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Nitty Gritty of DB/DC Combo Plan Non-Discrimination Testing

Mary Ann Rocco, EA Consulting Actuary for TPA firms

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Agenda

- Basics of 401(a)(4) and 410(b)
- Annual Method no 410(b)
- Annual Method with 410(b)
- Accrued to Date Method
- Impact of CB Interest Crediting Rate on 401(a)(26) and General Testing
- Miscellaneous

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DB/CB Plan Provisions

- Plan Year 1-1-19 through 12-31-19.
- Normal Retirement Age: 62 and 5 Years of Participation
- Actuarial Equivalence: 4% Pre/Post, 2018 AMT
- Interest Crediting Rate (for CB plans): 4%.
- Normal Form: Single Life Annuity
- DB Automatic Qualified Joint & Survivor is 50%

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Plan and Testing Assumptions

- The assumptions used in calculations:
 - DB plan Actuarial Equivalence Assumptions.
 - Reasonable Assumptions – undefined in the 401(a)(4) regs
 - Standard Assumptions – defined in the 401(a)(4) regs and must be used to convert for cross testing.
- Examples using Standard Assumptions where the regs call for Reasonable.




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Plan and Testing Assumptions

Standard Interest Rate: ➢ 7.5% - 8.5%

Standard Mortality:


- UP-1984
- 83 GAM (M)
- 83 GAM (F)
- 83 IAM (M)
- 83 IAM (F)
- 71 GAM (M)
- 71 GAM (F)
- 71 IAM (M)
- 71 IAM (F)
- AMT



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Plan and Testing Assumptions


- MAR definitions
- Testing APR means the APR at a particular age using the Testing interest rate(s) and Mortality Table.
- Plan APR means the APR at a particular age using the interest rate(s) and Mortality Table as defined for Actuarial Equivalence in the DB plan document.



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Relevant Code Sections


- 401(a)(26) – Minimum Participation Rules.
 - Applies to CB/DB plans only and requires the greater of 40% or 2 receive a .50% pay benefit at NRA, capped at 50.
- 410(b) – Minimum Coverage Rules.
- 401(a)(4) – Non-discrimination Rules General Testing
 - Annual Method
 - Accrued to Date Method
- 416 – Top Heavy Rules.



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401(a)(4) General Test / Rate Group Testing

- If a plan does not benefit any HCEs or there are no non-excludable NHCEs, plan passes 401(a)(4).
- Otherwise, the Plan can pass 401(a)(4) by:
 - Being a Safe Harbor Plan
 - Satisfying the General Test, also called Rate Group Testing.



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401(a)(4) General Test / Rate Group Testing


- To determine the 'Plan' being tested apply the rules of Mandatory Disaggregation and Permissive Aggregation.



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401(a)(4) General Test / Rate Group Testing


- Mandatory Disaggregation (1.410(b)-8(c)):
 - 401k disaggregated from non-401k.
 - 401m disaggregated from non-401(m).
 - ESOPS disaggregated from non-ESOPS
 - If plan treats employees below the statutory maximum 'minimum age/service' requirement as excludable, must be treated as separate plans.



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401(a)(4) General Test / Rate Group Testing


- Plans covering union disaggregated from non-union.
- Employees of separate employers.
- Plans covering employees of a separate line of business if those employees are treated as excludable.



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401(a)(4) General Test / Rate Group Testing

- Any plan of the Employer which is not mandatorily disaggregated, and which has the same plan year (both beginning and ending) may be permissively aggregated.
- Once we permissively aggregate 2 or more plans, that is the 'Plan' being tested.



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410(b) Minimum Coverage

- If a plan does not benefit any HCEs or there are no non-excludable NHCEs, plan passes 410(b).
- Plan can pass 410(b) by either
 - Satisfying the 70% ratio test which is the $\frac{\text{NHCE's benefitting}}{\text{Non-excludable NHCE's}} \div \frac{\text{HCE's benefitting}}{\text{Non-excludable HCE's}}$
 - Pass the ABPT at 70%+ and satisfy the 'Reasonable Classification' rules.

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410(b) Minimum Coverage

- The 410(b) Average Benefit Percentage Test must include all Plans that could be permissively aggregated ignoring:
 - Required disaggregation for 401k, 401m and ESOPs.
 - The requirements for having the same plan year.
 - Ignoring the rules on separate line of businesses.
- Exceptions if DC tested on cont. basis and DB tested on benefit basis.

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410(b) Coverage Ratio Test

- Examples of Ratio Test when aggregating Plans.

	TOTAL	DB Plan	PS Plan	Aggregated Plan
Non-Excludable NHCE's	16	4	16	16
Non-Excludable HCE's	4	4	4	4
NHCE Ratio		25.00%	100.00%	100.00%
HCE Ratio		100.00%	100.00%	100.00%
Ratio Test:		25.00%	100.00%	100.00%

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401(a)(4) General Test or Rate Group Test

- If a DC plan is an orange and a DB plan is an apple, we need to compare apples to apples or oranges to oranges.
- Annual Method and Accrued to Date Method are turning oranges into apples.
- Contribution Method is turning apples into oranges.

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401(a)(4) General Test or Rate Group Test

- A rate group is formed for each HCE, but when a DB plan is involved, instead of comparing one value, we compare two different values.
 - Normal Accrual Rate (NAR) also called an EBAR.
 - Most Valuable Accrual Rate (MVAR).

