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July 9, 2010

Sent via e-mail to casb2@omb.eop.gov

Cost Accounting Standards Board
Attention: Raymond Wong
Office of Federal Procurement Policy
725 17th Street, NW, Room 9013
Washington, DC 20503

Reference: CAS Pension Harmonization NPRM

We have prepared this letter in response to the request for public comments by the Cost Accounting Standards Board ("the Board") as posted in the Federal Register on May 10, 2010. We appreciate the opportunity to provide comments to the Board as it reviews and revises the current Cost Accounting Standards ("CAS") 412 and 413 to develop the CAS Pension Harmonization Rule required under the Pension Protection Act of 2006 ("PPA").

Towers Watson is a leading global professional services company that helps organizations improve performance through effective people, risk and financial management. With 14,000 associates around the world, we offer solutions in the areas of employee benefits, talent management, rewards, and risk and capital management.

We consult for a number of organizations that are subject to CAS and the Federal Acquisition Regulations ("FAR"). We have been actively participating in this rulemaking process, beginning with the input we have provided in response to the Staff Discussion Paper (SDP) (72 FR 36508), and continuing with the comments we submitted for the Advance Notice of Proposed Rulemaking (ANPRM) (73 FR 51261).

We appreciate the enormity of the Board's responsibility on this matter and the difficulty in developing the CAS Pension Harmonization Rule. The task is difficult considering the following primary concerns that can conflict with each other:

- Predictability / reduced volatility
- Affordability
- Recovery of ERISA minimum required contributions[1]

The first two items listed above are important to both the government and the contractors. The third item is a significant concern among contractors and a fairness/equity issue for the government. Lowering volatility comes with a price, thus it is difficult to balance reduced volatility with affordability of CAS costs. Also, recovery of minimum required contributions will require higher CAS costs upfront, which is incongruent with the goal of having affordable CAS costs, particularly in the current environment. Increased CAS costs may crowd out budgets for contracting work. On the other hand, deferred reimbursements because of lower CAS costs can

[1] Less than full recovery of ERISA minimum required contributions is indicated when
(a) ERISA assets, which equal the Market Value of Assets less the Prefunding and Carryover Balances, exceed
(b) CAS assets, which equal the Market Value of Assets less the Accumulated Prepayment Credits.
This difference simplifies to the CAS Accumulated Prepayment Credits less the ERISA Credit Balance, i.e., the mandatory prepayment credit account.

pose cash flow issues for contractors as PPA requires higher cash contributions to the pension plans.[2]

In some respects this NPRM represents an improvement over the ANPRM, particularly in terms of being less complicated and more straightforward. In other respects, this NPRM appears to be a step backwards compared to the ANPRM.

Most importantly, this NPRM reverts back to not *permanently* recognizing the liability that both the PPA and the Financial Accounting Standards (FAS) already recognize as the proper measure of the obligation of plan sponsors of defined benefit pension plans, i.e., the present value of accrued benefits measured using high-quality corporate bond rates.

- The ANPRM required one condition, i.e., that the minimum accrued liability (MAL)[3] be greater than the regular accrued liability (AL)[4], before a contractor could reflect the MAL and the minimum normal cost (MNC) in the determination of the CAS assignable cost.

  The Board was responsive to public comments regarding modifying the above condition. However, the Board imposed an additional condition (or threshold test) in the NPRM that effectively limits the period over which the MAL and the MNC can be recognized. Contractors' pension plans will fail one or both of two threshold tests before the contractors are able to fully recapture the accumulated excess of minimum funding requirements over CAS assignable costs. Under this criterion, we believe the NPRM does not harmonize the CAS with the PPA, contrary to the apparent legislative intent of Section 106 of the PPA.

  When a contractor eventually fails one of the threshold tests, the CAS liability would revert back to the AL and the additional CAS costs in earlier years would be returned to the government through lower future CAS costs. In other words, the NPRM does not change the long-term level of CAS costs; it only changes the timing of recovery.

- In the ANPRM, in the event of segment closing, the Board recognized the MAL as the floor for the segment closing liability. In this NPRM, the Board reverted back to a segment closing liability measured using long-term asset return expectations and removed the MAL as a floor.

  What this generally means is, while contractors are allowed during a temporary period to have assignable CAS costs that reflect minimum liabilities (and minimum normal costs), when a segment is closed, such amounts will be required to be refunded back to the government even though other parts of the government (e.g., Congress, IRS) require the plan to have assets covering minimum liabilities. This is another reason why the NPRM falls short in harmonizing the CAS with the PPA, contrary to the apparent legislative intent.

We are concerned of the effect of the threshold tests and the segment closing adjustment in this NPRM, which is to only temporarily allow recognition of minimum liabilities and minimum CAS costs. Not permanently recognizing these minimum amounts results in not harmonizing CAS with the PPA. Not harmonizing CAS with the PPA provides a disincentive for government contractors to continue their defined benefit plans; without permanent harmonization, cash outlays for pension contributions required by law cannot be fully recovered under CAS.

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2 The recently-enacted Preservation of Access to Care for Medicare Beneficiaries and Pension Relief Act (H.R. 3962) will provide pension funding relief. Our analysis for the comments in this letter does not take into account the provisions of H.R. 3962.

3 The MAL and the MNC are measured using a valuation interest rate based on high-quality corporate bond rates.

4 The AL and the regular normal cost (NC) are measured using a valuation rate based on long-term asset return expectations.

For funding and accounting of their defined benefit pension plans, government contractors are required to follow the ERISA/PPA, FAS, and CAS. IRS funding rules and FAS now share the corporate bond yield view as the basis for measuring pension plan liabilities. In the spirit of harmonization, it is appropriate for CAS to reflect the view already shared by the FAS and the IRS with respect to the measurement of liabilities, not just temporarily but for the life of the plan.

Note that IRS and FAS requirements, as well as financial economic theory, establish that the measurement of pension liabilities is distinct from expectations on plan asset returns. Furthermore, to the extent that actual returns on pension assets exceed the liability discount rate (i.e., yields on high-quality corporate bonds), future ERISA/PPA funding requirements, FAS expenses and CAS costs are all reduced.

Contrary to the Board's presumption, the PPA recognizes that the pension plan is a going concern[5] but the PPA also logically recognizes that defined pension benefits are a "fixed income" promise. With the advent of PPA, we are seeing more plan sponsors consider and/or implement liability hedging or liability driven investment principles and become more conservative in their pension investments, in recognition of the debt-like nature of their pension liabilities.

We also note that, while there have been some differences, when CAS 412 was first promulgated in 1975 it closely mirrored the IRS minimum funding requirements. Certainly, prior to the PPA, the actuarial accrued liabilities under ERISA and CAS were very close, if not the same. The primary difference was with regard to the periods for amortizing various changes in the unfunded liability (e.g., changes in the unfunded liability due to assumptions, plan amendments, gains/losses, etc.). Given the closeness of the CAS and ERISA rules, there was an apparent recognition that it is appropriate for the government to eventually reimburse the amounts it is requiring all defined benefit plan sponsors to put into their plans. While pension funding rules have changed with the enactment of the PPA, this principle of equity – where the government does not excuse itself from requirements it is imposing on all plan sponsors – remains. This aligns with one of the stated benefits of the NPRM:

> *"The proposed rule should provide relief for the contractors' concerns with indefinite delays in recovery of cash expenditures…"*

Thus, the CAS Pension Harmonization Rule should allow contractors full recovery of the PPA minimum required contributions over time. Unfortunately, the CAS Pension Harmonization Rule under this NPRM will not allow contractors such full recovery.

In the remainder of this letter, we respectfully provide comments on specific provisions and offer suggestions that we believe can better achieve the legislative intent for requiring the Board to develop a CAS Pension Harmonization Rule under Section 106 of the PPA.

HARMONIZATION TESTS

According to the ANPRM, if the MAL is higher than the AL, the CAS assignable cost will be adjusted to reflect the MAL and the MNC. We pointed out that there can be situations where the regular CAS cost would be larger than the PPA funding requirement. Reflecting the MAL and the MNC in determining the CAS cost in these situations could result in an even larger CAS assignable cost.

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[5] Though based on high-quality corporate bond rates, the ongoing PPA Target Liability is less than the settlement or liquidation liability. The At-Risk Funding Target is more representative of the settlement or liquidation liability.

Considering the ANPRM's "MAL > AL" criterion and how it impacts the calculations, we recommended that *if no (mandatory) prepayment credits exist* and *if the regular CAS cost already exceeds the PPA minimum funding requirement*, then the CAS cost need not be adjusted to reflect the MAL and the MNC to result in an even higher CAS assignable cost. Our recommendation was intended for the specific – and less frequent – situations when CAS reimbursements will have already caught up with the ERISA required cash funding of the plan on a cumulative basis, i.e., when there are no mandatory prepayment credits.

In our ANPRM comment letter, we also recommended considering a minimum CAS cost approach for harmonization, *in lieu of* the "MAL > AL" criterion. In other words, there is no need to impose a "MAL > AL" criterion when satisfaction of this criterion simply results in reflecting the MAL and the MNC as "floor" liabilities and normal costs in the calculations. Instead, we recommended directly calculating the CAS cost based on the MAL and MNC, and use the result as a floor for the CAS cost.

It appears that our recommendations were partly considered[6]. However, instead of simply taking a minimum CAS cost approach for harmonization with a safeguard against situations when the calculations could result in higher CAS assignable costs than necessary, the NPRM imposes requirements that effectively prevent harmonization. Before a contractor can take the greater of the minimum CAS cost and the regular CAS cost as the assignable CAS cost for the year, the NPRM requires passing two threshold tests, not just one test as the ANPRM did. These two tests are as follows:

- *Harmonization Threshold Test* (which we will refer to, in the remainder of this letter, as "Threshold Test 1"). This test is met if the ERISA minimum required contribution for the plan exceeds the total regular CAS cost for the plan. This test is applied at the plan level.

- *Actuarial Liability and Normal Cost Threshold Test* ("Threshold Test 2"). This test is met if the sum of MAL and MNC is greater than the sum of the AL and the NC, i.e., "MAL + MNC > AL + NC." This test is applied at the segment level. This is a modification of the ANPRM "MAL > AL" criterion.

We address each of these tests below.

Harmonization Threshold Test

In our ANPRM letter, we stated the following:

> *"If the intent of the CAS Harmonization Rule is to adjust the CAS assignable costs so that the excess of the PPA funding requirements over the CAS assignable costs are recovered on a timely basis, increasing the regular AAL to the MAL when the CAS cost is already greater than the PPA funding requirement for a given year may not be necessary, particularly if there are no existing prepayment credits."*

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[6] While the NPRM adopted a minimum CAS cost approach, we note that the minimum CAS cost in the NPRM is not the same as the minimum CAS cost we recommended in our ANPRM comment letter. For example, the minimum CAS cost we had recommended reflects a 10-year amortization of the unfunded MAL at transition and 10-year amortizations of any future changes in unfunded MAL. The NPRM changed the amortization period for gains/losses from 15 years to 10 years. However, the NPRM retained 10 to 30-year amortization periods for all other types of amortization bases. Effectively, this will result in amortizing the total unfunded liability over a period longer than we had recommended; the net amortization period under the NPRM is more than three years longer than the seven-year amortization period under the PPA. Nevertheless, the NPRM is still an improvement over the current CAS in this regard.

It appears that our suggestion was partly considered. However, Threshold Test 1 does not consider the existence of (mandatory) prepayment credits; it considers only the annual comparison of the minimum funding requirement and the regular CAS cost. As a result, it is too restrictive and will hinder full recovery of minimum funding requirements particularly for contractors who have been subject to the PPA requirements since 2008. Pension plans will eventually require funding contributions lower than CAS costs because the plans will become fully funded under the PPA earlier than when they will become fully funded under CAS. The plans will become fully funded under the PPA sooner because of the following reasons:

- The PPA became effective before the CAS Pension Harmonization Rule will become effective.
- The PPA has a 7-year amortization for unfunded liabilities, compared to the 10-year amortization period for gains/losses and even longer amortization periods for other amortization bases (e.g., plan amendments, assumption changes, etc.) in the NPRM.
- The MAL and MNC are phased-in and are not fully recognized during the transition period.

Thus, plans will fail Threshold Test 1 before contractors can recover all of the minimum funding contributions required of them.

Actuarial Liability and Normal Cost Threshold Test

In our ANPRM comment letter, we have recommended for further study the minimum CAS cost concept as an alternative to the ANPRM's "MAL > AL" criterion for harmonization. It appears that our suggestion was partly considered. However, instead of applying only the minimum CAS cost concept, the NPRM combined the minimum liability concept with the minimum CAS cost concept. The ANPRM "MAL > AL" minimum liability criterion was changed to the NPRM Threshold Test 2, "MAL + MNC > AL + NC," as a precondition before the minimum CAS cost can be reflected in the calculations.

In our opinion, requiring Threshold 2 before the minimum CAS cost can be taken into account in the assignable CAS cost determination is redundant and adds unnecessary complexity. The minimum CAS cost calculation inherently funds toward the MAL and takes into account the MNC. Thus, by adopting the minimum CAS cost concept, Threshold Test 2 is not needed.

Effect of the Harmonization Tests

Based on our modeling for hypothetical plans under various asset scenarios[7], as well as an NPRM survey data on several defense contractors' pension plans[8], we have concluded that the harmonization tests in the NPRM will result in the following:

- More volatility and less predictability in CAS assignable costs
- Less than full recovery of ERISA minimum required contributions (which we believe is contrary to the legislative intent of Section 106 of PPA)

Assuming the CAS Pension Harmonization Rule becomes effective in 2011, one of the two threshold tests may not be met by a typical plan. If a plan does meet both threshold tests, it will do so for a temporary period only. Based on our NPRM survey, this temporary period is about five years.

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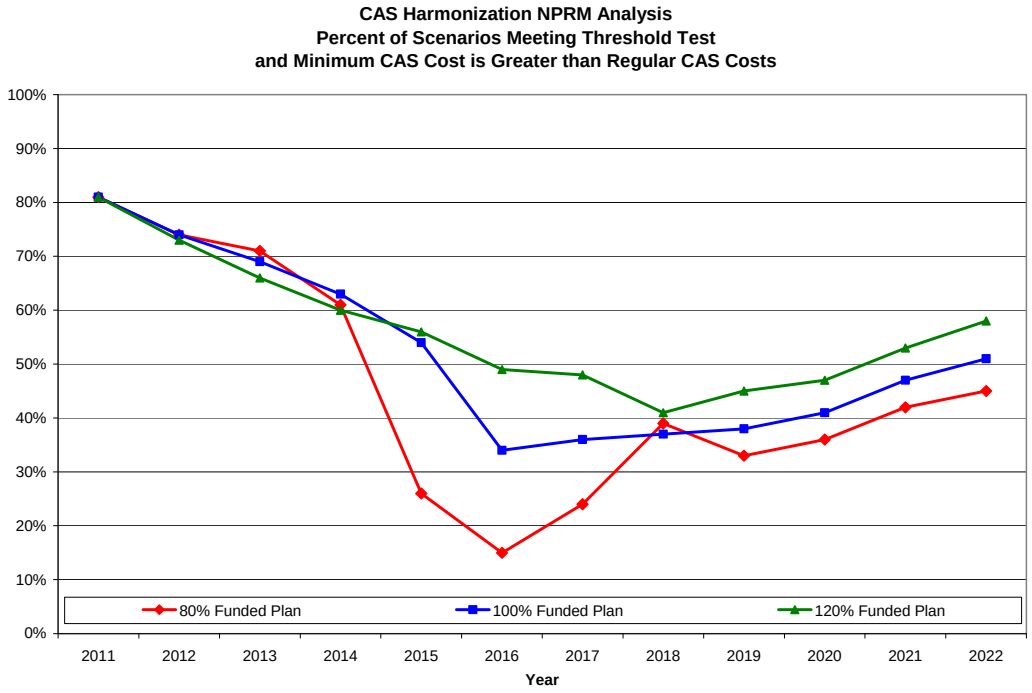
7 See Attachment 1 - Notice of Proposed Rulemaking on CAS Pension Harmonization, Forecasted Results

8 See Attachment 2 - Notice of Proposed Rulemaking on CAS Pension Harmonization, Survey of Defense Contractors - June 2010

We ran 5,000 simulations on three identical hypothetical plans at different funded levels -- 80% funded, 100% funded and 120% funded (see Figure 1). The simulations indicate significantly less than 100% likelihood of being able to reflect the minimum CAS cost, with the lowest probability generally occurring in 2016, assuming a 2011 effective date for the CAS Pension Harmonization Rule.

Figure 1



Failure to meet one or both tests will result in a CAS assignable cost based on the AL and NC. In most cases, this will mean a dramatic drop in CAS assignable costs. Until the thresholds are met again, the CAS assignable costs will be lower than they would otherwise be under pre-CAS Pension Harmonization Rule provisions. When the threshold tests are met again, the CAS assignable costs will spike up again.

In other words, the threshold tests will make the CAS assignable costs switch from that based on the AL and NC, to that based on the MAL and MNC. The back-and-forth switching between the two bases will cause volatility in CAS assignable costs.

Our stochastic modeling reflecting 5,000 simulations for the three plans mentioned above produced the following results over a 10-year forecast period, regardless of the funded status of the plan:

(1) 75% of the 5,000 scenarios switch between the AL and MAL at least once
(2) 25% of the scenarios switch at least twice
(3) 5% of the scenarios switch at least 3 times

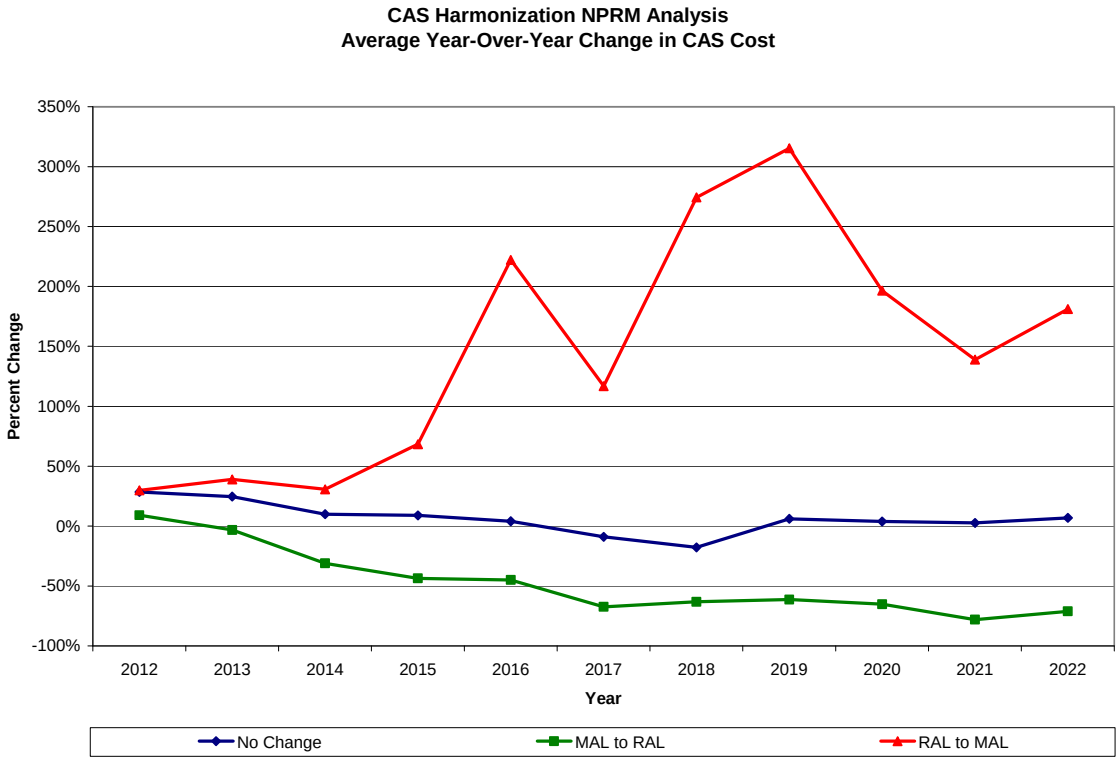
Additional observations are as follows (see Figure 2):

(1) Whenever the CAS cost switches from that based on the AL and the NC, to that based on the MAL and the MNC, the average increase in CAS cost is 148%. Whenever the CAS cost

switches from that based on the MAL and the MNC, to that based on the AL and the NC, the average decrease in CAS cost is 28%.

(2) In contrast, for years when both the current year and prior year are based on the same liability measure (either AL or MAL), the average increase in CAS costs from one year to the next is 7%.

Figure 2



With respect to the recovery of minimum required contributions, our NPRM survey data shows that the NPRM does not result in full recovery of minimum required contributions during the 10-year forecast period studied. On the 10th year after the assumed 2011 effective date of the CAS Pension Harmonization Rule, 95% of the plans in the survey will still have mandatory prepayment credits. On average, the mandatory prepayment credit reflecting this NPRM would be 71% of what it would otherwise be under current CAS rules.

Removing the threshold tests would improve recovery of the minimum required contributions. For example, if Threshold Test 1 is removed, while 85% of the plans will still have mandatory prepayment credits by the 10th year, the average ratio of mandatory prepayment credits (after vs. before harmonization) would drop from 71% to 33%.

Applying stochastic modeling to a fully funded plan with no mandatory prepayment credits in 2008, i.e., when PPA minimum funding requirements became effective for most contractors, the mandatory prepayment credit account was averaging at 10% of the market value of assets by 2011, which is when we assumed that the CAS Pension Harmonization Rule will become effective. Ten years after we assumed the CAS Pension Harmonization Rule becomes effective, our model indicates the mandatory prepayment credit account averaging at 11% of the market value of assets. In other words, there will not be much progress in recovery of minimum required

contributions under this NPRM. The NPRM does mitigate the increase in mandatory prepayment credits considering that, under the current CAS, the model indicates that the mandatory prepayment credit account will average at 26% of the market value of assets, instead of 11%.

Recommendation

To address the volatility issue, as well the recovery of ERISA required contributions, we recommend that the threshold tests be removed. If it is necessary to impose a threshold test, we continue to believe that the only appropriate threshold would be the existence of accumulated mandatory prepayment credits, including any mandatory prepayment credits that are expected to build up during the year[9]. The benefits of imposing this threshold will need to be weighed against the additional complexity of defining mandatory prepayment credits and the potential additional volatility when compared to having no thresholds at all.

By allowing the recognition of the MAL and the MNC in determining the CAS cost, without precondition, eventually the CAS assignable costs should catch up with the ERISA funding requirements and full harmonization should be reached.

SEGMENT CLOSING

Under the NPRM, the segment closing adjustment shall continue to be determined based on the ongoing concern approach. The MAL will not be reflected in this determination. This means that, the additional CAS costs that result from reflecting the MAL (and the MNC) in the calculations in years prior to the segment closing will be returned to the government in case of segment closing. In other words, the additional CAS costs are only temporarily "loaned" to the contractor. This defeats whatever level of harmonization is achieved in the preceding years.

We believe that the PPA Target Liability (which may be different from the CAS minimum liability) is the appropriate measure of the segment closing liability. At segment closing, it is appropriate for ERISA and CAS to be fully harmonized. Furthermore, a phase-in period should not apply for recognizing the PPA Target Liability as the segment closing liability.

Also, the NPRM still requires a segment closing adjustment for voluntary plan freezes. Regardless of whether the plan subject to a segment closing adjustment is underfunded or overfunded, requiring a segment closing adjustment for a voluntary freeze is disruptive. Furthermore, most plans today are underfunded and many plan sponsors have been freezing their plans. Given the current economic environment, we expect that the government would want to avoid paying for segment closing adjustments for voluntary freezes of contractor pension plans.

Recommendation

We recommend that the segment liability be defined as the PPA Target Liability, without phase-in.

[9] If the mandatory prepayment credit expected to develop during the year are not taken into account, this threshold test can temporarily result in not being able to reflect the MAL and MNC during the year, which could result in a sudden drop in CAS assignable cost for that year. As a mandatory prepayment credit would result for that year, the plan will then experience a sudden increase in the following year.

Furthermore, we recommend that no segment closing adjustment be required for voluntary plan freezes unless there are no remaining contracts with the government. We recommend that contractors simply continue to charge ongoing CAS costs for their voluntarily frozen plans.

MAL Interest Rate

For the interest assumption to be used for determining the MAL and the MNC, the NPRM requires use of *current period* rates of return on investment grade fixed-income investments. A "safe harbor" option is to use the same rate or set of rates used for PPA valuations.

The basic requirement will produce volatile CAS costs since it is tied to current period rates. While a 24-month average is available under the safe-harbor option, it will still produce volatile CAS costs. Additionally, some plan sponsors have chosen not to use the 24-month average for their PPA valuation and have opted for the rates for a single month, especially if the plan sponsor has adopted a liability-driven investment (LDI) strategy.

Below are the applicable 24-month three-segment rates for a plan that has chosen rates as of December prior to the valuation year for PPA purposes. While the differences in interest rates do not appear large, these differences – particularly in the second and third segment rates – can produce material changes in liabilities and costs.

Month/Year	First Segment	Second Segment	Third Segment
December 2007	5.31%	5.90%	6.41%
December 2008	5.25%	6.38%	6.68%
December 2009	4.71%	6.67%	6.77%

Hypothetically, assume that the December 2007 rates are the December 2011 rates, the December 2008 rates are the December 2012 rates, and the December 2009 rates are the December 2013 rates.

CAS costs determined in 2011, for 2011 and projected for the remainder of a contract period would then be based on the three-segment rates 5.31% / 5.90% / 6.41%. Two years into the contract period, the actual effective rate would be about 50 basis points higher, which means that the CAS costs determined at the time would be materially lower than the CAS costs projected back in 2011.

In this particular example, the CAS costs are going down. This could be a welcome relief for cost-plus contracts; and a windfall to contractors with fixed-price contracts. The opposite could also occur, i.e., the CAS costs could go up; this could be problematic for cost-plus contracts as well as fixed-price contracts.

There are already many elements that contribute to volatility in CAS costs, e.g., pension trust asset returns. Just as there are merits to having the PPA rates as a safe harbor option, it would be helpful to allow contractors the ability to avoid the added volatility that would be caused by tying the MAL interest rate to *current* period rates or corporate bond returns in the last 24 months.

Recommendation

The ANPRM stated that "the interest assumption shall reflect the contractor's best estimate of rates at which the pension benefits could effectively be settled based on the rates of return on high-quality fixed-income investments of similar duration to the pension benefits."

We recommend that the Board restore the ANPRM interest rate definition as it provides the necessary leeway for contractors to set interest rates assumptions that will be more stable than rates tied to current periods. Along with this definition, it will be helpful to retain the NPRM provision allowing the PPA rates as a safe harbor option.

ASSIGNABLE COST LIMITATION

As we pointed out in our SDP comment letter, we believe that the Assignable Cost Limitation (ACL) is too restrictive and contributes to the volatility of costs. Progress was made in the ANPRM in this regard by allowing a 125% ACL. It is disappointing that the NPRM reverted back to essentially the current definition of the ACL, which is already proven to cause volatility in CAS costs particularly for plans at or near full funded status. It is our understanding that the Board's primary concern with the 125% ACL in the ANPRM is the accumulation of excessive assets.

We illustrate how modifying the ACL would mitigate the volatility of costs in Attachment 3. The scenarios in this attachment reflect (1) the current ACL (i.e., 100% ACL); (2) no ACL at all; and (3) a 110% ACL. Of the three scenarios illustrated, the CAS costs reflecting the current definition of the ACL are the most volatile. Completely removing the ACL reduces the volatility. Also, earlier higher contributions that result from removing the ACL reduce the subsequent years' CAS costs thus mitigating "excessive build-up" of CAS assets.

One compromise between the current ACL and no ACL at all is a 110% ACL. Compared to the current ACL, a 110% ACL will better allow year-by-year gains/losses to offset each other, thereby dampening the volatility in CAS costs, especially for plans that are at or near full funding will have less volatile CAS costs.

Note that harmonization will accelerate full funding of the plans, so while this may not be an urgent issue today, we expect that this will create significant challenges in forward pricing in the not-so-distant future.

