# 2002 Supplemental Power Rate Proposal Final Study Documentation

WP-02-FS-BPA-10

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BONNEVILLE
POWER ADMINISTRATION

**2002 SUPPLEMENTAL POWER RATE PROPOSAL**
**FINAL STUDY DOCUMENTATION**

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The chapters in the Final Study Documentation correspond with the chapters in the 2002 Supplemental Power Rate Proposal Final Study (WP-02-FS-BPA-09).  Only Chapter 5 (**Risk Mitigation**) has documentation.

The 2002 Supplemental Power Rate Proposal Final Study Documentation (WP-02-FS-BPA-10) is bound in the same volume as the 2002 Supplemental Power Rate Proposal Final Study (WP-02-FS-BPA-09).  This is the same arrangement that was used in the initial study and documentation for the 2002 Supplemental Power Rate Proposal from. February 2001 (WP-02-E-BPA-67 and WP-02-E-BPA-69).

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# CHAPTER FIVE:  RISK MITIGATION

## 1.  INTRODUCTION

This chapter of the documentation describes changes to the risk mitigation tools and modeling that are incorporated into the Supplemental Proposal.  Since the publication of the May 2000 Final Power Rate Proposal (May Proposal), significant changes in West Coast power markets and unanticipated system augmentation have required Bonneville Power Administration (BPA) to reassess its risk profile and develop an even more robust mitigation package.  In August 2000, BPA reviewed events during the summer months which indicated that power markets on the West Coast had become more volatile than previously anticipated.  BPA concluded that, in light of the unprecedented price spikes during the summer months, BPA's cost-based rates for Fiscal Year (FY) 2002–2006 would be far more attractive to prospective customers than market alternatives.

As a result, preference customers could be expected to purchase significantly more power at much higher prices than originally anticipated.  During the initial phase of the rate case, BPA's load forecast and forecast of generation resources revealed a projected shortfall in generation of 1,745 average megawatts (aMW).  BPA now expects even higher loads that will increase the generation shortfall by an additional 1,560 aMW.  Moreover, the difficulty of forecasting the expense of serving the increased load obligations is magnified by the extraordinary volatility in the market.

The combination of an unanticipated increase in loads with higher and more uncertain market prices greatly diminishes the probability that the rates proposed in the initial phase of the rate case will fully recover generation function costs. Treasury Payment Probability (TPP) has decreased to an unacceptable level.

In the May Proposal, BPA updated and expanded its risk analysis methodology to encompass a wider array of risks than had been addressed in prior rate cases. These methodological enhancements are described in detail in the 2002 Final Power Rate Proposal Revenue Requirement Study Documentation, Volume 1, WP-02-FS-BPA-02A, at 264-285.

In December 2000, BPA released the Amended Proposal to the 2002 Power Rate Case (Amended Proposal). The Amended Proposal addressed the additional risks that had materialized following the release of the May Proposal, updating forecasts of market prices and expected reserves and introducing a more robust, three-component Cost Recovery Adjustment Clause (CRAC) to mitigate risks of an increasingly volatile market. Since December, market prices have continued to rise to levels well beyond those forecast in the fall of 2000. At the same time, the Pacific Northwest has experienced a drought that has left reservoirs at levels well below average. This Supplemental Proposal addresses these increased risks, adopting the same general approach as the Amended Proposal (i.e. a three-component CRAC) but modifying some of the specific rate-making provisions. In order to accomplish this, several modifications have been made to the structure of the ToolKit model as well as to the risk mitigation methodology. These modifications are detailed in the text that follows.

## 2. TREASURY PAYMENT PROBABILITY

In the face of operating and non-operating risks, BPA seeks to maintain a high probability of recovering all costs on schedule. Payments to Treasury rank lowest on BPA's priority of

payments, and therefore paying Treasury on time implies having paid all other creditors on time. For this reason, TPP is the key measure of the agency's ability to recover its costs on time and in full.

This Supplemental Proposal, like the May and Amended Proposals, is consistent with Fish and Wildlife Funding Principle Nos. 3 and 4 concerning with BPA's TPP. Principle No. 3 states:

> "Bonneville will demonstrate a high probability of Treasury payment in full and on time over the five-year period.

> - A 100 percent probability of Treasury payment is not achievable, but BPA's new rates must be designed to maintain or improve TPP, even in view of the range of fish costs.

> - BPA will demonstrate a probability of Treasury payment in full and on time over the five-year rate period at least equal to the 80 percent level established in the last rate case and will seek to achieve an 88 percent level." *See* the Principles, Volume 1, Chapter 13 of Revenue Requirement Study Documentation, May Proposal, WP-02-FS-BPA-02A.

In the May Proposal, BPA designed and proposed risk mitigation tools to achieve an 88 percent TPP for the generation function. While 88 percent continues to be BPA's goal, the current modeling of alternative Load-Based (LB) CRAC outcomes resulted in TPP values falling between 81.6 percent to 88.3 percent, which still meet the criteria called for in the Principles. In addition to the Safety-Net (SN) CRAC described later in this chapter, BPA intends to pursue additional, non-ratemaking actions that could increase the likelihood of making Treasury payments on time during each of the five years.

Principle No. 4 states: "Given the range of potential fish and wildlife costs, BPA will design rates and contracts which will position BPA to achieve similarly high Treasury payment probability for the post-2006 period by building financial reserve levels and through other mechanisms." Consistent with this Principle, the expected value of reserve levels at the end of FY 2006 was $1.2 billion in the May Proposal, without modeling Dividend Distribution Clause (DDC) distributions. In this Supplemental Proposal, a number of ToolKit runs were performed to assess the possible impact of LB CRAC given market price and load reduction uncertainties. In the six runs performed for the analysis, the expected value of FY 2006 ending reserves varied from $1,003 to $1,147 million.

## 3. RISK MITIGATION TOOLS

Using the ToolKit model, analysts can assess the impacts of various risk mitigation tools on TPP. In addition to those used in the development of the May Proposal, two new tools, the LB CRAC and the SN CRAC, were added in the Amended Proposal to address the higher level of risk due to system augmentation and market volatility. This Supplemental Proposal contains updates and revisions to some of these tools. ToolKit allows users to evaluate the effects of each of the following tools on TPP (described in detail in WP-02-FS-BPA-02A, at 266-267):

- *FY 2002 Start of Year Financial Reserves*, consisting of cash in the Bonneville Fund and any deferred borrowing balance functionalized to generation. The Final Supplemental Proposal includes a forecast from BPA's Second Quarter Review for FY 2001.

- *4(h)(10)(C) credits* for fish and wildlife expenditures made by BPA equal to the fraction of projects' costs allocated to purposes other than power. These credits were dealt with in Risk Analysis Model (RiskMod), where they have been updated since the May Proposal. *See* WP-02-E-BPA-71 for a description of the changes to RiskMod.

- *Fish Cost Contingency Fund (FCCF credits),* comprised of 4(h)(10)(C) credits that BPA earned since enactment of the Northwest Power Act in 1980 and prior to 1995, when BPA began claiming these credits annually. These credits are dealt with in RiskMod. The only change in these credits is a projection that $168 million will be used in FY 2001, leaving a starting 2002 balance of $158 million. The actual starting 2002 balance could be higher or lower than the current estimate of $158 million by $50 million or more.

- *Planned Net Revenues for Risk (PNRR)*, a component of the revenue requirement that is added to expenses to increase expected cash flows for risk mitigation purposes. Because the Revenue Requirement used for the Supplemental Proposal has not changed since May 2000, both PNRR and other internally generated cash flows for risk remain unchanged since the May Proposal. Since BPA is not changing the Revenue Requirement, PNRR is not changing.

- *Cost Recovery Adjustment Clauses (CRAC)*, automatic, temporary upward adjustments to posted power prices if certain conditions occur. Although the May Proposal contained a single CRAC mechanism to deal with fluctuations in BPA's financial situation, the Amended Proposal contained three CRAC mechanisms: the LB CRAC implemented if augmentation load exceeded the amount forecast in the original 2002 rate case, a Financial-Based CRAC (FB CRAC) designed to trigger if forecasted accumulated net revenues (ANR) fell substantially below a threshold level; and the SN CRAC, triggered by a deferral or a forecasted deferral, designed to prevent further deferrals. Power sales under pre-subscription contracts were exempt from CRAC. In this Supplemental Proposal, the financial portion of the Residential Exchange Settlement is subject to the SN CRAC, and Slice purchases are subject to the LB CRAC. *See* General Rate Schedule Provisions (GRSPs), Appendix, WP-02-A-09 for a detailed description of the rates schedules to which the CRACs apply. (The three CRAC mechanisms have been adjusted since the Amended proposal, as described below.)

## 4. TOOLKIT AND GENERATION RISK MITIGATION MODELING

The ToolKit model utilizes outputs of two Monte Carlo models in developing an estimate of TPP. Specifically, ToolKit receives two streams of net revenues and sums these to arrive at a distribution that reflects both operating and non-operating risks. RiskMod produces the stream of net revenues reflecting operating risk, whereas Non-Operating Risk Model (NORM) produces the stream of net revenues reflecting non-operating risks. *See* Risk Analysis Study and Documentation, WP-02-E-BPA-03 and WP-02-E-BPA-03A, for a description of RiskMod and NORM and the Revenue Requirement Study Documentation, Volume 1, WP-02-FS-BPA-02A, at 268-270 for a fuller description of the modeling system.

Another version of the ToolKit model is used to produce a distribution of net revenues for the remaining year of the current rate period (FY 2001). This version uses the output of the STREAM model used in the 1996 Rate Case to assess operating risks for FY 2001, and a current rate period version of NORM to assess the potential impact of two non-operating risks in FY 2001. For the Supplemental Proposal, the output of Short-Term Evaluation and Analysis Model (STREAM) was modified to better reflect BPA's current outlook. Most of the variation in net revenues in STREAM comes, roughly equally, from two sources: water conditions and market prices. While the risks due to uncertainty from water conditions have not changed since the May Proposal, BPA estimated that price volatility was roughly four times greater than was previously modeled in STREAM. Accordingly, to better capture the uncertainty remaining in the last year of the current rate period, the net revenue deviations used in STREAM were doubled. One other change was made to the STREAM distribution. The games in the 2001 STREAM distribution were sorted so that, for each game, the water year in 2001 was the historical water year prior to the water year in 2002. This ensures that the assumptions made in the 2002 modeling about the balance remaining in the FCCF after 2001 are valid. STREAM is

documented in the 1996 Final Proposal Wholesale Power Rates Development Study and Documentation, WP-96-FS-BPA-05 and WP-96-FS-BPA-05A.

## 5. DISCUSSION OF CHANGES TO THE TOOLKIT MODEL OPERATION

The ToolKit is a computer spreadsheet model that calculates sequential year-end financial reserve balances for a number of different games. It is used to determine the probability of paying Treasury in full and on time during the rate period; that is, the probability of making all five scheduled payments on time. The ToolKit counts the number of U.S. Treasury deferrals that occur whenever the balance of financial reserves falls below a $50 million trigger point at the end of any year. This $50 million figure represents the amount of working capital that BPA must keep on hand for day-to-day liquidity during the first part of each fiscal year. A fuller description of the operation of the ToolKit model can be found in Revenue Requirements Study Documentation, Volume 1, WP-02-FS-BPA-02A, at 271-276. The discussion that follows focuses on the changes to the ToolKit model operation implemented for the Supplemental Proposal.

### A.     *Starting Financial Reserves*

ToolKit was used to evaluate the Treasury payment probability for 3,900 five-year rate period games. For each five-year scenario, the FY 2002 start-of-year financial reserve balance was derived from results of a separate run of an earlier version of the ToolKit for FY 1996–2001 through a probabilistic process. This probabilistic process consisted of running 300 simulations in the ToolKit using the one-year STREAM distribution described above to represent the remainder of the current rate period (FY 2001). These 300 simulations were repeated for each of the 13 Fish and Wildlife Alternatives (*See* the Principles, Volume 1, Chapter 13 of Revenue Requirement Study Documentation, WP-02-FS-BPA-02A) for a total of 3,900 simulated starting

reserve numbers.  For the Supplemental Proposal, ToolKit was calibrated to a lower FY 2002 starting reserves value than in the May Proposal.  (The Supplemental Proposal used a new set of 300 starting reserves values, generated by ToolKit and calibrated to forecasts reported in BPA's Second Quarter Review for FY 2001.)