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401(a)(4) General Test or Rate Group Test

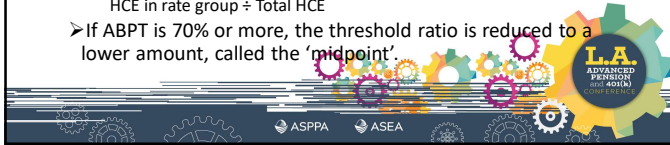
- The Rate Group consists of all employees (both HCE and NHCE) who have both a Normal and Most Valuable Accrual Rate equal or exceeding that of the HCE for whom the rate group was formed.
- Each Rate Group must pass 410(b).

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401(a)(4) General Test or Rate Group Test

- Along with coverage testing, 410(b) also used to determine the 'threshold ratio' for a Rate Group to pass 410(b):
 - If ABPT is < 70%, each rate group must pass at a 70% ratio.


$$\frac{\text{NHCE in rate group} \div \text{Total NHCE}}{\text{HCE in rate group} \div \text{Total HCE}}$$
 - If ABPT is 70% or more, the threshold ratio is reduced to a lower amount, called the 'midpoint'.



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401(a)(4) General Test or Rate Group Test


- If midpoint in use, the threshold ratio for Rate Group Test will be something between 20.375% - 45%.
- See 'Midpoint to pass General Test when plan passes 410(b) ABPT' slides towards end of outline to see how the midpoint is calculated.



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Example 1 – Annual Method

- Existing Profit Sharing 401k Plan.
- Owner wants to add a defined benefit plan maximizing himself and minimizing his employee.



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Example 1 – Annual Method

Name	Plan Yr Comp	DOB	DOH	PS Plan Entry	NRA	12/31/19 AA
Harry	280,000	01/01/67	01/01/99	1/1/2008	65	53
Natasha	40,000	01/01/80	01/01/09	1/1/2010	65	40

- Ignore 410(b).
- Permissively aggregate DB and PS non-elective as the 'The Plan' for 401(a)(4).
 - Deferrals not used in General Test.

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Example 1 – Annual Method

- DB plan NRA = 62/5, so PS Plan NRA was amended from 65/5 to 62/5.
- Testing Age (TA): If the plans aggregated for testing have a uniform definition of retirement age, then TA is the latest retirement age under the 'Plan'. If not uniform, Testing Age is 65.
 - If PS stayed at 65/5, the 'Plan' has a uniform normal retirement age and testing age would be the later of 65 or current age.

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Example 1 – Annual Method

- Class formula DB plan
 - Group 1 (Harry):
 - 6.64% of Avg Comp unit credit formula
 - $\$280,000 \div 12 \times .0664 = \$1,549.33$
 - Group 2 (Natasha):
 - .50% of Avg Comp unit credit formula
 - $\$40,000 \div 12 \times .005 = \16.67
- Top Heavy defined as 5% allocation in PS plan for those benefitting in the DB plan.

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Example 1 – Annual Method


- Annual Method tests the increase in Accrued Benefit for the Testing Year and Testing Service = 1.
- Benefit at End of Current Year minus benefit at End of Prior Plan Year.
 - Not the same as benefit at End of Year minus benefit at Begin of Year.
- Can test using Plan Year Compensation.



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Aggregated DB/DC Plan Minimum Gateway

- If DB plan is aggregated with a DC plan for testing and any portion of the aggregated Plan is tested on benefits basis, three ways to satisfy Gateway:
 - 1. The aggregated plan is primarily DB in Nature.
 - 2. DB and DC would pass stand alone.
 - 3. The aggregated plan provides a minimum Gateway based on highest HCE 'Aggregated Allocation Rate'.

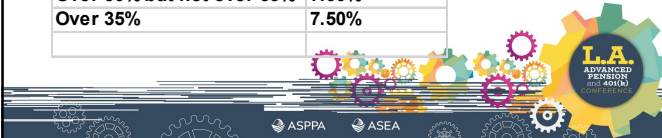


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Aggregated DB/DC Plan Minimum Gateway

- DB/DC Gateway:


Highest HCE Alloc Rate	
15% or Less	1/3 of HCE Rate
15% to 25%	5.00%
Over 25% but not over 30%	6.00%
Over 30% but not over 35%	7.00%
Over 35%	7.50%



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Aggregated DB/DC Plan Minimum Gateway


- For NHCE's who participate in both plans being tested, the Gateway is partially provided in the DB and partially provided in the DC plan.
- The DB plan is turned into oranges and the PS Gateway is the total Gateway percentage less the Gateway percentage provided in the DB plan.



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Aggregated DB/DC Plan Minimum Gateway


- Two options for the DB 'equivalent allocation rate':
 - Calculate separately for each NHCE
 - Each individual NHCE has different PS Gateway rate.
 - Calculate an average value for the NHCE's
 - each NHCE who is benefitting in the DB plan will have the same PS Gateway amount (Total Gateway percent – DB Avg percent).



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Example 1 – Annual Method


- 1 - Calculate Harry's 'Aggregate Allocation Rate'.
- 2 - Calculate Natasha's Gateway requirements.
- 3 - Calculate Normal Accrual Rate (EBAR) for DB & PS.
- 4 - Calculate the DB Most Valuable Accrual Rates.
- 5 - Put it all together for 401(a)(4) Testing.
- 6 - Adjust if needed.