Also note that a 50-basis point change in discount rates can easily make a previously fully-funded plan underfunded and a change of that magnitude can offset most, if not all, of the 10% buffer reflected in a 110% ACL. In addition, recent history has shown that actual asset returns of 10% less than the assumed rate of return are not highly unlikely. Thus, we believe that a 110% ACL is not excessive.

Excessive build-up of CAS assets will not result from a change in the ACL per se. Whether the ACL is the current ACL or a modified ACL, the accumulation of CAS assets that are significantly more than CAS liabilities will be driven by successive years of actuarial gains that are not offset by years of actuarial losses. Successive years of actuarial gains result from consecutive years of experience being better than expected.

Recommendation

As an alternative to the 125% ACL in the ANPRM, we recommend that the Board consider a 110% ACL. In other words, change the ACL

from

(Accrued Liability plus Normal Cost), less Actuarial Value of Assets

to

110% x (Accrued Liability plus Normal Cost), less Actuarial Value of Assets.

We also used stochastic modeling to test this alternative ACL definition. For this, we assumed a plan that is 100% funded when the CAS Pension Harmonization Rule becomes effective. Reflecting 5,000 simulations, we compared the 50th percentile and 95th percentile funded status on a CAS basis of (a) the NPRM without modification, to (b) the NPRM but with a 110% ACL. The results are summarized in the following charts.

Note that the 110% ACL does not result in build-ups of assets that are significantly more than under the NPRM definition of the ACL, i.e., 100% ACL. Also note that in the 95th percentile chart, which reflects the most favorable asset return scenarios, both the 110% ACL and the 100% ACL show the funded status reaching more than 100%. This indicates that it is not the ACL definition but very favorable asset returns that result in the significant build-up of assets that is of concern to the Board.

Figure 3

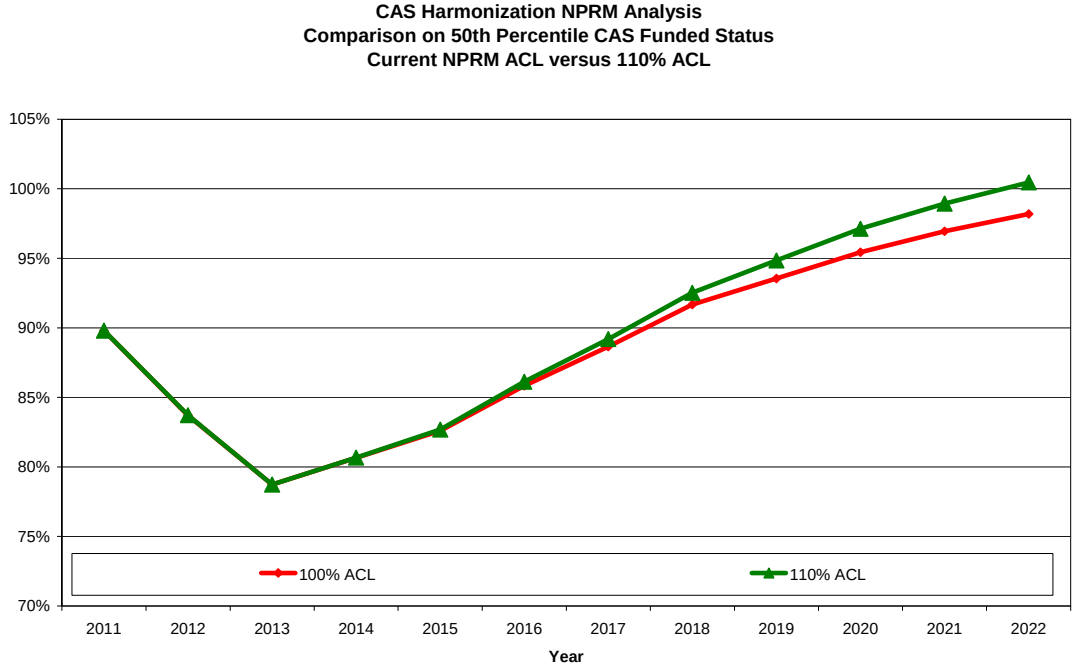
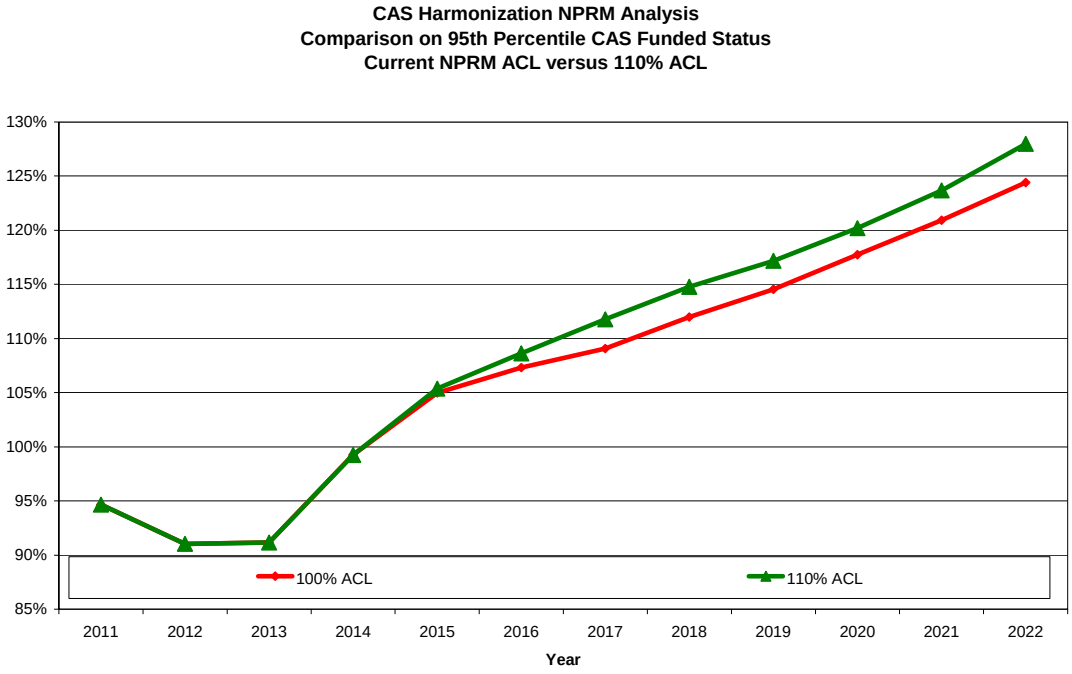


Figure 4



Another recommendation for the ACL is to replace the Actuarial Value of Assets (AVA) in the calculation with the smaller of the AVA and the Market Value of Assets (MVA). In other words, change the ACL definition

from

(Accrued Liability plus Normal Cost), less AVA

to

110% x (Accrued Liability plus Normal Cost), less the smaller of AVA and MVA

After at least a year of asset returns falling short of expected, the AVA – if smoothed – would be higher than the MVA. Under the allowed smoothing method under CAS, the AVA could be as high as 120% of the MVA. Using the inflated AVA in the ACL determination would result in limiting the CAS cost when actual assets may in fact be lower than the liabilities.

INTEREST CREDITING FOR THE PREPAYMENT CREDIT

Proposed CAS 412-30(a)(23) stipulates that the Accumulated Value of Prepayment Credits should be adjusted not just for investment returns but also for administrative expenses.

While it is reasonable to reflect actual investment returns in updating the Accumulated Value of Prepayment Credits, we see no rationale in adjusting the Prepayment Credits for administrative and other non-investment related expenses. The Accumulated Value of Prepayment Credits represents amounts that have not yet been assigned to government contracts. Thus it should be segregated and kept separate from pension trust activity such as benefit payments and administrative expenses.

Recommendation

We recommend that reference to adjustments to the Prepayment Credits for administrative expenses be removed.

EXTENDED ILLUSTRATIONS

We found the additional illustrations extremely helpful in understanding the intent of the changes in the rules.

However, we are concerned that it is not clear which part of an illustration is intentional because the rules require an item to be determined a specific way, and which part is simply hypothetical and may not apply in other situations. The danger here is that illustrations could be construed as *the required way* to do the calculations.

For example, take Note 4 in proposed CAS 412-60.1(b)(1) which states:

> "*The prepayment credits were transferred and applied on the first day of the plan year….*"

We find no reference elsewhere in CAS 412, other than in the illustrations, which require prepayment credits to be applied on the first day of the plan year. We note that the more prevalent practice that we see is that prepayment credits are *not* applied as of the first day of the plan year. Yet, an example like this will lead to a tendency for some but not all practitioners to assume that prepayment credits must be applied on the first day of the plan year. This will result in inconsistent practices in how CAS costs are determined when a plan has accumulated prepayment credits and could lead to costly disputes that could easily be avoided if illustrations have the proper caveats.

Recommendation

We recommend that wording similar to the following be added to CAS 412 and 413.

> *"Unless attributable to a specific section of this CAS 412 (or 413), the illustrations are intended to be examples only; other calculation methods and approaches may be allowable."*

MISCELLANEOUS

Proposed CAS 412-50(b)(7)(i)(B) states,

> "*If the liability adjustment amount is **a negative amount**, that amount **shall be subtracted** from unadjusted actuarial accrued liability to determine the adjusted actuarial accrued liability*" (emphasis added)

Similarly, proposed CAS 412-50(b)(7)(i)(C) states,

> "*If the normal cost adjustment amount is **a negative amount**, that amount **shall be subtracted** from unadjusted normal cost to determine the adjusted normal cost*" (emphasis added)

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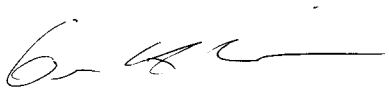
A negative amount, when subtracted, effectively increases the unadjusted amount (in this case, the AL or the NC). We believe this is not the intent. Thus, the wording for these provisions needs to be modified.

We appreciate the opportunity to comment on these important regulations and we would be happy to address any questions regarding our recommendations. Please contact Judy Ocaya at 949-798-7504 or judy.ocaya@towerswatson.com if you wish to discuss any aspect of our comments.

Sincerely,



Gene H. Wickes
Managing Director, Benefits Segment

jco:trs:md:ag

ATTACHMENT 1

NOTICE OF PROPOSED RULEMAKING ON CAS PENSION HARMONIZATION FORECASTED RESULTS

TOWERS WATSON

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TABLE OF CONTENTS

I. INTRODUCTION

On May 10, 2010, the Cost Accounting Standards Board ("the Board") released a Notice of Proposed Rulemaking (NPRM) on the Cost Accounting Standards (CAS) Pension Harmonization Rule as required under Section 106 of the Pension Protection Act of 2006 ("PPA").

In this paper, we present a comparison of CAS pension costs under the current CAS and under the provisions of the NPRM. We also modeled modifications to the NPRM to investigate improvements that can be made to address the following concerns of government contractors and/or the contracting agencies of the government:

- Predictability / reduced volatility
- Affordability
- Recovery of ERISA minimum required contributions

While the costs presented are based on a hypothetical plan, we hope that the illustrations will help the reader have a better understanding of the issues.

We recommend that government contractors perform similar projections for their respective pension plans to fully appreciate the issues they may be facing if this NPRM is promulgated.

II. DESCRIPTION OF METHODOLOGIES

In this paper, we present deterministic as well as stochastic projections of pension costs over a 10-year period, 2011 thru 2020 inclusive.

Under a deterministic method, costs are forecasted under one single investment and economic scenario. There is no randomness assumed with respect to asset returns, discount rates and economically-related factors such as cost-of-living increases, increases in taxable wage bases, growth in salaries, etc. For example, in a deterministic forecast, it will be assumed that the asset return will be exactly 8% each year and there will be no asset gains and losses. Though inherently unrealistic, the deterministic method is the most commonly used method for budgeting for future costs, including forward pricing of government contract costs.

The stochastic method is typically used in asset and liability modeling (ALM) studies when investment policy is being set. It is also used to evaluate potential risks and setting policy to withstand such risks. The stochastic approach is in direct contrast to the deterministic approach. Instead of assuming only with one possible set of economic factors (e.g., asset returns, discount rates, etc.), multiple possibilities are considered. For example, one scenario might reflect an 8% asset return for year one, 0% return for year 2, 6% for year 3 and so on. Because asset returns are related to real rates of return, which are in turn economically-related to cost-of-living, varying growths in salaries will be assumed. In addition, PPA interest rates will vary in the stochastic forecasts.

We modeled 5,000 scenarios which were then grouped into percentiles which indicate the likelihood of a particular result happening. For example, the 50th percentile would indicate that there is an equal likelihood that the actual result will be higher than that 50th percentile as it could be lower. The 90th percentile would indicate that the actual result has a 90% likelihood of being lower than the 90th percentile, and 10% likelihood of being higher than that percentile.

For both deterministic and stochastic forecasts, we assumed that the PPA applied to this plan effective January 1, 2008. Also, we assumed that the CAS Pension Harmonization Rule will become effective on January 1, 2011

With respect to assets, we assumed the following asset allocation:

- 5% in cash
- 30% in US Bonds
- 10% in long government credit
- 45% in US equities
- 10% in international equities

We assumed no changes in the investment policy mix during the forecast period. In reality, plan sponsors conduct periodic ALM and asset allocation studies and could vary the investment policy mix within the 10-year forecast period that we have reflected. However, setting investment policy is not within the scope of this particular paper.

We assumed that the contractor's contribution policy is to deposit the minimum amount required to satisfy both the PPA minimum funding standards and the CAS funding requirements.

At the beginning of the forecast period, January 1, 2011, we have assumed that the Accumulated Prepayment Credits are 10% of the total market value of assets.

For the deterministic forecasts, we modeled the following CAS rules:

- Current Rules - Current CAS 412
- NPRM - NPRM
- Alternative A - NPRM with no threshold tests
- Alternative B - NPRM with no threshold tests and 110% ACL
- Alternative C NPRM with no threshold tests, and CAS cost always equal to the minimum CAS cost, no phase-in period (this is a proxy for full harmonization)

For the stochastic forecasts, we only modeled the NPRM and Alternative B.

III. DETERMINISTIC FORECASTS

Base Assumptions

We assumed the following base assumptions. In some scenarios, we vary the asset return and/or the CAS Minimum Actuarial Liability (MAL) discount rate.

- Asset return 7.5%
- PPA effective discount rate 6.0%
- CAS regular discount rate 7.5%
- CAS MAL discount rate 6.0%

Economic Scenarios

We considered the following economic scenarios:

- Baseline – This reflects an asset return of 7.5% from 2011 and onward. This matches the assumed CAS long-term interest rate. This scenario represents a forward pricing cost forecast.
- "Actual" Set 1 – This is the same as the Baseline, except a negative 2% asset return is assumed for 2011, instead of 7.5%.
- "Actual" Set 2 – This is the same as Actual Set 1, except the PPA and CAS MAL discount rates are not the same for all years in the forecast period.
- "Actual" Set 3 – This is the same as Actual Set 2, except the asset returns also are not the same for all years.
- "Actual" Set 4 – This reflects another set of varying asset returns, PPA discount rates and CAS MAL discount rates.

Note that in the "Actual" sets, we reflected the same CAS regular discount rate, 7.5%, for all years.

Graphs Prepared

We prepared sets of graphs showing the following:

- CAS assignable costs
- Cash funding requirements
- CAS assignable costs less cash funding (i.e., net cashflow for each year)
- Prepayment Credits
- Differences between the CAS assignable costs under the Baseline scenario and the Actual scenario

The last graph is an illustration of how the CAS assignable costs can differ from the baseline (i.e., forward pricing results) when reflecting "actual" experience. Ideally, the variances from baseline should be as small as possible, to avoid situations where the forecasted costs included in contracts are significantly different than the actual costs.

IV. STOCHASTIC FORECASTS

For the stochastic forecasts, we modeled the following CAS rules:

- Current Rules - Current CAS 412
- NPRM - NPRM
- Alternative B - NPRM with no threshold tests and 110% ACL

For each alternative, we present the projected CAS costs and Prepayment Credits.

We also show a comparison of the 50th percentile (median) and 95th percentile ("worst case") results for the CAS Costs and Prepayment Credits under these two alternatives.

V. OBSERVATIONS AND COMMENTS

In this section we provide observations and comments based on performing the deterministic and stochastic forecasts.

CAS Costs (Charts A1, B1, C1, D1 and E1; F1, F2 and F3; F7 and F8)

- In the baseline forecast shown in chart A1, where asset returns and interest rates are consistent, the plan fails the NPRM Harmonization Threshold Test after full amortization of the 2008 asset losses under PPA.

- Compared to the current rules, CAS costs are higher under the NPRM in earlier years but lower in the outer years in charts A1, B1, C1 and D1. We also see in these charts that Alternative A extends the period when the new CAS costs would be greater than pre-harmonization CAS costs; Alternative B extends the period even longer. In chart E1, compared to CAS costs under the current rules, the NPRM CAS costs are higher in the first five years, and then switch back and forth between being higher and being lower in the outer years.

- To the extent that the CAS rules reflect interest rates that vary based on the markets, the CAS costs will be more volatile than under the current rules. For example, compare C1 (which reflects varying CAS MAL discount rates) with chart B1 (which reflects the same CAS MAL discount rate for all years). Also note the "saw tooth" pattern in chart E1. The wider ranges of outcomes shown in charts F2 and F3 compared to chart F1 also indicate more volatility under the NPRM and Alternative B. To mitigate some of the volatility, it will be important for the CAS Harmonization Rule to give leeway to contractors to set CAS MAL discount rates that do not have to change year-by-year.

- In years when the plan switches from meeting the threshold tests to failing one or both of the tests, there is a steep drop in CAS cost. For instance, notice the significant drop in CAS cost from 2015 to 2016 in chart A1 under the NPRM. Similarly, in years when the plan switches from failing at least one of the tests to meeting both tests, there will be a steep increase in CAS cost.

- When analyzing the NPRM Harmonization Rule in terms of volatility, the 5-year phase-in of the minimum actuarial liability dampens the impact of the rule near-term, and hides the potential volatility.

- Considering the deterministic charts A1, B1, C1 and D1, the results under Alternative A and Alternative B are identical except for the last few years in the forecast period.

- Considering the stochastic charts F7 and F8, the 50th (median) and the 95th ("worst case") percentile results for the CAS costs under the NPRM are not much different from the CAS costs under Alternative B.

Cash Requirements (Charts A2, B2, C2, D2 and E2)

- In chart E2, the cash requirements are the same under the current CAS, the NPRM and the alternatives modeled. In charts A2, B2, C2 and D2, the cash requirements are the same except in the very last few years.

- The cash requirements are the same in most if not all of the years in the forecast period because the cash requirements are initially driven by PPA funding requirements. The cash requirements deviate in the later years when CAS drives the need for funding. In these years, the cash

requirements depend on the availability of Prepayment Credits to "fund" the CAS assignable costs.

CAS Costs less Cash Requirements (Charts A3, B3, C3, D3 and E3)

- In the earlier years, there will be negative cashflow since PPA funding requirements exceed the CAS assignable costs. As can be expected, the negative cashflow is least in the early years under Alternative C which reflects no phase-in period for using minimum accrued liabilities and minimum CAS costs in the CAS assignable cost determination.

Prepayment Credits (Charts A4, B4, C4, D4 and E4; F4, F5 and F6; F9 and F10)

- The deterministic charts A4 to E4 show that the accumulated balance of prepayment credits will continue to grow in the next few years before the balance starts to go down.

- Over the long run, the NPRM Harmonization Rule should result in a significant improvement from the current rules in terms of recovering accumulated prepayment credits. Alternatives A and B, which have no threshold tests, will result in more significant improvements.

- Alternative B results in the lowest accumulated prepayment credits by the 10th year, as can be seen in the deterministic charts A4, B4, C4 and D4. In chart E4, Alternative B is projected to have the same level of accumulated prepayment credits as Alternative A.

- Among the stochastic charts F4 to F6, chart F6 for Alternative B shows the narrowest range of potential outcomes with respect to prepayment credits. In charts F9 and F10, Alternative B shows the lowest 50th and 95th percentile accumulated prepayment credits. The difference from the NPRM results grows with time.

- Under the NPRM, the improvement in accumulated prepayment credits begins to erode in the later years of the forecast. This is because the plan fails one of the threshold tests and begins to fund toward the long-term liability, rather than the minimum liability.

Deviation from Forward Pricing (Charts B5, C5, D5 and E5)

- The biggest deviation from baseline forward pricing CAS costs occurs under the NPRM. For example, see year 2016 in chart D5.

- When a plan had been forecasted to meet the NPRM threshold tests for a year as part of their forward pricing, but then misses that trigger when they actually reach that year, there will be a significant difference between the actual CAS costs for that year and what was included in the forward pricing.

- Contractors should be aware that, as long as liabilities vary with current interest rates, the actual CAS costs will vary from the forward pricing forecasts more than they did in the past.

Alternative B versus the NPRM

Collectively, the results of our projections suggest that Alternative B presents advantages over the NPRM. While Alternative B also shows volatility, it avoids the significant spikes/valleys that are due to coming in and out of the NPRM threshold tests. Also, it is better than the NPRM in terms of recovery of prepayment credits, and with respect to deviations from forward pricing.

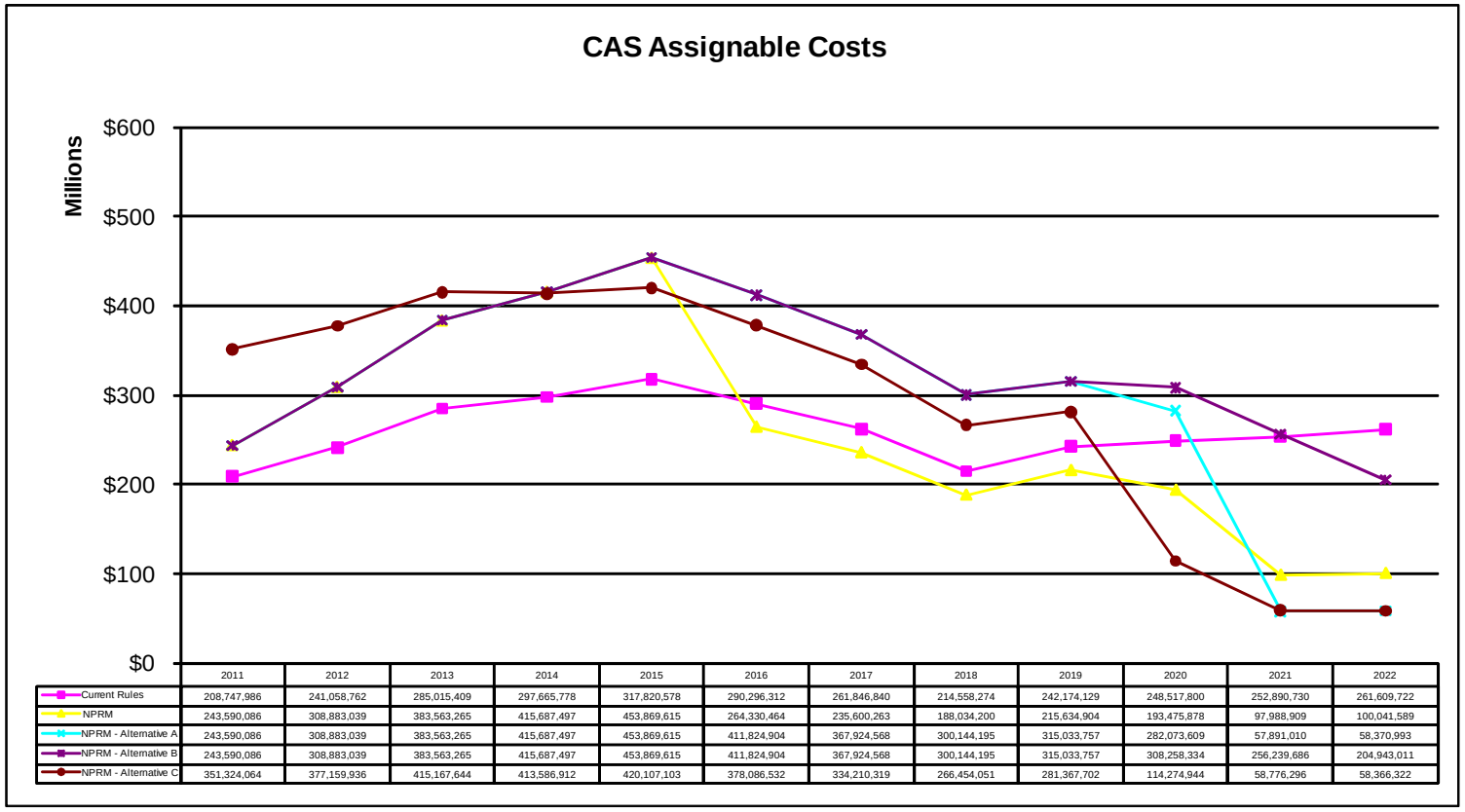
EXHIBITS

Attachment 1

Towers Watson
Illustration of Impact of Alternatives for CAS Harmonization

Baseline - Chart A1

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Asset Return	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%
PPA Discount Rate	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%
CAS Discount Rate	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%
CAS MAL Discount Rate	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%



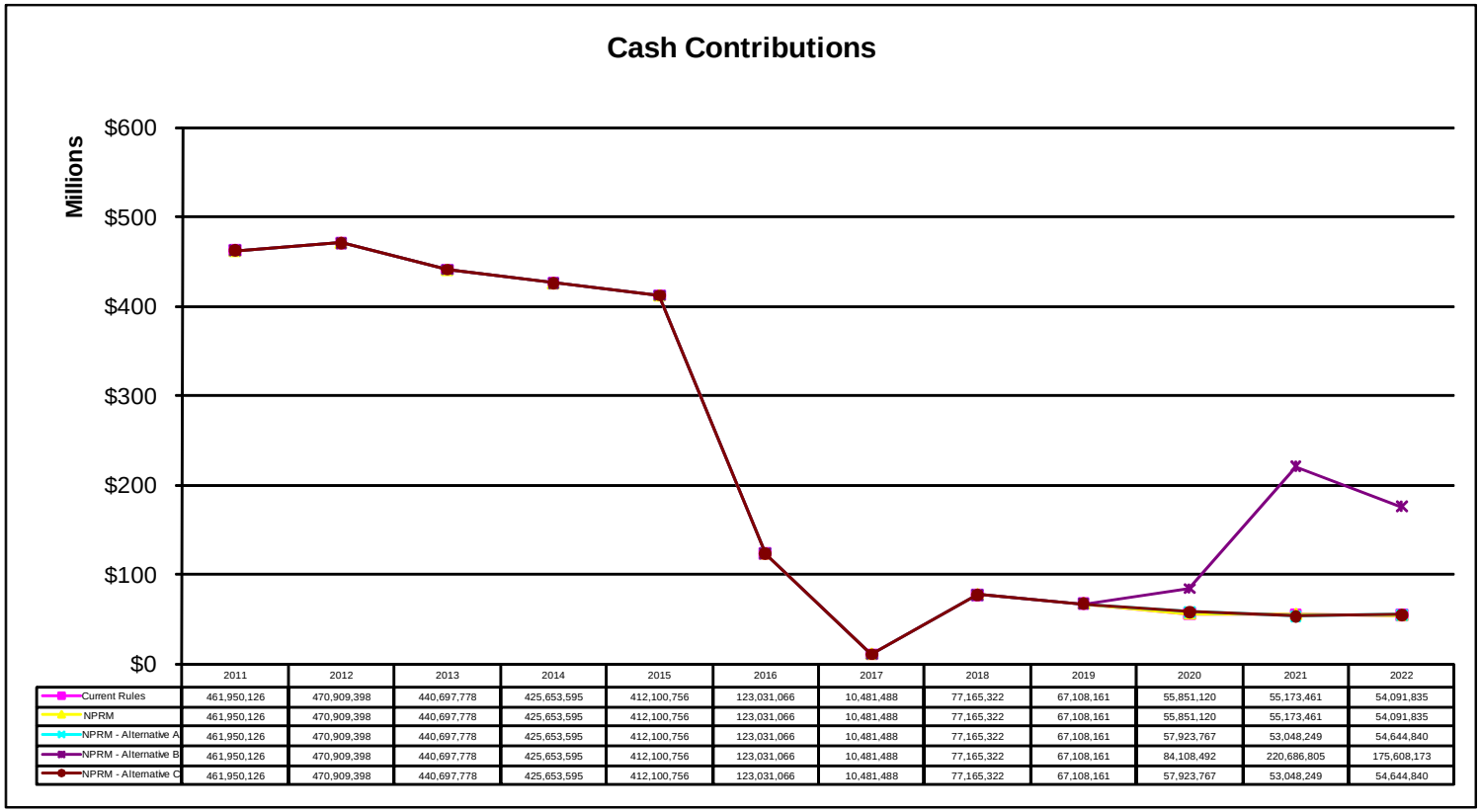
	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Current Rules	208,747,986	241,058,762	285,015,409	297,665,778	317,820,578	290,296,312	261,846,840	214,558,274	242,174,129	248,517,800	252,890,730	261,609,722
NPRM	243,590,086	308,883,039	383,563,265	415,687,497	453,869,615	264,330,464	235,600,263	188,034,200	215,634,904	193,475,878	97,988,909	100,041,589
NPRM - Alternative A	243,590,086	308,883,039	383,563,265	415,687,497	453,869,615	411,824,904	367,924,568	300,144,195	315,033,757	282,073,609	57,891,010	58,370,993
NPRM - Alternative B	243,590,086	308,883,039	383,563,265	415,687,497	453,869,615	411,824,904	367,924,568	300,144,195	315,033,757	308,258,334	256,239,686	204,943,011
NPRM - Alternative C	351,324,064	377,159,936	415,167,644	413,586,912	420,107,103	378,086,532	334,210,319	266,454,051	281,367,702	114,274,944	58,776,296	58,366,322

