



What I am going to do is....

- · Read "Goodnight Moon" to you.
- Review these ASOPs as they relate to what ACOPA actuaries generally do, which is new plan proposals; valuation work for small to midsize plans; prepare ASC 715 disclosures; analyze plans for sufficiency on termination; and occasional special studies.







ASOP 4 - Measuring Pension Obligations and Determining Pension Plan Costs or Contribution

- ASOP 4 Revised ASOP 4 issued in December of 2013
- Effective for any actuarial work product with a measurement date on or after December 31, 2014. Like, now dudes!





What are the key changes form the old version?

- New disclosure related to a plan's funded status (section 4.1(p) and 4.1(q))
- New disclosure requirements for a change in the cost or allocation procedure (Section 4.1(t))
- New disclosures related to implications of the contribution allocation procedure or funding policy on future expected contributions and funded status (Section 4.1(m))
- Defines prescribed assumptions or method to break out assns or methods set by another party or set by law (Section 2.19 and 2.20)



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...more changes

 Provides guidance to the actuary who needs to measure plan provisions that are difficult to measure using traditional valuation procedures (Section 3.5.3)





Ok what's the purpose of ASOP 4?

- To provide guidance to us when performing actuarial services w.r.t. measuring plan obligations and when determining periodic costs or actuarially determined contributions.
- 3.2 of the ASOP is basically a checklist to follow.







Examples of what it applies to

- Measuring plan obligations e.g., Funded status, sufficiency for plan termination, market measurements and measurement for pricing benefit provisions (e.g., What's the cost of a different early retirement benefit?)
- Assignment of value of obligations to time periods
- Development of a cost allocation procedure to determine periodic costs





...more examples

- Development of a contribution allocation procedure to determine contributions;
- Determination as to type and levels of benefits supported by cost or contribution levels (e.g., A new DB plan proposal)
- Projection of obligations, periodic costs or contributions etc....(e.g., If we fund \$500,000 for the next three years how will the termination funded status change?)



What the Standard does not apply to

- Does <u>not</u> apply to services w.r.t individual benefit calcs, individual benefit statement estimates, annuity pricing, <u>non-discrimination</u> <u>testing</u>, and social insurance programs)
- Does <u>not</u> require the actuary to evaluate the ability of the sponsor to make contributions to the plan when due.





Yo Norm, what's a contribution allocation procedure?

 A procedure that uses an actuarial cost method, and may include an asset valuation method, an amortization method, and an output smoothing method to determine the actuarially determined contribution for a plan. E.g., the annual val we always run.



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Okay, so then what's a Cost Allocation Procedure?

 A procedure that uses an actuarial cost method, and may include an asset valuation method and an amortization method to determine the periodic cost for a plan. E.g., the procedure to determine the NPPC under an ASC 715 disclosure.





Ok what does the Standard tell us to do?

- Identify the purpose of the measurement (3.3)
 - Consider whether assumptions or methods need to change for measurements projected into the future
 - Consider the uncertainty or risk inherent in the assumptions and method and how your measurement treats this.



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..cont'd

- Identify the measurement date (Sec. 3.4)
 - Adjust obligations or asset and participant info as necessary if reasonable
 - Events known to the actuary after the measurement date should be treated appropriately (may be, but are not required to be reflected in the measurement).
 - Actuary may adjust the results from a prior measurement in lieu of performing a new measurement if in actuary's judgment such an adjustment would provide a reasonable result.





...cont'd

- Identify plan provisions relevant to the measurement (Sec 3.5)
 - Reflect plan provisions adopted on or before the measurement date.
 Provisions adopted after the measurement date may be reflected.
 - Reflect proposed changes as appropriate
 - Provisions difficult to measure...





..provisions difficult to measure

- · Examples:
 - Gain sharing provisions that trigger benefit increases
 - Floor offset provisions
 - Cash Balance plan credits tied to an external index
 - Benefit provisions that may be triggered by an event such as plan shutdown





...what must the actuary do with these?

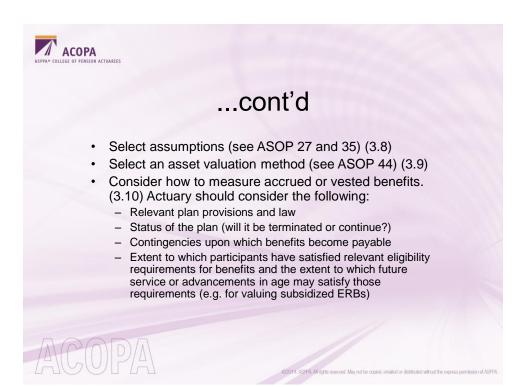
- The actuary should consider using alternative valuation procedures, such as stochastic modeling, option pricing techniques or deterministic procedures to reflect the impact of variations in experience from year to year.
- The actuary should disclose the approach taken with any of the plan provisions of the type described here!