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Aggregate Allocation Rate


- PS Plan Allocation Rate – Contributions + Forfeitures, expressed as percentage of Plan Year Compensation.
- DB plan 'Equivalent Allocation Rate' – Normalize the accrued benefit to TA, then determine the Actuarial Equivalent lump sum, expressed as a percentage of Plan Year Compensation.



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Normalized Benefit


- When testing on a benefits basis, the DB benefit or PS allocation is converted into an equivalent benefit payable at Testing Age in the form of a Single Life Annuity.
- If the DB accrued benefit is already defined as a SLA and the NRA is testing age, no adjustments needed.



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Aggregate Allocation Rate


- Annual method must be used for Aggregate Allocation Rate.
- No imputed disparity can be used.
- Must use Plan Year Compensation for Gateway.



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Aggregate Allocation Rate


- Harry's PS allocation rate:
 - 2019 415 DC limit less maximum deferral (56,000 – 19,000) = \$37,000 / \$280,000 = 13.21%



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Aggregate Allocation Rate


- Harry's DB Equivalent Allocation Rate = The normalized AB Increase at TA x Testing $APR_{TA} \div 1.085^{a9} \div$ Plan Year Compensation.
- If Harry's Testing age was different than NRA the next step would be to calculate the actuarial equivalent benefit at TA using Testing Assumptions.
- Since Harry's NRA = TA, benefit already Normalized.



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Aggregate Allocation Rate

- $\$1,549.33 \times 101.718 \div 2.08386 \div 280,000 = 27.01\%$
- Harrys Aggregate Allocation Rate = 27.01% + 13.21% = **40.22%** ← over 35%
- Total DB/DC Gateway = 7.50%



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Aggregate Allocation Rate

- Natasha's **DB Equivalent Allocation Rate**:
 - Normalized AB Increase at TA x Testing $APR_{TA} \div 1.085^{22} \div$ Plan Year Compensation =
 - $\$16.67 \times 101.718 \div 6.01803 \div 40,000 = .70\%$
- Natasha's Minimum Gateway in PS plan* = $7.50\% - .70\% = 6.80\%$ ← **greater than Top Heavy**

*Non-Elective including Safe Harbor

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Example 1 – Annual Method

Testing Annual Method with Gateway to Natasha:

	Total Profit	DB	Plan Yr Comp	Plan Yr Comp
Name	Sharing*	Benefit	Annual	Monthly
Harry	37,000	1,549.33	280,000	23,333.33
Natasha	2,720	16.67	40,000	3,333.33

*Combining SH Non-Elective and Employer Non-Elective into the same bucket, in real life would calculate separately and add together, especially if inputting disparity.

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Example 1–Normal Accrual Rates (NAR) or (EBAR)

- PS EBAR = Current Allocation projected to Testing Age at Testing Interest Rate \div Testing APR \div by Testing Comp.
- Harry's PS EBAR = $\$37,000 \times 1.085^{19} \div 101.718 \div 23,333.33 = 3.25\%$
- Natasha's PS EBAR = $\$2,720 \times 1.085^{22} \div 101.718 \div 3,333.33 = 4.83\%$

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Example 1 - Normal Accrual Rates


- **DB EBAR** = Normalized Increase in AB ÷ by Testing Comp
- Harry's DB EBAR = $\$1,549.33 \div 23,333.33 = 6.64\%$
- Natasha's DB EBAR = $16.67 \div 3,333.33 = .50\%$



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Example 1 – Most Valuable Accrual Rates

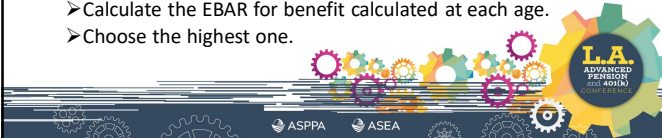
- The MVAR is a concept for DB plans to account for early retirement and Joint & Survivor Option subsidies.
- When calculating the MVAR we treat the plan defined QJSA form as the most valuable because the regulations tell us to.
- While some have argued that the lump sum is more valuable than the QJSA (particularly with 417e rates) there were some TAM's that seem to put that argument to rest.



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Example 1 – Most Valuable Accrual Rates


- If DB plan pays benefits at any age before retirement:
 - Make a list of each age between current age and TA.
 - Determine AEQ of the QJSA benefit payable at each age using Plan Assumptions.
 - Normalize it back to TA using Testing Assumptions
 - Calculate the EBAR for benefit calculated at each age.
 - Choose the highest one.



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Example 1 – Most Valuable Accrual Rates


- Harry's MVAR at current age 53:
 - $\$1,549.33 \times 179.1501 \div 1.04^{19} = 195,012$ (PVAB₅₃)
 - $\$195,012 \div 223.8759 = \871.07 (Plan QJSA₅₃)
 - $\$871.07 \times 125.3187 \times 1.085^{19} \div 101.718 = \$2,236.35$
 - $\$2,236.35 \div \$23,333.33 = 9.58\%$
- Theoretically would repeat for ages 54-62, but we're going to jump to testing age 62.



