{1}{2}\% \text{ AMT}) \times 12 = \$120,000$
- Since \$128,891 and \$120,000 are less than Ted's \$415 average compensation of \$140,000 and the dollar limit, the plan meets 415 at both ASDs and may pay the lump sum

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401(a)(9) Method & MASDs

Issues with §401(a)(9) Regulations:

- Regulations have not been rescinded
- Regulations do not address situations where the participant continues to accrue benefits
- Regulations do not address changes in compensation
- Regulations do not address increases in §415 limits
- Regulations do not address the difficulties in applying straightforward actuarial equivalent adjustments to MASDs...

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Actual Case

- Payment pattern:
 - 401(a)(9) payments with additional benefit accruals
 - Payments are for a period certain.
 - Present value of additional accruals are amortized over remaining period
- Plan terminates on 7/1/18
- 1st ASD 7/1/2007. 2nd ASD 7/1/2018
- What is the maximum lump sum at 2nd ASD?

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Actual Case

On the following slide:

- Column 1-Payment year
- Column 2-Age at payment date
- Column 3-Actual Payment
- Column 4-PV of 3 discounted to 1st ASD
- Column 5-Hi 3 as of payment date
- Column 6-PV of high 3 discounted to 1st ASD
- Column 7-Actual Payment in excess of high 3 [(3)-(5)]
- Column 8-PV of excess as of the 2nd ASD

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1	2	3	4	5	6	7	8
Year	Age	Actual Payments	PV of Actual Payments	High 3	PV Hi 3	excess over high 3	PV Excess
2007	70.5	127,000	127,000	127,000	127,000	0	0
2008	71.5	127,000	120,379	127,000	120,379	0	0
2009	72.5	127,000	114,103	127,000	114,103	0	0
2010	73.5	127,000	108,155	226,667	193,032	0	0
2011	74.5	131,585	106,218	226,667	182,969	0	0
2012	75.5	142,585	109,096	226,667	173,430	0	0
2013	76.5	166,002	120,392	250,000	181,311	0	0
2014	77.5	368,706	253,462	255,000	175,296	113,706	140,861
2015	78.5	368,706	240,248	260,000	169,416	108,706	127,647
2016	79.5	368,706	227,723	263,333	162,642	105,372	117,282
2017	80.5	368,706	215,852	266,667	156,115	102,039	107,651
2018	81.5	1,344,559	746,110	0	746,110		
Totals			2,488,739	2,356,000	2,501,805		493,441
						Offset Benefit	5,966
						Max Ben before offset	22,222
						Net Benefit	16,256
						PV	
APR 81.5		82.71		LSS at 81.5	1,838,000	Remaining benefit	1,344,559
						Allowable LSS	1,344,559

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Real Life-Methodology

- No adjustments for payments that do not exceed average compensation-no catch up
- Offset to lump sum is equal to the PV of the amounts in excess of average compensation measured as of the 2nd ASD
- Benefit attributable to PV of excess is \$5,966 at 2nd ASD
- PV of high 3 less offset is \$1,344,559 at 2nd ASD
- PV at 1st ASD of actual payments including lump sum at 2nd ASD is \$2,488,739 .
- PV of high 3 including lump sum at 2nd ASD discounted to 1st ASD is \$2,501,805. This represents the PV of maximum benefit possible.
- PV of payments (4) is less than PV of maximum payments at 1st ASD
- PV of high 3 less offset is maximum lump sum at 2nd ASD
- Therefore, the proposed income stream complies with 415 at the 1st and 2nd ASDs

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Cash Balance Plans

- The accrued benefit payable at NRA is calculated by increasing the current account balance at the current interest crediting rate to the participant's Normal Retirement Age
- Then using the plan's definition of actuarial equivalency, the projected account balance is converted into an annuity commencing at Normal Retirement Age

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Cash Balance Plans

Example

- Participant is age 70½. NRA is 65. Account Balance is \$10,000.
- Actuarial equivalency assumptions: 5% 94GAR
- Accrued monthly benefit is $\$10,000 / 121.17 = \82.53
- RMDs are based on the \$82.53 monthly benefit

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Cash Balance Plans

- Because the account balance is always given an interest credit, the monthly benefit is automatically adjusted for delayed retirement
- When the interest credit is less than the actuarial equivalent interest rate, there could be a problem complying with §401(a)(9) and/or §411