...cont'd

- Gather the data necessary (sec 3.6)
 - Consider all participants reported; may exclude people under age and service; may include employees who might becomes participants in future.
 - May base measurements on assumed demographic characteristics of current or future plan participants.
- Obtain from the principal other info. necessary (accounting polices, funding elections etc.)









...and more stuff to do!

- Consider how to measure market consistent present values (3.11)
- Reflect relationship between asset and obligation measurement (3.12)
- Select an actuarial cost method or allocation procedure of contribution allocation procedure (3.13)
 - Normal costs should not be allocated over periods longer that DOH to NRD
 - Reasonable cost method will not produce a NC if there are no active participants



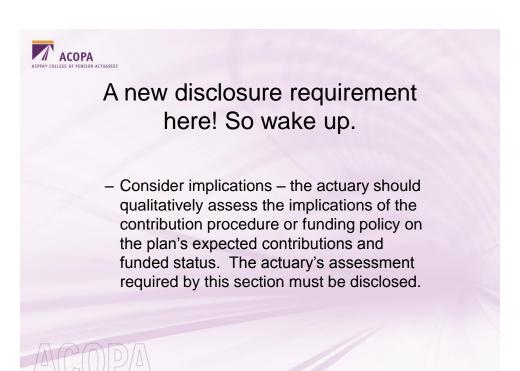
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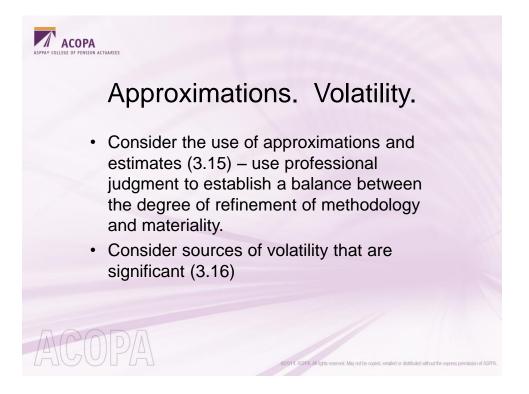


...and even more stuff to do!

- Attribution of Normal Costs should bear a reasonable relationship to elements of the benefit formula or the parts. Comp or service.
- Consider how expenses are allocated to the time period.
- Allocation Procedure (3.14) When selecting this, the
 actuary should consider factors such as timing and duration
 of benefit payments and the nature and frequency of
 amendments. Actuary should also consider relevant input
 received form the principal
 - Consistency between contribution allocation procedure and payment of benefits









Prescribed Assumptions or Methods

- ...set by another party are assumptions or method selected by someone else to the extent the law, regs or accounting methods give that other party this responsibility.
- ...set by law are assumptions or methods deemed acceptable by law.
- These definitions flow to ASOP 27 and ASOP 35.



Prescribed Assns Set by Another Party

 An actuarial communication should identify the party responsible for each material assumption and method – <u>if silent, the</u> <u>actuary who issued the communication will be</u> <u>assumed to have taken responsibility for that</u> <u>assumption or method!</u>





Prescribed Assns by Another party cont'd.

- When evaluating a prescribed assumption or method set by <u>another party</u>, the actuary should determine whether the prescribed assumption or method significantly conflicts with what, in the actuary's professional judgment, would be reasonable for the purpose of the measurement. If, in the actuary's professional judgment, there is a significant conflict, the actuary should disclose this conflict.
- If the actuary is unable to evaluate a prescribed assumption or method set <u>by another party</u> without performing a substantial amount of additional work beyond the scope of the assignment, the actuary should disclose this.



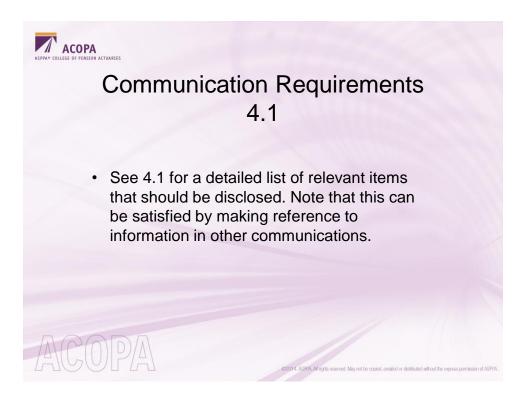
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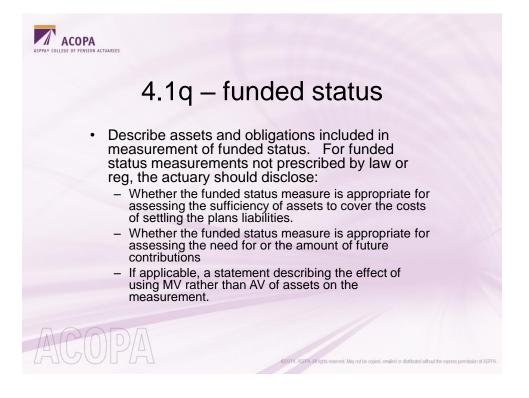


Prescribed Assumptions set by law

- No similar disclosure needed in regard to Prescribed Assumptions set by law!
- No matter how stupid the rule, for example the substitution of annuity rule in the 430 regs.