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Example 1 – Most Valuable Accrual Rates

- Harry's MVAR at current age 62:
 - $\$1,549.33 \times 179.1501 = \$277,563$ (PVAB₆₂)
 - $\$277,563 \div 192.4636 = \$1,442.16$ (Plan QJSA₆₂)
 - $\$1,442.16 \times 110.3581 \div 101.718 = \$1,564.66$
 - $\$1,564.66 \div 23,333.33 = 6.71\%$




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Example 1 – Most Valuable Accrual Rates

- Current Age (53) QJSA is the most valuable.


AGE	MV	
	Benefit	MVAR
53	2,236.35	9.58%
54	2,150.23	9.22%
55	2,067.40	8.86%
56	1,987.61	8.52%
57	1,910.61	8.19%
58	1,836.33	7.87%
59	1,764.63	7.56%
60	1,695.51	7.27%
61	1,628.89	6.98%
62	1,564.66	6.71%



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Example 1 – Most Valuable Accrual Rates

- Natasha’s MVAR at current age 40:
 - $\$16.67 \times 179.1501 \div 1.04^{22} = \$1,260$ (PVAB₄₀)
 - $\$1,260 \div 256.0066 = \4.92 (Plan QJSA₄₀)
 - $\$4.92 \times 138.0724 \times 1.085^{22} \div 101.718 = \40.21
 - $\$40.21 \div \$3,333.33 = 1.21\%$




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Example 1 – Annual Method

• Rate Group Testing Results using Gateway for Natasha:


	a.	b.	c.	a. + b.	a. + c.
Name	PS EBAR	DB EBAR	DB MVAR	Total EBAR	Total MVAR
Harry	3.25%	6.64%	9.58%	9.89%	12.83%
Natasha	4.83%	0.50%	1.21%	5.33%	6.04%



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Example 1 – Annual Method

- We need Natasha’s MVAR to be 12.83% (or higher) and will increase her Profit Sharing allocation to pass testing.



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Example 1 – Annual Method

- MVAR Target = 12.83%
- Back out her DB MVAR of 1.21% and we're targeting 11.62% PS EBAR.
- With 6.80% PS we had a PS EBAR of 4.83%.

$$\frac{6.80\%}{4.83\%} = \frac{X}{11.62\%}$$
- Solve for 'X': $6.80\% \times 11.62\% \div 4.83\% = 16.36\%*$

*This formula does not work for ATD Method

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Example 1 – Increases to Pass Testing

- Retest with Increased Allocations to Natasha:

	Total Profit	
	Sharing	DB
Name	Sharing	Benefit
Harry	\$37,000	\$1,549.33
Natasha	\$6,544	\$16.67

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Example 1 – Final Testing

- Rerun Rate Group Test with Natasha's revised PS EBAR = $\$6,544 \times 1.085^{22} \div 101.718 \div \$3,333,33 = 11.62\%$

	a.	b.	c.	a. + b.	a. + c.
	PS	DB	DB	Total	Total
Name	EBAR	EBAR	MVAR	EBAR	MVAR
Harry	3.25%	6.64%	9.58%	9.89%	12.83%
Natasha	11.62%	0.50%	1.21%	12.12%	12.83%

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Example 1 - Annual Method

	Total	DB	
Name	PS	PVAB	Total
Harry	37,000	195,012	232,012
Natasha	6,544	1,260	7,804

- If Natasha only in DB cost would be about \$25,000.



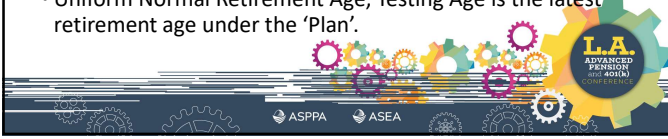
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Example 2- Impact of 410(b) ABPT on General Test

- New CB with Profit Sharing 401(k).

Name	DOB	AA	2019				PS NRA	Testing Age
			12/31/19	Plan Yr	Comp	DB DOP		
John	1/1/1972	48	280,000	01/01/19	62	01/01/17	62	
Maria	1/1/1960	60	40,000	01/01/19	64	01/01/17	64	
Steve	1/1/1988	32	40,000	01/01/19	62	01/01/18	62	

- Uniform Normal Retirement Age, Testing Age is the latest retirement age under the 'Plan'.



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Example 2- Impact of 410(b) ABPT on General Test

- 2019 CB Credits + PS Allocations:


Name	Monthly Comp	CB Credit	PS Allocation	Salary Deferrals
John	23,333.33	135,000	37,000	19,000
Maria	3,333.33	1,000	2,000	0
Steve	3,333.33	1,000	2,000	0



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Example 2 – 401(a)(26)


- Benefits at NRA:
 - John: $\$135,000 \times 1.04^{14} \div 179.1501 = \$1,304.92$
 - Benefit as a percent of Compensation: 5.59%
 - Maria: $\$1,000 \times 1.04^{44} \div 170.8205 = \6.85
 - Benefit as a percent of Compensation: .21%
 - Steve: $\$1,000 \times 1.04^{30} \div 179.151 = \18.10
 - Benefit as a percent of Compensation: .54%



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Example 2- Impact of 410(b) ABPT on General Test


- John's Aggregate Allocation Rate:
- PS Allocation Rate = $\$37,000 \div 280,000 = 13.21\%$
- DB Equivalent Allocation Rate = $\$1,304.92 * 101.718 \div 1.085^{14} \div \$280,000 = 15.13\%$



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Example 2- Impact of 410(b) ABPT on General Test

- John's Aggregate Allocation rate = 28.34% - **(25% not > 30%)**
 - Combined DB/DC gateway = 6%
 - A 5% PS allocation to Maria and Steve will satisfy Top Heavy, will assume it satisfies gateway after reducing the 6% by the NHCE CB allocation rate.