Attachment 1

Towers Watson
Illustration of Impact of Alternatives for CAS Harmonization

Baseline - Chart A2

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Asset Return	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%
PPA Discount Rate	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%
CAS Discount Rate	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%
CAS MAL Discount Rate	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%



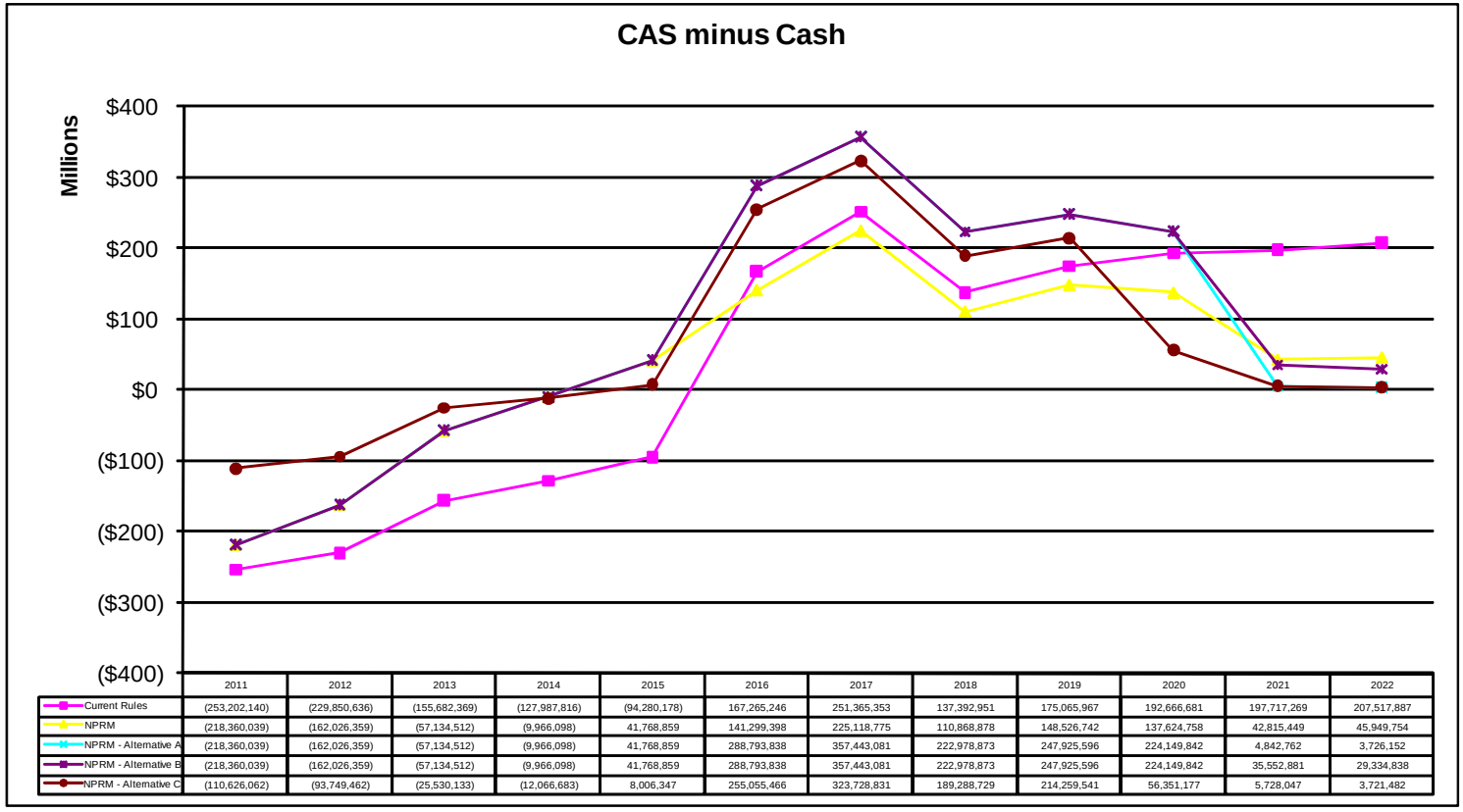
	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Current Rules	461,950,126	470,909,398	440,697,778	425,653,595	412,100,756	123,031,066	10,481,488	77,165,322	67,108,161	55,851,120	55,173,461	54,091,835
NPRM	461,950,126	470,909,398	440,697,778	425,653,595	412,100,756	123,031,066	10,481,488	77,165,322	67,108,161	55,851,120	55,173,461	54,091,835
NPRM - Alternative A	461,950,126	470,909,398	440,697,778	425,653,595	412,100,756	123,031,066	10,481,488	77,165,322	67,108,161	57,923,767	53,048,249	54,644,840
NPRM - Alternative B	461,950,126	470,909,398	440,697,778	425,653,595	412,100,756	123,031,066	10,481,488	77,165,322	67,108,161	84,108,492	220,686,805	175,608,173
NPRM - Alternative C	461,950,126	470,909,398	440,697,778	425,653,595	412,100,756	123,031,066	10,481,488	77,165,322	67,108,161	57,923,767	53,048,249	54,644,840

Attachment 1

Towers Watson
Illustration of Impact of Alternatives for CAS Harmonization

Baseline - Chart A3

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Asset Return	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%
PPA Discount Rate	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%
CAS Discount Rate	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%
CAS MAL Discount Rate	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%



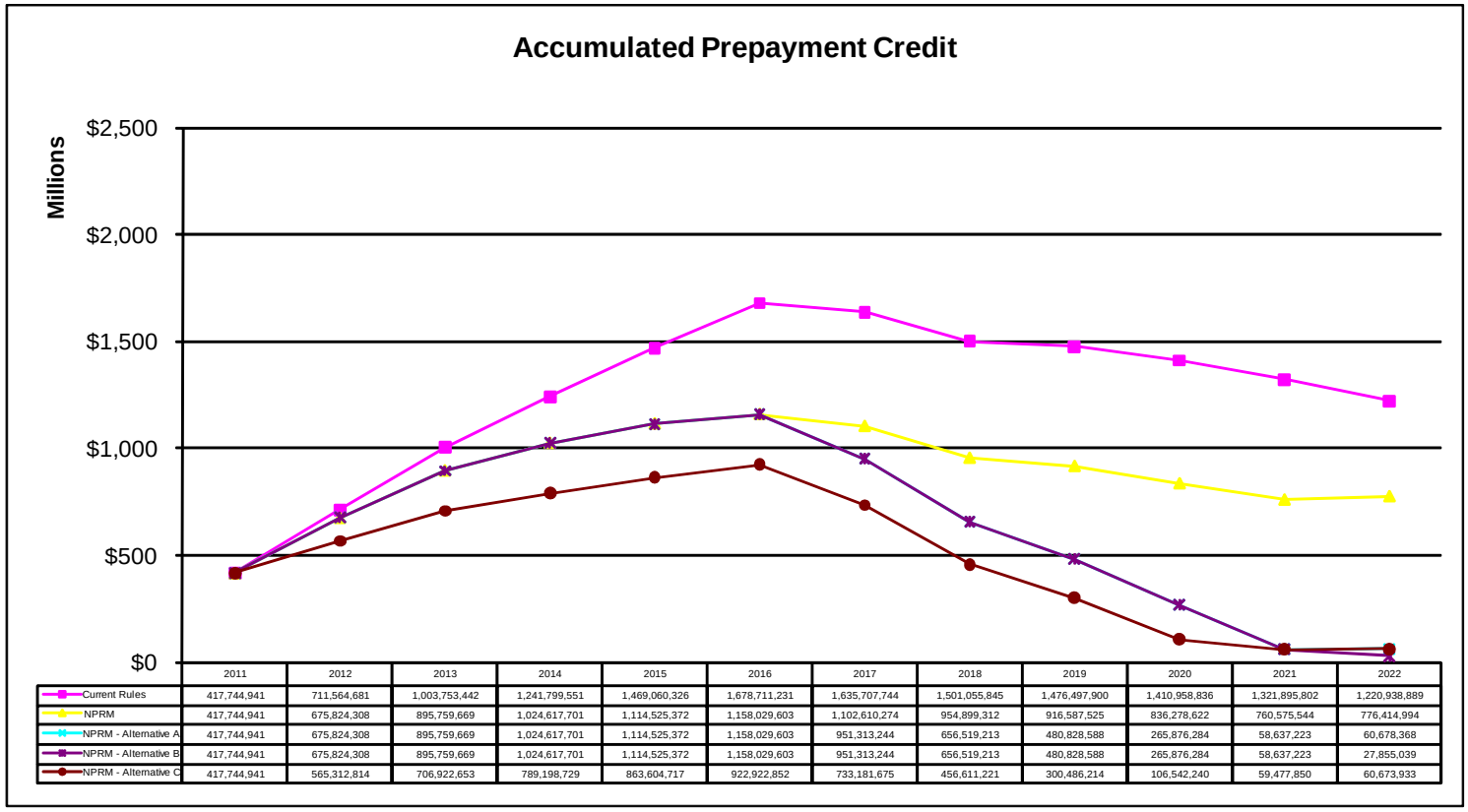
	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Current Rules	(253,202,140)	(229,850,636)	(155,682,369)	(127,987,816)	(94,280,178)	167,265,246	251,365,353	137,392,951	175,065,967	192,666,681	197,717,269	207,517,887
NPRM	(218,360,039)	(162,026,359)	(57,134,512)	(9,966,098)	41,768,859	141,299,398	225,118,775	110,868,878	148,526,742	137,624,758	42,815,449	45,949,754
NPRM - Alternative A	(218,360,039)	(162,026,359)	(57,134,512)	(9,966,098)	41,768,859	288,793,838	357,443,081	222,978,873	247,925,596	224,149,842	4,842,762	3,726,152
NPRM - Alternative B	(218,360,039)	(162,026,359)	(57,134,512)	(9,966,098)	41,768,859	288,793,838	357,443,081	222,978,873	247,925,596	224,149,842	35,552,881	29,334,838
NPRM - Alternative C	(110,626,062)	(93,749,462)	(25,530,133)	(12,066,683)	8,006,347	255,055,466	323,728,831	189,288,729	214,259,541	56,351,177	5,728,047	3,721,482

Attachment 1

Towers Watson
Illustration of Impact of Alternatives for CAS Harmonization

Baseline - Chart A4

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Asset Return	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%
PPA Discount Rate	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%
CAS Discount Rate	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%
CAS MAL Discount Rate	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%



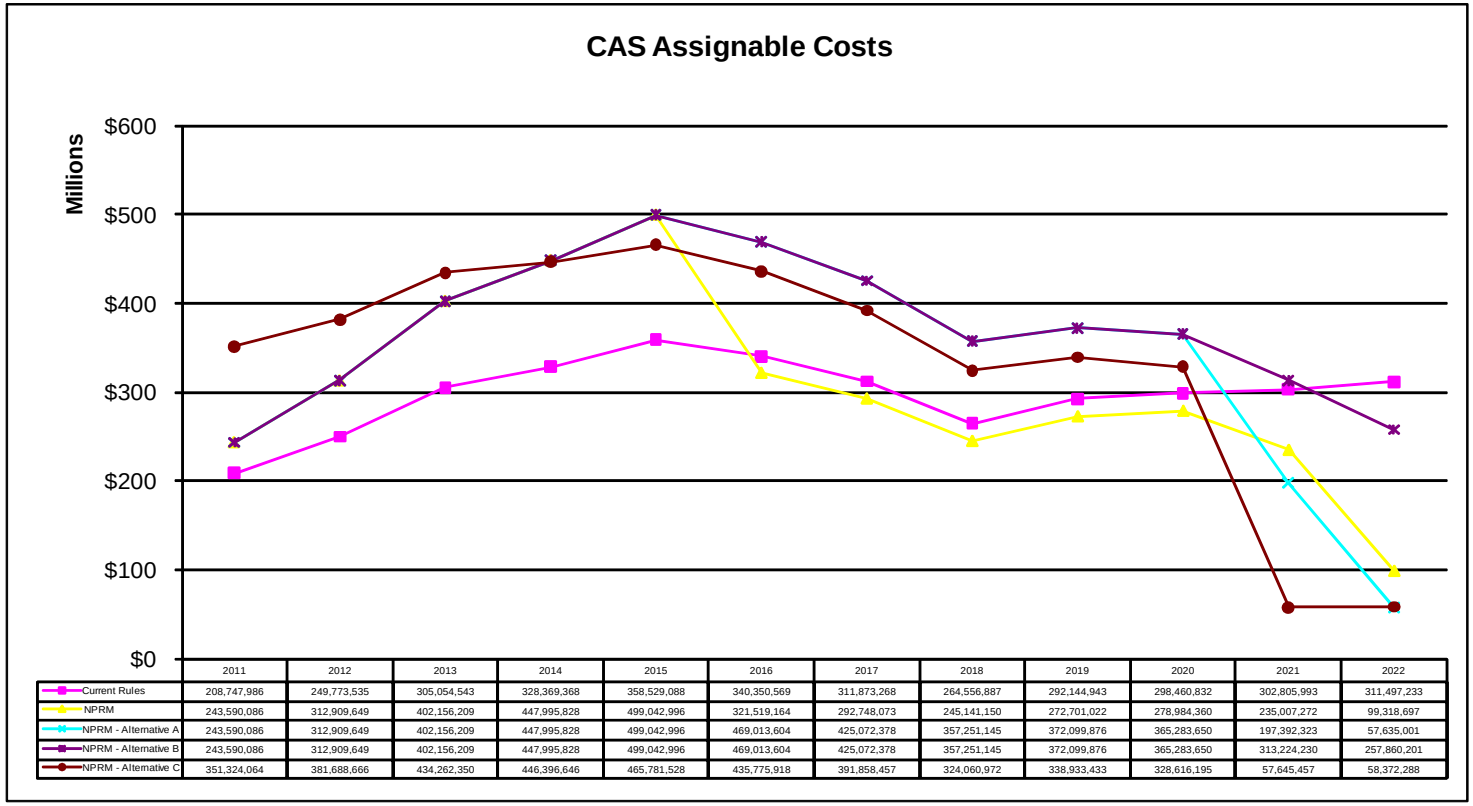
	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Current Rules	417,744,941	711,564,681	1,003,753,442	1,241,799,551	1,469,060,326	1,678,711,231	1,635,707,744	1,501,055,845	1,476,497,900	1,410,958,836	1,321,895,802	1,220,938,889
NPRM	417,744,941	675,824,308	895,759,669	1,024,617,701	1,114,525,372	1,158,029,603	1,102,610,274	954,899,312	916,587,525	836,278,622	760,575,544	776,414,994
NPRM - Alternative A	417,744,941	675,824,308	895,759,669	1,024,617,701	1,114,525,372	1,158,029,603	951,313,244	656,519,213	480,828,588	265,876,284	58,637,223	60,678,368
NPRM - Alternative B	417,744,941	675,824,308	895,759,669	1,024,617,701	1,114,525,372	1,158,029,603	951,313,244	656,519,213	480,828,588	265,876,284	58,637,223	27,855,039
NPRM - Alternative C	417,744,941	565,312,814	706,922,653	789,198,729	863,604,717	922,922,852	733,181,675	456,611,221	300,486,214	106,542,240	59,477,850	60,673,933

Attachment 1

Towers Watson
Illustration of Impact of Alternatives for CAS Harmonization

"Actual" Set 1 - Chart B1

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Asset Return	-2.00%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%
PPA Discount Rate	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%
CAS Discount Rate	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%
CAS MAL Discount Rate	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%



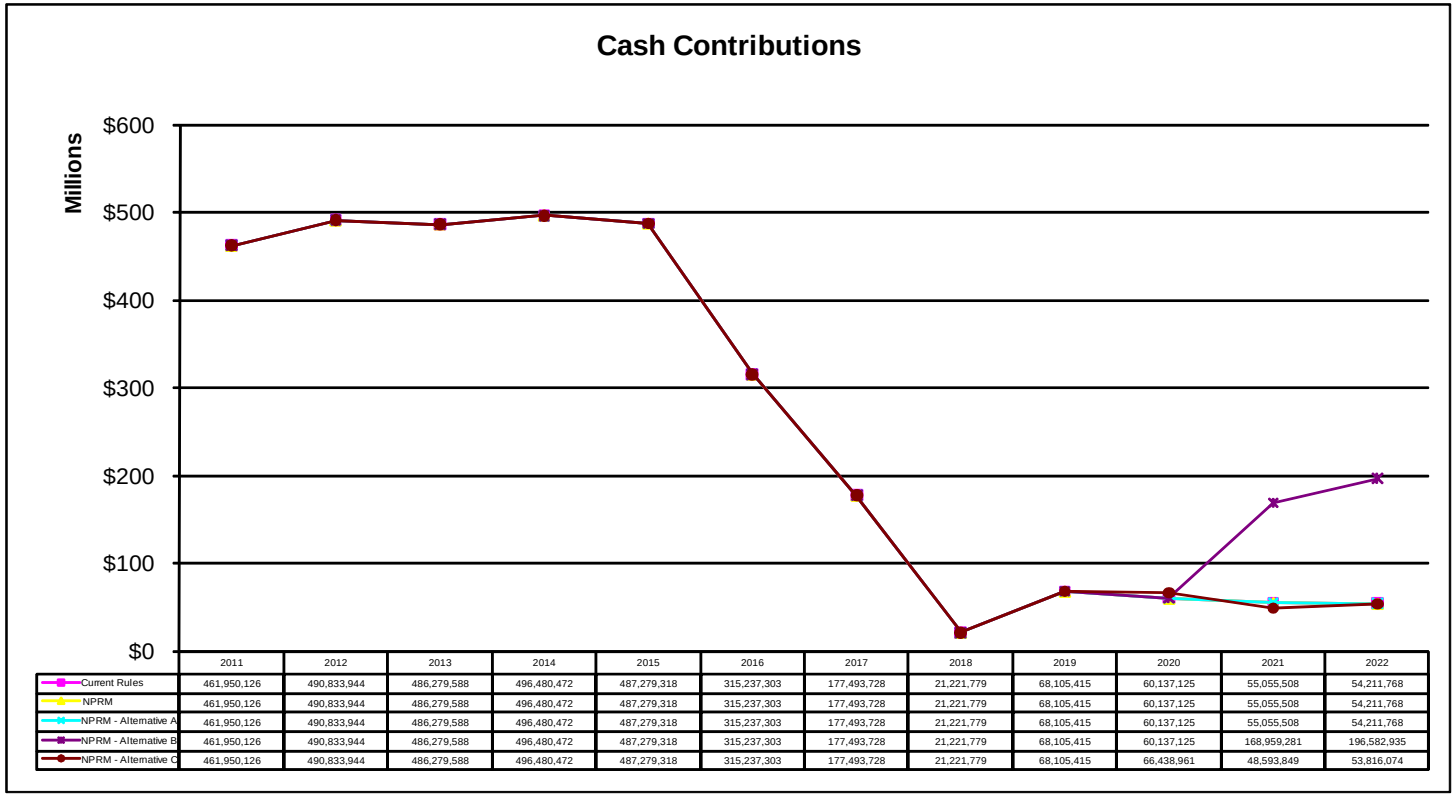
	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Current Rules	208,747,986	249,773,535	305,054,543	328,369,368	358,529,088	340,350,569	311,873,268	264,556,887	292,144,943	298,460,832	302,805,993	311,497,233
NPRM	243,590,086	312,909,649	402,156,209	447,995,828	499,042,996	321,519,164	292,748,073	245,141,150	272,701,022	278,984,360	235,007,272	99,318,697
NPRM - Alternative A	243,590,086	312,909,649	402,156,209	447,995,828	499,042,996	469,013,604	425,072,378	357,251,145	372,099,876	365,283,650	197,392,323	57,635,001
NPRM - Alternative B	243,590,086	312,909,649	402,156,209	447,995,828	499,042,996	469,013,604	425,072,378	357,251,145	372,099,876	365,283,650	313,224,230	257,860,201
NPRM - Alternative C	351,324,064	381,688,666	434,262,350	446,396,646	465,781,528	435,775,918	391,858,457	324,060,972	338,933,433	328,616,195	57,645,457	58,372,288

Attachment 1

Towers Watson
Illustration of Impact of Alternatives for CAS Harmonization

"Actual" Set 1 - Chart B2

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Asset Return	-2.00%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%
PPA Discount Rate	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%
CAS Discount Rate	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%
CAS MAL Discount Rate	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%



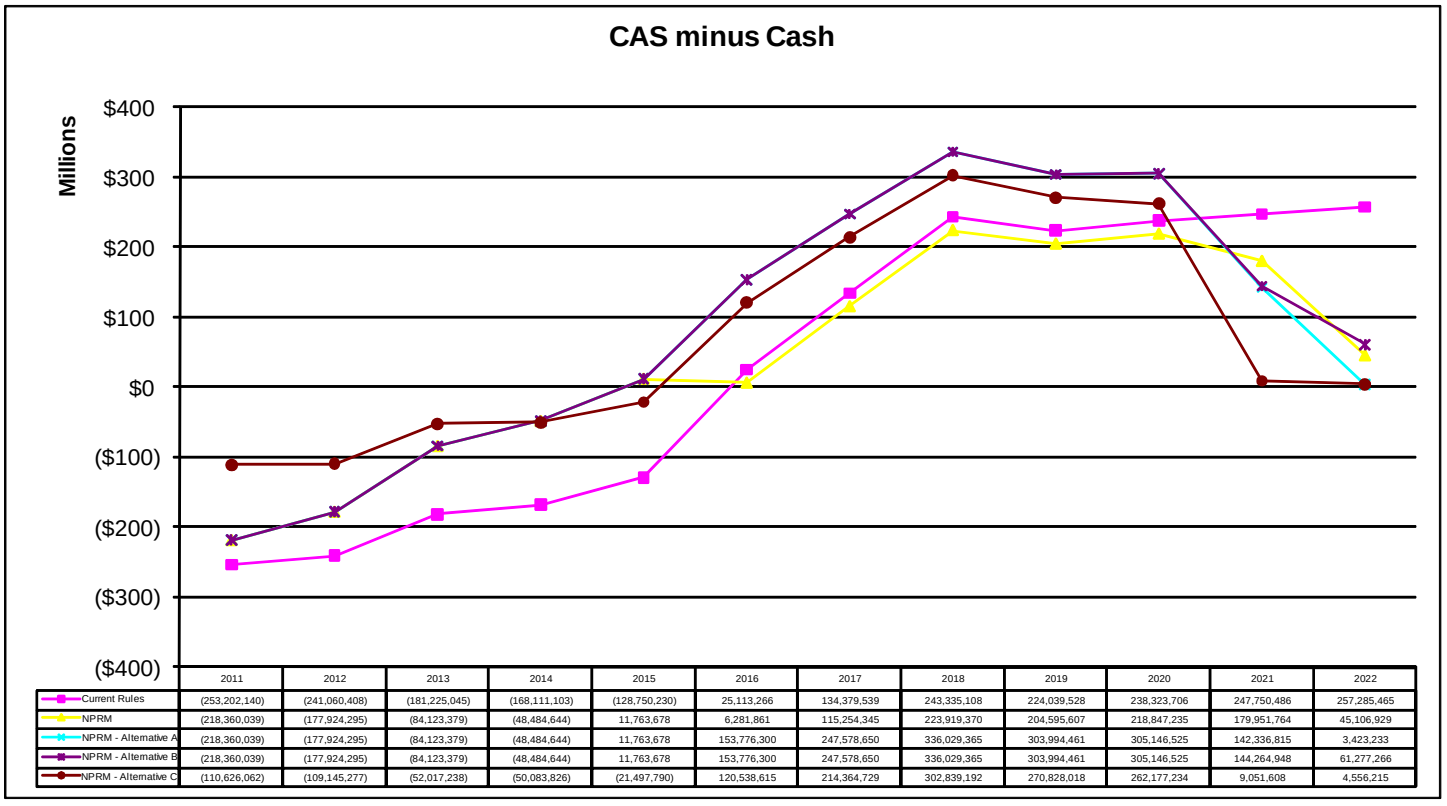
	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Current Rules	461,950,126	490,833,944	486,279,588	496,480,472	487,279,318	315,237,303	177,493,728	21,221,779	68,105,415	60,137,125	55,055,508	54,211,768
NPRM	461,950,126	490,833,944	486,279,588	496,480,472	487,279,318	315,237,303	177,493,728	21,221,779	68,105,415	60,137,125	55,055,508	54,211,768
NPRM - Alternative A	461,950,126	490,833,944	486,279,588	496,480,472	487,279,318	315,237,303	177,493,728	21,221,779	68,105,415	60,137,125	55,055,508	54,211,768
NPRM - Alternative B	461,950,126	490,833,944	486,279,588	496,480,472	487,279,318	315,237,303	177,493,728	21,221,779	68,105,415	60,137,125	168,959,281	196,582,935
NPRM - Alternative C	461,950,126	490,833,944	486,279,588	496,480,472	487,279,318	315,237,303	177,493,728	21,221,779	68,105,415	66,438,961	48,593,849	53,816,074

Attachment 1

Towers Watson
Illustration of Impact of Alternatives for CAS Harmonization

"Actual" Set 1 - Chart B3

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Asset Return	-2.00%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%
PPA Discount Rate	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%
CAS Discount Rate	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%
CAS MAL Discount Rate	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%