Communication requirements 4 1

• Must include a statement, appropriate for the intended users, indicating that future measurements (for example, of pension obligations, periodic costs, actuarially determined contributions, or funded status as applicable) may differ significantly from the current measurement. For example, a statement such as the following could be applicable: "Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the plan's funded status); and changes in plan provisions or applicable law."



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4.1s – provisions difficult to measure

• Remember 3.5.3 for provisions difficult to measure? Your communication should include a description of the methods used to value any significant benefit provisions that are difficult to value (for example gain sharing arrangements, floor offset provisions, benefit provisions tied to an external index etc. 3.5.3) such that another actuary qualified in the same practice area could make an objective appraisal of the reasonableness of the actuary's work as presented in the actuarial report;





Changes - 4.1s and 4.1t

- Should include a description of known changes in assumptions and methods that are not a result of prescribed methods or assumptions and should include an explanation of the information and analysis that led to these changes.
- Should include a description of all changes in cost or contribution allocation procedures that are not a result of prescribed methods or assumptions and should disclose the reason for the change and the general effect of the change.



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Talk about assumptions already Norman, that's why we are all here dammit!

- · Sch SB requirements
- ASOP 27- Selection of economic assns
- ASOP 35 Selection of Demographic and non-economic Assumptions





Eh, what Non-Prescribed Assumptions?

- Salary scale
- · Expected compensation for the year if a BOY val
- Turnover
- · Rates of retirement
- Expected date for commencement of benefits
- · Disability rates
- Projected future crediting rate for Cash Balance plans
- · Basis for expected admin expenses
- Basis for expected rate of return if using average assets
- · Form of payment





Sch SB certification

Actuary certifies that: "Each prescribed assumption was applied in accordance with applicable law and regulations. In my opinion, each other assumption is reasonable (taking into account the experience of the plan and reasonable expectations) and such other assumptions, in combination, offer my best estimate of anticipated experience under the plan."





What's the Standard for Selecting Assumptions?

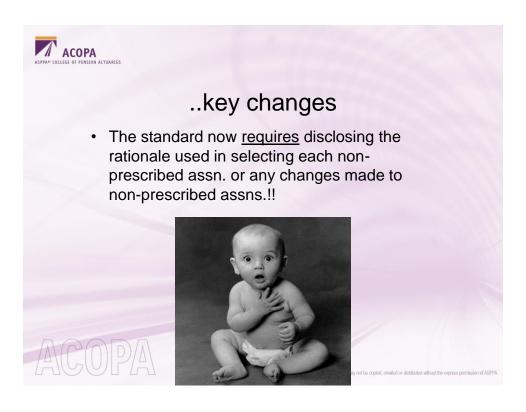
- ASOP 27 Selection of <u>Economic</u>
 Assumptions for Measuring Pension
 Obligations
- ASOP 35 Selection of <u>Demographic and</u> <u>other Noneconomic</u> Assumptions for Measuring Pension obligations.

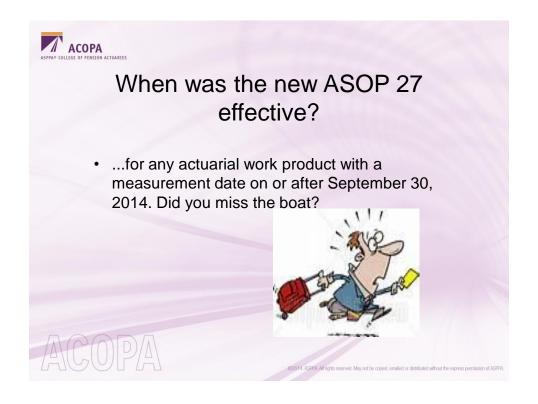




Key Changes

- Its says that economic assns. can be based <u>either</u> on the actuary's estimate of future experience, or on the actuary's observation of the estimates inherent in market data.
- Reasonability of an economic assumption has been changed from the "best-estimate range" prior standard.







ASOP 27

- ASOP 27 covers:
 - a. inflation;
 - b. investment return (sometimes referred to as the valuation interest rate);
 - c. discount rate;
 - d. compensation scale; and
 - e. other economic factors (e.g., Social Security, cost-of-living adjustments, growth of individual account balances, and variable conversion factors).