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Example 2- Impact of 410(b) ABPT on General Test

- Rate Group Testing using same methodology as Ex 1 for EBAR and MVAR:

	a.	b.	c.	a. + b.	a. + c.
Name	PS	DB	DB	Total	Total
	EBAR	EBAR	MVAR	EBAR	MVAR
John	4.88%	5.59%	9.83%	10.47%	14.71%
Maria	0.86%	0.21%	0.24%	1.07%	1.10%
Steve	6.82%	0.54%	1.80%	7.36%	8.62%

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Example 2- Impact of 410(b) ABPT on General Test

- 1 of two possible outcomes, 1 of the employees in John's rate group, or both of the employees.
 - $1 \div 2 = 50\%$ $2 \div 2 = 100\%$
 - $1 \div 1 = 100\%$ $1 \div 1 = 100\%$
- If 410(b) ABPT fails it means the required threshold percent for John's Rate Group is 70% and both employees need to be in his Rate Group.

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Example 2- Impact of 410(b) ABPT on General Test

- If 410(b) ABPT passes, the plan can substitute the midpoint in place of the 70%.
 - Midpoint in this Plan is 40.50%
- Every plan with 2 NHCE's and 1 HCE will have a midpoint of 40.50%

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Example 2- Impact of 410(b) ABPT on General Test

- Increase Steve’s Profit Sharing to bring him into John’s rate group, then check the Average Benefit Percentage Test.
 - Oftentimes a plan will go from fail to pass on ABPT once you increase accruals or allocations to pass rate group testing using the midpoint.




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Example 2- Impact of 410(b) ABPT on General Test

- John’s MVAR, our target for Steve = 14.71%
- Back out Steve’s DB MVAR of 1.80% so that we’re targeting a 12.91% PS EBAR.
- With 5.00% PS we had a PS EBAR of 6.82%.

$$\frac{5.00\%}{6.82\%} = \frac{X}{12.91\%}$$
- Solve for 'X': $5.00\% \times 12.91\% \div 6.82\% = 9.47\%*$




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Example 2- Impact of 410(b) ABPT on General Test

- 9.47% PS to Steve changes his PS EBAR to 12.91%.

	a.	b.	c.	a.+ b.	a. + c.
	PS	DB	DB	Total	Total
Name	EBAR	EBAR	MVAR	EBAR	MVAR
John	4.88%	5.59%	9.83%	10.47%	14.71%
Maria	0.86%	0.21%	0.24%	1.07%	1.10%
Steve	12.91%	0.54%	1.80%	13.45%	14.71%

- Rate group passes if ABPT passes



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Example 2- Impact of 410(b) ABPT on General Test

- To calculate the 410(b) ABPT we're calculating the Normal Accrual Rates for each 'piece' of all the aggregated 'plans'.
 - DB benefit increase - done
 - PS non-elective Allocations (including SH) – done.
 - Safe Harbor Match (not applicable).
 - Deferrals – need to include using same methodology we've demonstrated for prior PS EBAR.

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Example 2- Impact of 410(b) ABPT on General Test

- Only John deferred, apply same EBAR methodology as PS non-elective to determine deferral EBAR
- $\$19,000 \times 1.085^{14} \div 101.718 \div \$23,333.33 = 2.51\%$
- John's PS EBAR for ABPT is increased to $4.88\% + 2.51\% = 7.39\%$.

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Example 2- Impact of 410(b) ABPT on General Test

- ABPT with Steve's 9.47% PS Allocation:


	a.	b.	a. + b.
Name	PS EBAR	DB EBAR	Total EBAR
John	7.39%	5.59%	12.98%
Maria	0.86%	0.21%	1.07%
Steve	12.91%	0.54%	13.45%
NHCE Average (14.52% ÷ 2)			7.26%
HCE Average:			12.98%
ABPT:			55.93%

- No 'MVAR' in ABPT calculations.

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Example 2- Impact of 410(b) ABPT on General Test

- Increase Steve's PS allocation to pass ABPT.
- Need the NHCE Average = 70% of 12.98% = 9.09%, total NHCE ABPT needs to be 18.18% (9.09% x 2)
- Back out Maria's total EBAR and Steve's DB EBAR to determine what Steve's PS EBAR needs to be.
 - 18.18% - 1.07% - .54% = 16.57%

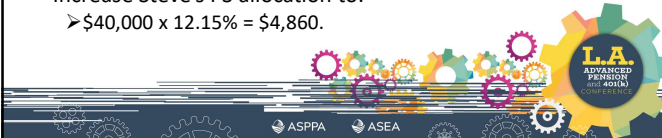


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Example 2- Impact of 410(b) ABPT on General Test

- With 9.47% PS to Steve we had a PS EBAR of 12.91%.

$$\frac{9.47\%}{12.91\%} = \frac{X}{16.57\%}$$
- Solve for 'X': $9.47\% \times 16.57\% \div 12.91\% = 12.15\%$
- Increase Steve's PS allocation to:
 - \$40,000 x 12.15% = \$4,860.