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Cash Balance Plans

- Account balance at age 65 (NRA) is \$141,530, which translates to a \$1,000 immediate life annuity monthly benefit
- Benefits are frozen
- No suspension of benefit notifications are issued
- Interest crediting rate is 4½%
- Actuarial Equivalency is 5% 94GAR
- Benefit provided by account balance at age 75 is:
 - $\$141,530 \times 1.045^{(75-65)} / 103.19 = \$2,129.97$
- However the actuarial equivalent benefit at 75 is:
 - $\$1,000 \times 141.53 / 103.19 \times 1.05^{(75-65)} = \$2,234.11$

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Cash Balance Plans

- In order to comply with §411 and §401(a)(9), the monthly accrued benefit cannot be less than \$2,234.11 at age 75
- All optional forms must be based on the higher benefit
- For instance, a lump sum settlement would be $\$2,234.11 \times 103.19 = \$230,538$
- Even though the account balance at age 75 was \$219,792, the plan must pay a lump sum of \$230,538 or any other optional form on the greater amount
- This is predicated on the assumption that 5% is the "reasonable interest rate" for purposes of determining actuarial adjustments

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Cash Balance Plan Equity Rates of Return

- NRA 62. Participant is age 55 on 1/1/2019 after 10 years of participation. AE is ICR/5½% AMT
- Account balance after posting an estimated 2018 interest credit of 5% is \$1,500,000
- Is the account balance payable as a lump sum?
- Max benefit at 55: $\$18,750 \cdot a_{62|5\frac{1}{2}\%} / 1.05^7 / a_{55|5\frac{1}{2}\%} = \$11,856$
- Max Lump Sum $\$11,856 \times a_{55|5\frac{1}{2}\%} = \$2,051,314$
- Plan may pay the account balance

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Cash Balance Plan Equity Rates of Return

- Same example but the actual 2018 interest credit is 15%. Account balance is now \$1,642,857. AE is ICR/5½% AMT
- Is the account balance payable as a lump sum?
- Max benefit at 55: $\$18,750 \cdot a_{62|5\frac{1}{2}\%} / 1.15^7 / a_{55|5\frac{1}{2}\%} = \$6,272$
- Max lump sum is \$1,085,106. Plan **cannot** pay the account balance
- The creative consultant says, "The good news is the plan's assets yielded 15%. The bad news is the plan's assets yielded 15%."

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What is the Impact of High Interest Crediting Rates on Maximum Lump Sums?

- When this is applied to a cash balance plan with a high interest crediting rate, the result can be shocking
- Following are the results for a plan that uses 5½% interest and 417(e) applicable mortality to convert the account to an annuity with interest crediting rates of 5%, 7.5%, 10%, 15% and 20%

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Maximum Annuity Benefits with Various Interest Crediting Rates AE is ICR/5½% AMT

Age	5.00%	7.50%	10.00%	15.00%	20.00%
30	34,643	16,316	7,818	1,885	483
35	45,131	23,909	12,852	3,870	1,227
40	59,180	35,266	21,267	7,998	3,136
45	78,287	52,476	35,500	16,674	8,088
50	104,758	78,987	59,944	35,163	21,100
55	142,273	120,667	102,730	75,260	55,870
60	196,602	187,564	179,135	163,897	150,523
62	225,000	225,000	225,000	225,000	225,000

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Maximum Lump Sums Benefit with Various Interest Crediting Rates AE is ICR/5½% AMT

Age	5.00%	7.50%	10.00%	15.00%	20.00%
30	605,759	285,290	136,707	32,963	8,444
35	773,119	409,570	220,168	66,300	21,012
40	986,717	587,991	354,583	133,354	52,284
45	1,259,329	844,138	571,060	268,222	130,100
50	1,607,258	1,211,869	919,697	539,490	323,729
55	2,051,314	1,739,794	1,481,182	1,085,106	805,542
60	2,618,054	2,497,700	2,385,458	2,182,536	2,004,447
62	2,886,404	2,886,404	2,886,404	2,886,404	2,886,404

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What is the Impact of High Interest Crediting Rates on Maximum Lump Sums?

- As can be seen, in the extreme situation of an interest crediting rate of 20%, the age 50 maximum lump sum would decrease from \$1,607,258 to \$323,729, which is a reduction of about 80%
- Even at 7.5% ICR, the reduction is about 25%
- For a plan where owners are near the 415 limit, while the account balance would be near contributions plus interest, the lump sum would be significantly lower than the account balance, defeating the intent of the interest crediting rate
