# DOCUMENTATION FOR CHAPTER 3 <br> REVENUE RECOVERY STUDY <br> SN-03 STUDY 

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## Section 1

## GENERATION EXPENSES

## I. Introduction

This section compiles the expenses that are the basis for cost recovery in generation for the rate period.

## II. Expenses

All expenses are taken directly from PBL's Financial Choices forum. Interest expense is summarized herein from the results of the generation repayment studies.

- Interest expense is calculated in the repayment studies for generation using the generation capital appropriations and BPA revenue bonds issued to Treasury at individual interest rates. Generation AFUDC is associated with BPA's direct funding of COE and Reclamation power-related capital projects.

|  |  | Audited Actuals FY2002 |  |  |  | Initial Proposal FY2003 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | (\$000) | aMW |  | (\$000) | aMW |
| 1 | REVENUES |  |  |  |  |  |  |
| 2 | Total PF Sales |  | \$1,013,409 |  | 4,040 | \$1,056,123 | 4,022 |
| 3 | Total SLICE Sales |  | \$559,409 |  | 2,012 | \$532,761 | 1,873 |
| 4 | Total Pre-Subscription Sales |  | \$174,251 |  | 926 | \$179,423 | 922 |
| 5 | Total DSI IP Sales |  | \$49,728 |  | 65 | \$15,993 | 35 |
| 6 | Total IOU RL Sales |  | \$86,232 |  | 350 | \$93,579 | 382 |
| 7 | Long Term Sales |  | \$265,016 |  | 835 | \$219,295 | 633 |
| 8 | Surplus Sales |  | \$667,203 |  | 2,990 | \$564,701 | 1,833 |
| 9 | 4(h)(10)(C) credit |  | \$45,600 |  | - | \$123,671 | - |
| 10 | FCCF credit |  | \$0 |  | - | \$69,136 | - |
| 11 | Other credits and Misc. Sales \1 |  | \$148,603 | \#REF! |  | \$130,816 | - |
| 12 | TOTAL PBL REVENUES | \$ | 3,009,449 | \#REF! |  | \$2,985,497 | 9,701 |




[^0] Bureau Credits, Slice True-up forecast, Green Tage, EE \& Misc, and Aluminum Hedging

## (Continued)

Power Business Line Summary of Net Revenues FY 2002-2006
FY 2003 SN CRAC Initial Proposal

|  | Initial Proposal FY2004 |  | Initial Proposal FY2005 |  |
| :---: | :---: | :---: | :---: | :---: |
|  | (\$000) | aMW | (\$000) | aMW |
| 1 REVENUES |  |  |  |  |
| 2 Total PF Sales | \$1,074,242 | 4,219 | \$1,094,585 | 4,238 |
| 3 Total SLICE Sales | \$516,767 | 2,231 | \$514,960 | 2,173 |
| 4 Total Pre-Subscription Sales | \$185,349 | 942 | \$187,927 | 956 |
| 5 Total DSI IP Sales | \$102,525 | 351 | \$101,942 | 350 |
| 6 Total IOU RL Sales | \$94,105 | 383 | \$93,477 | 382 |
| 7 Long Term Sales | \$152,426 | 422 | \$133,002 | 371 |
| 8 Surplus Sales | \$559,770 | 2,513 | \$569,880 | 2,631 |
| 9 4(h)(10)(C) credit | \$66,915 | - | \$66,770 | . |
| 10 FCCF credit | \$2,942 | - | \$1,462 | - |
| 11 Other credits and Misc. Sales $\backslash 1$ | \$161,884 | - | \$179,832 | - |
| 12 TOTAL PBL REVENUES | \$ 2,916,926 | 11,062 | \$2,943,836 | 11,100 |




Power Business Line Summary of Net Revenues FY 2002-2006


## Section 2 PROJECTED CASH BALANCES / INTEREST CREDITS

## I. Introduction

This section documents the projection of the generation interest income (credited to interest expense) to be earned during the rate period on BPA's projected cash balances and on funds attributable to generation to be returned to Treasury at year-end.

## Interest credits on projected cash balances

The ToolKit model provides the risk-adjusted annual cash balances for the rate period. The latest actual interest earnings rate (5.87\%), the weighted average interest rate on outstanding bonds, is multiplied by the average cash balance to determine the annual interest income. The resulting interest income is applied as a credit against interest expense in the generation Revised Revenue Test.