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Example 2- Impact of 410(b) ABPT on General Test

- Revised Average Benefit Percentage Test, passes.

	a.	b.	a.+ b.
Name	PS EBAR	DB EBAR	Total EBAR
John	7.39%	5.59%	12.98%
Maria	0.86%	0.21%	1.07%
Steve	16.57%	0.54%	17.11%
NHCE Average (14.52% x 2)			9.09%
HCE Average:			12.98%
ABPT:			70.03%



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Example 2- Impact of 410(b) ABPT on General Test

- Final Rate Group Testing Results, 410(b) passes at 50%.

Name	Total EBAR	Total MVAR
John	10.47%	14.71%
Maria	1.07%	1.10%
Steve	17.11%	18.37%
Ratio:	50%	
Midpoint	40.50%	
	Pass	
ABPT:	70.03%	

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Example 2- Impact of 410(b) ABPT on General Test

- Final Benefits and Allocations.

Name	2019	2019	2019
	CB Credit	PS Allocation	Salary Deferrals
John	135,000	37,000	19,000
Maria	1,000	2,000	0
Steve	1,000	4,860	0

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Example 2- Impact of 410(b) ABPT on General Test

- We assumed 5% Top Heavy would pass DB/DC Gateway, but need to check.
- Two ways to pass DB/DC Gateway:
 - NHCE gets 6% in PS plan minus their DB Allocation rate.
 - NHCE gets 6% in PS plan minus the average of all NHCE DB allocation rates.

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Example 3 – Accrued to Date Method

- Aidan receiving \$37,000 Profit Sharing and since all data the same as Example 1, we know that Richard’s aggregate Allocation Rate 40.22%.
- Combined DB/DC Gateway is 7.5%
- Jack’s CB benefit reduces Profit Sharing gateway that to 6.80% which is what we will be testing.

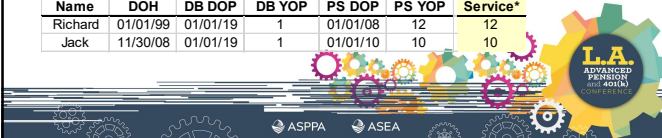


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Example 3 – Accrued to Date Method

- Testing service is limited to years the participant ‘benefited’ under the plan, need that information to use Accrued to Date Testing. Different testing service years produces different results.

Name	DOH	DB DOP	12/31/19 DB YOP	PS DOP	12/31/19 PS YOP	Testing Service*
Richard	01/01/99	01/01/19	1	01/01/08	12	12
Jack	11/30/08	01/01/19	1	01/01/10	10	10




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Example 3 – Accrued to Date Method

- Benefit/Allocation Testing Data:

Name	12/31/19 PS Balance*	2019 PS Allocation	2019	
			Total PS Balance	2019 CB Allocation
Richard	341,000	37,000	378,000	195,012
Jack	14,526	2,720	17,246	1,260

*SH + Non-Elective without current year allocations.



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Testing Average Compensation

- Average 414(s) compensation over 3 or more years.
- Can be non-consecutive, but only if plan benefit based on non-consecutive.
- Can exclude years like year of hire, termination or years with under a certain hours, but only if plan document provides for such exclusion.
 - Usually best results by not excluding anything!

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Testing Average Compensation

- Accrued to Date must use Average of 3 years or more.
- Annual Method can use Average or Plan Year Compensation.
- Contribution Method: Must use Plan Year Compensation.

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Testing Average Compensation


• Compensation History:

Name	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008
Richard	280,000	275,000	270,000	265,000	265,000	260,000	255,000	250,000	245,000	245,000	245,000	230,000
Jack	40,000	38,835	37,704	36,606	35,540	34,505	33,500	32,525	31,578	30,659	29,767	2,408

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Example 3- ATD - Normal Accrual Rates


- DB Normalized Benefits:
 - Richard's Normalized Benefit = $\$1,549.33 \div 12 = \129.11
 - Jack's Normalized Benefit = $\$16.67 \div 10 = \1.67
- DB Normal Accrual Rates:
 - Richard's DB EBAR = $\$129.11 \div \$21,423.61 = .60\%$
 - Jack's DB EBAR = $\$167 \div \$2,664.08 = .06\%$



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Example 3 – Accrued to Date Method

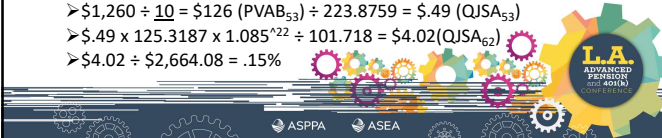
- If testing Service were calculated Separately for DB plans vs DC plans, which is not what the regs say to do, Richard and Jack's DB testing service would both be 1 and PS Testing Service 12 and 10 respectively, which would produce different results.