Additionally, the $50 million floor on reserves, used to model a minimum amount of working capital needed by BPA, was switched off for FY 2002 in order to model some additional aspects of the extraordinary potential for cash drains during FY 2001.  This allowed ToolKit to produce negative cash balances for FY 2001, reflecting, for example, the possibility that BPA could exercise its short-term note with the Treasury and need to pay it off early in FY 2002.  This corresponds to a change in the FY 2002 FB CRAC in the Supplemental Proposal:  it was left uncapped so that in the event that BPA began FY 2002 with less than $300 million in cash it would be able to collect whatever amount of FB CRAC revenue was needed to equal the difference between ending cash and the $300 million threshold.  For the expected value of this amount to be calculated correctly, it is necessary to allow the 2002–2006 ToolKit to begin with negative reserve balances.  If a floor of $50 million is placed on FY 2001 ending reserves values, the amount of additional revenue required to meet the $300 million reserves threshold in FY 2002 would be understated.

FY 2002 starting reserve balances in the 3,900 games ranged from -$394 million to $1,335 million and averaged $429 million.  *See* the output from this ToolKit run at Attachment 1.

## B.    *Net Revenue Distribution Changes*

Both the RiskMod and NORM distributions for the FY 2002–2006 period were modified to reflect two sets of changes from the May Proposal.  First, because the percentage of system output to be purchased by Slice customers is now known, the net revenues deviation in both RiskMod and NORM were adjusted to reflect the 22.63 percent of operating and non-operating risks absorbed by the Slice customers.  The net revenues developed in RiskMod also reflected a revised forecast of market prices and larger system augmentation required to meet the loads placed on BPA by customers who have signed Subscription contracts.

## C.    *Cost Recovery Adjustment Clause*

Another mechanism BPA is using in its Supplemental Proposal to meet its TPP standard is a three-component CRAC that allows BPA to temporarily increase power rates under specific conditions.  *See* GRSPs, Appendix to Administrator's Final Record of Decision, WP-02-A-09.

The LB CRAC is designed to cover the net cost of augmenting BPA's system by 1,560 aMW to meet the additional 1,518 aMW of load (transmission losses, estimated at 2.8 percent, require that system augmentation exceed additional load by 2.8 percent).  Because BPA will be acquiring this additional power in a highly volatile market, it is not possible to accurately forecast the cost of purchasing this power over the entire five-year rate period.  Accordingly, the LB CRAC has been designed to be responsive to changes in the market price of power.

There are two major steps involved in the determination of the LB CRAC amount.

First, the LB CRAC percentage will be calculated for each six-month period of the rate period at least 90 days before the start of the period, beginning with the October 2001 through March 2002 period. For each fiscal year there will be a calculation for the October-March period and for the April-September period. These calculations determine the percentage increase that will be applied to each customer's bill for each month in the six-month period. These calculations will be made based upon updated forward strip forecasts obtained 120 days prior to the start of the six-month period. There will be a public process prior to the determination of the LB CRAC adjustment.

Second, about 90 days after the end of each six-month period, BPA will true up the LB CRAC based on actual augmentation purchases during the period. *See* section 5.7 of WP-02-E-BPA-67 for a detailed discussion of the mechanics of the LB CRAC and Slice adjustments. Appendix 2 of this chapter contains documentation and additional explanation for the calculation of the amount of augmentation that BPA will use to calculate the LB CRAC percentage and its effect on rates.

The LB CRAC mitigates the market price risk inherent in serving augmented loads by what is, in effect, a variable price mechanism. How much revenue BPA collects from LB CRAC in any period is a function of two factors: the amount of additional load placed upon BPA and the cost of obtaining the electricity needed to serve that augmented load. There is, however, a great deal of uncertainty surrounding both these factors; so much uncertainty, in fact, that BPA staff determined that the only way to assess the potential impacts of the design of the Supplemental Proposal was to perform a series of ToolKit runs that would illustrate the amount of LB CRAC

revenue required to meet a TPP of between 80 and 88 percent under three price scenarios and two levels of load augmentation.

The FB CRAC is structured in substantially the same way as in the May Proposal with two notable exceptions. First, the annual cap on new revenue collection for FY 2002 was removed: ToolKit now models FY 2002 FB CRAC so that it collects whatever amount of additional revenues is needed to equal the difference between ending 2001 reserves and the $300 million threshold value for that year. Ensuring collection of the full amount in FY 2002 requires that the FB CRAC revenue amount for 2002 not be prorated for the Slice load. The annual thresholds and caps for t FY 2003-2006 remain the same. Second, the timing of the collection of the FB CRAC has changed. In the May Proposal, it was proposed that determination of whether the FB CRAC triggers be based on audited actual financial data available in January, and that collection be made over a 12-month period beginning in April. By contrast, the Amended Proposal called for collecting the full amount in the four months between March and June. This Supplemental Proposal goes back to the 12-month collection. However, collection would begin in October following an initial determination made in August after the Third Quarter Review.

The SN CRAC is designed to trigger a special section 7(i) process if a payment to Treasury or other creditor is to be missed or has been missed. SN CRAC enables the amount, duration, and parameters of FB CRAC to be changed taking into account conditions prevailing at the time. Because these changes cannot be known at this time, and because SN CRAC will not affect the calculation of the TPP, SN CRAC is not being modeled in ToolKit.

*D.*     *Adjustment for Investor-Owned Utilities (IOU) Residential Exchange Settlement*

Because the value of the IOU Residential Exchange Settlement has been revised to reflect a market price of $38 rather than $28.1 per megawatthour (MWh), annual net revenues were adjusted downward in the ToolKit by $60 million.  The IOU Settlement included a financial component equivalent to 900 aMW.  Changing the market price assumption on which this is based from $28.1 to $38 per MWh increases this expense by ($38- $28.1) * 8,760 * 900 = $78.1 million, less the 22.63 percent to be paid by Slice customers, yielding $60.4 million.

*E.*     *Dividend Distribution Clause*

BPA's Supplemental Proposal retains the DDC mechanism for distributing "dividends" to certain stakeholders if Audited Accumulated Net Revenues (AANR) for the prior year reach the DDC Threshold, although the mechanism has been modified since the May Proposal.

As in the May Proposal, the first $15 million of AANR exceeding the threshold will be allocated to qualifying conservation and renewable purposes.  However, in the Supplemental Proposal, the remainder of any excess revenues will automatically be refunded to customers rather than having an additional public process to determine the allocation of the dividend.  The threshold for any fiscal year will be adjusted upward, however, under two conditions.

- If there has been a power system emergency during the fiscal year and BPA has agreed to provide funding for measures to mitigate the impact of the emergency operations on fish and wildlife, then to the extent that BPA has not spent the additional emergency-related funding during that fiscal year, the threshold for that year will be increased.

- To the extent that BPA fish and wildlife direct program costs previously budgeted for expenditure in that fiscal year were not spent in that fiscal year and a need for them continues, the threshold for that year will be increased.

Threshold values, however, have been raised since the May and Amended Proposals. Because the DDC is now designed to operate automatically, these thresholds can be modeled straightforwardly in ToolKit as a "reverse CRAC."  The DDC is modeled so that it triggers when cash reserves exceed  $1.7 billion at the end of FY 2002 (for distribution in FY 2003), $1.5 billion at the end of FY 2003, and $1.2 billion at the end of FY 2004-2005.  There will be no DDC distribution in FY 2002, the first year of the rate period.

When implemented, the DDC will be triggered by actual accumulated net revenue values comparable to the threshold expressed in terms of cash.  These AANR equivalents have been recalibrated based on updated financial data.  The threshold is $993 million for the end of FY 2002 (*i.e.,* for possible distribution starting in FY 2003), $735 million for the end of FY 2003, and $401 million for the end of FY 2004 and 2005.

## 6.  RISK MITIGATION TOOLKIT RESULTS

For the Supplemental Proposal, ToolKit was run a total of six times.  This was done to demonstrate the impacts of different levels of market price and load reduction on the amount of revenues to be collected under the LB CRAC and to demonstrate that the Supplemental Proposal does not shift additional costs to non-Slice customers.

Table 1 compares the relative rate impacts of the LB CRAC, the FB CRAC, and the DDC on Slice and non-Slice customers, given the different FY 2002 price levels and load reduction assumptions.  The table summarizes the results of running ToolKit for six distinct combinations of conditions.

|  | sets of |  |  | load |  |  |  | ToolKit |
|---|---|---|---|---|---|---|---|---|
| **3** | market | X | **2** | reduction |  | = | **6** | Alternatives |
|  | prices |  |  | levels |  |  |  |  |

where:

market price levels for FY 2002 are set at $100, $148, and $225/MWh , and load reduction levels are either 0 or 750 aMW

The table compares Five-Year TPP, first year rate increase due to LB and FB CRAC, average rate increase due to LB and FB CRAC, average rate increase due to LB and FB CRAC including the offsetting effects of the DDC, and FY 2006 average ending reserves.  These values are reported for each of six specific market price/load reduction combinations.  (Note:  Unlike the May and Amended Proposals, the ToolKit runs represented in the tables reflect the effects of the DDC.)  Attachments 2-7 to this documentation present the summary of ToolKit outputs for each of the six Alternatives modeled.


The No Load Reduction case uses augmentation loads, purchases, and buy-downs that were signed by June 1, 2001, with any remaining augmentation needs set at the expected value of the market prices used in RiskMod.  The 750 MW Load Reduction cases assume that BPA's load is 750 MW smaller at no extra cost.  These two sets of cases bracket the likely outcome:  the No Load Reduction case is pessimistic, in that more deals are virtually certain to be signed before the June 22, 2001 deadline; the 750 MW Load Reduction case is optimistic, because while that much load reduction may well be achieved, it would entail a cost.

**Table 1: ToolKit Analysis Summary**

| | | No Load Reduction | 750 MW Load Reduction |
|---|---|---|---|
| **Ave 2002 Market = $100** | TPP (5-year) | 81.6% | 81.6 % |
| | 1$^{st}$ yr rate increase | 93% | 61% |
| | Ave rate increase | 45% | 31% |
| | Ave rate inc w/DDC | 37% | 22% |
| | Ave 2006 End Res | $1,003 | $1,004 |
| **Ave 2002 Market = $148** | TPP (5-year) | 85.7 % | 85.7 % |
| | 1$^{st}$ yr rate increase | 129% | 75% |
| | Ave rate increase | 54% | 34% |
| | Ave rate inc w/DDC | 39% | 17% |
| | Ave 2006 End Res | $1,087 | $1,087 |
| **Ave 2002 Market = $225** | TPP (5-year) | 88.3 % | 88.3 % |
| | 1$^{st}$ yr rate increase | 187% | 98% |
| | Ave rate increase | 70% | 40% |
| | Ave rate inc w/DDC | 40% | 5% |
| | Ave 2006 End Res | $1,147 | $1,147 |

Notes for Table 1

Ave 2002 Market:  The 2002 and 2003 markets vary; 2004 through 2006 are the same in all cases.  Calendar-weighted average prices by year for each of the three cases:  $100, $50, $46, $50, $49; $148, $63, $46, $50, $49; $225, $100, $46, $50, $49.

Load Reduction:  "No Reduction" means full amount of augmentation is needed; "750 Reduction" means that load has been reduced by 750 MW of unspecified load at no additional cost.

TPP:  The TPP is estimated without quantification of the risks of mismatch between the LB CRAC revenues and the actual augmentation costs, and without estimation of the timing of cash flows of the LB CRAC revenues.

Starting 2002 Reserves:  The 2001 ending reserves are allowed to be negative, reflecting possible use of Treasury note (expected value = $429 million).

FB CRAC for 2002 collects enough to make up for any shortfall (below $300M) in beginning 2002 reserves.  It triggers 32 percent of the time in all six cases.

Slice/Non-Slice Allocation of Net Augmentation Cost:  Allocated equally across all revenues.

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FB CRAC and DDC Threshold Conversion from Reserves to ANR

(Tables A and B)


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Calculation of the Initial Estimate of Augmentation Need

(Table C)


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Current rate period ToolKit output (FY 2000-2001)


Attachments 2-7 – page 5-27

ToolKit outputs (FY 2002 – 2006)

**APPENDIX 1**

FB CRAC and DDC Threshold Conversion from Reserves to ANR
Table A     page 5-18
Table B     page 5-20

## Appendix 1:  FB CRAC and DDC Threshold Conversion from Reserves to ANR

The FB CRAC is a temporary, upward adjustment to posted power rates for Subscription sales if ANR in the generation function are forecasted to fall below a threshold level.  The FB CRAC has typically been modeled in ToolKit as having a trigger level based on reserves.  Because ANR are:  (1) a more common financial yardstick; (2) audited as part of BPA's regular financial accounting practices; and (3) better able to be separated into power and transmission portions, BPA is defining the FB CRAC Threshold (the "trigger point" for invoking a rate increase under the FB CRAC) in terms of forecasted ANR.  A series of five accumulated net revenue FB CRAC Thresholds is calibrated based on starting reserves thresholds of $300 million for FY 2002 to 2003 and $500 million for FY 2003 to 2006.  The ToolKit run for the $148 market in FY 2002 with no load reduction was used here.