General Selection Process (3.2)

- · Identify components of the assumption
- Evaluate relevant data
- Consider factors specific to the measurement
- Consider other general factors
- Select a reasonable assumption.
- · Review all assumptions for consistency.



Evaluate relevant data (3.4)

- Actuary should review appropriate recent and long-term historical economic data. Don't give undue weight to recent experience. Consider the possibility that some historical data may not be appropriate for use in developing assumptions for future use.
- See appendix 4 of the ASOP for generally available sources of data and analysis.



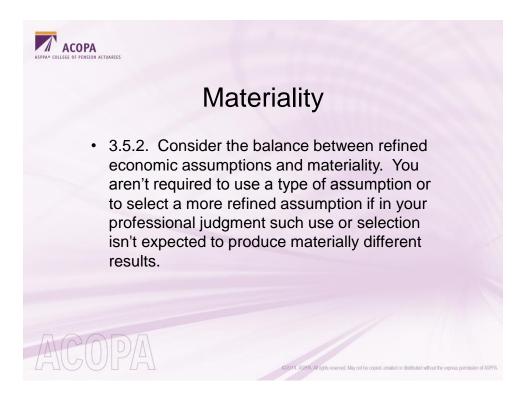
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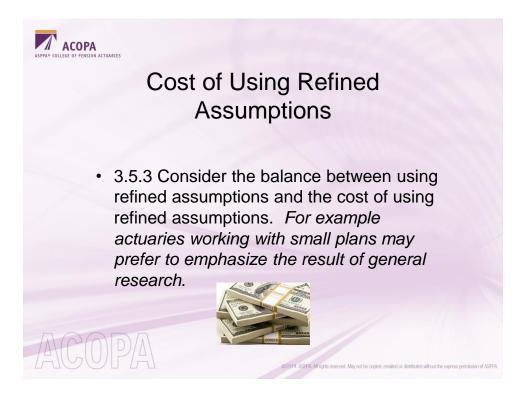


General considerations (3.5)

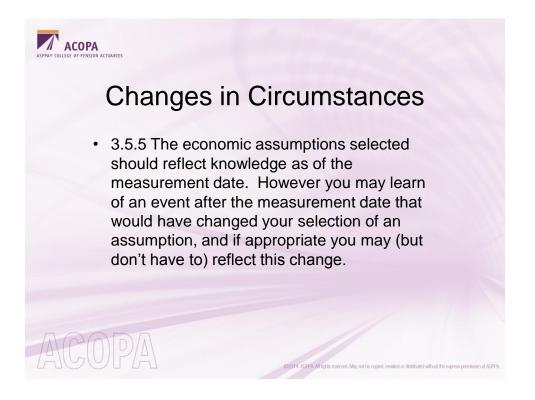
 3.5.1. It may be appropriate to adjust economic assumptions to provide for considerations such as adverse deviation or plan provisions that are difficult to measure, and this adjustment should be disclosed – yo, were you napping when I talked about this under ASOP 4?



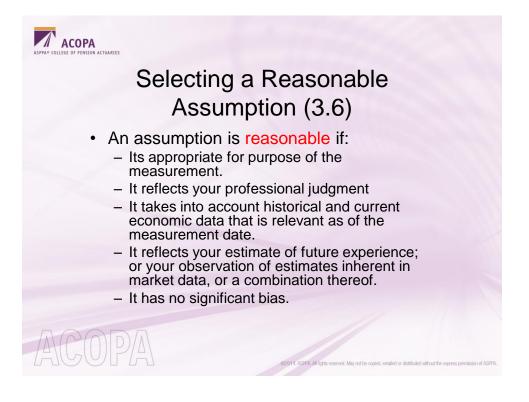














Reasonable Assumption Based on Future Experience of Market Data

 3.6.1 You should develop a reasonable assumptions based <u>either</u> your estimate of future experience, your observation of the estimates inherent in market data, or a combination. Oh and disclose this remember?



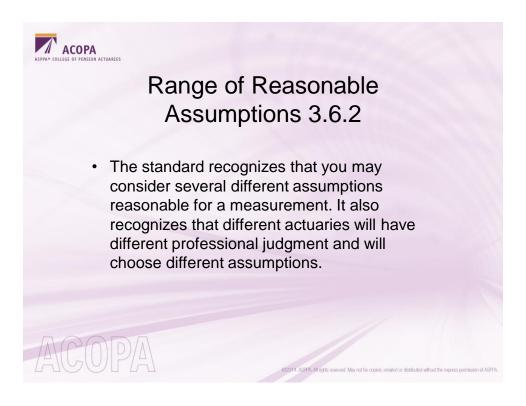
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How do you observe estimates inherent in market data?