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Example 3- ATD – Most Valuable Accrual Rates

- Richard's MVAR at current age 53:
 - $\$195,012 \div 12 = \$16,251$ (PVAB₅₃) $\div 223.8759 = \$72.59$ (QJA₅₃)
 - $\$72.59 \times 125.3187 \times 1.085^{99} \div 101.718 = \186.36 (QJA₆₂)
 - $\$186.36 \div \$21,423.61 = .87\%$
- Jack's MVAR at current age 40:
 - $\$1,260 \div 10 = \126 (PVAB₅₃) $\div 223.8759 = \$49$ (QJA₅₃)
 - $\$49 \times 125.3187 \times 1.085^{22} \div 101.718 = \4.02 (QJA₆₂)
 - $\$4.02 \div \$2,664.08 = .15\%$



87

Impact in Cash Balance Interest Crediting Rate.

• Comparison:

EOY	CB Credit for .50% of Pay Benefit					MVAR of the CB Credit				
	2%	3%	4%	5%	6%	2%	3%	4%	5%	6%
Ages										
21	1,657	990	598	366	226	4.55%	3.46%	2.57%	1.89%	1.36%
25	1,794	1,114	700	445	285	3.65%	2.85%	2.19%	1.66%	1.24%
30	1,981	1,292	852	567	382	2.77%	2.25%	1.80%	1.42%	1.11%
35	2,187	1,497	1,036	724	510	2.11%	1.77%	1.47%	1.21%	0.98%
40	2,414	1,736	1,260	924	683	1.61%	1.40%	1.21%	1.03%	0.88%
45	2,665	2,012	1,533	1,179	914	1.23%	1.11%	0.99%	0.88%	0.78%
50	2,943	2,333	1,865	1,504	1,223	0.94%	0.88%	0.81%	0.75%	0.69%

91

DB 415 Limits and testing

- DB plan can test the accrued benefit either by
 - Ignoring the 415 maximum DB benefit rules, which we did in examples 1 and 3.
 - Applying the 415 rules to the accrued benefit, then test the 415 limited benefit.

92

DB 415 Limits and testing

- Owner has a \$2,000/mo flat formula since 2016 and plan was tested on Annual Method (benefit increases).

Year	Accrued Benefit	415 Max Benefit	Benefit Tested	
			Limited by 415*	Not Limited by 415
2016	2,000	1,750	1,750	2,000
2017	4,000	3,583	1,833	2,000
2018	6,000	5,500	1,917	2,000
2019	8,000	7,500	2,000	2,000
2020	10,000	9,583	2,083	2,000

93

Who Gets PS Gateway?

- Any employee who is benefiting under the 'Plan' must receive gateway.
- If a plan is 3% Safe Harbor, everyone will receive Gateway, in fact putting in any allocation requirements in Plan Document is just silly.
- If a plan is NOT safe harbor and NOT Top Heavy, you can not benefit any employee provided plan passes 401(b) and 401(a)(4).

94

Restructuring or Component Plan Testing

- Each Component plan must pass a 70% ratio test because there is usually no way to satisfy reasonable classification for the component plan.
- Your software may show a passing result based on the midpoint (if ABPT passes) because it or doesn't have the capability to determine if the component plan satisfied reasonable classification.

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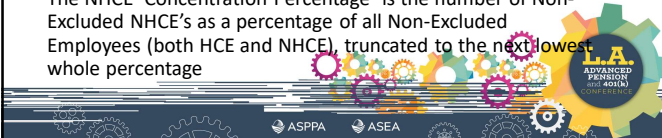
Midpoint to pass the General Test when a plan passes 410(b) Average Benefit Percentage Test

- The Threshold Ratio Percentage for a plan is the minimum Ratio Percentage that a Rate Group can have, and still pass 401(a)(4).
- If the plan passes the Average Benefit Percentage Test then each rate group must pass using the midpoint between the Safe and Unsafe Harbor Percentage.
- If the plan doesn't pass the Average Benefit Percentage Test, then the Threshold Percentage is 70%.

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Midpoint to pass the General Test when a plan passes 410(b) Average Benefit Percentage Test


- Under 1.410(b)-4(c)(4) the Safe Harbor Percentage is 50% - 3/4 of the excess (if any) of the Non-Highly Compensated Employee Concentration Percentage, over 60%.
- The Unsafe Harbor Percentage is the greater of 20% or the Safe Harbor Percentage, less 10%.
- The NHCE 'Concentration Percentage' is the number of Non-Excluded NHCE's as a percentage of all Non-Excluded Employees (both HCE and NHCE), truncated to the next lowest whole percentage



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Midpoint to pass the General Test when a plan passes 410(b) Average Benefit Percentage Test


- If NHCE CP is .01% up to 60% the midpoint will be 45%.
 - Safe = 50% - 0 (not over 60%)
 - Unsafe = Safe minus 10% = 40%
 - Midpoint = (50% + 40%) ÷ 2 = 45%
 - Example: 1 NHCE + 1 HCE has CP = 1÷2 = 50%, midpoint is 45%
- If NHCE CP is the highest (99%) midpoint will be 20.375%
 - Safe = 50% - ¼ x 39% = 50% - 29.25% = 20.75%
 - Unsafe = 20% (greater of Safe - 10% or 20%)
 - Midpoint = (20.75% + 20%) ÷ 2 = 20.375%
 - Example: 100 HCE + 1 HCE has CP = 100/101 = 99%



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Midpoint to pass the General Test when a plan passes 410(b) Average Benefit Percentage Test