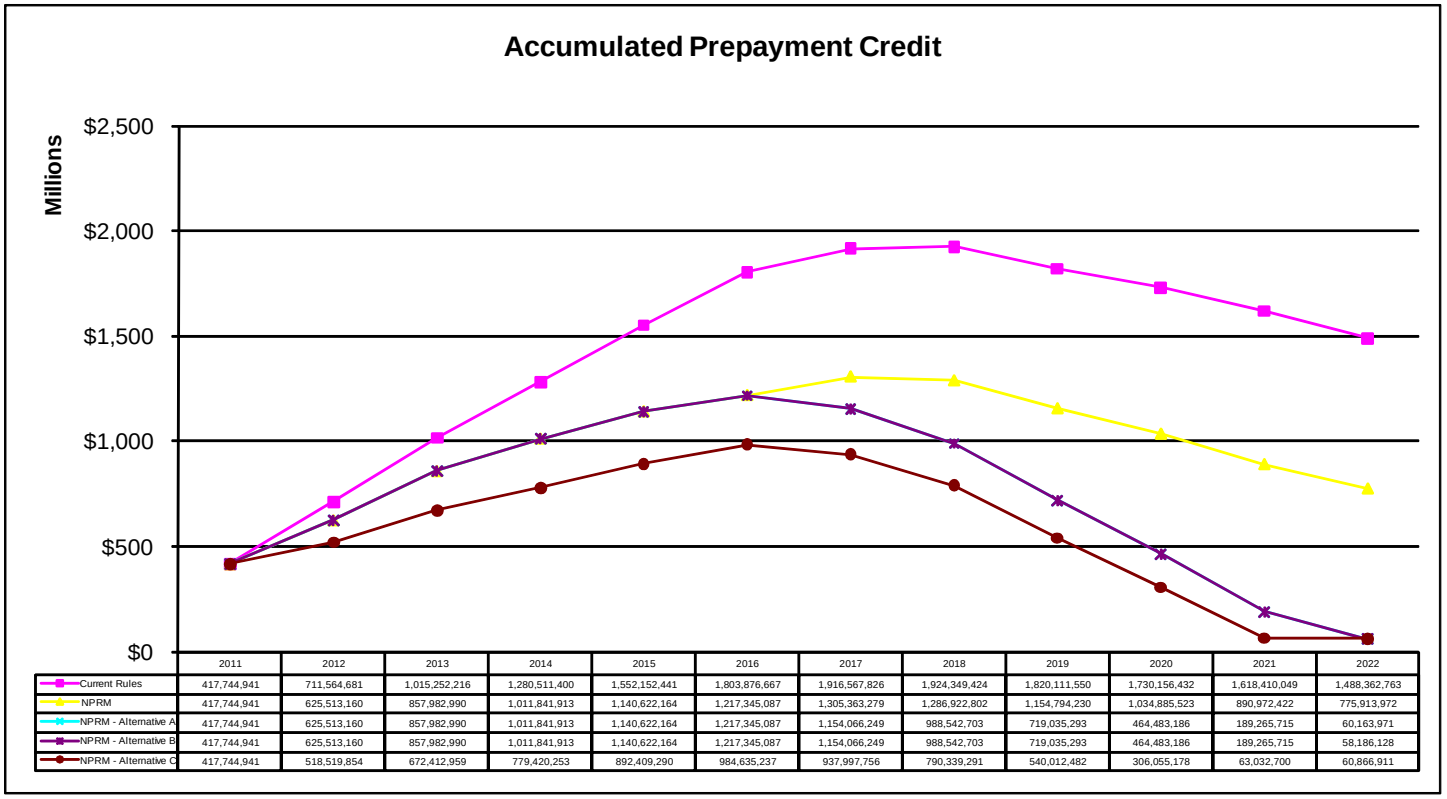
	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Current Rules	(253,202,140)	(241,060,408)	(181,225,045)	(168,111,103)	(128,750,230)	25,113,266	134,379,539	243,335,108	224,039,528	238,323,706	247,750,486	257,285,465
NPRM	(218,360,039)	(177,924,295)	(84,123,379)	(48,484,644)	11,763,678	6,281,861	115,254,345	223,919,370	204,595,607	218,847,235	179,951,764	45,106,929
NPRM - Alternative A	(218,360,039)	(177,924,295)	(84,123,379)	(48,484,644)	11,763,678	153,776,300	247,578,650	336,029,365	303,994,461	305,146,525	142,336,815	3,423,233
NPRM - Alternative B	(218,360,039)	(177,924,295)	(84,123,379)	(48,484,644)	11,763,678	153,776,300	247,578,650	336,029,365	303,994,461	305,146,525	144,264,948	61,277,266
NPRM - Alternative C	(110,626,062)	(109,145,277)	(52,017,238)	(50,083,826)	(21,497,790)	120,538,615	214,364,729	302,839,192	270,828,018	262,177,234	9,051,608	4,556,215

Attachment 1

Towers Watson
Illustration of Impact of Alternatives for CAS Harmonization

"Actual" Set 1 - Chart B4

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Asset Return	-2.00%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%
PPA Discount Rate	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%
CAS Discount Rate	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%
CAS MAL Discount Rate	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%



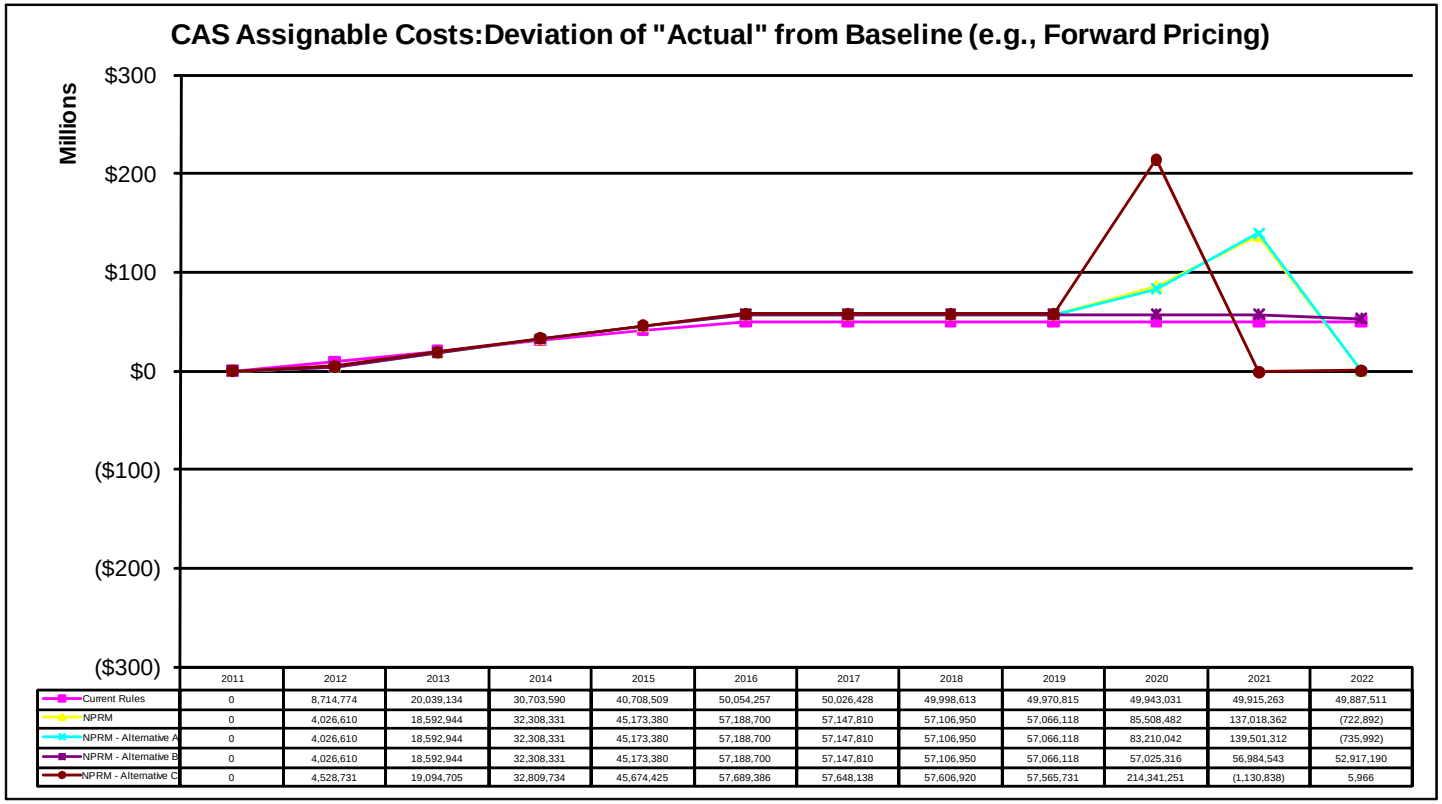
	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Current Rules	417,744,941	711,564,681	1,015,252,216	1,280,511,400	1,552,152,441	1,803,876,667	1,916,567,826	1,924,349,424	1,820,111,550	1,730,156,432	1,618,410,049	1,488,362,763
NPRM	417,744,941	625,513,160	857,982,990	1,011,841,913	1,140,622,164	1,217,345,087	1,305,363,279	1,286,922,802	1,154,794,230	1,034,885,523	890,972,422	775,913,972
NPRM - Alternative A	417,744,941	625,513,160	857,982,990	1,011,841,913	1,140,622,164	1,217,345,087	1,154,066,249	988,542,703	719,035,293	464,483,186	189,265,715	60,163,971
NPRM - Alternative B	417,744,941	625,513,160	857,982,990	1,011,841,913	1,140,622,164	1,217,345,087	1,154,066,249	988,542,703	719,035,293	464,483,186	189,265,715	58,186,128
NPRM - Alternative C	417,744,941	518,519,854	672,412,959	779,420,253	892,409,290	984,635,237	937,997,756	790,339,291	540,012,482	306,055,178	63,032,700	60,866,911

Attachment 1

Towers Watson
Illustration of Impact of Alternatives for CAS Harmonization

"Actual" Set 1 - Chart B5

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Asset Return	-2.00%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%
PPA Discount Rate	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%
CAS Discount Rate	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%
CAS MAL Discount Rate	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%



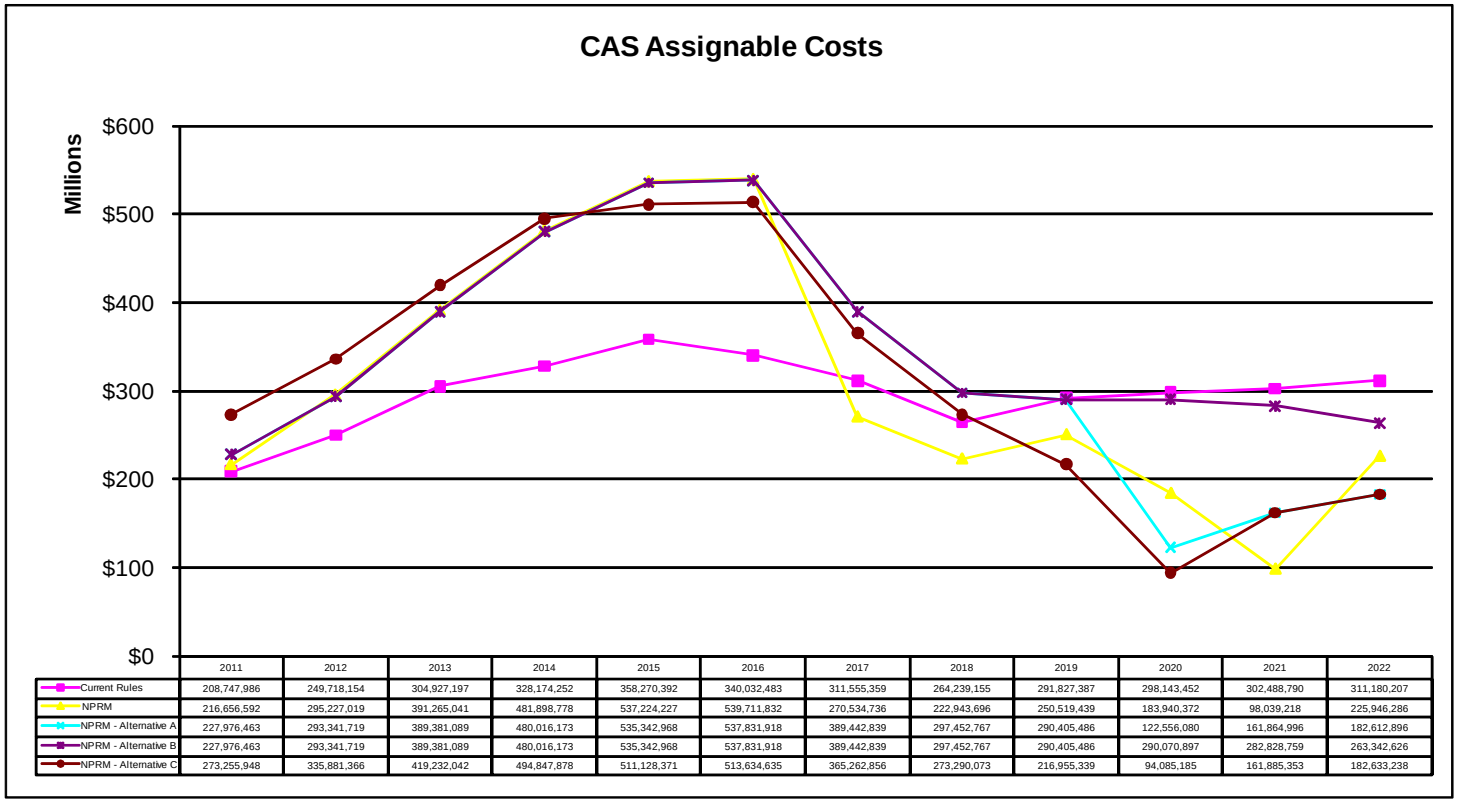
	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Current Rules	0	8,714,774	20,039,134	30,703,590	40,708,509	50,054,257	50,026,428	49,998,613	49,970,815	49,943,031	49,915,263	49,887,511
NPRM	0	4,026,610	18,592,944	32,308,331	45,173,380	57,188,700	57,147,810	57,106,950	57,066,118	85,508,482	137,018,362	(722,892)
NPRM - Alternative A	0	4,026,610	18,592,944	32,308,331	45,173,380	57,188,700	57,147,810	57,106,950	57,066,118	83,210,042	139,501,312	(735,992)
NPRM - Alternative B	0	4,026,610	18,592,944	32,308,331	45,173,380	57,188,700	57,147,810	57,106,950	57,066,118	57,025,316	56,984,543	52,917,190
NPRM - Alternative C	0	4,528,731	19,094,705	32,809,734	45,674,425	57,689,386	57,648,138	57,606,920	57,565,731	214,341,251	(1,130,838)	5,966

Attachment 1

Towers Watson
Illustration of Impact of Alternatives for CAS Harmonization

"Actual" Set 2 - Chart C1

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Asset Return	-2.00%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%
PPA Discount Rate	6.75%	6.50%	6.25%	5.75%	5.75%	5.50%	6.25%	6.50%	6.75%	6.75%	6.50%	6.25%
CAS Discount Rate	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%
CAS MAL Discount Rate	6.75%	6.50%	6.25%	5.75%	5.75%	5.50%	6.25%	6.50%	6.75%	6.75%	6.50%	6.25%



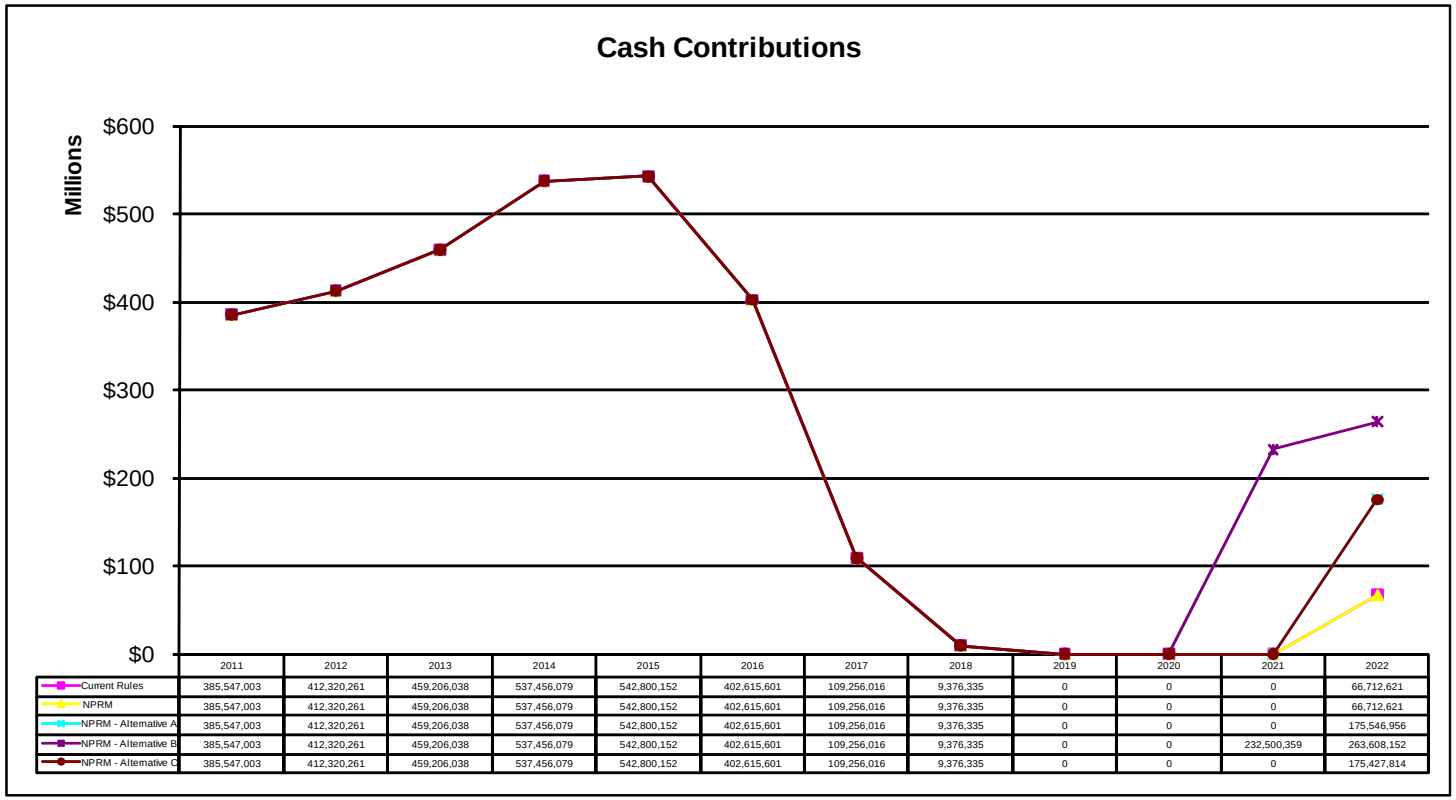
	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Current Rules	208,747,986	249,718,154	304,927,197	328,174,252	358,270,392	340,032,483	311,555,359	264,239,155	291,827,387	298,143,452	302,488,790	311,180,207
NPRM	216,656,592	295,227,019	391,265,041	481,898,778	537,224,227	539,711,832	270,534,736	222,943,696	250,519,439	183,940,372	98,039,218	225,946,286
NPRM - Alternative A	227,976,463	293,341,719	389,381,089	480,016,173	535,342,968	537,831,918	389,442,839	297,452,767	290,405,486	122,556,080	161,864,996	182,612,896
NPRM - Alternative B	227,976,463	293,341,719	389,381,089	480,016,173	535,342,968	537,831,918	389,442,839	297,452,767	290,405,486	290,070,897	282,828,759	263,342,626
NPRM - Alternative C	273,255,948	335,881,366	419,232,042	494,847,878	511,128,371	513,634,635	365,262,856	273,290,073	216,955,339	94,085,185	161,885,353	182,633,238

Attachment 1

Towers Watson
Illustration of Impact of Alternatives for CAS Harmonization

"Actual" Set 2 - Chart C2

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Asset Return	-2.00%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%
PPA Discount Rate	6.75%	6.50%	6.25%	5.75%	5.75%	5.50%	6.25%	6.50%	6.75%	6.75%	6.50%	6.25%
CAS Discount Rate	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%
CAS MAL Discount Rate	6.75%	6.50%	6.25%	5.75%	5.75%	5.50%	6.25%	6.50%	6.75%	6.75%	6.50%	6.25%



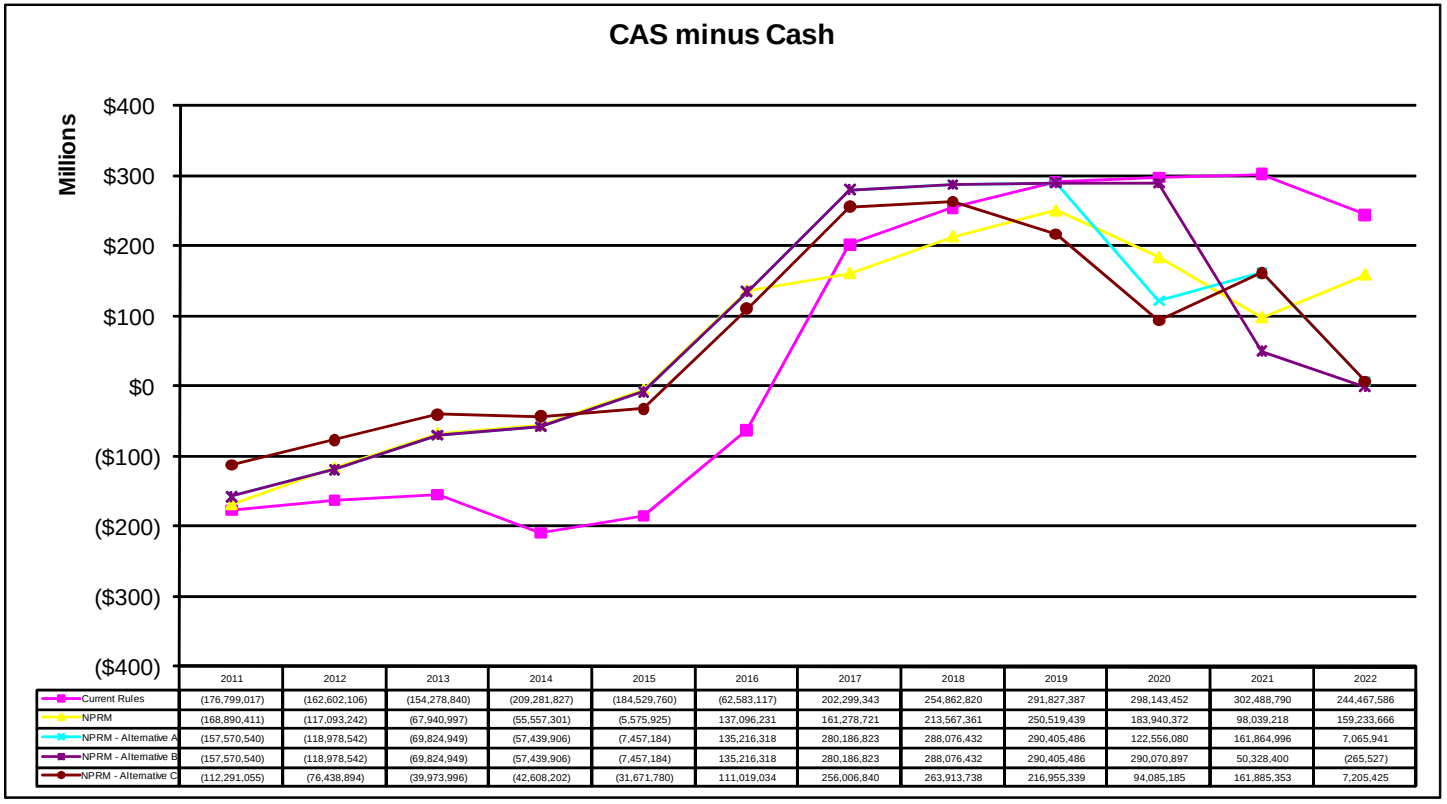
	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Current Rules	385,547,003	412,320,261	459,206,038	537,456,079	542,800,152	402,615,601	109,256,016	9,376,335	0	0	0	66,712,621
NPRM	385,547,003	412,320,261	459,206,038	537,456,079	542,800,152	402,615,601	109,256,016	9,376,335	0	0	0	66,712,621
NPRM - Alternative A	385,547,003	412,320,261	459,206,038	537,456,079	542,800,152	402,615,601	109,256,016	9,376,335	0	0	0	175,546,956
NPRM - Alternative B	385,547,003	412,320,261	459,206,038	537,456,079	542,800,152	402,615,601	109,256,016	9,376,335	0	0	232,500,359	263,608,152
NPRM - Alternative C	385,547,003	412,320,261	459,206,038	537,456,079	542,800,152	402,615,601	109,256,016	9,376,335	0	0	0	175,427,814

Attachment 1

Towers Watson
Illustration of Impact of Alternatives for CAS Harmonization

"Actual" Set 2 - Chart C3

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Asset Return	-2.00%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%
PPA Discount Rate	6.75%	6.50%	6.25%	5.75%	5.75%	5.50%	6.25%	6.50%	6.75%	6.75%	6.50%	6.25%
CAS Discount Rate	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%
CAS MAL Discount Rate	6.75%	6.50%	6.25%	5.75%	5.75%	5.50%	6.25%	6.50%	6.75%	6.75%	6.50%	6.25%



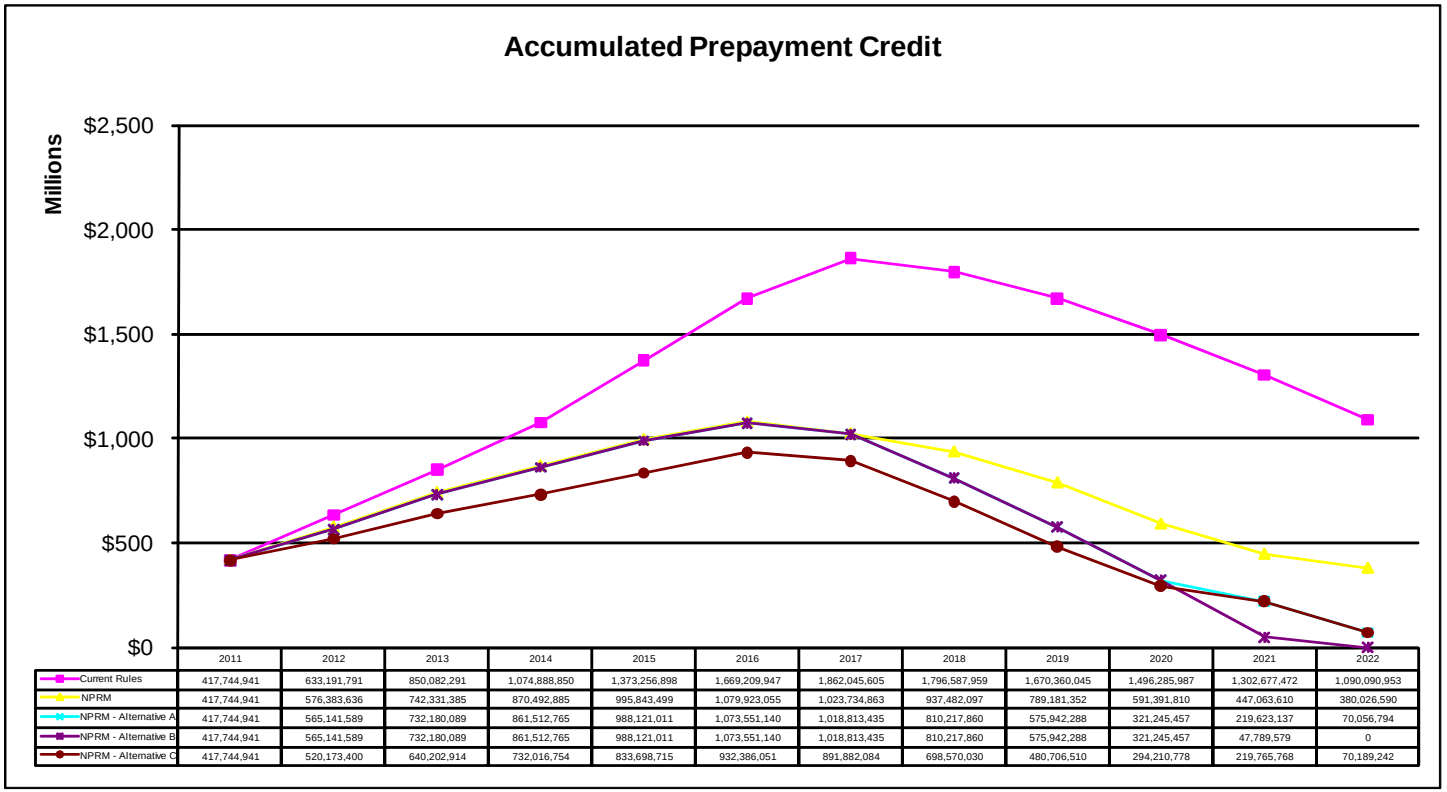
	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Current Rules	(176,799,017)	(162,602,106)	(154,278,840)	(209,281,827)	(184,529,760)	(62,583,117)	202,299,343	254,862,820	291,827,387	298,143,452	302,488,790	244,467,586
NPRM	(168,890,411)	(117,093,242)	(67,940,997)	(55,557,301)	(5,575,925)	137,096,231	161,278,721	213,567,361	250,519,439	183,940,372	98,039,218	159,233,666
NPRM - Alternative A	(157,570,540)	(118,978,542)	(69,824,949)	(57,439,906)	(7,457,184)	135,216,318	280,186,823	288,076,432	290,405,486	122,556,080	161,864,996	7,065,941
NPRM - Alternative B	(157,570,540)	(118,978,542)	(69,824,949)	(57,439,906)	(7,457,184)	135,216,318	280,186,823	288,076,432	290,405,486	290,070,897	50,328,400	(265,527)
NPRM - Alternative C	(112,291,055)	(76,438,894)	(39,973,996)	(42,608,202)	(31,671,780)	111,019,034	256,006,840	263,913,738	216,955,339	94,085,185	161,885,353	7,205,425