### Table A:  Calculation of the FB CRAC Threshold as Accumulated Net Revenues

| (1)<br><br>Fiscal Year | (2)<br><br>Pro-jected Ending Reserves | (3)<br><br>Pro-jected Starting Reserves | (4)<br><br>FB CRAC Thresh-old as Reserve Level | (5)<br><br>Maximum Planned Recovery Amount | (6)<br><br>Differ-ential (3)-(4) | (7)<br><br>Projected Starting Accumu-lated Net Revenues | (8)<br><br>FB CRAC Threshold as Accumulated Net Revenues (7)-(6) |
|---|---|---|---|---|---|---|---|
| FY2001 | 429 | | | | | | |
| FY2002 | 1387 | 429 | 300 | No cap | 129 | -257 | -386 |
| FY2003 | 1534 | 1387 | 300 | 135 | 1087 | 680 | -407 |
| FY2004 | 1454 | 1534 | 500 | 150 | 1034 | 769 | -265 |
| FY2005 | 1285 | 1454 | 500 | 150 | 954 | 655 | -299 |
| FY2006 | | 1285 | 500 | 175 | 785 | 486 | -299 |

Note:  Because there were no changes in the base rates in the Supplemental Proposal, it was

necessary to derive the values in this table somewhat differently than was the case for the May

Proposal.  *See* Revenue Requirements Study Documentation, Volume 1, WP-02-FS-BPA-02A,

at 280-285.  The projected ending reserves in column 2 were taken directly from ToolKit and as

such represent the expected values for reserves in each of the years in the rate period.  The

projected Accumulated Net Revenues in column 8 were derived by calculating the year-to-year

change in reserves from column 3 and subtracting the "Internal Cash Flow" values listed in

ToolKit to yield an estimate of net revenues for each of the years in the FY 2001-2006 period.

These values were then added to the net revenues forecasted for the FY 2000 to produce the

values in column 7.


The same methodology was used to convert the DDC reserves thresholds to ANR.  BPA has

proposed three changes to the DDC methodology from what was presented in the May Proposal:

first, the DDC would not be available in the first year (2002) of the rate period; second, any

dividend beyond the first $15 million which will go to Conservation and Renewable purposes

would all be distributed to power customers; and finally, the distribution will be automatic if

accumulated net revenues exceed the threshold.  There will be no TPP test. Due to the automatic

nature of the dividend and BPA's increased financial volatility, the thresholds are higher.  For

FY 2003, the threshold is the accumulated net revenue equivalent of $1.7 billion in reserves; FY

2004, $1.5 billion; FY 2005 and 2006, $1.2 billion.  The conversion from reserves to ANR is

reported in Table B below.

**Table B: Calculation of the DDC Threshold as Accumulated Net Revenues**

| (1) Fiscal Year | (2) Projected Ending Reserves | (3) Projected Starting Reserves | (4) DDC Threshold as Reserve Level | (5) Differential (3)-(4) | (6) Projected Starting Accumulated Net Revenues | (7) DDC Threshold as Accumulated Net Revenues (6)-(5) |
|---|---|---|---|---|---|---|
| FY2001 | 429 | | | | | |
| FY2002 | 1387 | 429 | N/A | **N/A** | **N/A** | **N/A** |
| FY2003 | 1534 | 1387 | 1700 | -313 | 680 | 993 |
| FY2004 | 1454 | 1534 | 1500 | 34 | 769 | 735 |
| FY2005 | 1285 | 1454 | 1200 | 254 | 655 | 401 |
| FY2006 | | 1285 | 1200 | 85 | 486 | 401 |

**APPENDIX 2**

Calculation of the Initial Estimate of Augmentation Need
Table C     page 5-24

**Appendix 2:  Calculation of the Initial Estimate of Augmentation Need**

Table C shows the calculation of the initial estimate of augmentation need (AAMT) for each month for each year in the rate period.  The estimate of AAMT contained in the last line of numbers for each year only reflects pre-purchases made by August 1, 2000.  There are five calculations required to determine a monthly value for AAMT.  Each of these five steps is discussed below.

The first line is BPA's loads with the Slice loads removed.  It is labeled "BPA loads minus Slice loads."  It is derived from the May Proposal adjusted for the increase in the forecast due to increases in Subscription load forecasts, for the 46 aMW of increased Direct Service Industrial Customers (DSI) load, and for transmission losses of 13 aMW on 450 aMW of DSI load.  It includes Priority Firm (PF), Residential Load (RL), Industrial Firm Power (IP), and New Resource (NR) loads except for Slice loads and 900 aMW of IOU load receiving the cash settlement.  It also includes all long-term purchases and sales using the Firm Power Products & Services rate schedule, and all system obligations.  It is reduced by long-term purchases and customer contributions to meet system obligations.  It is then further reduced by system obligations met by the base Federal Base System (FBS) that are taken off the top of the base FBS before determining the basis for the Slice of the system.

The second line is BPA's share of the base FBS after reducing for system obligations.  It is labeled "BPA critical FBS shaped to load."  BPA's share of the critical FBS (5,472 aMW) is shaped across the months in proportion to the loads in line one.  The 5,472 aMW is the critical FBS of 7,072 minus an assumed sale of 1,600 aMW of Slice.  For example, the October entry for

FY 2002 in the second line is found by multiplying the constant 5,472 by the October entry in

"BPA loads minus Slice loads" and dividing the result by the average of "BPA loads minus Slice

loads."


Line 3 labeled "Initial estimate of augmentation need" is the estimated augmentation before

adjusting for any pre-purchases and buydowns made after August 1, 2000.

# Table C: Shaped Augmentation by Year

| FY 2002 | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Avg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Hours in Month** | 745 | 720 | 744 | 744 | 672 | 744 | 719 | 744 | 720 | 744 | 744 | 720 | |
| BPA loads minus Slice loads | **8,135** | **8,933** | **9,622** | **9,951** | **9,782** | **9,034** | **8,821** | **8,783** | **8,527** | **8,695** | **8,658** | **8,417** | 8943 |
| BPA critical FBS shaped to load | 4976 | 5464 | 5886 | 6087 | 5983 | 5526 | 5396 | 5372 | 5216 | 5319 | 5296 | 5149 | 5472 |
| Initial estimate of augmentation need | 3159 | 3469 | 3736 | 3864 | 3799 | 3508 | 3425 | 3411 | 3311 | 3376 | 3362 | 3268 | 3474 |

| FY 2003 | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Avg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Hours in Month** | 745 | 720 | 744 | 744 | 672 | 744 | 719 | 744 | 720 | 744 | 744 | 720 | |
| BPA Loads minus Slice Loads | **8,370** | **9,148** | **9,826** | **9,678** | **9,495** | **8,738** | **8,462** | **8,430** | **8,207** | **8,366** | **8,325** | **8,085** | 8758 |
| BPA critical FBS shaped to load | 5228 | 5714 | 6137 | 6045 | 5930 | 5458 | 5285 | 5265 | 5126 | 5225 | 5200 | 5050 | 5472 |
| Initial estimate of augmentation need | 3142 | 3434 | 3689 | 3633 | 3565 | 3280 | 3177 | 3165 | 3081 | 3141 | 3125 | 3035 | 3289 |

| FY 2004 | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Avg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Hours in Month** | 745 | 720 | 744 | 744 | 696 | 744 | 719 | 744 | 720 | 744 | 744 | 720 | |
| BPA Loads minus Slice Loads | **8,045** | **8,865** | **9,535** | **9,468** | **9,262** | **8,517** | **8,306** | **8,270** | **8,039** | **8,207** | **8,177** | **7,935** | 8551 |
| BPA critical FBS shaped to load | 5146 | 5671 | 6099 | 6056 | 5925 | 5448 | 5313 | 5290 | 5142 | 5250 | 5231 | 5076 | 5471 |
| Initial estimate of augmentation need | 2899 | 3194 | 3436 | 3412 | 3337 | 3069 | 2993 | 2980 | 2897 | 2957 | 2946 | 2859 | 3082 |

| FY 2005 | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Avg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Hours in Month** | 745 | 720 | 744 | 744 | 672 | 744 | 719 | 744 | 720 | 744 | 744 | 720 | |
| BPA Loads minus Slice Loads | **7,889** | **8,719** | **9,400** | **9,540** | **9,356** | **8,572** | **8,360** | **8,322** | **8,088** | **8,262** | **8,236** | **7,992** | 8558 |
| BPA critical FBS shaped to load | 5043 | 5573 | 6008 | 6098 | 5980 | 5479 | 5344 | 5319 | 5170 | 5281 | 5264 | 5108 | 5472 |
| Initial estimate of augmentation need | 2846 | 3146 | 3392 | 3442 | 3376 | 3093 | 3016 | 3003 | 2918 | 2981 | 2972 | 2884 | 3089 |

| FY 2006 | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Avg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Hours in Month** | 745 | 720 | 744 | 744 | 672 | 744 | 719 | 744 | 720 | 744 | 744 | 720 | |
| BPA Loads minus Slice Loads | **7,939** | **8,778** | **9,465** | **9,466** | **9,278** | **8,488** | **8,226** | **8,182** | **7,944** | **8,122** | **8,081** | **7,829** | 8480 |
| BPA critical FBS shaped to load | 5121 | 5662 | 6106 | 6106 | 5985 | 5475 | 5306 | 5278 | 5124 | 5239 | 5213 | 5050 | 5472 |
| Initial estimate of augmentation need | 2818 | 3116 | 3359 | 3360 | 3293 | 3013 | 2920 | 2904 | 2820 | 2883 | 2868 | 2779 | 3011 |

**ATTACHMENT 1**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Initial Reserves Balance (Year 0) | 165.7 | | | | | **Updated 2/11/01** | |
| Initial Balance of 4(H)(10)(C) FCCF | 325 | | | | | | |
| Interest earned on FCCF? (1=yes) | 0 | 1 | Allow access to FCCF? | | | Adjustments to cash | |
| Frequency of 4(H)(10)(C) FCCF | 2% | 1 | Allow access to 4h10c?? | | Flex. | FCCF | 4h10c |
| Additional contingent 4(H)(10)(C) Credit | 0 | | | | esc | 0 | 0.0 | 0.0 |
| Interest rate from Treasury | 6.93% | **1-year probability of** | 100.0% | | flat | 0 | 0.0 | 0.0 |
| Rebate Threshhold | 8000 | Use adjustments? (1=yes) | 0 | | | 0.0 | 0.0 |
| Total expected rebates (5-year) | $0 | "cumulative probability": probability of making all payments in | | | 0.0 | 0.0 |
| Total expected missed Tr. payments (5-yr) | $0 | years 1 thru 2, 1 thru 3, 1 thru 4, or 1 thru 5 | | | 0.0 | 0.0 |
| Plus one std. dev. (0.0) | $0 | Ave. size of deferrals (per deferral) | $0 | | | -39.8 |
| Maximum amount missed | 0 | kg Cap = | -5000 | | | |
| Customer Line of Credit | Size = $ - | Int % = | 6.93% | | | |

| Kit Yr | Fiscal Yr | Proba-bilistic? | deferrals | prob. | cumulative deferrals | cumulative probab. | Sched Amort | Sched Interest | Cash for Risk | Acc to Cash Adj | Adjmt to Cash | STREAM Mean | Interest Credit | Ave End Bal |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year 0 | FY 96 | 0 | 0 | 100.0% | | | 290.0 | 407.1 | 39.85 | 0 | 0.0 | -6.7 | 20.6 | **197.1** |
| Year 1 | FY 97 | 0 | 0 | 100.0% | | | 233.1 | 426.6 | **199.8** | 0 | -10.1 | -18.5 | **24.4** | **381.8** |
| Year 2 | FY 98 | 0 | 0 | 100.0% | | | 227.6 | 470.9 | **180.0** | 0 | 1.8 | -19.7 | **32.3** | **562.9** |
| Year 3 | FY 99 | 0 | 0 | 100.0% | 0 | 100.0% | 163.6 | 473.5 | **85.1** | | 25.1 | -21.3 | **45.1** | **669.2** |
| Year 4 | FY 2000 | 0 | 0 | 100.0% | 0 | 100.0% | 164.1 | 489.6 | **108.6** | | 0.0 | -19.3 | **51.5** | **774.6** |
| Year 5 | FY 2001 | 1 | 0 | 100.0% | 0 | 100.0% | 163.0 | 521.7 | **183.3** | 0 | -523.6 | -57.9 | **63.3** | **429.0** |
| | 5-yr Ave. | | 0 | 100.0% | | | 190 | 476 | 151 | 0.00 | -101.36 | -27.3 | 43.3 | |
| | 5-yr Total | | 0 | | | | 951 | 2,382 | 757 | | -506.80 | | 217 | |