- Examples from 3.6.1:
 - Compare yield on inflation-index bonds to yields on equivalent non-inflation indexed bonds to estimate the market's expectation of inflation.
 - Comparing yields on bonds of different credit quality to determine market credit spreads.
 - Observe yields on US Treasury debt of different maturities to determine a yield curve free of credit risk.
 - Examine annuity prices to estimate market rate to settle liabilities. What genius!









Investment Return (3.8)

- Consider time value of money; inflation and inflation risk; illiquidity; credit risk; macroeconomic conditions; and growth in earnings, dividends and rents.
- You can consider a broad range of data and other inputs including the judgment of investment professionals.
- See 3.8.1-3.8.4 for more detail.



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Discount Rate (3.9)

- Consider the purpose of the measurement as a primary factor in selecting a discount rate:
 - Contribution budgeting may use a rate that reflects investment return or may use settlement rates or market consistent measurements.
 - Settlement may use a rate implicit in annuity prices
 - Market consistent measurements





Compensation Increase Assumption (3.10)

- Components are inflation, productivity growth and merit adjustments.
 - Review available comp date (3.10.1):
 - · Sponsor's current compensation practice;
 - Current comp. distributions by age or service;
 - Historical comp. increases and practices of the sponsor and other sponsors in the same industry or same area.
 - Historical nation wage increases and productivity growth.

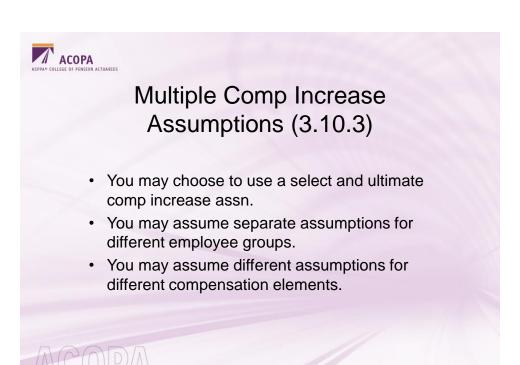


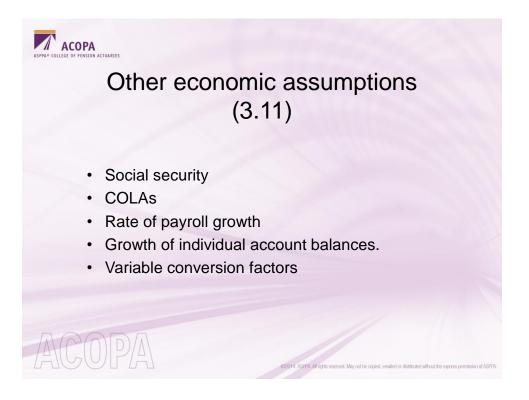
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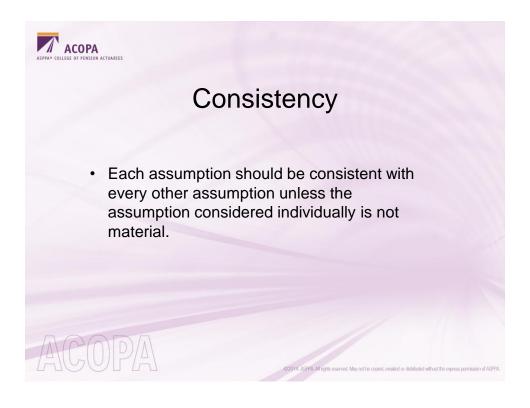
Measurement specific comp. considerations (3.10.2)

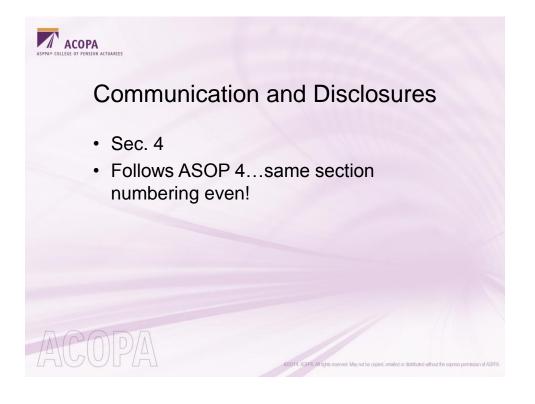
- · Compensation Practice
- Competitive Factors
- Collective Bargaining
- Compensation Volatility
- · Expected Freeze or Plan Termination