Attachment 1

Towers Watson
Illustration of Impact of Alternatives for CAS Harmonization

"Actual" Set 2 - Chart C4

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Asset Return	-2.00%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%
PPA Discount Rate	6.75%	6.50%	6.25%	5.75%	5.75%	5.50%	6.25%	6.50%	6.75%	6.75%	6.50%	6.25%
CAS Discount Rate	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%
CAS MAL Discount Rate	6.75%	6.50%	6.25%	5.75%	5.75%	5.50%	6.25%	6.50%	6.75%	6.75%	6.50%	6.25%



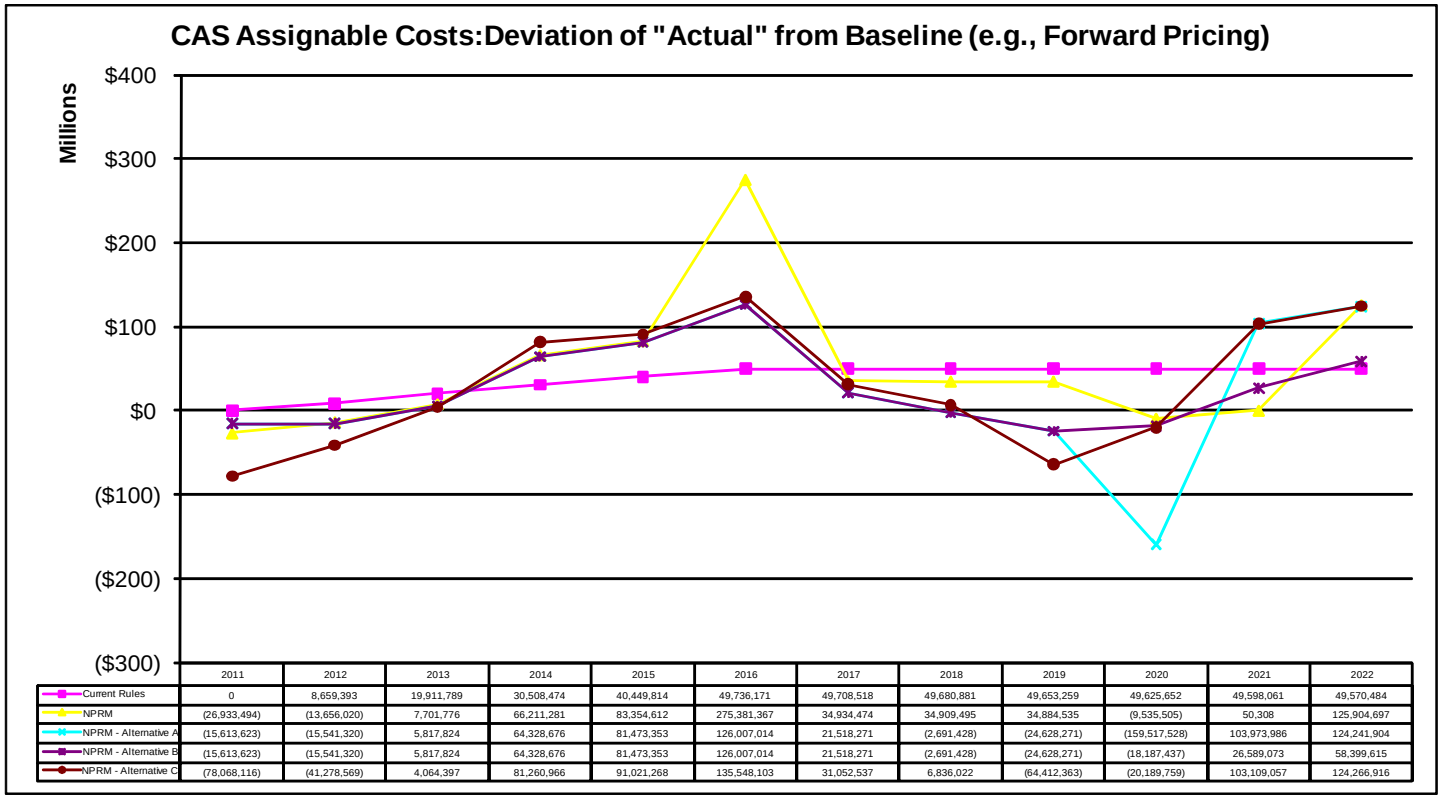
	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Current Rules	417,744,941	633,191,791	850,082,291	1,074,888,850	1,373,256,898	1,669,209,947	1,862,045,605	1,796,587,959	1,670,360,045	1,496,285,987	1,302,677,472	1,090,090,953
NPRM	417,744,941	576,383,636	742,331,385	870,492,885	995,843,499	1,079,923,055	1,023,734,863	937,482,097	789,181,352	591,391,810	447,063,610	380,026,590
NPRM - Alternative A	417,744,941	565,141,589	732,180,089	861,512,765	988,121,011	1,073,551,140	1,018,813,435	810,217,860	575,942,288	321,245,457	219,623,137	70,056,794
NPRM - Alternative B	417,744,941	565,141,589	732,180,089	861,512,765	988,121,011	1,073,551,140	1,018,813,435	810,217,860	575,942,288	321,245,457	47,789,579	0
NPRM - Alternative C	417,744,941	520,173,400	640,202,914	732,016,754	833,698,715	932,386,051	891,882,084	698,570,030	480,706,510	294,210,778	219,765,768	70,189,242

Attachment 1

Towers Watson
Illustration of Impact of Alternatives for CAS Harmonization

"Actual" Set 2 - Chart C5

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Asset Return	-2.00%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%
PPA Discount Rate	6.75%	6.50%	6.25%	5.75%	5.75%	5.50%	6.25%	6.50%	6.75%	6.75%	6.50%	6.25%
CAS Discount Rate	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%
CAS MAL Discount Rate	6.75%	6.50%	6.25%	5.75%	5.75%	5.50%	6.25%	6.50%	6.75%	6.75%	6.50%	6.25%



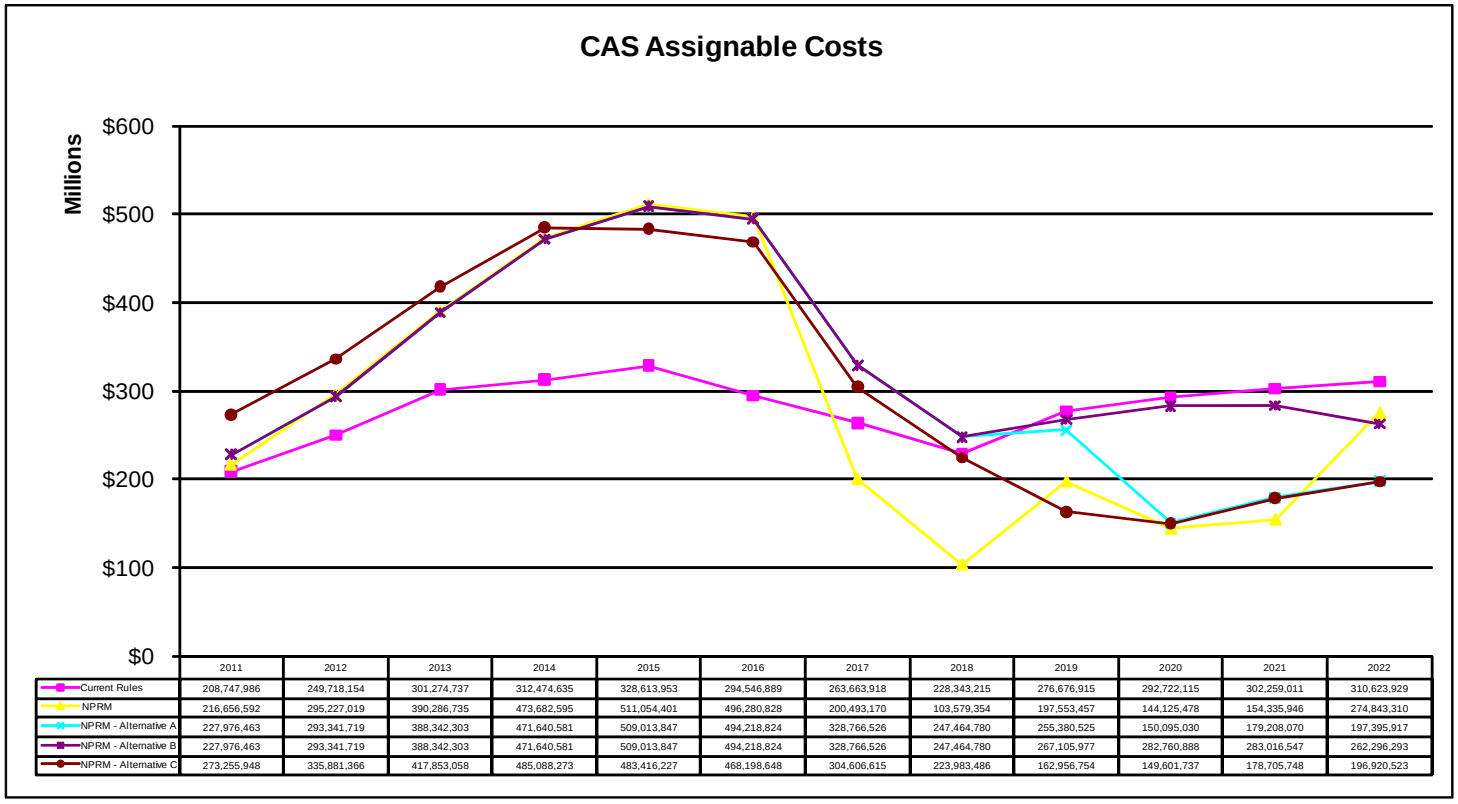
	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Current Rules	0	8,659,393	19,911,789	30,508,474	40,449,814	49,736,171	49,708,518	49,680,881	49,653,259	49,625,652	49,598,061	49,570,484
NPRM	(26,933,494)	(13,656,020)	7,701,776	66,211,281	83,354,612	275,381,367	34,934,474	34,909,495	34,884,535	(9,535,505)	50,308	125,904,697
NPRM - Alternative A	(15,613,623)	(15,541,320)	5,817,824	64,328,676	81,473,353	126,007,014	21,518,271	(2,691,428)	(24,628,271)	(159,517,528)	103,973,986	124,241,904
NPRM - Alternative B	(15,613,623)	(15,541,320)	5,817,824	64,328,676	81,473,353	126,007,014	21,518,271	(2,691,428)	(24,628,271)	(18,187,437)	26,589,073	58,399,615
NPRM - Alternative C	(78,068,116)	(41,278,569)	4,064,397	81,260,966	91,021,268	135,548,103	31,052,537	6,836,022	(64,412,363)	(20,189,759)	103,109,057	124,266,916

Attachment 1

Towers Watson
Illustration of Impact of Alternatives for CAS Harmonization

"Actual" Set 3 - Chart D1

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Asset Return	-2.00%	11.50%	14.50%	7.50%	9.50%	-1.50%	3.50%	7.50%	14.50%	9.50%	1.50%	7.50%
PPA Discount Rate	6.75%	6.50%	6.25%	5.75%	5.75%	5.50%	6.25%	6.50%	6.75%	6.75%	6.50%	6.25%
CAS Discount Rate	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%
CAS MAL Discount Rate	6.75%	6.50%	6.25%	5.75%	5.75%	5.50%	6.25%	6.50%	6.75%	6.75%	6.50%	6.25%



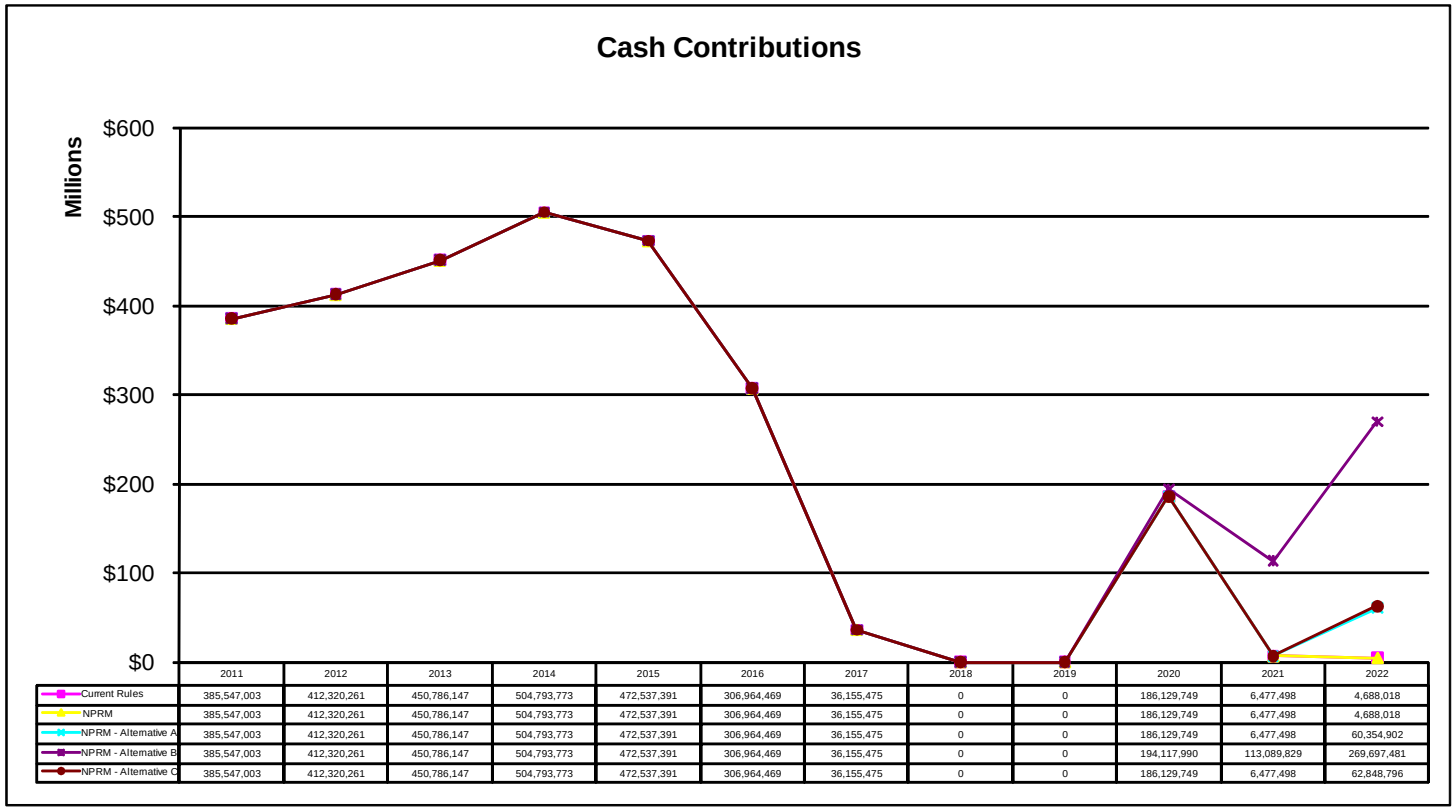
	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Current Rules	208,747,986	249,718,154	301,274,737	312,474,635	328,613,953	294,546,889	263,663,918	228,343,215	276,676,915	292,722,115	302,259,011	310,623,929
NPRM	216,656,592	295,227,019	390,286,735	473,682,595	511,054,401	496,280,828	200,493,170	103,579,354	197,553,457	144,125,478	154,335,946	274,843,310
NPRM - Alternative A	227,976,463	293,341,719	388,342,303	471,640,581	509,013,847	494,218,824	328,766,526	247,464,780	255,380,525	150,095,030	179,208,070	197,395,917
NPRM - Alternative B	227,976,463	293,341,719	388,342,303	471,640,581	509,013,847	494,218,824	328,766,526	247,464,780	267,105,977	282,760,888	283,016,547	262,296,293
NPRM - Alternative C	273,255,948	335,881,366	417,853,058	485,088,273	483,416,227	468,198,648	304,606,615	223,983,486	162,956,754	149,601,737	178,705,748	196,920,523

Attachment 1

Towers Watson
Illustration of Impact of Alternatives for CAS Harmonization

"Actual" Set 3 - Chart D2

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Asset Return	-2.00%	11.50%	14.50%	7.50%	9.50%	-1.50%	3.50%	7.50%	14.50%	9.50%	1.50%	7.50%
PPA Discount Rate	6.75%	6.50%	6.25%	5.75%	5.75%	5.50%	6.25%	6.50%	6.75%	6.75%	6.50%	6.25%
CAS Discount Rate	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%
CAS MAL Discount Rate	6.75%	6.50%	6.25%	5.75%	5.75%	5.50%	6.25%	6.50%	6.75%	6.75%	6.50%	6.25%



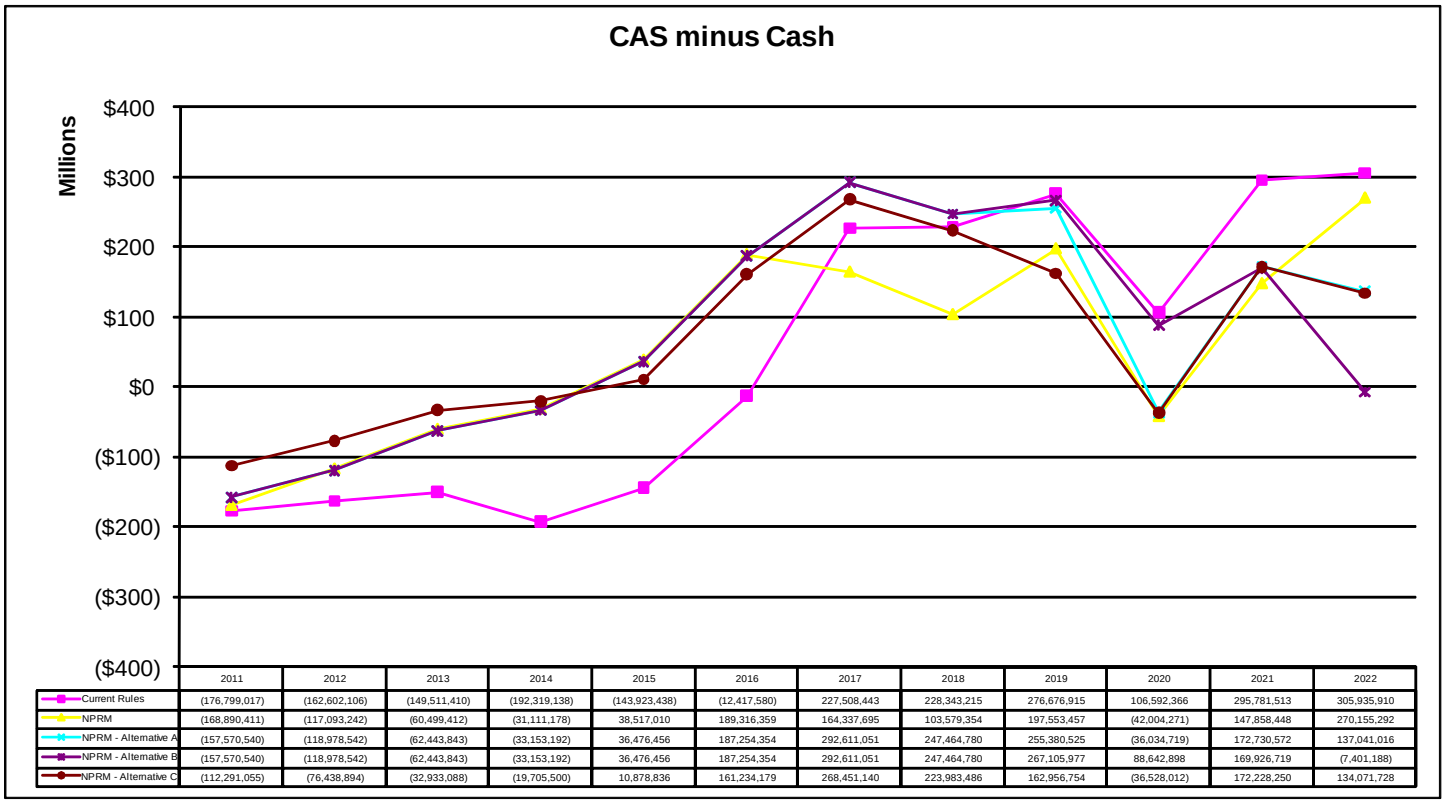
	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Current Rules	385,547,003	412,320,261	450,786,147	504,793,773	472,537,391	306,964,469	36,155,475	0	0	186,129,749	6,477,498	4,688,018
NPRM	385,547,003	412,320,261	450,786,147	504,793,773	472,537,391	306,964,469	36,155,475	0	0	186,129,749	6,477,498	4,688,018
NPRM - Alternative A	385,547,003	412,320,261	450,786,147	504,793,773	472,537,391	306,964,469	36,155,475	0	0	186,129,749	6,477,498	60,354,902
NPRM - Alternative B	385,547,003	412,320,261	450,786,147	504,793,773	472,537,391	306,964,469	36,155,475	0	0	194,117,990	113,089,829	269,697,481
NPRM - Alternative C	385,547,003	412,320,261	450,786,147	504,793,773	472,537,391	306,964,469	36,155,475	0	0	186,129,749	6,477,498	62,848,796

Attachment 1

Towers Watson
Illustration of Impact of Alternatives for CAS Harmonization

"Actual" Set 3 - Chart D3

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Asset Return	-2.00%	11.50%	14.50%	7.50%	9.50%	-1.50%	3.50%	7.50%	14.50%	9.50%	1.50%	7.50%
PPA Discount Rate	6.75%	6.50%	6.25%	5.75%	5.75%	5.50%	6.25%	6.50%	6.75%	6.75%	6.50%	6.25%
CAS Discount Rate	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%
CAS MAL Discount Rate	6.75%	6.50%	6.25%	5.75%	5.75%	5.50%	6.25%	6.50%	6.75%	6.75%	6.50%	6.25%



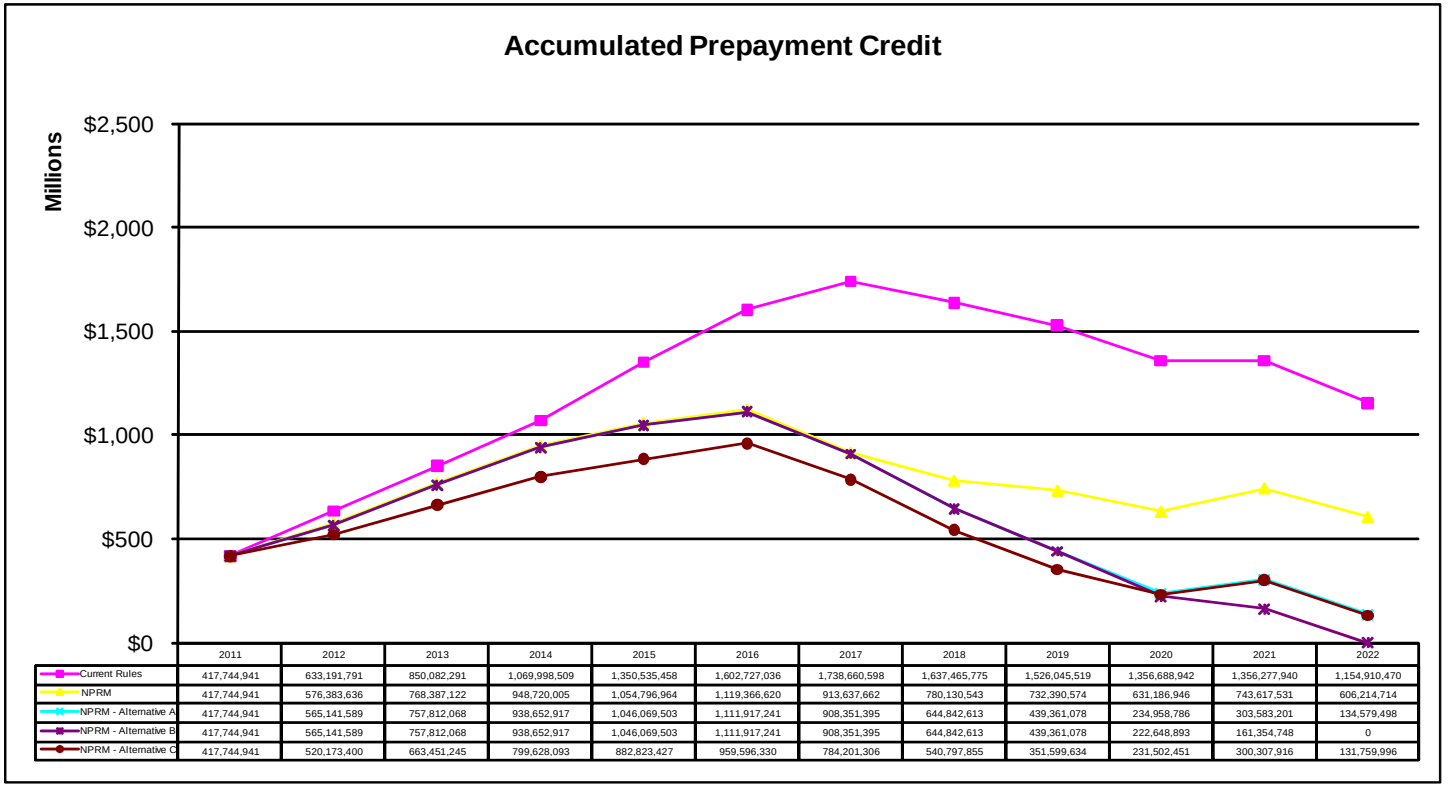
	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Current Rules	(176,799,017)	(162,602,106)	(149,511,410)	(192,319,138)	(143,923,438)	(12,417,580)	227,508,443	228,343,215	276,676,915	106,592,366	295,781,513	305,935,910
NPRM	(168,890,411)	(117,093,242)	(60,499,412)	(31,111,178)	38,517,010	189,316,359	164,337,695	103,579,354	197,553,457	(42,004,271)	147,858,448	270,155,292
NPRM - Alternative A	(157,570,540)	(118,978,542)	(62,443,843)	(33,153,192)	36,476,456	187,254,354	292,611,051	247,464,780	255,380,525	(36,034,719)	172,730,572	137,041,016
NPRM - Alternative B	(157,570,540)	(118,978,542)	(62,443,843)	(33,153,192)	36,476,456	187,254,354	292,611,051	247,464,780	267,105,977	88,642,898	169,926,719	(7,401,188)
NPRM - Alternative C	(112,291,055)	(76,438,894)	(32,933,088)	(19,705,500)	10,878,836	161,234,179	268,451,140	223,983,486	162,956,754	(36,528,012)	172,228,250	134,071,728

Attachment 1

Towers Watson
Illustration of Impact of Alternatives for CAS Harmonization

"Actual" Set 3 - Chart D4

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Asset Return	-2.00%	11.50%	14.50%	7.50%	9.50%	-1.50%	3.50%	7.50%	14.50%	9.50%	1.50%	7.50%
PPA Discount Rate	6.75%	6.50%	6.25%	5.75%	5.75%	5.50%	6.25%	6.50%	6.75%	6.75%	6.50%	6.25%
CAS Discount Rate	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%
CAS MAL Discount Rate	6.75%	6.50%	6.25%	5.75%	5.75%	5.50%	6.25%	6.50%	6.75%	6.75%	6.50%	6.25%