**ATTACHMENTS  2 - 7**

**ToolKit v. 1.47, (6-12-2001)**

| | | |
|---|---|---|
| Study title: | 6-12-01, 1600 aMW Slice, $100/MWh, No Load Reduction. | RiskModFile2 (the uncapped one): |
| Time of run: 23:19:40 on 6/12/01 | 5 -yr TPP = 81.6% | C:\My Dox\A Risky Business\Final 2002 ROD\RevSim0608_S1600_FY( |

| | | Sep augm ass) | |
|---|---|---|---|
| | | Sep augm assumpt'n | 1375 |
| | | Additional load | -1338.4 |
| | | Total | 36.6 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Inputs | Riskmod: | RM_Merged_0608_S1600_$100_LR0.xls | | | | | | | | |
| | NORM: | NORM_MixProb_Final_Proposal_77-37%_outputs.xls | | | | | | | | |
| Files => | Prior TK: | Prior_ToolKit_2001_060801_2ndQRev_NoFloor.xls | | | | | | | | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| $38 | Price for IOU Fin. Settlemt. |
| 2.80% | Network loss percentage |
| 22.63% | Slice Fraction of System |
| 23.69% | Slice Fraction of Load |
| 1,600 | Slice Load |
| 1600 | Default Slice Load Amt. |
| 7 | How Slicers participate in FB CRAC |

| Start in TK Year | Stop in TK Year | Random St. Rsrv. | St. Rsrv. Balance | Access FCCF? | Random St. FCCF | St. FCCF Balance | Access 4h10C? | CRAC Lim/Total | Slice frac. for CRAC | CP CRAC On (>0) | Tx Surch Threshold |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 2 | 6 | TRUE | 300 | FALSE | TRUE | 162.5 | FALSE | 20,000 | 23.69% | 0 | 300 |

| Start TPP in TK Yr | "Small" Def. Size | FishRisk in RM? | No. of Iterations | Ave PF Base Rt | Debug Level | Reserves Graph | AutoPrint Res Grph | AutoPrint This Page | Use Adj. CRAC | Enable OnTheFly | LB CRAC Scaling |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 2 | $20 | TRUE | 3900 | 21.7 | 0 | ☑ | ☐ | ☐ | ☐ | ☐ | 100% |

(1: There are no Slicers)
(2: Load-based share of FB CRAC)
(3: Pseudo-CRAC [$ & MW true-up in FB CRAC years])
(4: No FB CRAC; they true up instead)
(5: BPA CounterProp, 1-22-01, CRAC rev in true-up)
(6: BPA CounterProp, 1-22-01, CRAC rev not in true-up)
(7: 2-2-01 proposal from settlement talks)

| ToolKit Year | Fiscal Year | Probabi- listic? | Treasury Int. Rate | Amort Sched | Interest Sched | Interest Cr. Sched | CRAC Threshold | CRAC Lim/Year | Tx Surch. Lim/Year | Div. Dist. Threshold | Div.Dist Lim/Year |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 2001 | TRUE | 7.39% | 163.0 | 521.7 | 65.4 | | 50 | 0 | | |
| 2 | 2002 | TRUE | 6.82% | 107.4 | 315.5 | 61.0 | 300 | 1000 | 0 | | 20,000 |
| 3 | 2003 | TRUE | 6.78% | 73.0 | 323.0 | 67.5 | 300 | 135 | 0 | 1,700 | 20,000 |
| 4 | 2004 | TRUE | 6.92% | 93.0 | 334.4 | 75.0 | 500 | 150 | 0 | 1,500 | 20,000 |
| 5 | 2005 | TRUE | 6.90% | 148.1 | 345.3 | 79.8 | 500 | 150 | 0 | 1,200 | 20,000 |
| 6 | 2006 | TRUE | 6.90% | 128.5 | 348.3 | 84.7 | 500 | 175 | 0 | 1,200 | 20,000 |

| ToolKit Year | Fiscal Year | Internal Cash Flow | Add'l IOU $ | LB CRAC Non-Slice | Adj. C1 Slice | LB CRAC Price | Slice Aug Price | FB CRAC 1st Month | FB CRAC Thr. Type | IOU $ to power | Rem Aug Q (aMW) | Net Augm Cost | LB CRAC Rev Basis | FB CRAC Rev Basis |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 2001 | 190.6 | 0.0 | | 0 | 0 | 0.0 | 0 | | | | | | |
| 2 | 2002 | 21.6 | -60.4 | 834.5 | 319.3 | 138.4 | 138.4 | 1 | 0 | 0 | 1,153.7 | 1,371.1 | 991.7 |
| 3 | 2003 | 57.7 | -60.4 | 365.2 | 131.8 | 74.9 | 74.9 | 1 | 0 | 0 | 497.0 | 1,430.5 | 1,051.1 |
| 4 | 2004 | 33.6 | -60.4 | 342.6 | 111.3 | 44.3 | 44.3 | 1 | 0 | 0 | 454.0 | 1,547.2 | 1,167.8 |
| 5 | 2005 | 0.0 | -60.4 | 344.5 | 111.2 | 47.3 | 47.3 | 1 | 0 | 0 | 455.7 | 1,554.8 | 1,175.3 |
| 6 | 2006 | 0.0 | -60.4 | 372.5 | 119.1 | 47.6 | 47.6 | 1 | 0 | 0 | 491.5 | 1,566.3 | 1,186.9 |

**Outputs**

| ToolKit Year | Fiscal Year | No. of Deferrals | "Small" Deferrals | 1-year Probab. | Cumul. Deferrals | Cumul. Probab. | Ave. Def. per Year | Ave. Def. per Def. | Ave 1st Def./Def. | Ave. End Reserves | On-the-Fly Adjustmt. | Ave Rsrvs Strt Bal |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.0 | 0.0 | - | 1.0 | n / a | n / a | 0.0 | n / a | n / a | 0 | | |
| 2 | 2002 | 251 | 22 | 94% | 251 | 94% | 15.3 | 237.5 | 237.5 | 980 | - | 429.0 |
| 3 | 2003 | 343 | 21 | 91% | 414 | 89% | 22.3 | 254.1 | 166.6 | 1,063 | - | |
| 4 | 2004 | 353 | 9 | 91% | 523 | 87% | 30.5 | 336.9 | 181.4 | 1,136 | - | FCCF |
| 5 | 2005 | 430 | 18 | 89% | 636 | 84% | 38.4 | 348.4 | 149.4 | 1,113 | - | Strt Bal |
| 6 | 2006 | 432 | 17 | 89% | 718 | 82% | 35.6 | 321.7 | 141.9 | 1,003 | - | n / a |
| 5 -yr Total | | 1809 | 87 | n / a | n / a | n / a | 142.2 | n / a | n / a | n / a | - | |
| 5 -yr Ave. | | 361.8 | 17 | n / a | n / a | n / a | 28.4 | 306.5 | 188.1 | n / a | - | |

| ToolKit Year | Fiscal Year | CRAC Accesses | Av. CRAC per Acc. | Av. CRAC per Year | CRAC Ann. Lim Rchd | CRAC Tot. Lim Rchd | Slice pmt. Accesses | Av. Slice per Acc. | Av. Slice per Year | TxS Ann. Lim Rchd | TxS Total Lim Rchd | Slice LB CRAC |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.0 | 0 | n / a | 0.0 | 0 | 0 | 0 | n / a | 0.0 | 0 | 0 | |
| 2 | 2002 | 1248 | 273.4 | 87.5 | 0 | 0 | 0 | n / a | 0.0 | 0 | 0 | 84% |
| 3 | 2003 | 452 | 86.0 | 10.0 | 305 | 0 | 0 | n / a | 0.0 | 0 | 0 | 35% |
| 4 | 2004 | 980 | 101.2 | 25.4 | 779 | 0 | 0 | n / a | 0.0 | 0 | 0 | 29% |
| 5 | 2005 | 971 | 105.1 | 26.2 | 786 | 0 | 0 | n / a | 0.0 | 0 | 0 | 29% |
| 6 | 2006 | 954 | 93.6 | 22.9 | 799 | 0 | 0 | n / a | 0.0 | 0 | 0 | 31% |
| 5 -yr Total | | 4605 | n / a | 172.0 | 2669 | 0 | 0 | n / a | 0.0 | 0 | 0 | |
| 5 -yr Ave. | | 921 | 145.6 | 34.4 | 533.8 | n / a | 0.0 | n / a | 0.0 | 0.0 | n / a | 42% |

| ToolKit Year | Fiscal Year | Riskmod Inputs | NORM Inputs | Risk IP Totals | No. of DivDists | Ave. DvD. per DvD. | Ave. DvD. per Year | Interest Credit | FCCF Credit | FCCF Use % | 4h10C Credit | Non-Slice Impacts of LB & FB CRACs and DDC | | | | | FB CRAC Freqncy |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | LB C | FB C | FB + LB | DDC | Net | |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | n / a | n / a | n / a | 0.0 | n / a | n / a | n / a | | | | | | |
| 2 | 2002 | -623.1 | -7.9 | -631.0 | n / a | n / a | n / a | 47.6 | n / a | n / a | n / a | 84% | 9% | 93% | | 93% | 32% |
| 3 | 2003 | -423.1 | -9.3 | -432.4 | 492 | 333.8 | 42.1 | 67.1 | n / a | n / a | n / a | 35% | 1% | 36% | 3% | 32% | 12% |
| 4 | 2004 | -298.7 | -9.2 | -308.0 | 1053 | 430.9 | 116.4 | 73.3 | n / a | n / a | n / a | 29% | 2% | 32% | 9% | 23% | 25% |
| 5 | 2005 | -277.6 | -9.2 | -286.8 | 1887 | 453.4 | 219.4 | 74.6 | n / a | n / a | n / a | 29% | 2% | 32% | 16% | 16% | 25% |
| 6 | 2006 | -295.0 | -9.3 | -304.3 | 1804 | 329.3 | 152.3 | 69.8 | n / a | n / a | n / a | 31% | 2% | 33% | 11% | 22% | 24% |
| 5 -yr Total | | -1917.6 | -44.9 | -1962.5 | 5236 | n / a | 530.1 | 332.5 | n / a | n / a | n / a | | | | | | |
| 5 -yr Ave. | | -383.5 | -9.0 | -392.5 | 1047.2 | 394.9 | 106.0 | 66.5 | n / a | n / a | n / a | 42% | 3% | 45% | 8% | 37% | 24% |

**ToolKit v. 1.47b, (6-12-2001)**

| Study title: | 6-12-01, 1600 aMW Slice, $100/MWh, 750 Load Reduction. |
| --- | --- |

RiskModFile2 (the uncapped one):

Time of run: 23:21:38 on 6/12/01 | 5 -yr TPP = | 81.6%

C:\My Dox\A Risky Business\Final 2002 ROD\RevSim0608_S1600_FY(

| | | | | | | | | | | | | Sep augm assump'tn | 1375 |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |

| Inputs | Riskmod: | RM_Merged_0608_S1600_$100_LR750_Rev1.xls | | | | | | | | | Additional load | -1338.4 |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| | NORM: | NORM_MixProb_Final_Proposal_77-37%_outputs.xls | | | | | | | | | Total | 36.6 |
| Files => | Prior TK: | Prior_ToolKit_2001_060801_2ndQRev_NoFloor.xls | | | | | | | | | | |

| Start in TK Year | Stop in TK Year | Random St. Rsrv. | St. Rsrv. Balance | Access FCCF? | Random St. FCCF | St. FCCF Balance | Access 4h10C? | CRAC Lim/Total | Slice frac. for CRAC | CP CRAC On (>0) | Tx Surch Threshold | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 2 | 6 | TRUE | 300 | FALSE | TRUE | 162.5 | FALSE | 20,000 | 23.69% | 0 | 300 | $38 | Price for IOU Fin. Settlemt. |

| Start TPP in TK Yr | "Small" Def. Size | FishRisk in RM? | No. of Iterations | Ave PF Base Rt | Debug Level | Reserves Graph | AutoPrint Res Grph | AutoPrint This Page | Use Adj. CRAC | Enable OnTheFly | LB CRAC Scaling | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 2 | $20 | TRUE | 3900 | 21.7 | 0 | ☑ | ☐ | ☐ | ☐ | ☐ | 100% | 2.80% | Network loss percentage |