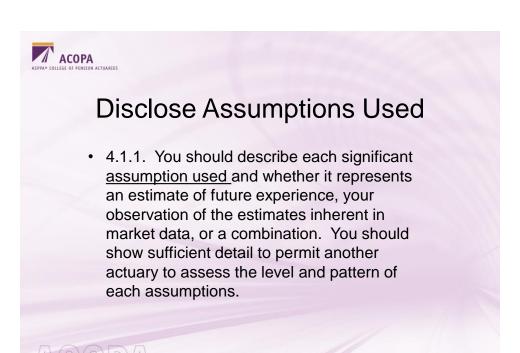








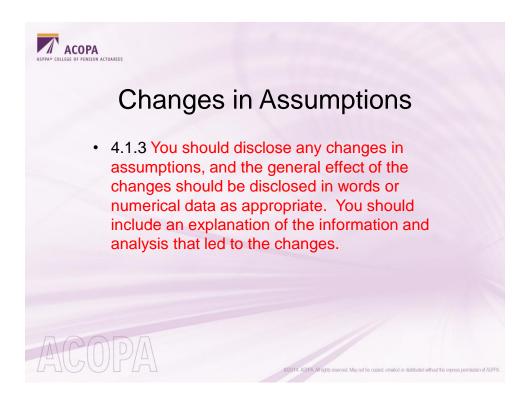


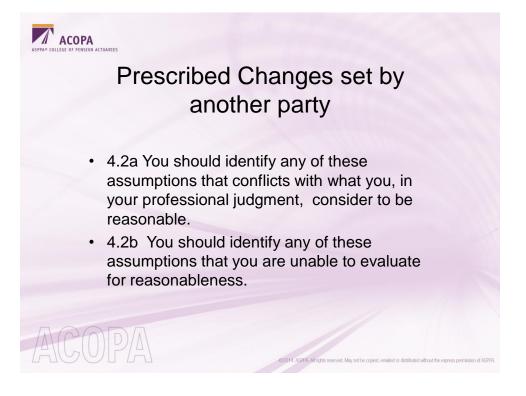




Disclose Rationale for Assumptions

- 4.1.2 You should disclose the information and analysis used in selecting each assumption that has a significant effect. Your disclosure may be brief but should be pertinent.
- For example you may disclosure specific approaches used, sources of external advice, and how past experience and future expectations were considered.
- You can reference any other experience report or study performed.
- No applicability to prescribed assumptions!







Additional Disclosures 4.3

- Include a disclosure per ASOP 41 section 4.3
 if you state reliance on other sources and
 thereby disclaim responsibility for any
 material assumption or method set by another
 party. Otherwise you own it!
- Include a disclosure if in your professional judgment you have deviated materially from the guidance in this ASOP. Gotcha! "I fought the law and the law won....."



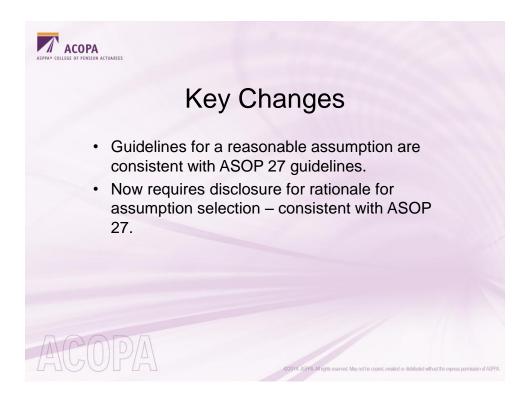
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ASOP 35

- · Adopted September 30, 2014
- Effective for any work product with a measurement date on or after <u>June 30</u>, <u>2015</u>. Earlier adoption is encouraged.
- Consistent with ASOP 4 and ASOP 27.







Types of Demographic Assumptions (3.2)

- Retirement
- Termination
- Mortality and mortality improvement.
- Election of optional forms of benefit
- Other admin expenses; household composition; marriage; divorce and remarriage; open group assumptions; hours of service; transfers; and assumptions re. missing or incomplete date.



The Process of Selection (3.3)

- 3.3.1 Identify the types of demographic assumption to use, considering:
 - The purpose of the measurement
 - Plan provisions that will affect the timing and value of benefit payments
 - Characteristic of the obligation
 - The contingencies that give rise to benefits
 - Significance of each assumption
 - Characteristics of the covered group



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Consider the relevant assumption universe

- 3.3.2. Be familiar with the assumption universe relevant to each type of assumption. Sources include:
 - Experience studies or published table
 - Relevant plan or sponsor experience
 - Studies or reports of the effects of plan design, specific events, economic conditions etc.
 - Studies or general trends that are relevant
 - Relevant info from the sponsor or other sources about future expectations.
 - i.e. Do your freaking homework!



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Consider Assumption Formats

- 3.3.3 You should select an appropriate format for each demographic assumptions. Factors that affect the format include:
 - The degree to which the format will affect the results
 - Availability of tables, data or info relevant
 - The degree to which the format has the potential to model anticipated experience
 - Size of the covered population
 - Degree to which a parameter (gender, age, svc etc.) is anticipated to affect experience
 - May be appropriated to have different assumptions for different segments.