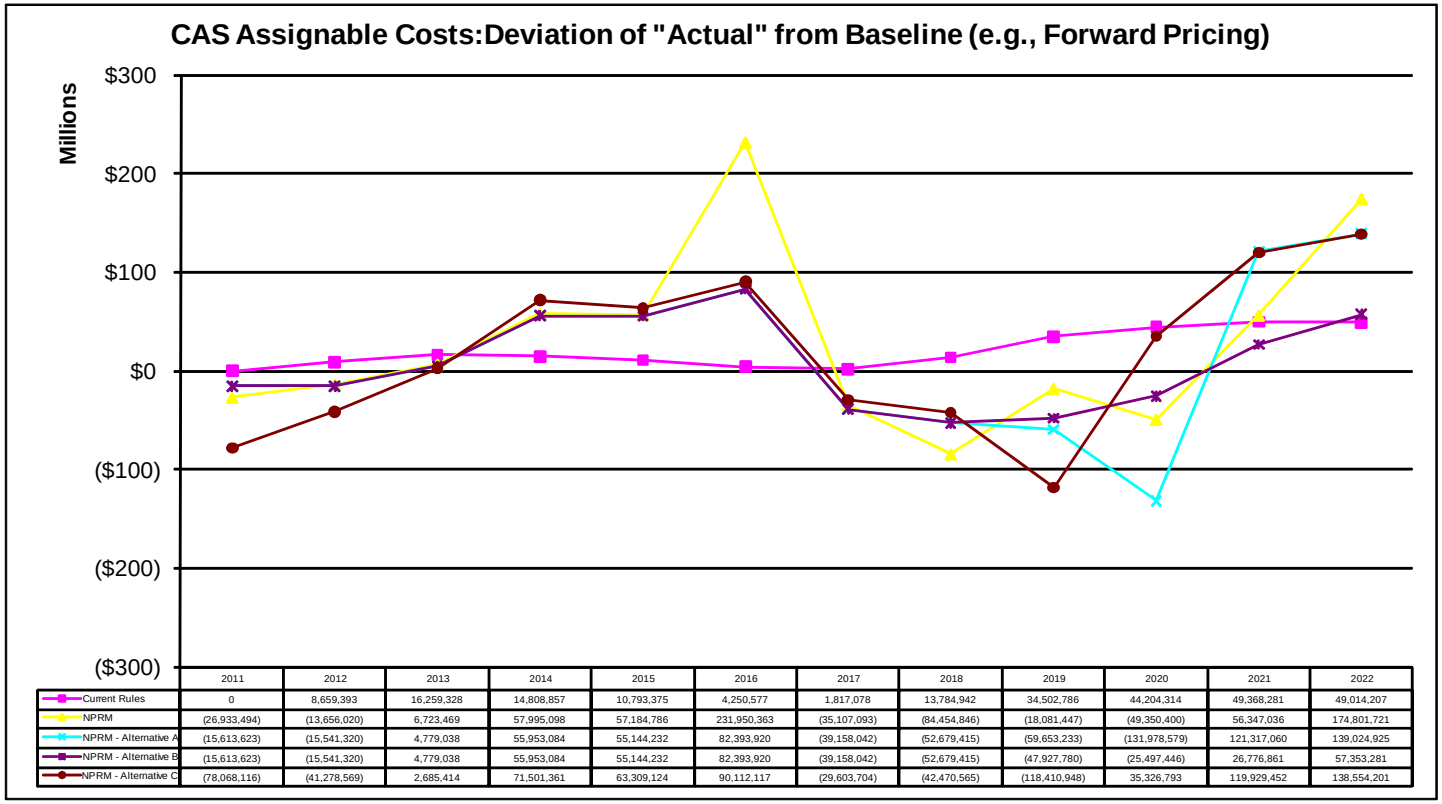
	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Current Rules	417,744,941	633,191,791	850,082,291	1,069,998,509	1,350,535,458	1,602,727,036	1,738,660,598	1,637,465,775	1,526,045,519	1,356,688,942	1,356,277,940	1,154,910,470
NPRM	417,744,941	576,383,636	768,387,122	948,720,005	1,054,796,964	1,119,366,620	913,637,662	780,130,543	732,390,574	631,186,946	743,617,531	606,214,714
NPRM - Alternative A	417,744,941	565,141,589	757,812,068	938,652,917	1,046,069,503	1,111,917,241	908,351,395	644,842,613	439,361,078	234,958,786	303,583,201	134,579,498
NPRM - Alternative B	417,744,941	565,141,589	757,812,068	938,652,917	1,046,069,503	1,111,917,241	908,351,395	644,842,613	439,361,078	222,648,893	161,354,748	0
NPRM - Alternative C	417,744,941	520,173,400	663,451,245	799,628,093	882,823,427	959,596,330	784,201,306	540,797,855	351,599,634	231,502,451	300,307,916	131,759,996

Attachment 1

Towers Watson
Illustration of Impact of Alternatives for CAS Harmonization

"Actual" Set 3 - Chart D5

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Asset Return	-2.00%	11.50%	14.50%	7.50%	9.50%	-1.50%	3.50%	7.50%	14.50%	9.50%	1.50%	7.50%
PPA Discount Rate	6.75%	6.50%	6.25%	5.75%	5.75%	5.50%	6.25%	6.50%	6.75%	6.75%	6.50%	6.25%
CAS Discount Rate	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%
CAS MAL Discount Rate	6.75%	6.50%	6.25%	5.75%	5.75%	5.50%	6.25%	6.50%	6.75%	6.75%	6.50%	6.25%



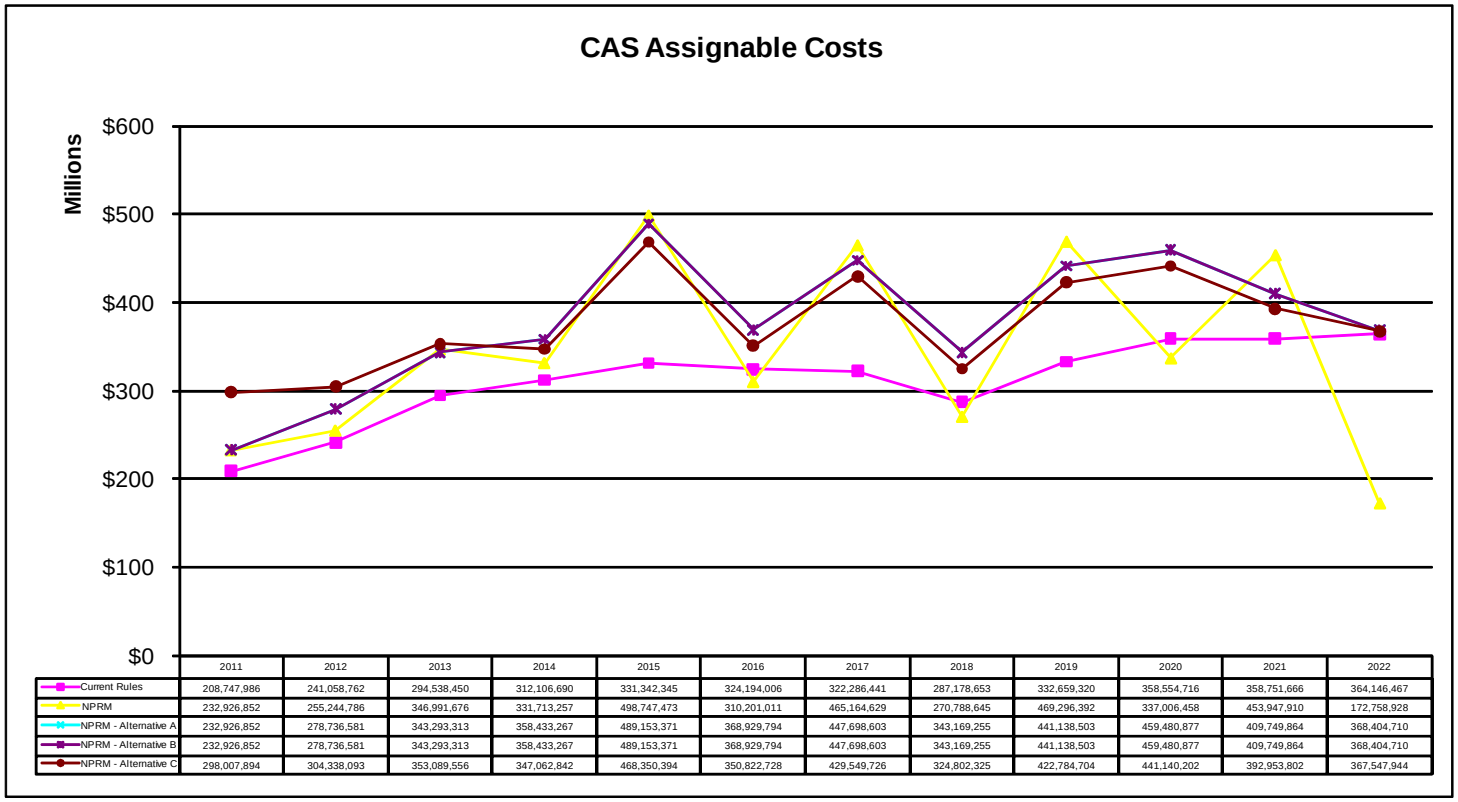
	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Current Rules	0	8,659,393	16,259,328	14,808,857	10,793,375	4,250,577	1,817,078	13,784,942	34,502,786	44,204,314	49,368,281	49,014,207
NPRM	(26,933,494)	(13,656,020)	6,723,469	57,995,098	57,184,786	231,950,363	(35,107,093)	(84,454,846)	(18,081,447)	(49,350,400)	56,347,036	174,801,721
NPRM - Alternative A	(15,613,623)	(15,541,320)	4,779,038	55,953,084	55,144,232	82,393,920	(39,158,042)	(52,679,415)	(59,653,233)	(131,978,579)	121,317,060	139,024,925
NPRM - Alternative B	(15,613,623)	(15,541,320)	4,779,038	55,953,084	55,144,232	82,393,920	(39,158,042)	(52,679,415)	(47,927,780)	(25,497,446)	26,776,861	57,353,281
NPRM - Alternative C	(78,068,116)	(41,278,569)	2,685,414	71,501,361	63,309,124	90,112,117	(29,603,704)	(42,470,565)	(118,410,948)	35,326,793	119,929,452	138,554,201

Attachment 1

Towers Watson
Illustration of Impact of Alternatives for CAS Harmonization

"Actual" Set 4 - Chart E1

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Asset Return	7.50%	-2.00%	15.00%	10.00%	-10.00%	8.00%	10.00%	7.50%	7.50%	7.50%	7.50%	7.50%
PPA Discount Rate	6.50%	6.75%	6.75%	7.00%	6.00%	6.75%	6.00%	6.50%	6.00%	6.00%	6.00%	6.00%
CAS Discount Rate	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%
CAS MAL Discount Rate	6.50%	6.75%	6.75%	7.00%	6.00%	6.75%	6.00%	6.50%	6.00%	6.00%	6.00%	6.00%



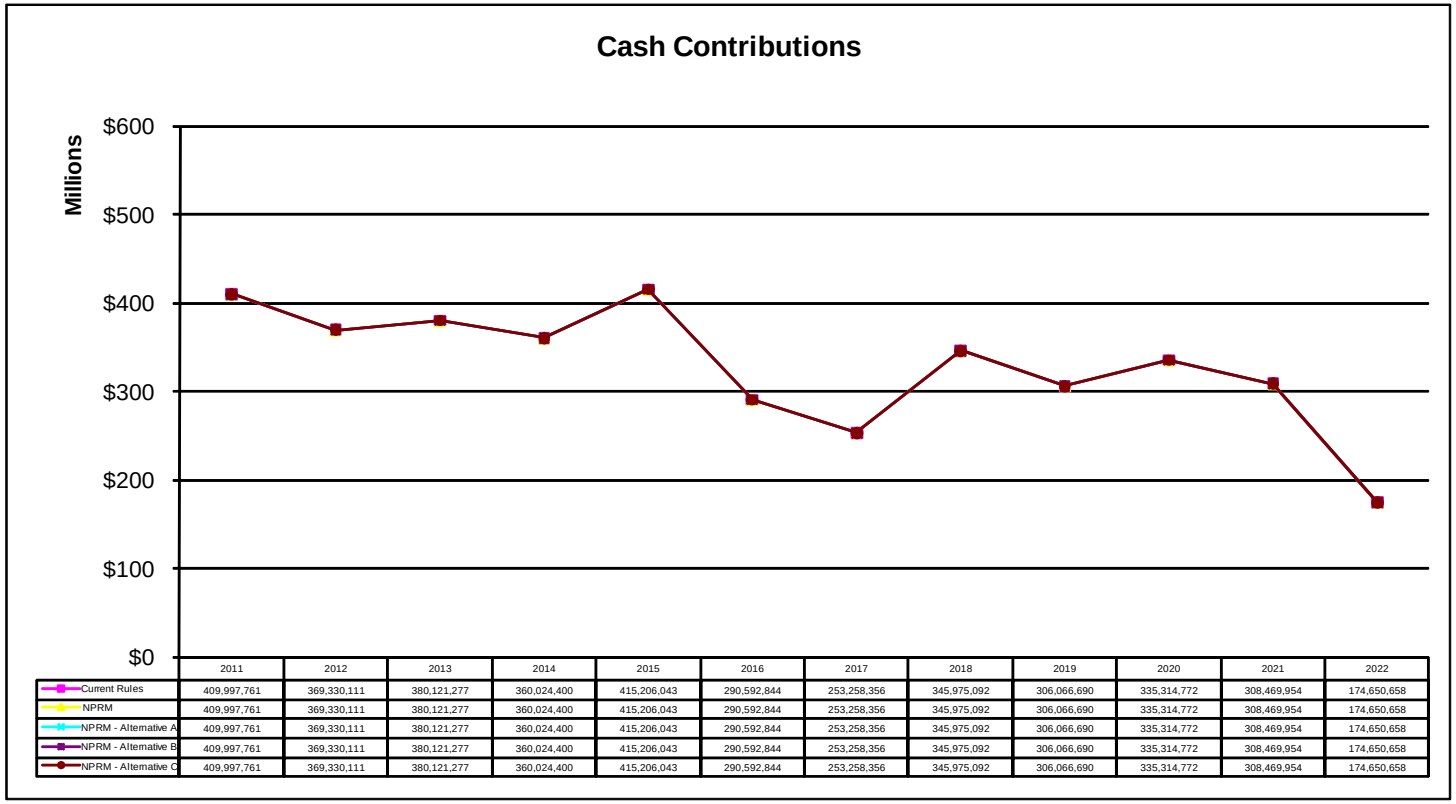
	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Current Rules	208,747,986	241,058,762	294,538,450	312,106,690	331,342,345	324,194,006	322,286,441	287,178,653	332,659,320	358,554,716	358,751,666	364,146,467
NPRM	232,926,852	255,244,786	346,991,676	331,713,257	498,747,473	310,201,011	465,164,629	270,788,645	469,296,392	337,006,458	453,947,910	172,758,928
NPRM - Alternative A	232,926,852	278,736,581	343,293,313	358,433,267	489,153,371	368,929,794	447,698,603	343,169,255	441,138,503	459,480,877	409,749,864	368,404,710
NPRM - Alternative B	232,926,852	278,736,581	343,293,313	358,433,267	489,153,371	368,929,794	447,698,603	343,169,255	441,138,503	459,480,877	409,749,864	368,404,710
NPRM - Alternative C	298,007,894	304,338,093	353,089,556	347,062,842	468,350,394	350,822,728	429,549,726	324,802,325	422,784,704	441,140,202	392,953,802	367,547,944

Attachment 1

Towers Watson
Illustration of Impact of Alternatives for CAS Harmonization

"Actual" Set 4 - Chart E2

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Asset Return	7.50%	-2.00%	15.00%	10.00%	-10.00%	8.00%	10.00%	7.50%	7.50%	7.50%	7.50%	7.50%
PPA Discount Rate	6.50%	6.75%	6.75%	7.00%	6.00%	6.75%	6.00%	6.50%	6.00%	6.00%	6.00%	6.00%
CAS Discount Rate	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%
CAS MAL Discount Rate	6.50%	6.75%	6.75%	7.00%	6.00%	6.75%	6.00%	6.50%	6.00%	6.00%	6.00%	6.00%



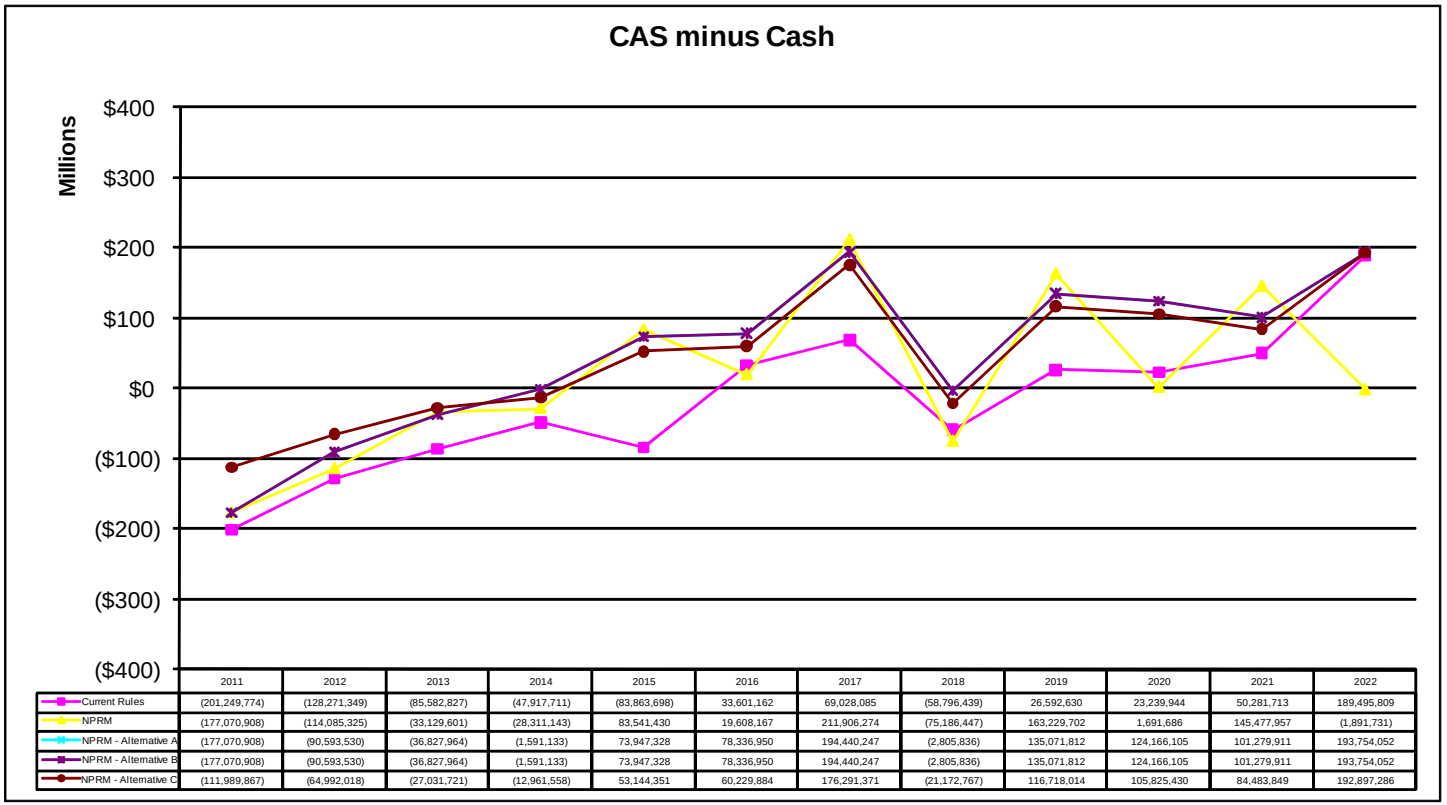
	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Current Rules	409,997,761	369,330,111	380,121,277	360,024,400	415,206,043	290,592,844	253,258,356	345,975,092	306,066,690	335,314,772	308,469,954	174,650,658
NPRM	409,997,761	369,330,111	380,121,277	360,024,400	415,206,043	290,592,844	253,258,356	345,975,092	306,066,690	335,314,772	308,469,954	174,650,658
NPRM - Alternative A	409,997,761	369,330,111	380,121,277	360,024,400	415,206,043	290,592,844	253,258,356	345,975,092	306,066,690	335,314,772	308,469,954	174,650,658
NPRM - Alternative B	409,997,761	369,330,111	380,121,277	360,024,400	415,206,043	290,592,844	253,258,356	345,975,092	306,066,690	335,314,772	308,469,954	174,650,658
NPRM - Alternative C	409,997,761	369,330,111	380,121,277	360,024,400	415,206,043	290,592,844	253,258,356	345,975,092	306,066,690	335,314,772	308,469,954	174,650,658

Attachment 1

Towers Watson
Illustration of Impact of Alternatives for CAS Harmonization

"Actual" Set 4 - Chart E3

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Asset Return	7.50%	-2.00%	15.00%	10.00%	-10.00%	8.00%	10.00%	7.50%	7.50%	7.50%	7.50%	7.50%
PPA Discount Rate	6.50%	6.75%	6.75%	7.00%	6.00%	6.75%	6.00%	6.50%	6.00%	6.00%	6.00%	6.00%
CAS Discount Rate	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%
CAS MAL Discount Rate	6.50%	6.75%	6.75%	7.00%	6.00%	6.75%	6.00%	6.50%	6.00%	6.00%	6.00%	6.00%



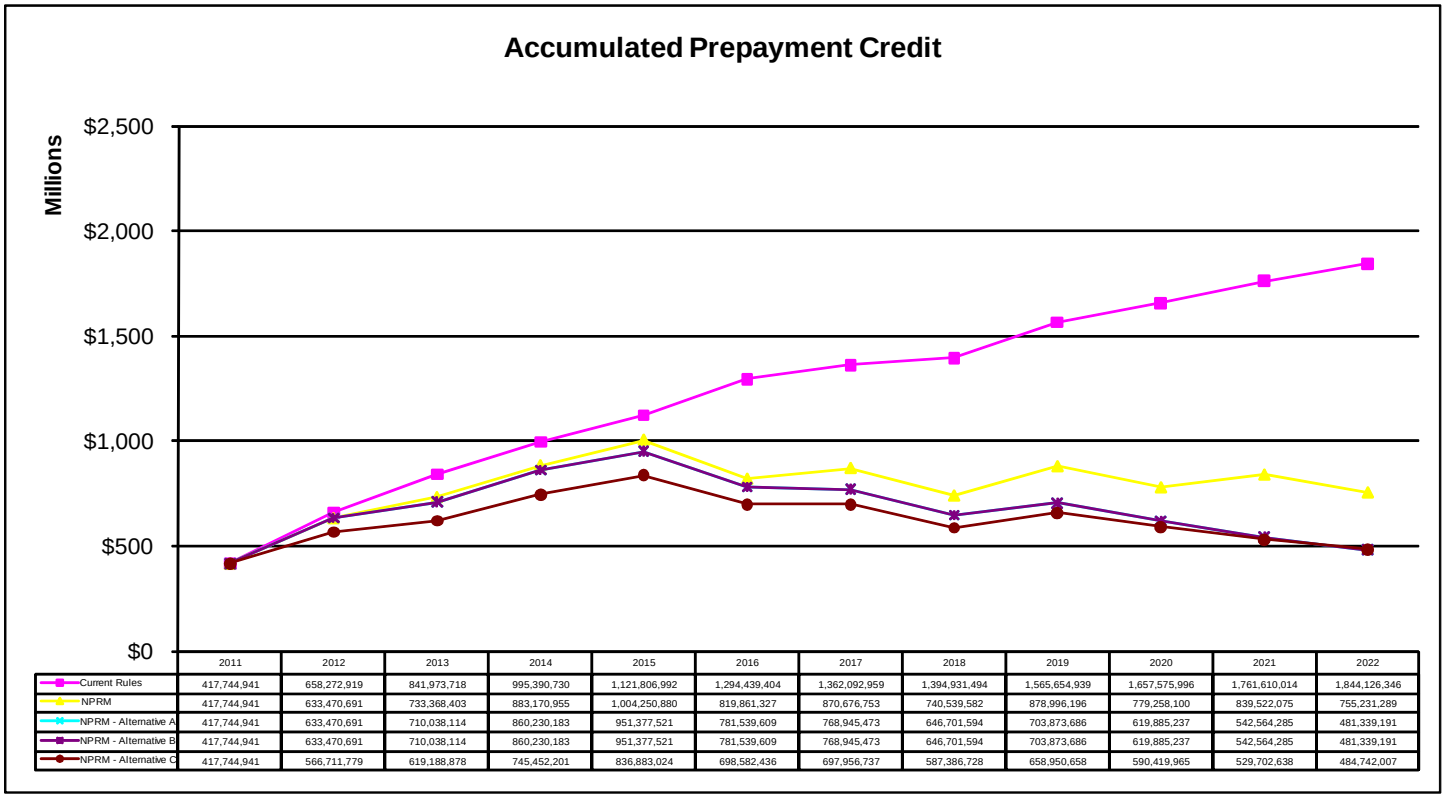
	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Current Rules	(201,249,774)	(128,271,349)	(85,582,827)	(47,917,711)	(83,863,698)	33,601,162	69,028,085	(58,796,439)	26,592,630	23,239,944	50,281,713	189,495,809
NPRM	(177,070,908)	(114,085,325)	(33,129,601)	(28,311,143)	83,541,430	19,608,167	211,906,274	(75,186,447)	163,229,702	1,691,686	145,477,957	(1,891,731)
NPRM - Alternative A	(177,070,908)	(90,593,530)	(36,827,964)	(1,591,133)	73,947,328	78,336,950	194,440,247	(2,805,836)	135,071,812	124,166,105	101,279,911	193,754,052
NPRM - Alternative B	(177,070,908)	(90,593,530)	(36,827,964)	(1,591,133)	73,947,328	78,336,950	194,440,247	(2,805,836)	135,071,812	124,166,105	101,279,911	193,754,052
NPRM - Alternative C	(111,989,867)	(64,992,018)	(27,031,721)	(12,961,558)	53,144,351	60,229,884	176,291,371	(21,172,767)	116,718,014	105,825,430	84,483,849	192,897,286

Attachment 1

Towers Watson
Illustration of Impact of Alternatives for CAS Harmonization

"Actual" Set 4 - Chart E4

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Asset Return	7.50%	-2.00%	15.00%	10.00%	-10.00%	8.00%	10.00%	7.50%	7.50%	7.50%	7.50%	7.50%
PPA Discount Rate	6.50%	6.75%	6.75%	7.00%	6.00%	6.75%	6.00%	6.50%	6.00%	6.00%	6.00%	6.00%
CAS Discount Rate	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%
CAS MAL Discount Rate	6.50%	6.75%	6.75%	7.00%	6.00%	6.75%	6.00%	6.50%	6.00%	6.00%	6.00%	6.00%