Additional input box values:
- 22.63% | Slice Fraction of System
- 23.69% | Slice Fraction of Load
- 1,600 | Slice Load
- 1600 | Default Slice Load Amt.
- 7 | How Slicers participate in FB CRAC

| ToolKit Year | Fiscal Year | Probabi-listic? | Treasury Int. Rate | Amort Sched | Interest Sched | Interest Cr. Sched | CRAC Threshold | CRAC Lim/Year | Tx Surch. Lim/Year | Div. Dist. Threshold | Div.Dist Lim/Year |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 1 | 2001 | TRUE | 7.39% | 163.0 | 521.7 | 65.4 | | 50 | 0 | | |
| 2 | 2002 | TRUE | 6.82% | 107.4 | 315.5 | 61.0 | 300 | 1000 | 0 | | 20,000 |
| 3 | 2003 | TRUE | 6.78% | 73.0 | 323.0 | 67.5 | 300 | 135 | 0 | 1,700 | 20,000 |
| 4 | 2004 | TRUE | 6.92% | 93.0 | 334.4 | 75.0 | 500 | 150 | 0 | 1,500 | 20,000 |
| 5 | 2005 | TRUE | 6.90% | 148.1 | 345.3 | 79.8 | 500 | 150 | 0 | 1,200 | 20,000 |
| 6 | 2006 | TRUE | 6.90% | 128.5 | 348.3 | 84.7 | 500 | 175 | 0 | 1,200 | 20,000 |

(1: There are no Slicers)
(2: Load-based share of FB CRAC)
(3: Pseudo-CRAC [$ & MW true-up in FB CRAC years])
(4: No FB CRAC; they true up instead)
(5: BPA CounterProp, 1-22-01, CRAC rev in true-up)
(6: BPA CounterProp, 1-22-01, CRAC rev not in true-up)
(7: 2-2-01 proposal from settlement talks)

| ToolKit Year | Fiscal Year | Internal Cash Flow | | Add'l IOU $ | LB CRAC Non-Slice | Adj. C1 Slice | LB CRAC Price | Slice Aug 1st Month | FB CRAC Thr. Type | IOU $ to power | Rem Aug Q (aMW) | Net Augm Cost | LB CRAC Rev Basis | FB CRAC Rev Basis |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 1 | 2001 | 190.6 | 0.0 | | 0 | 0 | 0.0 | 0 | | | | | | |
| 2 | 2002 | 21.6 | | -60.4 | 429.2 | 192.4 | 138.4 | 138.4 | 1 | 0 | 0 | 621.6 | 1,225.9 | 846.5 |
| 3 | 2003 | 57.7 | | -60.4 | 213.8 | 89.5 | 74.9 | 74.9 | 1 | 0 | 0 | 303.3 | 1,285.3 | 905.9 |
| 4 | 2004 | 33.6 | | -60.4 | 209.7 | 77.9 | 44.3 | 44.3 | 1 | 0 | 0 | 287.6 | 1,401.6 | 1,022.2 |
| 5 | 2005 | 0.0 | | -60.4 | 194.1 | 71.5 | 47.3 | 47.3 | 1 | 0 | 0 | 265.6 | 1,409.6 | 1,030.1 |
| 6 | 2006 | 0.0 | | -60.4 | 223.0 | 81.2 | 47.6 | 47.6 | 1 | 0 | 0 | 304.3 | 1,421.1 | 1,041.7 |

**Outputs**

| ToolKit Year | Fiscal Year | No. of Deferrals | "Small" Deferrals | 1-year Probab. | Cumul. Deferrals | Cumul. Probab. | Ave. Def. per Year | Ave. Def. per Def. | Ave 1st Def./Def. | Ave. End Reserves | On-the-Fly Adjustmt. | Ave Rsrvs Strt Bal |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 0.0 | 0.0 | 0.0 | - | 1.0 | n / a | n / a | 0.0 | n / a | n / a | 0 | | |
| 2 | 2002 | 251 | 22 | 94% | 251 | 94% | 15.3 | 237.2 | 237.2 | 981 | - | 429.0 |
| 3 | 2003 | 342 | 20 | 91% | 414 | 89% | 22.3 | 254.5 | 166.4 | 1,063 | - | |
| 4 | 2004 | 353 | 9 | 91% | 523 | 87% | 30.5 | 336.6 | 181.1 | 1,136 | - | FCCF |
| 5 | 2005 | 428 | 16 | 89% | 635 | 84% | 38.4 | 349.7 | 150.4 | 1,113 | - | Strt Bal |
| 6 | 2006 | 432 | 18 | 89% | 718 | 82% | 35.6 | 321.3 | 142.8 | 1,004 | - | n / a |
| | 5 -yr Total | 1806 | 85 | n / a | n / a | n / a | 142.0 | n / a | n / a | n / a | - | |
| | 5 -yr Ave. | 361.2 | 17 | n / a | n / a | n / a | 28.4 | 306.7 | 188.2 | n / a | - | |

| ToolKit Year | Fiscal Year | CRAC Accesses | Av. CRAC per Acc. | Av. CRAC per Year | CRAC Ann. Lim Rchd | CRAC Tot. Lim Rchd | Slice pmt. Accesses | Av. Slice per Acc. | Av. Slice per Year | TxS Ann. Lim Rchd | TxS Total Lim Rchd | Slice LB CRAC |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 0.0 | 0.0 | 0 | n / a | 0.0 | 0 | 0 | 0 | n / a | 0.0 | 0 | 0 | |
| 2 | 2002 | 1248 | 273.4 | 87.5 | 0 | 0 | 0 | n / a | 0.0 | 0 | 0 | 51% |
| 3 | 2003 | 452 | 85.9 | 10.0 | 305 | 0 | 0 | n / a | 0.0 | 0 | 0 | 24% |
| 4 | 2004 | 980 | 101.2 | 25.4 | 779 | 0 | 0 | n / a | 0.0 | 0 | 0 | 21% |
| 5 | 2005 | 971 | 105.0 | 26.2 | 786 | 0 | 0 | n / a | 0.0 | 0 | 0 | 19% |
| 6 | 2006 | 954 | 93.6 | 22.9 | 799 | 0 | 0 | n / a | 0.0 | 0 | 0 | 21% |
| | 5 -yr Total | 4605 | n / a | 171.9 | 2669 | 0 | 0 | n / a | 0.0 | 0 | 0 | 27% |
| | 5 -yr Ave. | 921 | 145.6 | 34.4 | 533.8 | n / a | 0.0 | n / a | 0.0 | 0.0 | n / a | 27% |

| ToolKit Year | Fiscal Year | Riskmod Inputs | NORM Inputs | Risk IP Totals | No. of DivDists | Ave. DvD. per DvD. | Ave. DvD. per Year | Interest Credit | FCCF Credit | FCCF Use % | 4h10C Credit | Non-Slice Impacts of LB & FB CRACs and DDC | | | | | FB CRAC Freqncy |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| | | | | | | | | | | | | LB C | FB C | FB + LB | DDC | Net | |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | n / a | n / a | n / a | 0.0 | n / a | n / a | n / a | | | | | | |
| 2 | 2002 | -90.9 | -7.9 | -98.8 | n / a | n / a | n / a | 47.6 | n / a | n / a | n / a | 51% | 10% | 61% | | 61% | 32% |
| 3 | 2003 | -229.3 | -9.3 | -238.6 | 492 | 333.9 | 42.1 | 67.2 | n / a | n / a | n / a | 24% | 1% | 25% | 4% | 21% | 12% |
| 4 | 2004 | -132.3 | -9.2 | -141.5 | 1053 | 431.1 | 116.4 | 73.3 | n / a | n / a | n / a | 21% | 2% | 23% | 10% | 13% | 25% |
| 5 | 2005 | -87.4 | -9.2 | -96.7 | 1887 | 453.5 | 219.4 | 74.6 | n / a | n / a | n / a | 19% | 3% | 21% | 18% | 3% | 25% |
| 6 | 2006 | -107.7 | -9.3 | -117.0 | 1805 | 329.2 | 152.4 | 69.8 | n / a | n / a | n / a | 21% | 2% | 24% | 12% | 11% | 24% |
| | 5 -yr Total | -647.7 | -44.9 | -692.5 | 5237 | n / a | 530.3 | 332.5 | n / a | n / a | n / a | | | | | | |
| | 5 -yr Ave. | -129.5 | -9.0 | -138.5 | 1047.4 | 394.9 | 106.1 | 66.5 | n / a | n / a | n / a | 27% | 4% | 31% | 9% | 22% | 24% |

| **ToolKit v. 1.47, (6-12-2001)** | | | | | Study title: | 6-12-01, 1600 aMW Slice, $148/MWh, No Load Reduction. | | | | | | RiskModFile2 (the uncapped one): | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Time of run: 23:20:42 on 6/12/01** | | | | | **5 -yr TPP =** | **85.7%** | | | | | | C:\My Dox\A Risky Business\Final 2002 ROD\RevSim0608_S1600_FY( | | |
| **Inputs** | Riskmod: | RM_Merged_0608_S1600_$148_LR0.xls | | | | | | | | | | Sep augm assumpt'n | | 1375 |
| | NORM: | NORM_MixProb_Final_Proposal_77-37%_outputs.xls | | | | | | | | | | Additional load | | -1338.4 |
| Files => | Prior TK: | Prior_ToolKit_2001_060801_2ndQRev_NoFloor.xls | | | | | | | | | | Total | | 36.6 |
| Start in TK Year | Stop in TK Year | Random St. Rsrv. | St. Rsrv. Balance | Access FCCF? | Random St. FCCF | St. FCCF Balance | Access 4h10C? | CRAC Lim/Total | Slice frac. for CRAC | CP CRAC On (>0) | Tx Surch Threshold | **$38** | Price for IOU Fin. Settlemt. | |
| 2 | 6 | TRUE | 300 | FALSE | TRUE | 162.5 | FALSE | 20,000 | 23.69% | 0 | 300 | **2.80%** | Network loss percentage | |
| Start TPP in TK Yr | "Small" Def. Size | FishRisk in RM? | No. of Iterations | Ave PF Base Rt | Debug Level | Reserves Graph | AutoPrint Res Grph | AutoPrint This Page | Use Adj. CRAC | Enable OnTheFly | LB CRAC Scaling | **22.63%** | Slice Fraction of System | |
| 2 | $20 | TRUE | 3900 | 21.7 | 0 | ☑ | ☐ | ☐ | ☐ | ☐ | 100% | **23.69%** | Slice Fraction of Load | |
| ToolKit Year | Fiscal Year | Probabilistic? | Treasury Int. Rate | Amort Sched | Interest Sched | Interest Cr. Sched | CRAC Threshold | CRAC Lim/Year | Tx Surch. Lim/Year | Div. Dist. Threshold | Div.Dist Lim/Year | **1,600** | Slice Load | |
| | | | | | | | | | | | | 1600 | Default Slice Load Amt. | |
| 1 | 2001 | TRUE | 7.39% | 163.0 | 521.7 | 65.4 | | 50 | 0 | | | **7** | How Slicers participate in FB CRAC | |
| 2 | 2002 | TRUE | 6.82% | 107.4 | 315.5 | 61.0 | 300 | 1000 | 0 | | 20,000 | (1: There are no Slicers) | | |
| 3 | 2003 | TRUE | 6.78% | 73.0 | 323.0 | 67.5 | 300 | 135 | 0 | 1,700 | 20,000 | (2: Load-based share of FB CRAC) | | |
| 4 | 2004 | TRUE | 6.92% | 93.0 | 334.4 | 75.0 | 500 | 150 | 0 | 1,500 | 20,000 | (3: Pseudo-CRAC [$ & MW true-up in FB CRAC years]) | | |
| 5 | 2005 | TRUE | 6.90% | 148.1 | 345.3 | 79.8 | 500 | 150 | 0 | 1,200 | 20,000 | (4: No FB CRAC; they true up instead) | | |
| 6 | 2006 | TRUE | 6.90% | 128.5 | 348.3 | 84.7 | 500 | 175 | 0 | 1,200 | 20,000 | (5: BPA CounterProp, 1-22-01, CRAC rev in true-up) | | |
| ToolKit Year | Fiscal Year | Internal Cash Flow | | Add'l IOU $ | LB CRAC Non-Slice | Adj. C1 Slice | LB CRAC Price | Slice Aug Price | FB CRAC 1st Month | FB CRAC Thr. Type | IOU $ to power | Rem Aug Q (aMW) | Net Augm Cost | LB CRAC Rev Basis | FB CRAC Rev Basis |
| | | | | | | | | | | | | | | (6: BPA CounterProp, 1-22-01, CRAC rev not in true-up) | |
| 1 | 2001 | 190.6 | 0.0 | | 0 | 0 | 0.0 | 0 | | | | | | (7: 2-2-01 proposal from settlement talks) | |
| 2 | 2002 | 21.6 | | -60.4 | 1,193.0 | 456.5 | 138.4 | 138.4 | 1 | 0 | 0 | | 1,649.5 | 1,371.1 | 991.7 |
| 3 | 2003 | 57.7 | | -60.4 | 464.0 | 167.5 | 74.9 | 74.9 | 1 | 0 | 0 | | 631.5 | 1,430.5 | 1,051.1 |
| 4 | 2004 | 33.6 | | -60.4 | 342.6 | 111.3 | 44.3 | 44.3 | 1 | 0 | 0 | | 454.0 | 1,547.2 | 1,167.8 |
| 5 | 2005 | 0.0 | | -60.4 | 344.5 | 111.2 | 47.3 | 47.3 | 1 | 0 | 0 | | 455.7 | 1,554.8 | 1,175.3 |
| 6 | 2006 | 0.0 | | -60.4 | 372.5 | 119.1 | 47.6 | 47.6 | 1 | 0 | 0 | | 491.5 | 1,566.3 | 1,186.9 |