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Select the Assumption

- 3.5.4 Select each assumption from the assumption universe. Determine the significance of each assumption selected. Consider factors specific to the measurement, e.g.:
 - Purpose of the measurement
 - Features of the plan design that could affect the assumption.
 - Appropriate experience from the specific plan
 - Relevant factors known to the actuary such as economic conditions, availability of alternative employment, human resource policy or practices of the employer.



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Select a Reasonable Assumption

- 3.3.5 Each demographic assumption should be reasonable. It is reasonable if:
 - It's appropriate for the purpose of the measurement
 - It reflects your professional judgment
 - Its takes into account historical and current demographic data that is relevant as of the measurement date
 - It reflects your best estimate of future experience, your observation of the estimates inherent in market data, or a combination of both (just like ASOP 27)
 - It has no significant bias except where provisions for adverse deviation or plan provisions that are hard to measure are included and disclosed (remember this from ASOP 4 and ASOP 27).



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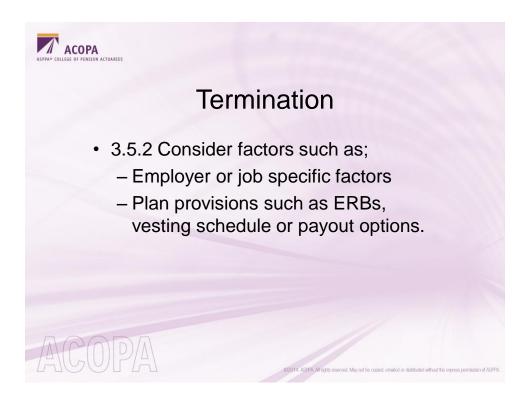


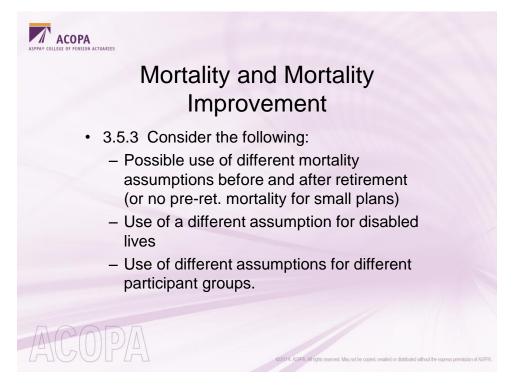
Specific Considerations (3.5)

- · Specific considerations to make for:
- 3.5.1 Retirement take into consideration:
 - Employer or job specific activities
 - Plan design where incentives may influence when participants retire
 - Design of and date of anticipated payment from social insurance programs
 - Availability of other employer sponsored post retirement programs

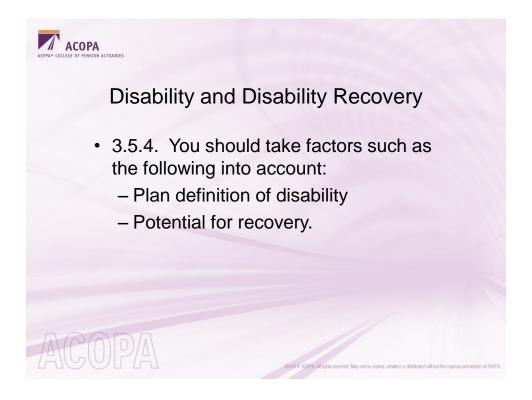


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Optional Form of Benefit

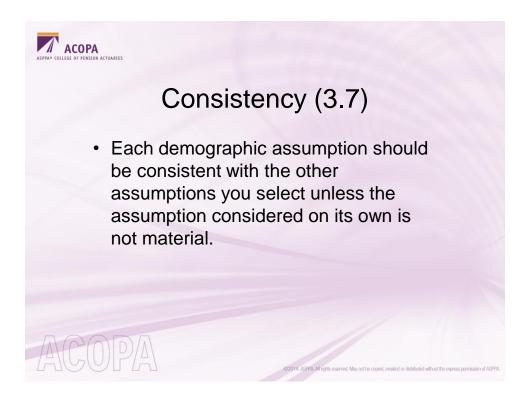
- 3.5.5 You should take into account factors such as:
 - Benefit forms and commencement dates available.
 - Historical or expected incidence of elections under the plan or similar plans.
 - Degree to which various forms may be subsidized.