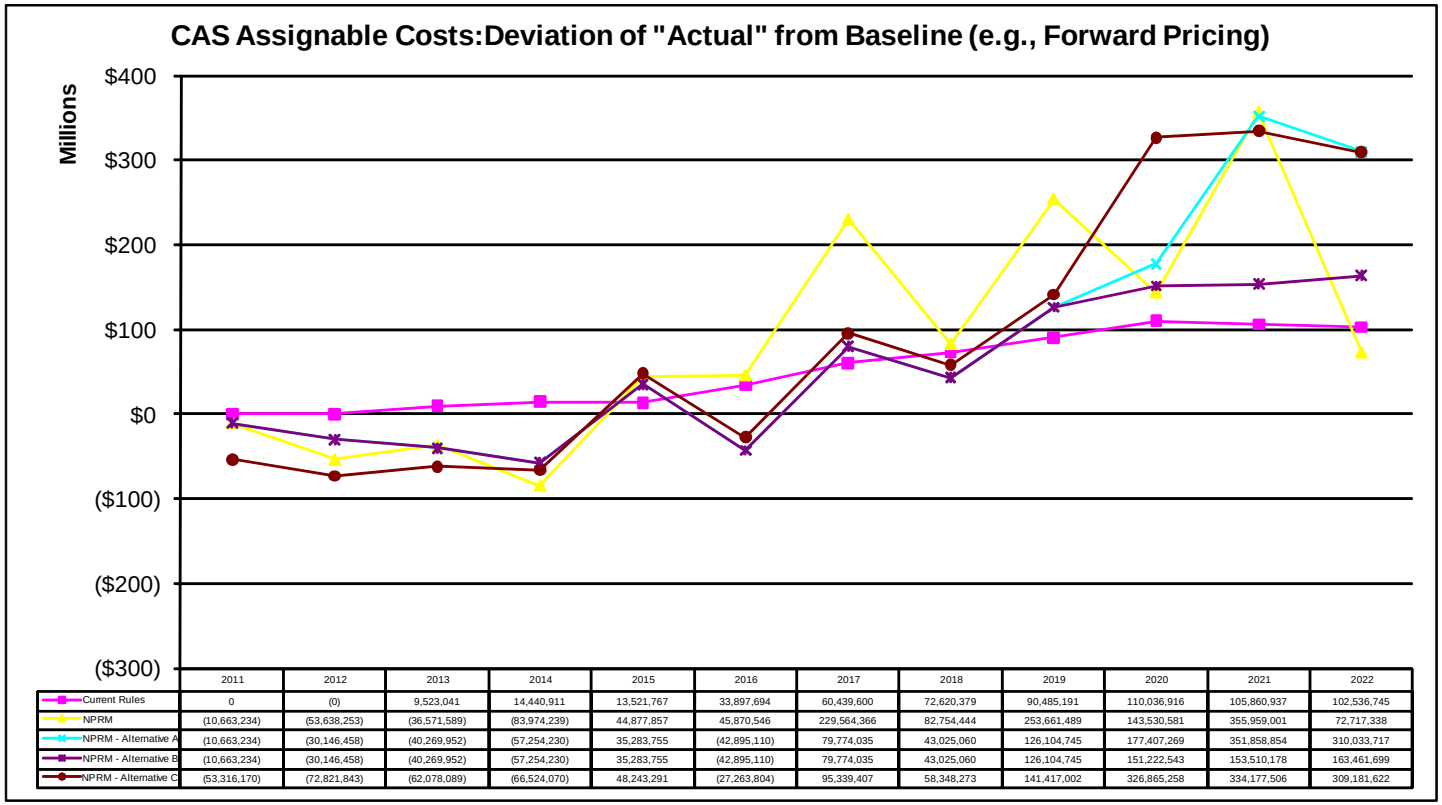
	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Current Rules	417,744,941	658,272,919	841,973,718	995,390,730	1,121,806,992	1,294,439,404	1,362,092,959	1,394,931,494	1,565,654,939	1,657,575,996	1,761,610,014	1,844,126,346
NPRM	417,744,941	633,470,691	733,368,403	883,170,955	1,004,250,880	819,861,327	870,676,753	740,539,582	878,996,196	779,258,100	839,522,075	755,231,289
NPRM - Alternative A	417,744,941	633,470,691	710,038,114	860,230,183	951,377,521	781,539,609	768,945,473	646,701,594	703,873,686	619,885,237	542,564,285	481,339,191
NPRM - Alternative B	417,744,941	633,470,691	710,038,114	860,230,183	951,377,521	781,539,609	768,945,473	646,701,594	703,873,686	619,885,237	542,564,285	481,339,191
NPRM - Alternative C	417,744,941	566,711,779	619,188,878	745,452,201	836,883,024	698,582,436	697,956,737	587,386,728	658,950,658	590,419,965	529,702,638	484,742,007

Attachment 1

Towers Watson
Illustration of Impact of Alternatives for CAS Harmonization

"Actual" Set 4 - Chart E5

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Asset Return	7.50%	-2.00%	15.00%	10.00%	-10.00%	8.00%	10.00%	7.50%	7.50%	7.50%	7.50%	7.50%
PPA Discount Rate	6.50%	6.75%	6.75%	7.00%	6.00%	6.75%	6.00%	6.50%	6.00%	6.00%	6.00%	6.00%
CAS Discount Rate	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%
CAS MAL Discount Rate	6.50%	6.75%	6.75%	7.00%	6.00%	6.75%	6.00%	6.50%	6.00%	6.00%	6.00%	6.00%

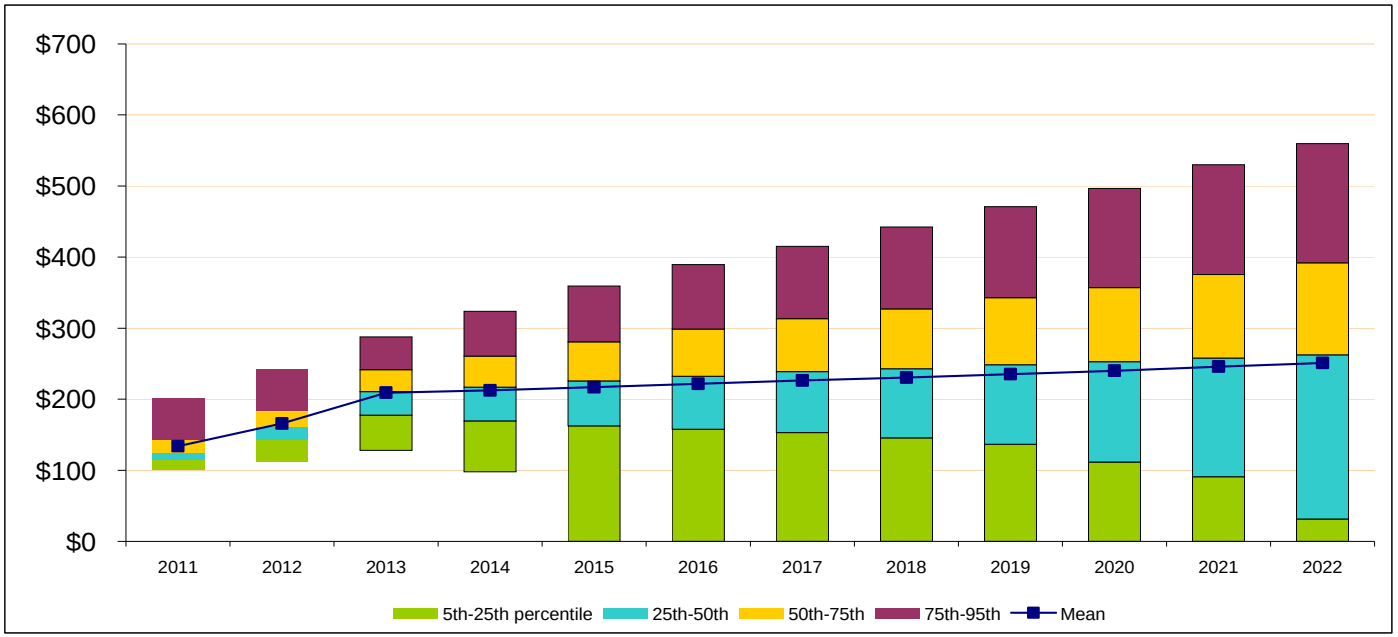


	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Current Rules	0	(0)	9,523,041	14,440,911	13,521,767	33,897,694	60,439,600	72,620,379	90,485,191	110,036,916	105,860,937	102,536,745
NPRM	(10,663,234)	(53,638,253)	(36,571,589)	(83,974,239)	44,877,857	45,870,546	229,564,366	82,754,444	253,661,489	143,530,581	355,959,001	72,717,338
NPRM - Alternative A	(10,663,234)	(30,146,458)	(40,269,952)	(57,254,230)	35,283,755	(42,895,110)	79,774,035	43,025,060	126,104,745	177,407,269	351,858,854	310,033,717
NPRM - Alternative B	(10,663,234)	(30,146,458)	(40,269,952)	(57,254,230)	35,283,755	(42,895,110)	79,774,035	43,025,060	126,104,745	151,222,543	153,510,178	163,461,699
NPRM - Alternative C	(53,316,170)	(72,821,843)	(62,078,089)	(66,524,070)	48,243,291	(27,263,804)	95,339,407	58,348,273	141,417,002	326,865,258	334,177,506	309,181,622

Attachment 1

Towers Watson
CAS Harmonization NPRM Analysis
CAS Assignable Cost -- Current Rules ($M)

Chart F1

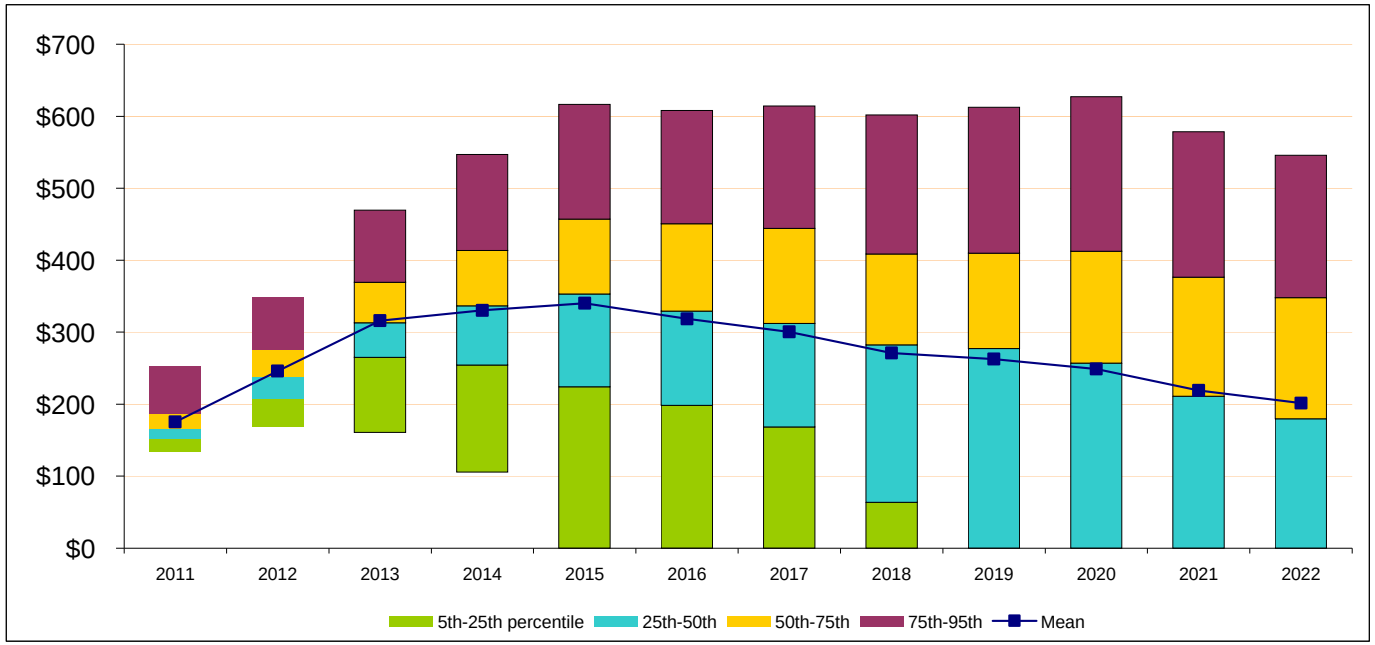


Percentile	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Mean	$134	$166	$209	$213	$217	$222	$227	$231	$235	$240	$246	$251
5th	$101	$112	$128	$98	$0	$0	$0	$0	$0	$0	$0	$0
25th	$115	$143	$178	$170	$163	$158	$153	$146	$137	$112	$91	$32
50th	$125	$162	$211	$217	$226	$233	$239	$243	$249	$253	$258	$263
75th	$143	$183	$241	$261	$281	$299	$314	$327	$343	$357	$376	$392
95th	$202	$241	$288	$324	$359	$390	$415	$442	$471	$497	$530	$560

Attachment 1

Towers Watson
CAS Harmonization NPRM Analysis
CAS Assignable Cost -- NPRM ($M)

Chart F2

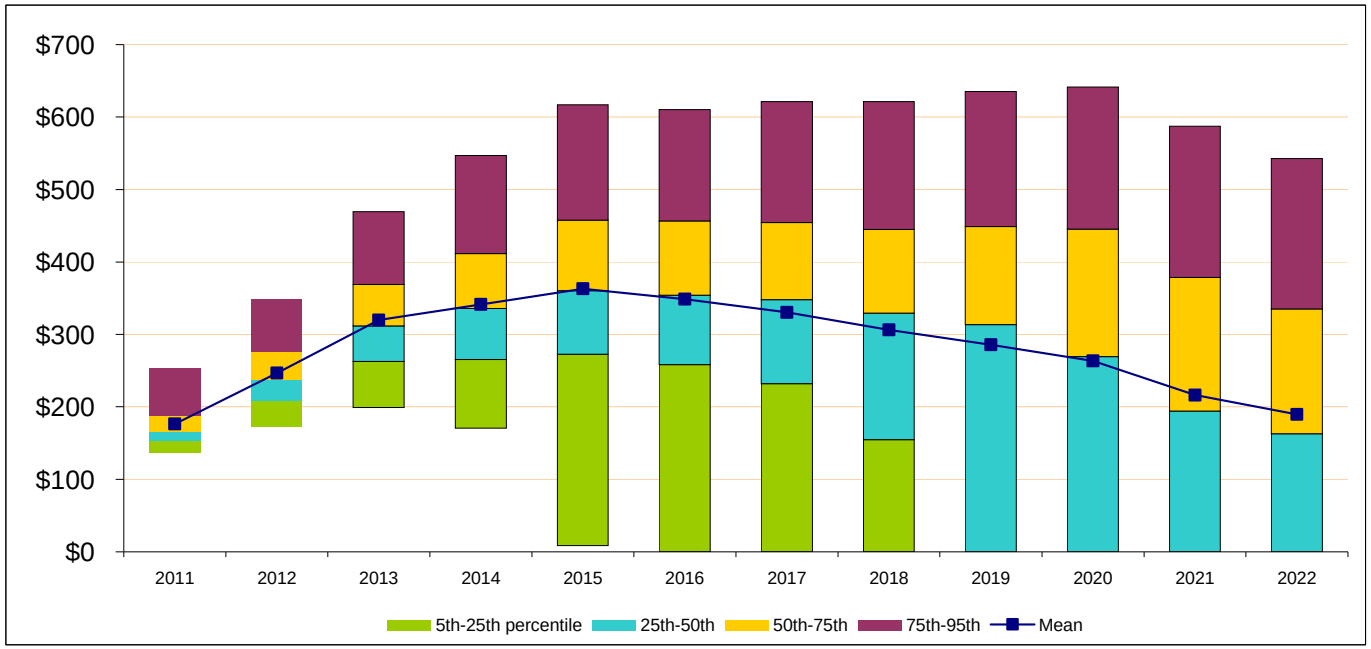


Percentile	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Mean	$175	$246	$316	$330	$340	$319	$300	$271	$263	$249	$219	$201
5th	$134	$169	$161	$106	$0	$0	$0	$0	$0	$0	$0	$0
25th	$152	$207	$265	$254	$224	$199	$168	$64	$0	$0	$0	$0
50th	$166	$239	$313	$337	$353	$329	$312	$282	$277	$257	$211	$180
75th	$186	$276	$369	$414	$457	$451	$444	$409	$410	$412	$376	$348
95th	$253	$349	$470	$547	$616	$608	$614	$602	$612	$627	$578	$546

Attachment 1

Towers Watson
CAS Harmonization NPRM Analysis
CAS Assignable Cost -- Alternative B ($M)

Chart F3

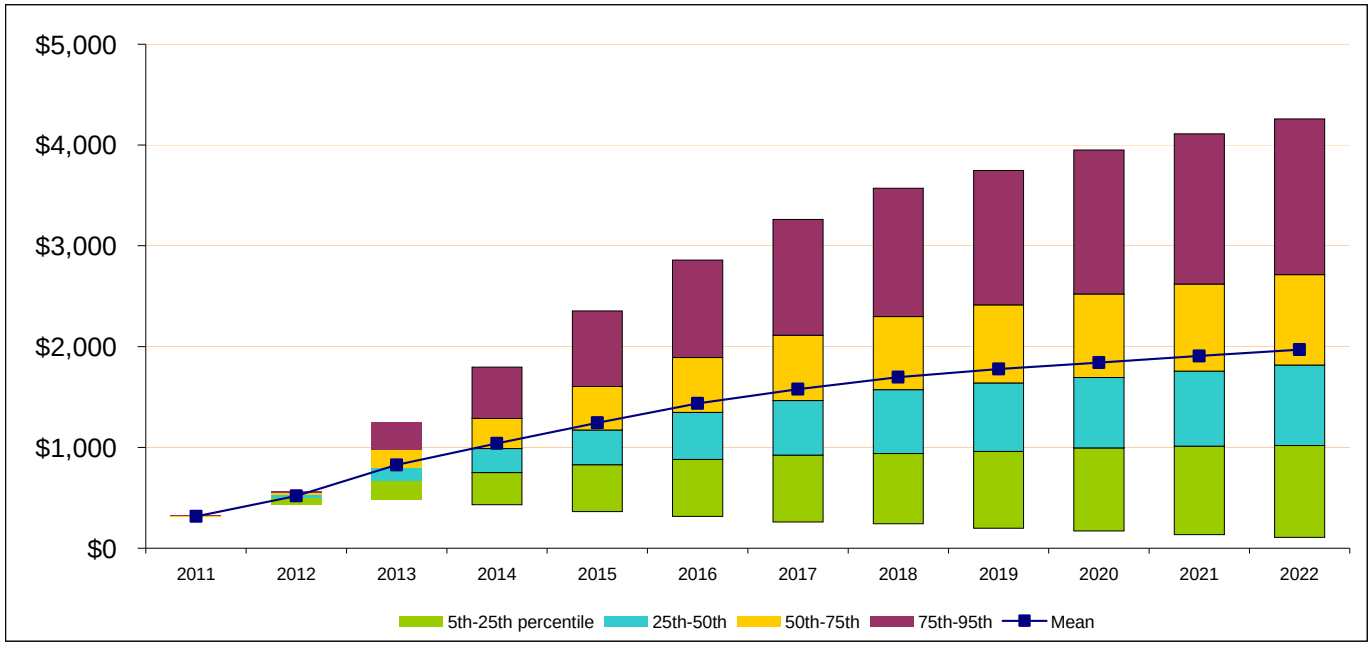


Percentile	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Mean	$176	$247	$320	$341	$363	$349	$330	$306	$286	$264	$216	$190
5th	$137	$172	$199	$170	$9	$0	$0	$0	$0	$0	$0	$0
25th	$153	$208	$263	$265	$273	$258	$232	$155	$0	$0	$0	$0
50th	$166	$238	$312	$336	$361	$354	$348	$329	$314	$269	$194	$163
75th	$187	$276	$369	$412	$458	$457	$454	$445	$449	$445	$379	$335
95th	$254	$349	$470	$547	$617	$610	$621	$621	$635	$642	$587	$543

Attachment 1

Towers Watson
CAS Harmonization NPRM Analysis
Prepayment Credit (BOY) -- Current Rules ($M)

Chart F4

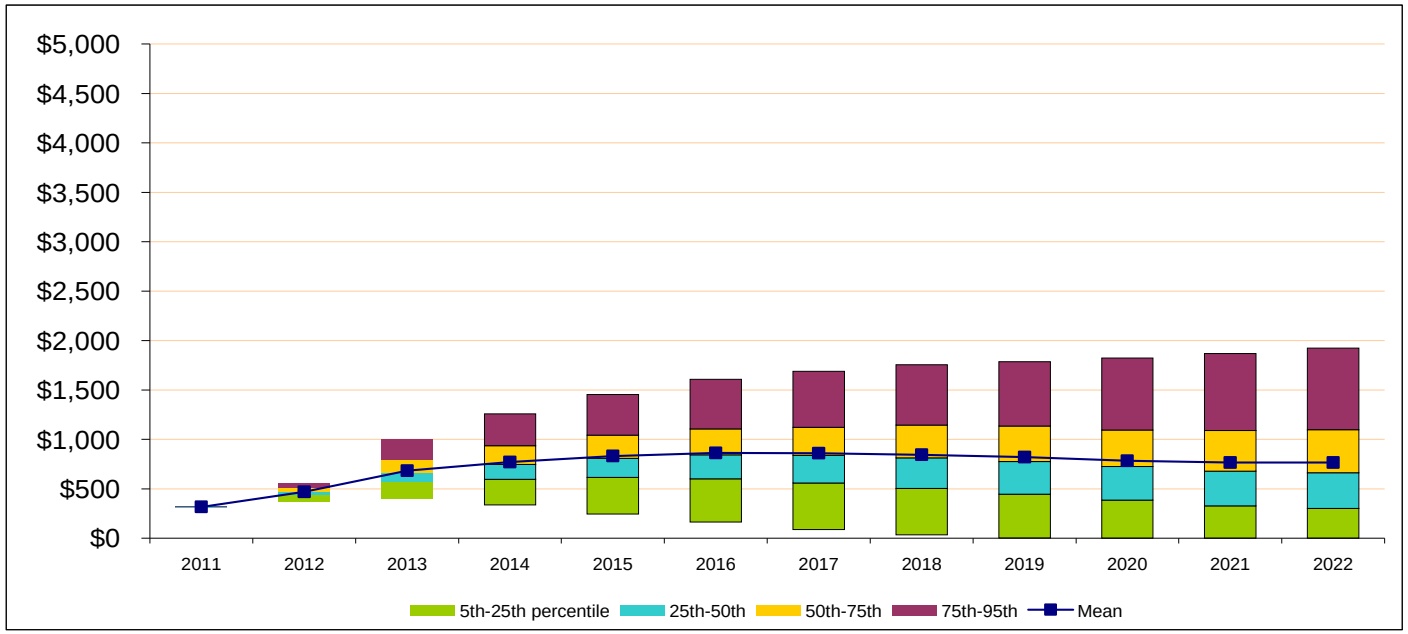


Percentile	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Mean	$316	$519	$827	$1,038	$1,244	$1,437	$1,579	$1,696	$1,778	$1,841	$1,908	$1,970
5th	$311	$435	$482	$432	$364	$315	$262	$243	$197	$172	$135	$109
25th	$313	$498	$663	$751	$828	$882	$924	$939	$959	$994	$1,012	$1,018
50th	$316	$536	$799	$989	$1,172	$1,347	$1,464	$1,573	$1,638	$1,694	$1,758	$1,817
75th	$318	$548	$973	$1,287	$1,604	$1,892	$2,112	$2,300	$2,415	$2,523	$2,620	$2,715
95th	$322	$560	$1,246	$1,797	$2,354	$2,858	$3,261	$3,572	$3,749	$3,951	$4,110	$4,258

Attachment 1

Towers Watson
CAS Harmonization NPRM Analysis
Prepayment Credit (BOY) -- NPRM ($M)

Chart F5

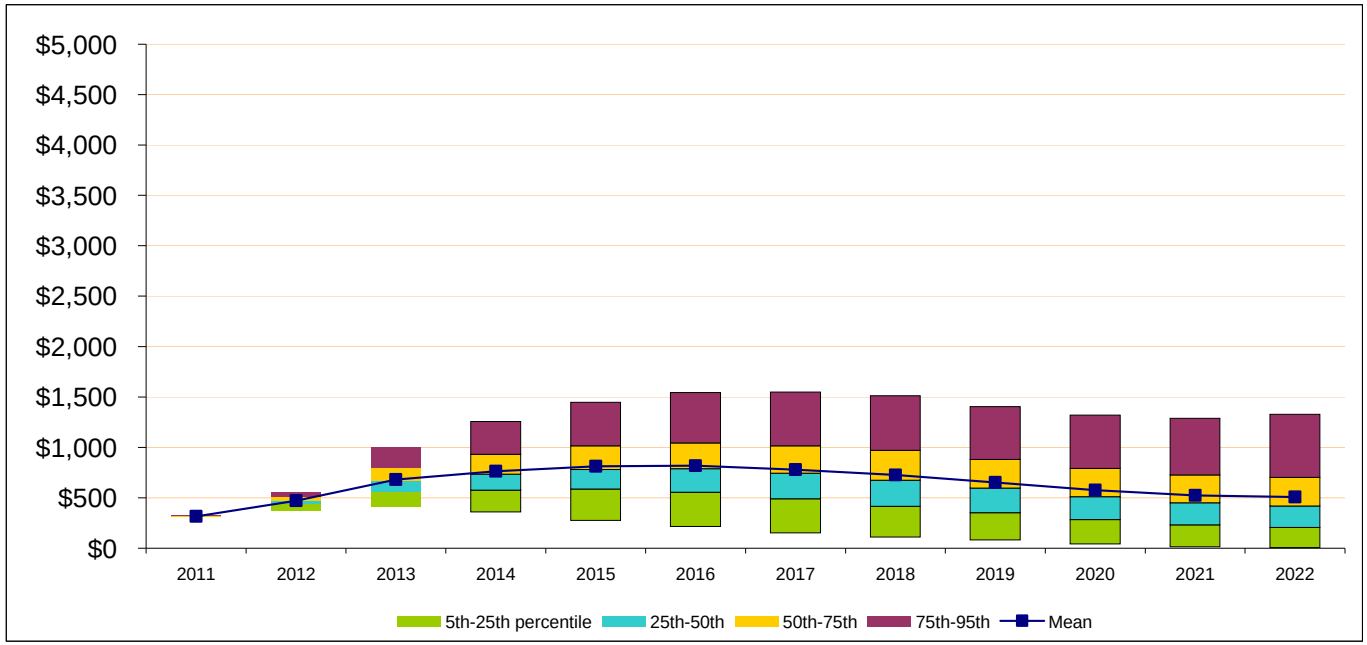


Percentile	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Mean	$316	$471	$683	$770	$831	$863	$860	$845	$820	$785	$764	$765
5th	$311	$370	$401	$339	$246	$163	$88	$34	$2	$0	$0	$0
25th	$313	$439	$567	$596	$615	$601	$560	$504	$447	$384	$328	$301
50th	$316	$474	$668	$747	$806	$844	$839	$813	$775	$726	$678	$662
75th	$318	$507	$794	$936	$1,042	$1,106	$1,122	$1,144	$1,135	$1,094	$1,089	$1,098
95th	$322	$556	$999	$1,258	$1,455	$1,607	$1,688	$1,755	$1,788	$1,823	$1,869	$1,923

Attachment 1

Towers Watson
CAS Harmonization NPRM Analysis
Prepayment Credit (BOY) -- Alternative B ($M)