**Outputs**

| ToolKit Year | Fiscal Year | No. of Deferrals | "Small" Deferrals | 1-year Probab. | Cumul. Deferrals | Cumul. Probab. | Ave. Def. per Year | Ave. Def. per Def. | Ave 1st Def./Def. | Ave. End Reserves | On-the-Fly Adjustmt. | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.0 | 0.0 | - | 1.0 | n / a | n / a | 0.0 | n / a | n / a | 0 | | Ave Rsrvs Strt Bal | | | |
| 2 | 2002 | 271 | 13 | 93% | 271 | 93% | 29.7 | 428.1 | 428.1 | 1,387 | - | 429.0 | | | |
| 3 | 2003 | 274 | 17 | 93% | 350 | 91% | 30.0 | 426.7 | 154.6 | 1,534 | - | | | | |
| 4 | 2004 | 293 | 3 | 92% | 418 | 89% | 32.6 | 433.7 | 156.2 | 1,454 | - | FCCF | | | |
| 5 | 2005 | 298 | 13 | 92% | 480 | 88% | 33.8 | 442.9 | 179.0 | 1,285 | - | Strt Bal | | | |
| 6 | 2006 | 317 | 14 | 92% | 558 | 86% | 32.3 | 397.7 | 147.3 | 1,087 | - | n / a | | | |
| | 5 -yr Total | 1453 | 60 | n / a | n / a | n / a | 158.5 | n / a | n / a | n / a | - | | | | |
| | 5 -yr Ave. | 290.6 | 12 | n / a | n / a | n / a | 31.7 | 425.4 | 289.3 | n / a | - | | | | |
| ToolKit Year | Fiscal Year | CRAC Accesses | Av. CRAC per Acc. | Av. CRAC per Year | CRAC Ann. Lim Rchd | CRAC Tot. Lim Rchd | Slice pmt. Accesses | Av. Slice per Acc. | Av. Slice per Year | TxS Ann. Lim Rchd | TxS Total Lim Rchd | Slice LB CRAC | | | |
| 0.0 | 0.0 | 0 | n / a | 0.0 | 0 | 0 | 0 | n / a | 0.0 | 0 | 0 | | | | |
| 2 | 2002 | 1248 | 273.4 | 87.5 | 0 | 0 | 0 | n / a | 0.0 | 0 | 0 | 120% | | | |
| 3 | 2003 | 370 | 93.2 | 8.8 | 306 | 0 | 0 | n / a | 0.0 | 0 | 0 | 44% | | | |
| 4 | 2004 | 632 | 104.3 | 16.9 | 520 | 0 | 0 | n / a | 0.0 | 0 | 0 | 29% | | | |
| 5 | 2005 | 648 | 101.8 | 16.9 | 518 | 0 | 0 | n / a | 0.0 | 0 | 0 | 29% | | | |
| 6 | 2006 | 674 | 92.0 | 15.9 | 563 | 0 | 0 | n / a | 0.0 | 0 | 0 | 31% | | | |
| | 5 -yr Total | 3572 | n / a | 146.0 | 1907 | 0 | 0 | n / a | 0.0 | 0 | 0 | | | | |
| | 5 -yr Ave. | 714.4 | 159.5 | 29.2 | 381.4 | n / a | 0.0 | n / a | 0.0 | 0.0 | n / a | 51% | | | |
| ToolKit Year | Fiscal Year | Riskmod Inputs | NORM Inputs | Risk IP Totals | No. of DivDists | Ave. DvD. per DvD. | Ave. DvD. per Year | Interest Credit | FCCF Credit | FCCF Use % | 4h10C Credit | Non-Slice Impacts of LB & FB CRACs and DDC | | | FB CRAC |
| | | | | | | | | | | | | LB C | FB C | FB + LB | DDC | Net | Freqncy |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | n / a | n / a | n / a | 0.0 | n / a | n / a | n / a | | | | |
| 2 | 2002 | -740.0 | -7.9 | -747.8 | n / a | n / a | n / a | 60.5 | n / a | n / a | n / a | 120% | 9% | 129% | | 129% | 32% |
| 3 | 2003 | -433.3 | -9.3 | -442.5 | 1270 | 637.7 | 207.7 | 97.0 | n / a | n / a | n / a | 44% | 1% | 45% | 17% | 28% | 9% |
| 4 | 2004 | -296.3 | -9.2 | -305.5 | 1993 | 564.8 | 288.6 | 99.5 | n / a | n / a | n / a | 29% | 1% | 31% | 21% | 9% | 16% |
| 5 | 2005 | -276.7 | -9.2 | -285.9 | 2547 | 518.6 | 338.7 | 90.5 | n / a | n / a | n / a | 29% | 1% | 31% | 25% | 6% | 17% |
| 6 | 2006 | -293.6 | -9.3 | -302.9 | 2115 | 328.1 | 177.9 | 77.8 | n / a | n / a | n / a | 31% | 1% | 33% | 13% | 20% | 17% |
| | 5 -yr Total | -2039.9 | -44.9 | -2084.8 | 7925 | n / a | 1012.9 | 425.2 | n / a | n / a | n / a | | | | | |
| | 5 -yr Ave. | -408.0 | -9.0 | -417.0 | 1585 | 498.5 | 202.6 | 85.0 | n / a | n / a | n / a | 51% | 3% | 54% | 15% | 39% | 18% |

| ToolKit v. 1.47b, (6-12-2001) | | Study title: | 6-12-01, 1600 aMW Slice, $148/MWh, 750 Load Reduction. | | | RiskModFile2 (the uncapped one): |
|---|---|---|---|---|---|---|

**Time of run: 23:18:01 on 6/12/01** — 5 -yr TPP = 85.7%

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| Inputs | Riskmod: | RM_Merged_0608_S1600_$148_LR750_Rev1.xls | | | | | | | | | Sep augm assupt'n | 1375 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | NORM: | NORM_MixProb_Final_Proposal_77-37%_outputs.xls | | | | | | | | | Additional load | -1338.4 |
| Files => | Prior TK: | Prior_ToolKit_2001_060801_2ndQRev_NoFloor.xls | | | | | | | | | Total | 36.6 |

| Start in TK Year | Stop in TK Year | Random St. Rsrv. | St. Rsrv. Balance | Access FCCF? | Random St. FCCF | St. FCCF Balance | Access 4h10C? | CRAC Lim/Total | Slice frac. for CRAC | CP CRAC On (>0) | Tx Surch Threshold | | $38 | Price for IOU Fin. Settlemt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2 | 6 | TRUE | 300 | FALSE | TRUE | 162.5 | FALSE | 20,000 | 23.69% | 0 | 300 | | 2.80% | Network loss percentage |
| Start TPP in TK Yr | "Small" Def. Size | FishRisk in RM? | No. of Iterations | Ave PF Base Rt | Debug Level | Reserves Graph | AutoPrint Res Grph | AutoPrint This Page | Use Adj. CRAC | Enable OnTheFly | LB CRAC Scaling | | 22.63% | Slice Fraction of System |
| 2 | $20 | TRUE | 3900 | 21.7 | 0 | ☑ | ☐ | ☐ | ☐ | ☐ | 100% | | 23.69% | Slice Fraction of Load |
| | | | | | | | | | | | | | 1,600 | Slice Load |
| | | | | | | | | | | | | | 1600 | Default Slice Load Amt. |
| | | | | | | | | | | | | | 7 | How Slicers participate in FB CRAC |

| ToolKit Year | Fiscal Year | Probabi-listic? | Treasury Int. Rate | Amort Sched | Interest Sched | Interest Cr. Sched | CRAC Threshold | CRAC Lim/Year | Tx Surch. Lim/Year | Div. Dist. Threshold | Div.Dist Lim/Year |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 2001 | TRUE | 7.39% | 163.0 | 521.7 | 65.4 | | 50 | 0 | | |
| 2 | 2002 | TRUE | 6.82% | 107.4 | 315.5 | 61.0 | 300 | 1000 | 0 | | 20,000 |
| 3 | 2003 | TRUE | 6.78% | 73.0 | 323.0 | 67.5 | 300 | 135 | 0 | 1,700 | 20,000 |
| 4 | 2004 | TRUE | 6.92% | 93.0 | 334.4 | 75.0 | 500 | 150 | 0 | 1,500 | 20,000 |
| 5 | 2005 | TRUE | 6.90% | 148.1 | 345.3 | 79.8 | 500 | 150 | 0 | 1,200 | 20,000 |
| 6 | 2006 | TRUE | 6.90% | 128.5 | 348.3 | 84.7 | 500 | 175 | 0 | 1,200 | 20,000 |

(1: There are no Slicers)
(2: Load-based share of FB CRAC)
(3: Pseudo-CRAC [$ & MW true-up in FB CRAC years])
(4: No FB CRAC; they true up instead)
(5: BPA CounterProp, 1-22-01, CRAC rev in true-up)
(6: BPA CounterProp, 1-22-01, CRAC rev not in true-up)
(7: 2-2-01 proposal from settlement talks)

| ToolKit Year | Fiscal Year | Internal Cash Flow | | Add'l IOU $ | LB CRAC Non-Slice | Adj. C1 Slice | LB CRAC Price | Slice Aug Price | FB CRAC 1st Month | FB CRAC Thr. Type | IOU $ to power | Rem Aug Q (aMW) | Net Augm Cost | LB CRAC Rev Basis | FB CRAC Rev Basis |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 2001 | 190.6 | 0.0 | | 0 | 0 | 0.0 | 0 | | | | | | | |
| 2 | 2002 | 21.6 | | -60.4 | 547.7 | 245.5 | 138.4 | 138.4 | 1 | 0 | 0 | | 793.2 | 1,225.9 | 846.5 |
| 3 | 2003 | 57.7 | | -60.4 | 245.7 | 102.9 | 74.9 | 74.9 | 1 | 0 | 0 | | 348.6 | 1,285.3 | 905.9 |
| 4 | 2004 | 33.6 | | -60.4 | 209.7 | 77.9 | 44.3 | 44.3 | 1 | 0 | 0 | | 287.6 | 1,401.6 | 1,022.2 |
| 5 | 2005 | 0.0 | | -60.4 | 194.1 | 71.5 | 47.3 | 47.3 | 1 | 0 | 0 | | 265.6 | 1,409.6 | 1,030.1 |
| 6 | 2006 | 0.0 | | -60.4 | 223.0 | 81.2 | 47.6 | 47.6 | 1 | 0 | 0 | | 304.3 | 1,421.1 | 1,041.7 |