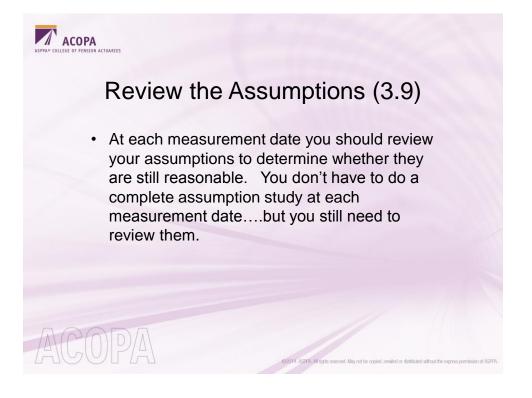




Other 3.6.1

- Admin expenses
- · Household composition
- · Marriage, divorce, remarriage.
- · Open group
- · Hours of service
- Transfers
- Missing or incomplete data







Other Considerations (3.10)

- You may determine its appropriate to adjust assns to provide for adverse deviation or plan provisions that are difficult to measure....and disclose these adjustments
- Take into account the balance between materiality and refined assumptions...same as ASOP 27.
- Take into account the balance between refined assumptions and the cost of using refined assumptions....same as ASOP 27
- The combined effect of all non-prescribed assumptions should be reasonable.



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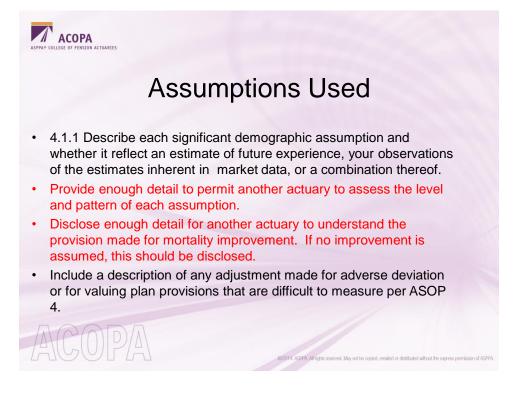
More other considerations

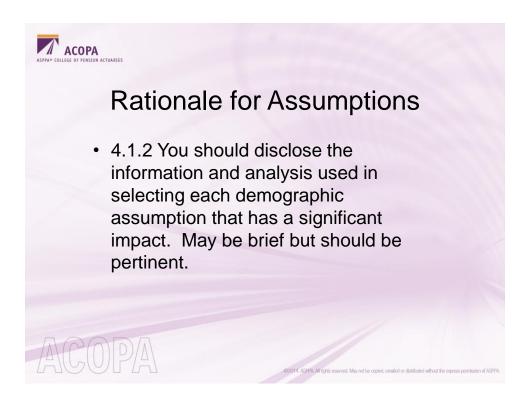
- The assumptions should reflect your knowledge as of the measurement date. You may choose to reflect an event that happened after the measurement date that would have changed your demographic assumption.
- Consider the views of experts

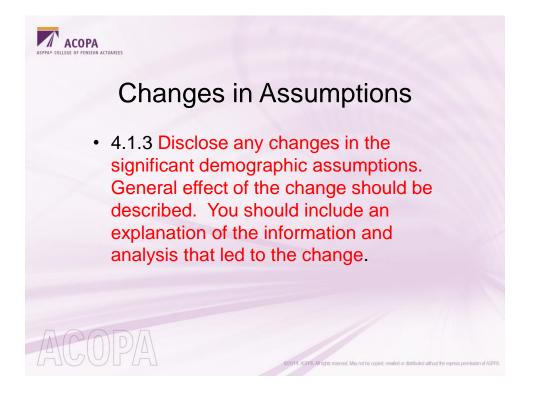


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Prescribed Changes set by another party

- 4.2a You should identify any of these assumptions that conflicts with that you, in your professional judgment, be reasonable.
- 4.2b You should identify any of these assumptions that you are unable to evaluate for reasonableness.



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Additional Disclosures 4.3

- Include a disclosure per ASOP 41 section 4.3 if you state reliance on other sources and thereby disclaim responsibility for any material assumption or method set by another party.
- Include a disclosure if in your professional judgment you have deviated materially from the guidance in this ASOP.



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The Question you are all asking:

- Hey Norman, I use ASC/Datair/Relius/Larry's system/my own system/the PLIIOMA method and my val report has a page that describes the assumptions used.
- My ASOP 41 disclosure references this report.
- Have I satisfied the requirements of these ASOPs?
- No you have not, sorry. Don't blame me, I am just the presenter, I did not write the freaking ASOPs.



ACOPA

Why not?

 That usual valuation report page does not detail the disclosures required and outlined in slides 65, 66, 67, 90, 91, 92. Let's go back and talk about those slides again briefly and this time I will speak loudly and slowly so you really understand.





What are you going to do differently?

- Nothing? Ignore what the ASOPs say you should do because its too much of a pain? Ok, but then you should disclose that and justify why.
- Expand your disclosures? It does not take much work to comply.



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Coming Up for your Pleasure

 There is a proposed ASOP on Modeling with a comment deadline of March 1, 2015.



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