Chart F6

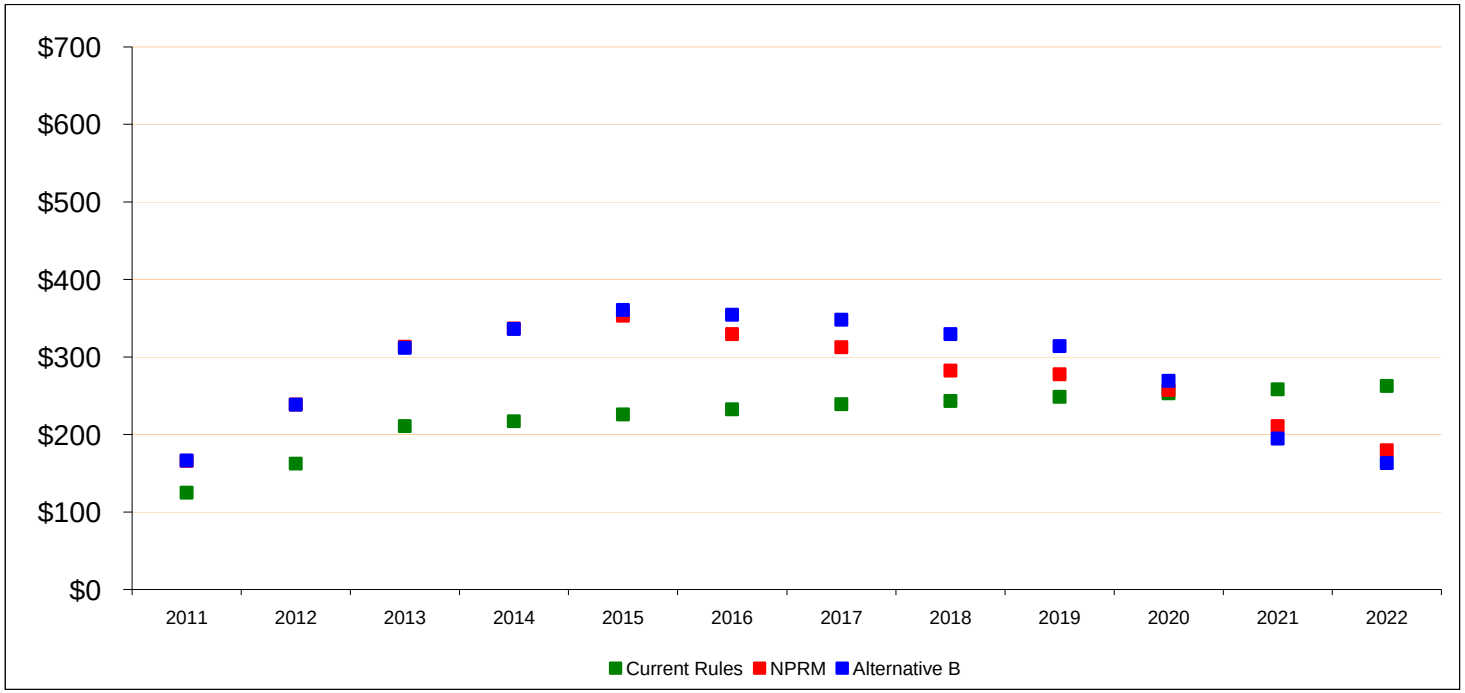


Percentile	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Mean	$316	$470	$681	$764	$812	$819	$779	$725	$652	$576	$523	$508
5th	$311	$369	$408	$360	$276	$215	$153	$112	$80	$43	$14	$6
25th	$313	$436	$559	$577	$587	$556	$490	$416	$353	$283	$231	$205
50th	$316	$473	$666	$735	$780	$788	$743	$674	$596	$510	$450	$417
75th	$318	$507	$794	$930	$1,016	$1,043	$1,016	$969	$882	$793	$726	$702
95th	$322	$556	$999	$1,257	$1,446	$1,545	$1,549	$1,512	$1,404	$1,319	$1,290	$1,328

Attachment 1

Towers Watson
CAS Harmonization NPRM Analysis
CAS Assignable Cost -- 50th Percentile Results

Chart F7

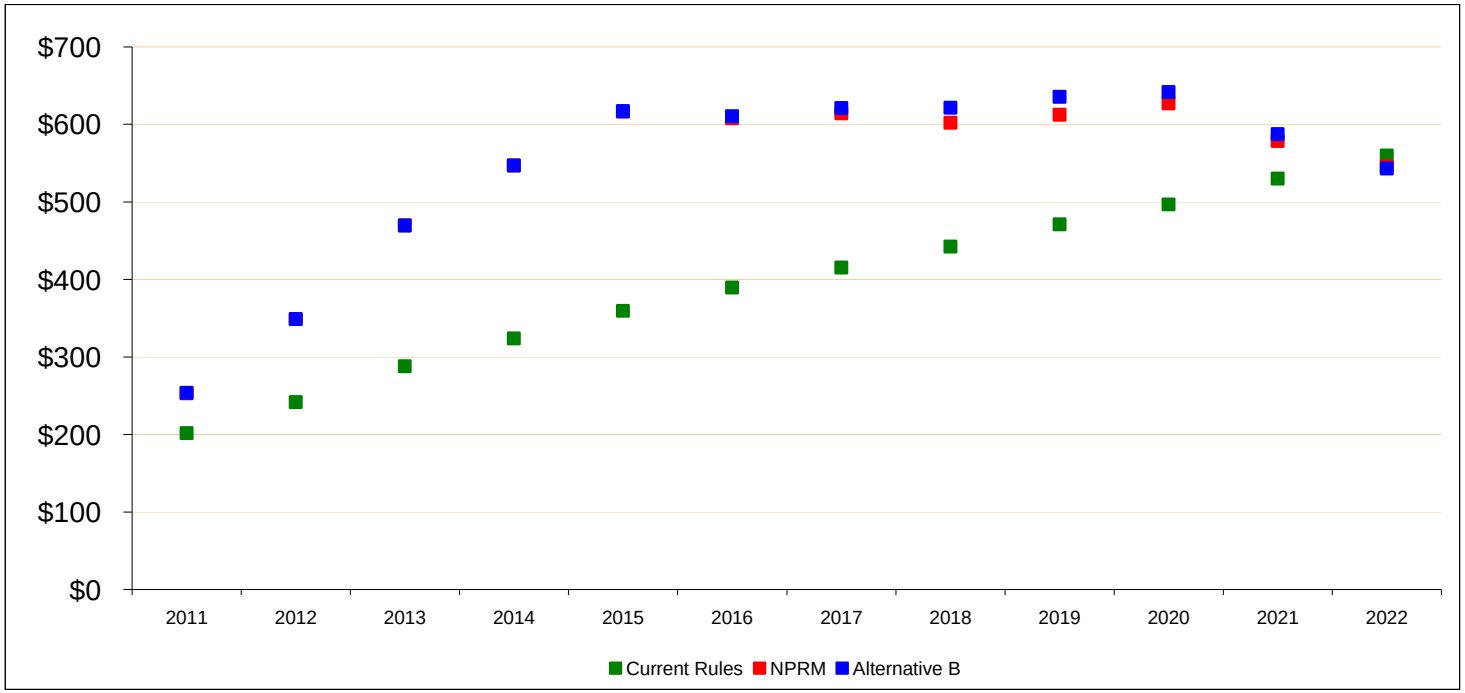


	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Current Rules	$125	$162	$211	$217	$226	$233	$239	$243	$249	$253	$258	$263
NPRM	$166	$239	$313	$337	$353	$329	$312	$282	$277	$257	$211	$180
Alternative B	$166	$238	$312	$336	$361	$354	$348	$329	$314	$269	$194	$163

Attachment 1

Towers Watson
CAS Harmonization NPRM Analysis
CAS Assignable Cost -- 95th Percentile Results

Chart F8

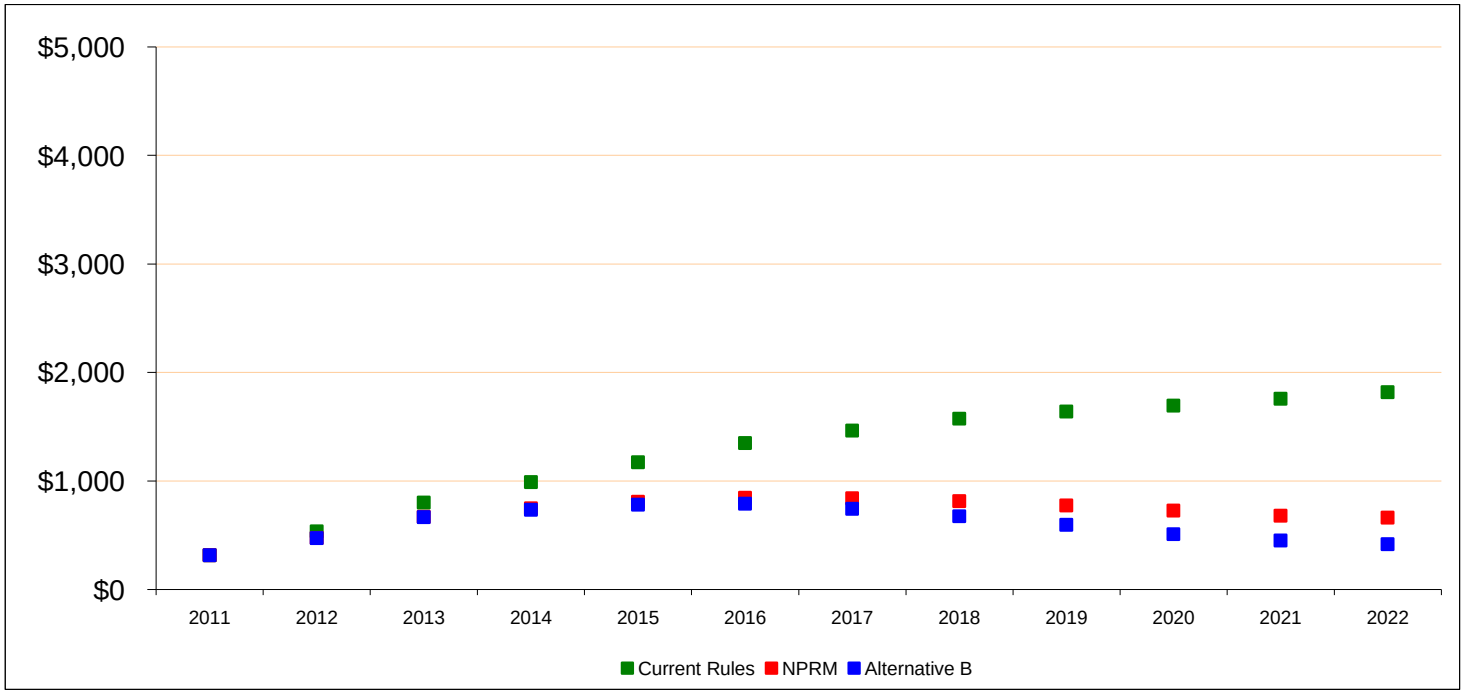


	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Current Rules	$202	$241	$288	$324	$359	$390	$415	$442	$471	$497	$530	$560
NPRM	$253	$349	$470	$547	$616	$608	$614	$602	$612	$627	$578	$546
Alternative B	$254	$349	$470	$547	$617	$610	$621	$621	$635	$642	$587	$543

Attachment 1

Towers Watson
CAS Harmonization NPRM Analysis
Prepayment Credit (BOY) -- 50th Percentile Results

Chart F9

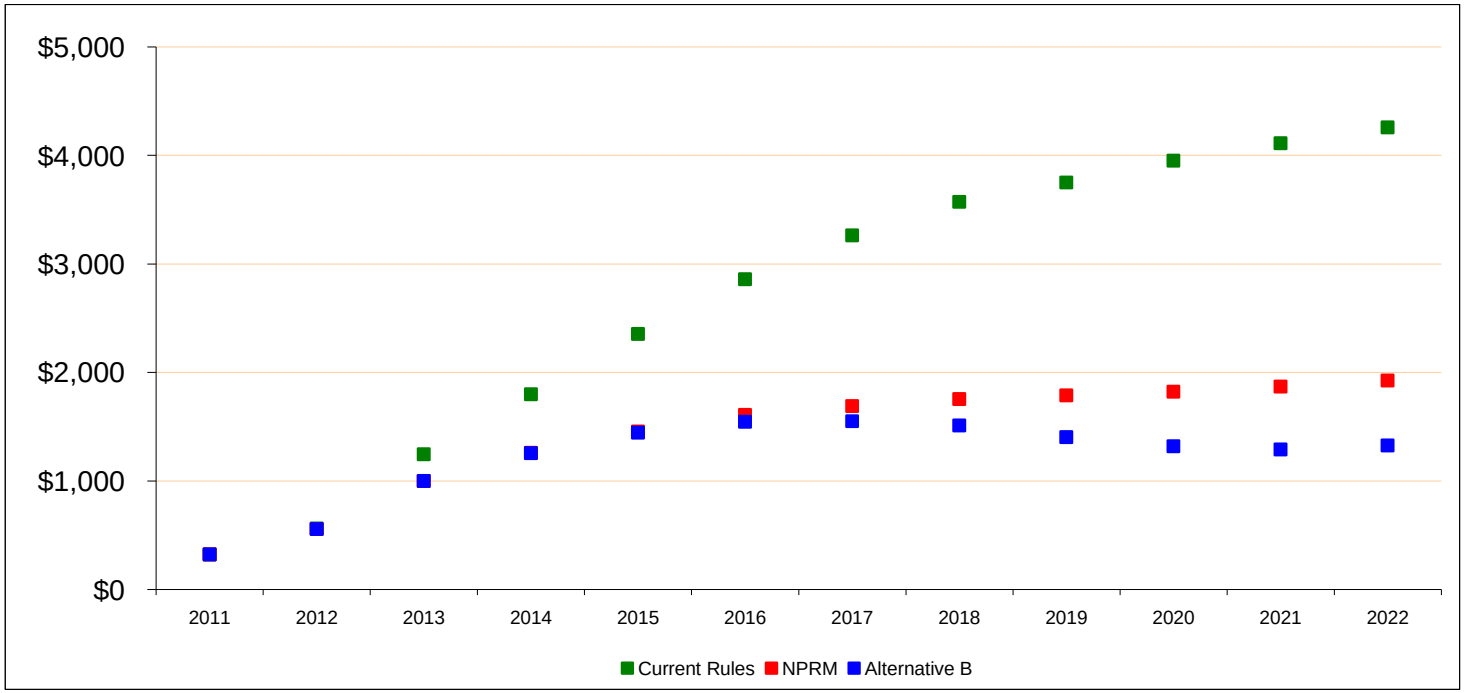


	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Current Rules	$316	$536	$799	$989	$1,172	$1,347	$1,464	$1,573	$1,638	$1,694	$1,758	$1,817
NPRM	$316	$474	$668	$747	$806	$844	$839	$813	$775	$726	$678	$662
Alternative B	$316	$473	$666	$735	$780	$788	$743	$674	$596	$510	$450	$417

Attachment 1

Towers Watson
CAS Harmonization NPRM Analysis
Prepayment Credit (BOY) -- 95th Percentile Results

Chart F10



	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Current Rules	$322	$560	$1,246	$1,797	$2,354	$2,858	$3,261	$3,572	$3,749	$3,951	$4,110	$4,258
NPRM	$322	$556	$999	$1,258	$1,455	$1,607	$1,688	$1,755	$1,788	$1,823	$1,869	$1,923
Alternative B	$322	$556	$999	$1,257	$1,446	$1,545	$1,549	$1,512	$1,404	$1,319	$1,290	$1,328

ATTACHMENT 2

TOWERS WATSON
NOTICE OF PROPOSED RULEMAKING ON CAS HARMONIZATION
SURVEY OF DEFENSE CONTRACTORS
JUNE 2010

This survey was conducted to assist the Aerospace Industries Association and other interested parties submitting comments to the Cost Accounting Standards (CAS) Board regarding the CAS Harmonization Rule Notice of Proposed Rulemaking (NPRM) issued on May 10, 2010.

The NPRM introduces a two-part threshold test before a contractor can assign a CAS cost that is the greater of:

- the regular CAS cost, which is determined by using the regular accrued liability (AL) and the regular Normal Cost (NC), i.e., values under current CAS 412 and 413; and
- the minimum CAS cost, which is determined by using a minimum accrued liability (MAL) and normal cost (MNC) based on PPA or PPA-like valuation discount rates.

The two parts of the threshold test are as follows:

- Threshold Test 1 (TT1). This test is met if the ERISA minimum required contribution for the plan exceeds the total regular CAS cost for the plan. This test is applied at the plan level.
- Threshold Test 2 (TT2). This test is met if the sum of MAL and MNC is greater than the sum of the regular AL and NC. This test is applied at the segment level.

The Advance Notice of Proposed Rulemaking (ANPRM) introduced the "Mandatory Prepayment Credit (MPC). The MPC was defined in the ANPRM to be the amount of the ERISA minimum required funding in excess of the pension cost assigned to a cost accounting period. The accumulated value of the MPC's was defined to be the Mandatory Prepayment Account (MPA).

The NPRM removed the MPC and MPA concepts. However, for purposes of this survey, an MPA is defined to be equal to the CAS Prepayment Credit Balance less the total ERISA Credit Balance as of each valuation date, with a minimum value of zero. Also, a Transitional MPA (TMPA) is defined to be the MPA as of the beginning of the 2011 cost accounting year.

For this survey, the new pension CAS rules are assumed to first become applicable in 2011. The choice of 2011 is merely for illustrative purposes and should not be construed as indicative of the preferred effective date of the survey respondents. Survey respondents were asked to provide data based on a 10-year forecast of costs.

Thanks to all government contractors who participated in this survey and their actuaries who assisted in gathering the data. Please contact Judy Ocaya at judy.ocaya@towerswatson.com with any questions regarding this survey.

ATTACHMENT 2

TOWERS WATSON WYATT
NOTICE OF PROPOSED RULEMAKING ON CAS PENSION HARMONIZATION
SURVEY OF DEFENSE CONTRACTORS, JUNE 2010

1. **Survey Respondents**. Eleven companies responded to this survey, submitting data for a total of 20 defined benefit plans.

2. **Mandatory Prepayment Credit Account at Transition (TMPA)**. A TMPA balance was reported for 15 of the 20 plans (75%). As a percent of the total market value of assets, the TMPA's ranged from 0.7% to 35.0%, with an average value of 16.6%.

3. **Alternative Rules.** The NPRM plus three alternative sets of rules were studied. The other sets of rules are as follows:
   - Same as the NRPM, but without the first threshold test TT1
   - Same as the NPRM, but replacing the threshold tests TT1 and TT2 with the condition MPA > 0. Note that data was not provided for one out of the 20 plans for this set of rules.
   - Same as the NPRM, but removing the five-year phase-in period for reflecting the MAL and the MNC in the minimum CAS cost calculation.

	NPRM, As Is	**NPRM, but without TT1**	**NPRM, but replacing TT1 and TT2 with MPA > 0**	**NPRM, but without five-year phase-in period for MAL and MNC**
Relevant tests	TT1 for the entire plan and TT2 for all segments in each plan	TT2 for all segments in each plan	MPA > 0	TT1 for the entire plan and TT2 for all segments in each plan
Projected percentage passing relevant tests	Passing all 10 years • 15% of plans Passing at least 5 of the 10 years • 45% of plans Fail TT2 though pass TT1 • 15% of plans	Passing all 10 years • 60% of plans Passing at least 5 of the 10 years • 85% of plans	Passing all 10 years • 74% of plans Passing at least 5 of the 10 years • 100% of plans	Passing all 10 years • 20% of plans Passing at least 5 of the 10 years • 55% of plans Fail TT2 though pass TT1 • 15% of plans

ATTACHMENT 2

TOWERS WATSON WYATT
NOTICE OF PROPOSED RULEMAKING ON CAS PENSION HARMONIZATION
SURVEY OF DEFENSE CONTRACTORS, JUNE 2010

	NPRM, As Is	NPRM, but without TT1	NPRM, but replacing TT1 and TT2 with MPA > 0	NPRM, but without five-year phase-in period for MAL and MNC
Average increase in present value of 10-year CAS costs	20% higher under this NPRM than under current rules	37% higher under this modified NPRM than under current rules	37% higher under this modified NPRM than under current rules	
Comparison with CAS costs under current rules	Average ratio of new CAS costs to current CAS costs • Year 1 - 114% • Year 2 - 128% • Year 3 - 137% • Year 4 - 146% • Year 5 - 137% • Year 6 - 131% • Year 7 - 94% • Year 8 - 93% • Year 9 - 89% • Year 10 - 85% Average change in annual CAS costs for first 5 years • +32% Average change in annual CAS costs for last 5 years • - 1%	Average ratio of new CAS costs to current CAS costs • Year 1 - 115% • Year 2 - 132% • Year 3 - 140% • Year 4 - 151% • Year 5 - 163% • Year 6 - 156% • Year 7 - 145% • Year 8 - 133% • Year 9 - 117% • Year 10 - 98% Average change in annual CAS costs for first 5 years • +40% Average change in annual CAS costs for last 5 years • +30%	Average ratio of new CAS costs to current CAS costs • Year 1 - 115% • Year 2 - 134% • Year 3 - 143% • Year 4 - 154% • Year 5 - 165% • Year 6 - 158% • Year 7 - 141% • Year 8 - 129% • Year 9 - 110% • Year 10 - 88% Average change in annual CAS costs for first 5 years • +42% Average change in annual CAS costs for last 5 years • +26%	Average ratio of new CAS costs to current CAS costs • Year 1 - 167% • Year 2 - 159% • Year 3 - 152% • Year 4 - 145% • Year 5 - 124% • Year 6 - 118% • Year 7 - 89% • Year 8 - 91% • Year 9 - 87% • Year 10 - 84% Average change in annual CAS costs for first 5 years • +49% Average change in annual CAS costs for last 5 years • - 6%

ATTACHMENT 2

TOWERS WATSON WYATT
NOTICE OF PROPOSED RULEMAKING ON CAS PENSION HARMONIZATION
SURVEY OF DEFENSE CONTRACTORS, JUNE 2010

	NPRM, As Is	NPRM, but without TT1	NPRM, but replacing TT1 and TT2 with MPA > 0	NPRM, but without five-year phase-in period for MAL and MNC
Progress in harmonization	Percent of plans with no MPA by 10th year • 5% Average ratio of new MPA to MPA under current rules by 10th year • 71% Average ratio of new MPA to MPA under current CAS • Year 1 - 100% • Year 2 - 96% • Year 3 - 92% • Year 4 - 87% • Year 5 - 81% • Year 6 - 77% • Year 7 - 74% • Year 8 - 74% • Year 9 - 73% • Year 10 – 71%	Percent of plans with no MPA by 10th year • 15% Average ratio of new MPA to MPA under current rules by 10th year • 33% Average ratio of new MPA to MPA under current CAS • Year 1 - 100% • Year 2 - 96% • Year 3 - 90% • Year 4 - 85% • Year 5 - 77% • Year 6 - 67% • Year 7 - 57% • Year 8 - 47% • Year 9 - 38% • Year 10 - 33%	Percent of plans with no MPA by 10th year • 5% Average ratio of new MPA to MPA under current rules by 10th year • 32% Average ratio of new MPA to MPA under current CAS • Year 1 - 100% • Year 2 - 96% • Year 3 - 89% • Year 4 - 83% • Year 5 - 74% • Year 6 - 64% • Year 7 - 55% • Year 8 - 44% • Year 9 - 38% • Year 10 - 32%	Percent of plans with no MPA by 10th year • 5%

ATTACHMENT 2

TOWERS WATSON WYATT
NOTICE OF PROPOSED RULEMAKING ON CAS PENSION HARMONIZATION
SURVEY OF DEFENSE CONTRACTORS, JUNE 2010

4. **Assignable Cost Limitation (ACL).** Alternative definitions of the ACL were studied. The average increases in the present values of 10-year CAS costs under the NPRM relative to those under current CAS are as follows.

ACL = NNN% x (Liability + Normal Cost) - Assets where Assets = CAS Actuarial Value of Assets		
NNN = 100%	NNN = 110%	NNN = 125%
+20%	+26%	+27%

ACL = NNN% x (Liability + Normal Cost) - Assets where Assets = min (CAS Actuarial Value of Assets, CAS Market Value of Assets)		
NNN = 100%	NNN = 110%	NNN = 125%
+19%	+23%	+23%

ATTACHMENT 3

TOWERS WATSON WYATT
NOTICE OF PROPOSED RULEMAKING ON CAS HARMONIZATION
ASSIGNABLE COST LIMITATION

The following illustrates the volatility that can be caused by the Assignable Cost Limitation (ACL), which is currently defined as "AL + NC – AVA", where AL is the actuarial liability, NC is the normal cost and AVA is the CAS actuarial value of assets net of accumulated prepayment credits.

Scenario 1. Consider the following CAS assignable cost for year 1.

Year 1	
• Assets	$110,000,000
• Actuarial Liability	$110,000,000
• Unfunded Actuarial Liability (UAL), (2) – (1)	None
• Normal Cost	$5,000,000
• Amortization of UAL	None
• Assignable Cost Limitation, (2) + (4) – (1), but not less than zero	$5,000,000
• CAS Assignable Cost, (4) + (5) but not greater than (6)	$5,000,000

Reflecting the current definition of the ACL, in subsequent years, we have the following:

Year 2	
• Assets	$118,000,000
• Actuarial Liability	$115,000,000
• Unfunded Actuarial Liability (UAL), (2) – (1)	($3,000,000)
• Normal Cost	$5,000,000
• Amortization of UAL	($450,000)
• Assignable Cost Limitation, (2) + (4) – (1), but not less than zero	$2,000,000
• CAS Assignable Cost, (4) + (5) but not greater than (6)	$2,000,000

Year 3	
• Assets	$118,000,000
• Actuarial Liability	$120,000,000
• Unfunded Actuarial Liability (UAL), (2) – (1)	$2,000,000
• Normal Cost	$5,000,000
• Amortization of UAL	$300,000
• Assignable Cost Limitation, (2) + (4) – (1), but not less than zero	$7,000,000
• CAS Assignable Cost, (4) + (5) but not greater than (6)	$5,300,000

Note that the CAS costs would be $5 million in year 1, would be significantly reduced to $2 million in year two, then jump up to $5.3 in year 3.

ATTACHMENT 3

TOWERS WATSON WYATT
NOTICE OF PROPOSED RULEMAKING ON CAS HARMONIZATION
ASSIGNABLE COST LIMITATION

Scenario 2. Assume the same as Scenario 1 except the ACL is eliminated. The CAS assignable cost for year 1 would remain to be $5 million. Subsequent years' costs would be as follows:

Year 2	
(1) Assets	$118,000,000
(2) Actuarial Liability	$115,000,000
(3) Unfunded Actuarial Liability (UAL), (2) – (1)	($3,000,000)
(4) Normal Cost	$5,000,000
(5) Amortization of UAL	($450,000)
(6) Assignable Cost Limitation, (2) + (4) – (1), but not less than zero	eliminated
(7) CAS Assignable Cost, (4) + (5) but not greater than (6)	$4,550,000

Year 3	
(1) Assets	$120,550,000[1]
(2) Actuarial Liability	$120,000,000
(3) Unfunded Actuarial Liability (UAL), (2) – (1)	($550,000)
(4) Normal Cost	$5,000,000
(5) Amortization of UAL	($120,000)
(6) Assignable Cost Limitation, (2) + (4) – (1), but not less than zero	Eliminated
(7) CAS Assignable Cost, (4) + (5) but not greater than (6)	$4,880,000

The CAS assignable costs would be $5 million in year 1, then $4,550,000 in year 2, then $4,880,000 in year 3. Clearly, the CAS assignable costs under this second example are less volatile than the first example.

Also note the following. The higher CAS cost in year 2 resulted in higher assets at the beginning of year 3, which in turn resulted in lower CAS costs in year 3. In other words, though the ACL is eliminated, assets would not build up to excessive amounts simply because the additional CAS costs in earlier years reduce the CAS costs in subsequent years. Consecutive periods of favorable asset returns would result in excess asset build-up, not the elimination of the ACL.

[1] Assets are assumed to be $2,550,000 higher since the CAS cost during year 2 is higher by this amount compared to Scenario 1.

ATTACHMENT 3

TOWERS WATSON WYATT
NOTICE OF PROPOSED RULEMAKING ON CAS HARMONIZATION
ASSIGNABLE COST LIMITATION

Scenario 3. If elimination of the ACL is not an option, we recommend that the Board at least consider a 110% ACL, i.e., 110% (AL + NC) – Assets. Applying this 110% ACL to the example above will lead to the following:

Year 1	
(1) Assets	$110,000,000
(2) Actuarial Liability	$110,000,000
(3) Unfunded Actuarial Liability (UAL), (2) – (1)	None
(4) Normal Cost	$5,000,000
(5) Amortization of UAL	None
(6) Assignable Cost Limitation	$16,500,000
(7) CAS Assignable Cost, (4) + (5) but not greater than (6)	$5,000,000

Year 2	
(1) Assets	$118,000,000
(2) Actuarial Liability	$115,000,000
(3) Unfunded Actuarial Liability (UAL), (2) – (1)	($3,000,000)
(4) Normal Cost	$5,000,000
(5) Amortization of UAL	($450,000)
(6) Assignable Cost Limitation	$17,300,000
(7) CAS Assignable Cost, (4) + (5) but not greater than (6)	$4,550,000

Year 3	
(1) Assets	$120,550,000
(2) Actuarial Liability	$120,000,000
(3) Unfunded Actuarial Liability (UAL), (2) – (1)	($550,000)
(4) Normal Cost	$5,000,000
(5) Amortization of UAL	($120,000)
(6) Assignable Cost Limitation	$16,950,000
(7) CAS Assignable Cost, (4) + (5) but not greater than (6)	$4,880,000

The CAS costs under this scenario are less volatile than those under Scenario 1. Note that even a 10% load could help mitigate the volatility in CAS costs.