**Outputs**

| ToolKit Year | Fiscal Year | No. of Deferrals | "Small" Deferrals | 1-year Probab. | Cumul. Deferrals | Cumul. Probab. | Ave. Def. per Year | Ave. Def. per Def. | Ave 1st Def./Def. | Ave. End Reserves | On-the-Fly Adjustmt. | Ave Rsrvs |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.0 | 0.0 | - | 1.0 | n / a | n / a | 0.0 | n / a | n / a | 0 | | Strt Bal |
| 2 | 2002 | 270 | 12 | 93% | 270 | 93% | 29.7 | 429.3 | 429.3 | 1,387 | - | 429.0 |
| 3 | 2003 | 274 | 17 | 93% | 350 | 91% | 29.9 | 426.1 | 152.5 | 1,534 | - | |
| 4 | 2004 | 293 | 4 | 92% | 418 | 89% | 32.5 | 433.1 | 155.8 | 1,454 | - | FCCF |
| 5 | 2005 | 297 | 12 | 92% | 480 | 88% | 33.8 | 443.9 | 178.6 | 1,285 | - | Strt Bal |
| 6 | 2006 | 317 | 14 | 92% | 558 | 86% | 32.3 | 397.1 | 146.7 | 1,087 | - | n / a |
| 5 -yr Total | | 1451 | 59 | n / a | n / a | n / a | 158.3 | n / a | n / a | n / a | - | |
| 5 -yr Ave. | | 290.2 | 12 | n / a | n / a | n / a | 31.7 | 425.4 | 288.9 | n / a | - | |

| ToolKit Year | Fiscal Year | CRAC Accesses | Av. CRAC per Acc. | Av. CRAC per Year | CRAC Ann. Lim Rchd | CRAC Tot. Lim Rchd | Slice pmt. Accesses | Av. Slice per Acc. | Av. Slice per Year | TxS Ann. Lim Rchd | TxS Total Lim Rchd | Slice LB CRAC |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.0 | 0 | n / a | 0.0 | 0 | 0 | 0 | n / a | 0.0 | 0 | 0 | |
| 2 | 2002 | 1248 | 273.4 | 87.5 | 0 | 0 | 0 | n / a | 0.0 | 0 | 0 | 65% |
| 3 | 2003 | 370 | 93.1 | 8.8 | 306 | 0 | 0 | n / a | 0.0 | 0 | 0 | 27% |
| 4 | 2004 | 632 | 104.2 | 16.9 | 520 | 0 | 0 | n / a | 0.0 | 0 | 0 | 21% |
| 5 | 2005 | 647 | 101.9 | 16.9 | 518 | 0 | 0 | n / a | 0.0 | 0 | 0 | 19% |
| 6 | 2006 | 674 | 92.0 | 15.9 | 563 | 0 | 0 | n / a | 0.0 | 0 | 0 | 21% |
| 5 -yr Total | | 3571 | n / a | 146.0 | 1907 | 0 | 0 | n / a | 0.0 | 0 | 0 | |
| 5 -yr Ave. | | 714.2 | 159.5 | 29.2 | 381.4 | n / a | 0.0 | n / a | 0.0 | 0.0 | n / a | 31% |

| ToolKit Year | Fiscal Year | Riskmod Inputs | NORM Inputs | Risk IP Totals | No. of DivDists | Ave. DvD. per DvD. | Ave. DvD. per Year | Interest Credit | FCCF Credit | FCCF Use % | 4h10C Credit | Non-Slice Impacts of LB & FB CRACs and DDC | | | | FB CRAC Freqncy |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | LB C | FB C | FB + LB | DDC | Net | |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | n / a | n / a | n / a | 0.0 | n / a | n / a | n / a | | | | | | |
| 2 | 2002 | 116.5 | -7.9 | 108.6 | n / a | n / a | n / a | 60.5 | n / a | n / a | n / a | 65% | 10% | 75% | | 75% | 32% |
| 3 | 2003 | -150.4 | -9.3 | -159.6 | 1270 | 637.9 | 207.7 | 97.0 | n / a | n / a | n / a | 27% | 1% | 28% | 19% | 9% | 9% |
| 4 | 2004 | -129.9 | -9.2 | -139.1 | 1994 | 564.7 | 288.7 | 99.5 | n / a | n / a | n / a | 21% | 2% | 22% | 24% | -2% | 16% |
| 5 | 2005 | -86.6 | -9.2 | -95.8 | 2547 | 518.7 | 338.8 | 90.5 | n / a | n / a | n / a | 19% | 2% | 20% | 28% | -7% | 17% |
| 6 | 2006 | -106.3 | -9.3 | -115.6 | 2115 | 328.2 | 178.0 | 77.8 | n / a | n / a | n / a | 21% | 2% | 23% | 14% | 9% | 17% |
| 5 -yr Total | | -356.6 | -44.9 | -401.5 | 7926 | n / a | 1013.2 | 425.3 | n / a | n / a | n / a | | | | | | |
| 5 -yr Ave. | | -71.3 | -9.0 | -80.3 | 1585.2 | 498.6 | 202.6 | 85.1 | n / a | n / a | n / a | 31% | 3% | 34% | 17% | 17% | 18% |

**ToolKit v. 1.47, (6-12-2001)**

| Study title: | 6-12-01, 1600 aMW Slice, $225/MWh, No Load Reduction. | RiskModFile2 (the uncapped one): |
|---|---|---|

Time of run: 23:16:01 on 6/12/01 — 5 -yr TPP = 88.3%

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| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Inputs** | Riskmod: | RM_Merged_0608_S1600_$225_LR0.xls | | | | | | | Sep augm assumpt'n | 1375 |
| | NORM: | NORM_MixProb_Final_Proposal_77-37%_outputs.xls | | | | | | | Additional load | -1338.4 |
| Files => | Prior TK: | Prior_ToolKit_2001_060801_2ndQRev_NoFloor.xls | | | | | | | Total | 36.6 |

| Start in TK Year | Stop in TK Year | Random St. Rsrv. | St. Rsrv. Balance | Access FCCF? | Random St. FCCF | St. FCCF Balance | Access 4h10C? | CRAC Lim/Total | Slice frac. for CRAC | CP CRAC On (>0) | Tx Surch Threshold |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 2 | 6 | TRUE | 300 | FALSE | TRUE | 162.5 | FALSE | 20,000 | 23.69% | 0 | 300 |

| $38 | Price for IOU Fin. Settlemt. |
|---|---|
| 2.80% | Network loss percentage |
| 22.63% | Slice Fraction of System |
| 23.69% | Slice Fraction of Load |
| 1,600 | Slice Load |
| 1600 | Default Slice Load Amt. |
| 7 | How Slicers participate in FB CRAC |

| Start TPP in TK Yr | "Small" Def. Size | FishRisk in RM? | No. of Iterations | Ave PF Base Rt | Debug Level | Reserves Graph | AutoPrint Res Grph | AutoPrint This Page | Use Adj. CRAC | Enable OnTheFly | LB CRAC Scaling |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 2 | $20 | TRUE | 3900 | 21.7 | 0 | ☑ | ☐ | ☐ | ☐ | ☐ | 100% |

(1: There are no Slicers)
(2: Load-based share of FB CRAC)
(3: Pseudo-CRAC [$ & MW true-up in FB CRAC years])
(4: No FB CRAC; they true up instead)
(5: BPA CounterProp, 1-22-01, CRAC rev in true-up)
(6: BPA CounterProp, 1-22-01, CRAC rev not in true-up)
(7: 2-2-01 proposal from settlement talks)

| ToolKit Year | Fiscal Year | Probabi- listic? | Treasury Int. Rate | Amort Sched | Interest Sched | Interest Cr. Sched | CRAC Threshold | CRAC Lim/Year | Tx Surch. Lim/Year | Div. Dist. Threshold | Div.Dist Lim/Year |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 2001 | TRUE | 7.39% | 163.0 | 521.7 | 65.4 | | 50 | 0 | | |
| 2 | 2002 | TRUE | 6.82% | 107.4 | 315.5 | 61.0 | 300 | 1000 | 0 | | 20,000 |
| 3 | 2003 | TRUE | 6.78% | 73.0 | 323.0 | 67.5 | 300 | 135 | 0 | 1,700 | 20,000 |
| 4 | 2004 | TRUE | 6.92% | 93.0 | 334.4 | 75.0 | 500 | 150 | 0 | 1,500 | 20,000 |
| 5 | 2005 | TRUE | 6.90% | 148.1 | 345.3 | 79.8 | 500 | 150 | 0 | 1,200 | 20,000 |
| 6 | 2006 | TRUE | 6.90% | 128.5 | 348.3 | 84.7 | 500 | 175 | 0 | 1,200 | 20,000 |

| ToolKit Year | Fiscal Year | Internal Cash Flow | Add'l IOU $ | LB CRAC Non-Slice | Adj. C1 Slice | LB CRAC Price | Slice Aug Price | FB CRAC 1st Month | FB CRAC Thr. Type | IOU $ to power | Rem Aug Q (aMW) | Net Augm Cost | LB CRAC Rev Basis | FB CRAC Rev Basis |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 2001 | 190.6 | 0.0 | | 0 | 0 | 0.0 | 0 | | | | | | |
| 2 | 2002 | 21.6 | | -60.4 | 1,770.9 | 677.6 | 138.4 | 138.4 | 1 | 0 | 0 | 2,448.5 | 1,371.1 | 991.7 |
| 3 | 2003 | 57.7 | | -60.4 | 741.0 | 267.5 | 74.9 | 74.9 | 1 | 0 | 0 | 1,008.5 | 1,430.5 | 1,051.1 |
| 4 | 2004 | 33.6 | | -60.4 | 342.6 | 111.3 | 44.3 | 44.3 | 1 | 0 | 0 | 454.0 | 1,547.2 | 1,167.8 |
| 5 | 2005 | 0.0 | | -60.4 | 344.5 | 111.2 | 47.3 | 47.3 | 1 | 0 | 0 | 455.7 | 1,554.8 | 1,175.3 |
| 6 | 2006 | 0.0 | | -60.4 | 372.5 | 119.1 | 47.6 | 47.6 | 1 | 0 | 0 | 491.5 | 1,566.3 | 1,186.9 |

**Outputs**

| ToolKit Year | Fiscal Year | No. of Deferrals | "Small" Deferrals | 1-year Probab. | Cumul. Deferrals | Cumul. Probab. | Ave. Def. per Year | Ave. Def. per Def. | Ave 1st Def./Def. | Ave. End Reserves | On-the-Fly Adjustmt. | Ave Rsrvs |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.0 | 0.0 | - | 1.0 | n / a | n / a | 0.0 | n / a | n / a | 0 | | Strt Bal |
| 2 | 2002 | 318 | 1 | 92% | 318 | 92% | 56.8 | 696.5 | 696.5 | 2,027 | - | 429.0 |
| 3 | 2003 | 246 | 3 | 94% | 356 | 91% | 50.6 | 802.0 | 222.1 | 2,326 | - | |
| 4 | 2004 | 261 | 10 | 93% | 400 | 90% | 50.1 | 749.2 | 201.7 | 1,842 | - | FCCF |
| 5 | 2005 | 268 | 6 | 93% | 429 | 89% | 46.2 | 673.0 | 208.5 | 1,419 | - | Strt Bal |
| 6 | 2006 | 247 | 10 | 94% | 455 | 88% | 39.7 | 626.6 | 106.7 | 1,147 | - | n / a |
| | 5 -yr Total | 1340 | 30 | n / a | n / a | n / a | 243.4 | n / a | n / a | n / a | - | |
| | 5 -yr Ave. | 268 | 6 | n / a | n / a | n / a | 48.7 | 708.5 | 544.2 | n / a | - | |

| ToolKit Year | Fiscal Year | CRAC Accesses | Av. CRAC per Acc. | Av. CRAC per Year | CRAC Ann. Lim Rchd | CRAC Tot. Lim Rchd | Slice pmt. Accesses | Av. Slice per Acc. | Av. Slice per Year | TxS Ann. Lim Rchd | TxS Total Lim Rchd | Slice LB CRAC |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.0 | 0 | n / a | 0.0 | 0 | 0 | 0 | n / a | 0.0 | 0 | 0 | |
| 2 | 2002 | 1248 | 273.4 | 87.5 | 0 | 0 | 0 | n / a | 0.0 | 0 | 0 | 179% |
| 3 | 2003 | 389 | 96.5 | 9.6 | 344 | 0 | 0 | n / a | 0.0 | 0 | 0 | 71% |
| 4 | 2004 | 434 | 107.4 | 11.9 | 379 | 0 | 0 | n / a | 0.0 | 0 | 0 | 29% |
| 5 | 2005 | 423 | 108.2 | 11.7 | 379 | 0 | 0 | n / a | 0.0 | 0 | 0 | 29% |
| 6 | 2006 | 454 | 93.3 | 10.9 | 394 | 0 | 0 | n / a | 0.0 | 0 | 0 | 31% |
| | 5 -yr Total | 2948 | n / a | 131.7 | 1496 | 0 | 0 | n / a | 0.0 | 0 | 0 | |
| | 5 -yr Ave. | 589.6 | 174.2 | 26.3 | 299.2 | n / a | 0.0 | n / a | 0.0 | 0.0 | n / a | 68% |