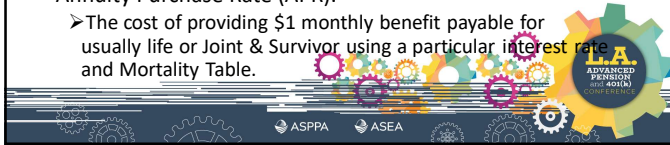
- NHCE Concentration Percentages above 60% and below 99% will be some percentage above 20.375% and below 45%.
 - Used in Example 3: 2 NHCE + 1 HCE has CP = 2÷3 = 66%.
 - Safe = 50% - ¼ x 6% = 50% - 4.50% = 45.50%
 - Unsafe = 35.50% (greater of Safe - 10% or 20%)
 - Midpoint = (45.50% + 35.50%) ÷ 2 = 40.50%



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DEFINITIONS & ABBREVIATIONS

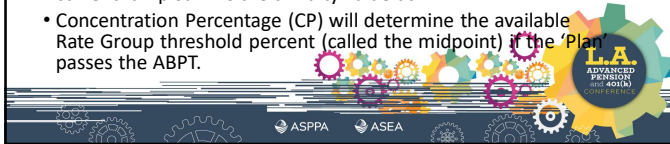
- Actuarial Equivalent (AEQ), when two things are considered equal in value based on a particular set of interest and mortality assumptions.
- Accrued Benefit (AB).
- Annuity Purchase Rate (APR).
 - The cost of providing \$1 monthly benefit payable for usually life or Joint & Survivor using a particular interest rate and Mortality Table.



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DEFINITIONS & ABBREVIATIONS

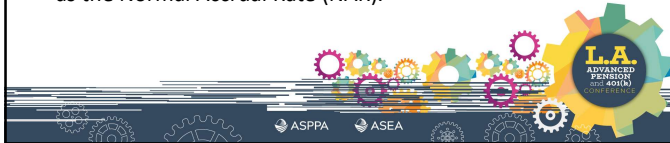
- Attained Age (AA), Normal Retirement Age (NRA)
- Average Benefit Percentage test (ABPT), the average of the NHCEs Benefit rates divided by the average of the HCEs benefit rates.
- Cash Balance (CB) – A DB plan that defines the benefit by the current lump sum vs the annuity value at NRA.
- Concentration Percentage (CP) will determine the available Rate Group threshold percent (called the midpoint) if the Plan passes the ABPT.



101

DEFINITIONS & ABBREVIATIONS


- Defined Benefit (DB).
- DC Allocations means allocations and forfeitures Highly Compensated Employee (HCE).
- Equivalent Benefit Accrual Rate (EBAR) is the same thing as the Normal Accrual Rate (NAR).



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DEFINITIONS & ABBREVIATIONS


- Excludable Employee: Typically means employees who have not met the age/service requirement for the plan or employees who have met plan requirements but not the statutory maximum requirements. Can apply the latest allowable entry date vs plan defined entry date in determine excludable employees.
- Highly Compensated Employee (HCE).



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DEFINITIONS & ABBREVIATIONS


- Most Valuable Accrual Rate (MVAR) – see Example 1.
- Non-Highly Compensated Employee (NHCE).
- Normal Accrual Rate (NAR) is the normalized DB benefit or PS allocation converted to a benefit, expressed as a percentage of Testing Compensation.
- Normalize: To convert to an actuarial equivalent Single Life Annuity at Testing Age.



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DEFINITIONS & ABBREVIATIONS


- Qualified Joint & Survivor Annuity (QJSA). The required automatic form of annuity payable to married people. Under 401(a)(4) everyone assumed married and spouse same age.



105

DEFINITIONS & ABBREVIATIONS


- Reasonable Classification or Non-Discriminatory Classification test requires that the group of employees covered by the plan is "reasonable and is established under objective business criteria". Examples are "specified job categories, nature of compensation, geographic location".
 - "An enumeration of employees by name or other specific criteria having substantially the same effect as an enumeration by name is not considered a reasonable classification."



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DEFINITIONS & ABBREVIATIONS

- Testing Age (TA), if the plans aggregated for testing have a uniform definition of retirement age, then TA is the latest retirement age under the 'Plan'. If not uniform then testing age is Age 65.
- The 'Plan' means the single plan being tested after aggregating multiple plans.

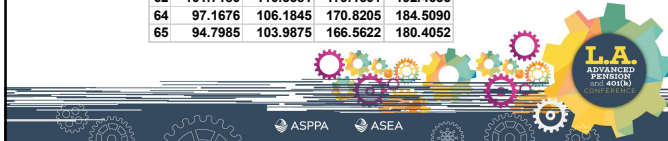


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Annuity Purchase Rates Used in Examples

- APR's:

	1971 GAM	1971 GAM	2018 AMT	2019 AMT
	8.50%	8.50%	4.00%	4.00%
	SLA	QJSA	SLA	QJSA
32	139.8604	142.1751	263.9336	269.3556
40	134.4374	138.0724	248.8668	256.0066
48	125.7652	131.2372	228.6841	237.9996
53	118.6654	125.3188	213.0365	223.8759
60	105.9990	114.2260	187.2364	200.0881
62	101.7180	110.3581	179.1501	192.4636
64	97.1676	106.1845	170.8205	184.5090
65	94.7985	103.9875	166.5622	180.4052



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