| ToolKit Year | Fiscal Year | Riskmod Inputs | NORM Inputs | Risk IP Totals | No. of DivDists | Ave. DvD. per DvD. | Ave. DvD. per Year | Interest Credit | FCCF Credit | FCCF Use % | 4h10C Credit | Non-Slice Impacts of LB & FB CRACs and DDC | | | | | FB CRAC Freqncy |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | LB C | FB C | FB + LB | DDC | Net | |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | n / a | n / a | n / a | 0.0 | n / a | n / a | n / a | | | | | | |
| 2 | 2002 | -945.8 | -7.9 | -953.6 | n / a | n / a | n / a | 80.7 | n / a | n / a | n / a | 179% | 9% | 187% | | 187% | 32% |
| 3 | 2003 | -474.8 | -9.3 | -484.1 | 2346 | 1108.8 | 667.0 | 147.0 | n / a | n / a | n / a | 71% | 1% | 71% | 55% | 17% | 10% |
| 4 | 2004 | -293.1 | -9.2 | -302.3 | 2902 | 949.6 | 706.6 | 137.9 | n / a | n / a | n / a | 29% | 1% | 30% | 53% | -22% | 11% |
| 5 | 2005 | -274.9 | -9.2 | -284.1 | 3089 | 555.5 | 440.0 | 104.7 | n / a | n / a | n / a | 29% | 1% | 30% | 32% | -2% | 11% |
| 6 | 2006 | -292.2 | -9.3 | -301.5 | 2336 | 327.9 | 196.4 | 83.3 | n / a | n / a | n / a | 31% | 1% | 32% | 14% | 18% | 12% |
| | 5 -yr Total | -2280.9 | -44.9 | -2325.7 | 10673 | n / a | 2010.0 | 553.6 | n / a | n / a | n / a | | | | | | |
| | 5 -yr Ave. | -456.2 | -9.0 | -465.1 | 2134.6 | 734.5 | 402.0 | 110.7 | n / a | n / a | n / a | 68% | 3% | 70% | 31% | 40% | 15% |

| ToolKit v. 1.47b, (6-12-2001) | | | Study title: | 6-12-01, 1600 aMW Slice, $225/MWh, 750 Load Reduction. | | | | | | | RiskModFile2 (the uncapped one): | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

| Time of run: 23:18:50 on 6/12/01 | | | 5 -yr TPP = | 88.3% | | | | | | | C:\My Dox\A Risky Business\Final 2002 ROD\RevSim0608_S1600_FY( | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

| Inputs | Riskmod: | RM_Merged_0608_S1600_$225_LR750_Rev1.xls | | | | | | | | | Sep augm assumpt'n | 1375 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | NORM: | NORM_MixProb_Final_Proposal_77-37%_outputs.xls | | | | | | | | | Additional load | -1338.4 |
| Files => | Prior TK: | Prior_ToolKit_2001_060801_2ndQRev_NoFloor.xls | | | | | | | | | Total | 36.6 |

| Start in | Stop in | Random | St. Rsrv. | Access | Random | St. FCCF | Access | CRAC | Slice frac. | CP CRAC | Tx Surch | $38 | Price for IOU Fin. Settlemt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TK Year | TK Year | St. Rsrv. | Balance | FCCF? | St. FCCF | Balance | 4h10C? | Lim/Total | for CRAC | On (>0) | Threshold | 2.80% | Network loss percentage |
| 2 | 6 | TRUE | 300 | FALSE | TRUE | 162.5 | FALSE | 23.69% | 20,000 | 0 | 300 | 22.63% | Slice Fraction of System |
| Start TPP | "Small" | FishRisk | No. of | Ave PF | Debug | Reserves | AutoPrint | AutoPrint | Use Adj. | Enable | LB CRAC | 23.69% | Slice Fraction of Load |
| in TK Yr | Def. Size | in RM? | Iterations | Base Rt | Level | Graph | Res Grph | This Page | CRAC | OnTheFly | Scaling | 1,600 | Slice Load |
| 2 | $20 | TRUE | 3900 | 21.7 | 0 | ☑ | ☐ | ☐ | ☐ | ☐ | 100% | 1600 | Default Slice Load Amt. |
| | | | | | | | | | | | | 7 | How Slicers participate in FB CRAC |

| ToolKit | Fiscal | Probabi- | Treasury | Amort | Interest | Interest | CRAC | CRAC | Tx Surch. | Div. Dist. | Div.Dist | | (1: There are no Slicers) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year | Year | listic? | Int. Rate | Sched | Sched | Cr. Sched | Threshold | Lim/Year | Lim/Year | Threshold | Lim/Year | | (2: Load-based share of FB CRAC) |
| 1 | 2001 | TRUE | 7.39% | 163.0 | 521.7 | 65.4 | | 50 | 0 | | | | (3: Pseudo-CRAC [$ & MW true-up in FB CRAC years]) |
| 2 | 2002 | TRUE | 6.82% | 107.4 | 315.5 | 61.0 | 300 | 1000 | 0 | | 20,000 | | (4: No FB CRAC; they true up instead) |
| 3 | 2003 | TRUE | 6.78% | 73.0 | 323.0 | 67.5 | 300 | 135 | 0 | 1,700 | 20,000 | | (5: BPA CounterProp, 1-22-01, CRAC rev in true-up) |
| 4 | 2004 | TRUE | 6.92% | 93.0 | 334.4 | 75.0 | 500 | 150 | 0 | 1,500 | 20,000 | | (6: BPA CounterProp, 1-22-01, CRAC rev not in true-up) |
| 5 | 2005 | TRUE | 6.90% | 148.1 | 345.3 | 79.8 | 500 | 150 | 0 | 1,200 | 20,000 | | (7: 2-2-01 proposal from settlement talks) |
| 6 | 2006 | TRUE | 6.90% | 128.5 | 348.3 | 84.7 | 500 | 175 | 0 | 1,200 | 20,000 | | |

| ToolKit | Fiscal | Internal | | Add'l | LB CRAC | Adj. C1 | LB CRAC | Slice Aug | FB CRAC | FB CRAC | IOU $ | Rem Aug | Net Augm | LB CRAC | FB CRAC |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year | Year | Cash Flow | | IOU $ | Non-Slice | Slice | Price | Price | 1st Month | Thr. Type | to power | Q (aMW) | Cost | Rev Basis | Rev Basis |
| 1 | 2001 | 190.6 | 0.0 | | 0 | 0 | 0.0 | 0 | | | | | | | |
| 2 | 2002 | 21.6 | | -60.4 | 738.6 | 331.1 | 138.4 | 138.4 | 1 | 0 | 0 | | 1,069.7 | 1,225.9 | 846.5 |
| 3 | 2003 | 57.7 | | -60.4 | 335.4 | 140.5 | 74.9 | 74.9 | 1 | 0 | 0 | | 475.8 | 1,285.3 | 905.9 |
| 4 | 2004 | 33.6 | | -60.4 | 209.7 | 77.9 | 44.3 | 44.3 | 1 | 0 | 0 | | 287.6 | 1,401.6 | 1,022.2 |
| 5 | 2005 | 0.0 | | -60.4 | 194.1 | 71.5 | 47.3 | 47.3 | 1 | 0 | 0 | | 265.6 | 1,409.6 | 1,030.1 |
| 6 | 2006 | 0.0 | | -60.4 | 223.0 | 81.2 | 47.6 | 47.6 | 1 | 0 | 0 | | 304.3 | 1,421.1 | 1,041.7 |

| Outputs | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ToolKit | Fiscal | No. of | "Small" | 1-year | Cumul. | Cumul. | Ave. Def. | Ave. Def. | Ave 1st | Ave. End | On-the-Fly | |
| Year | Year | Deferrals | Deferrals | Probab. | Deferrals | Probab. | per Year | per Def. | Def./Def. | Reserves | Adjustmt. | Ave Rsrvs |
| 0.0 | 0.0 | 0.0 | - | 1.0 | n / a | n / a | 0.0 | n / a | n / a | 0 | | Strt Bal |
| 2 | 2002 | 318 | 1 | 92% | 318 | 92% | 56.7 | 695.9 | 695.9 | 2,027 | - | 429.0 |
| 3 | 2003 | 246 | 3 | 94% | 356 | 91% | 50.5 | 801.0 | 221.3 | 2,326 | - | |
| 4 | 2004 | 261 | 10 | 93% | 400 | 90% | 50.1 | 748.2 | 201.1 | 1,843 | - | FCCF |
| 5 | 2005 | 268 | 7 | 93% | 429 | 89% | 46.2 | 672.0 | 208.0 | 1,419 | - | Strt Bal |
| 6 | 2006 | 246 | 12 | 94% | 455 | 88% | 39.6 | 628.2 | 106.1 | 1,147 | - | n / a |
| 5 -yr Total | | 1339 | 33 | n / a | n / a | n / a | 243.1 | n / a | n / a | n / a | - | |
| 5 -yr Ave. | | 267.8 | 7 | n / a | n / a | n / a | 48.6 | 708.2 | 543.6 | n / a | - | |

| ToolKit | Fiscal | CRAC | Av. CRAC | Av. CRAC | CRAC Ann. | CRAC Tot. | Slice pmt. | Av. Slice | Av. Slice | TxS Ann. | TxS Total | Slice |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year | Year | Accesses | per Acc. | per Year | Lim Rchd | Lim Rchd | Accesses | per Acc. | per Year | Lim Rchd | Lim Rchd | LB CRAC |
| 0.0 | 0.0 | 0 | n / a | 0.0 | 0 | 0 | 0 | n / a | 0.0 | 0 | 0 | |
| 2 | 2002 | 1248 | 273.4 | 87.5 | 0 | 0 | 0 | n / a | 0.0 | 0 | 0 | 87% |
| 3 | 2003 | 389 | 96.4 | 9.6 | 344 | 0 | 0 | n / a | 0.0 | 0 | 0 | 37% |
| 4 | 2004 | 434 | 107.3 | 11.1 | 378 | 0 | 0 | n / a | 0.0 | 0 | 0 | 21% |
| 5 | 2005 | 423 | 108.1 | 11.7 | 379 | 0 | 0 | n / a | 0.0 | 0 | 0 | 19% |
| 6 | 2006 | 454 | 93.2 | 10.9 | 394 | 0 | 0 | n / a | 0.0 | 0 | 0 | 21% |
| 5 -yr Total | | 2948 | n / a | 131.6 | 1495 | 0 | 0 | n / a | 0.0 | 0 | 0 | |
| 5 -yr Ave. | | 589.6 | 174.2 | 26.3 | 299 | n / a | 0.0 | n / a | 0.0 | 0.0 | n / a | 37% |

| ToolKit | Fiscal | Riskmod | NORM | Risk IP | No. of | Ave. DvD. | Ave. DvD. | Interest | FCCF | FCCF | 4h10C | Non-Slice Impacts of LB & FB CRACs and DDC | | | | | FB CRAC |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year | Year | Inputs | Inputs | Totals | DivDists | per DvD. | per Year | Credit | Credit | Use % | Credit | LB C | FB C | FB + LB | DDC | Net | Freqncy |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | n / a | n / a | n / a | 0.0 | n / a | n / a | n / a | | | | | | |
| 2 | 2002 | 433.3 | -7.9 | 425.4 | n / a | n / a | n / a | 80.8 | n / a | n / a | n / a | 87% | 10% | 98% | | 98% | 32% |
| 3 | 2003 | 58.0 | -9.3 | 48.7 | 2347 | 1108.6 | 667.2 | 147.0 | n / a | n / a | n / a | 37% | 1% | 38% | 62% | -24% | 10% |
| 4 | 2004 | -126.6 | -9.2 | -135.9 | 2903 | 949.6 | 706.8 | 137.9 | n / a | n / a | n / a | 21% | 1% | 22% | 59% | -38% | 11% |
| 5 | 2005 | -84.7 | -9.2 | -94.0 | 3089 | 555.7 | 440.1 | 104.7 | n / a | n / a | n / a | 19% | 1% | 20% | 36% | -16% | 11% |
| 6 | 2006 | -105.0 | -9.3 | -114.2 | 2336 | 328.0 | 196.4 | 83.3 | n / a | n / a | n / a | 21% | 1% | 22% | 16% | 7% | 12% |
| 5 -yr Total | | 174.9 | -44.9 | 130.1 | 10675 | n / a | 2010.5 | 553.7 | n / a | n / a | n / a | | | | | | |
| 5 -yr Ave. | | 35.0 | -9.0 | 26.0 | 2135 | 734.5 | 402.1 | 110.7 | n / a | n / a | n / a | 37% | 3% | 40% | 35% | 5% | 15% |

**6.** INVESTOR-0WNED UTILITY RESIDENTIAL EXCHANGE PROGRAM
SETTLEMENT
(NO DOCUMENTATION)