## Interest income (repayment program calculation)

The interest income rate from 9/30/02 of $5.96 \%$ was used in repayment studies run in 11/02 to determine an interest income credit on funds collected during each year for year-end payment of amortization and interest on COE and Reclamation appropriations and bonds BPA issued to Treasury. The repayment program assumes that cash accumulates at a uniform rate throughout the year, except for interest paid on bonds issued to Treasury at mid-year.

TABLE 3.2
Interest Income from Projected Cash Balances - Generation Only Revenues From Modified Rates
(\$ thousands)

|  | $\mathbf{2 0 0 2}$ | 2003 | $\mathbf{2 0 0 4}$ | $\mathbf{2 0 0 5}$ | $\mathbf{2 0 0 6}$ |
| :--- | ---: | ---: | ---: | ---: | ---: |
| 1 SOY Cash Balance | 507,302 | 50,400 | $(98,335)$ | $(38,778)$ | 71,567 |
| 2 EOY Cash Balance | 50,400 | $(108,500)$ | $(46,000)$ | 58,300 | 194,800 |
| 3 Average Cash Balance |  | $(29,050)$ | $(72,168)$ | 9,761 | 133,184 |
| 4 Interest Income Rate | $5.87 \%$ | $5.87 \%$ | $5.87 \%$ | $5.87 \%$ | $5.87 \%$ |
| 5 Annual Interest Income 1/ |  | 10,165 | 7,222 | 13,267 | 20,717 |
|  |  |  |  |  |  |

## Section 3

# INTEREST RATES FOR TREASURY SOURCES OF CAPITAL AND PRICE DEFLATORS 

## Introduction

Interest rates on bonds issued by BPA to Treasury and interest rates for COE and Reclamation appropriations are used in development of repayment studies and projections of Federal interest expense in revenue requirements. Price deflators are used for developing spending levels in revenue requirements.

## WEFA

The WEFA Group (WEFA) provides Treasury yield curve forecasts that BPA uses to calculate projections of interest during construction (IDC) on CWIP balances for FCRPS investments funded by appropriations. These forecasts are also used to project interest rates on bonds issued to Treasury and on appropriated investments as plant is placed in service. WEFA is also the source of price deflators that BPA treats as escalators for purposes of developing spending levels. The price deflators are derived from projections of Gross Domestic Product (GDP). The GDP consists of the sum of consumption, investment, government purchases and net exports, excluding transfers to foreigners.

## Interest Rate Projections

Projected interest rates for BPA bonds issued to Treasury are based on WEFA's yield curve projections of Treasury market rates, plus a markup of 32 to 90 basis points depending on the length of time to maturity. The markup estimate reflects an interagency agreement that Treasury price BPA bonds at a level comparable to securities (bonds) issued by U.S. government corporations. The markup estimate reflects the average basis point markup on recent intermediate and long-term bonds issued by BPA. As noted in the attached transmittal memo
documenting the interest rates in this revenue requirement study, for the FY 2003-2006 period the 30 -year rate reflects a markup of 90 basis points.

Interest rates on projected capital investments funded by appropriations are also based on WEFA's projections of Treasury yield curves. The yield curves used for appropriations do not include the 32 to 90 basis point markup.

## Deflators

The current and cumulative price deflator used to escalate midyear dollars are derived from the fiscal and calendar year price deflators provided by WEFA. They are calculated as follows:

$$
\left[\left(\mathrm{FY}_{1} / 100\right) \times 05\right]+1=\text { Cumulative Price Deflator }_{1}
$$

The fiscal year GDP price deflator for the current year is divided by one hundred and multiplied by one half. The result, when added to one, yields the cumulative price deflator for the first year.
 The fiscal year GDP price deflator for a future year is divided by one hundred and added to one. The result, when multiplied by the cumulative price deflator from the previous year, yields the cumulative price deflator for the each successive year.

To the extent deflators are used in developing the FY 2003-2006 spending levels they are based on the price deflators from the Second Quarter 2002 WEFA forecast.

# BONNEVILLE POWER ADMINISTRATION 

(Previously BPA 303)
InterOffice Memo
Date: August 9, 2002
To: See Attached
From: $\quad$ Robert Mealey, Financial Economist - CMD
Claudia Andrews, Corporate Risk Manager - C
Subject: FY 2002. Q3 Price Deflator and BPA Long-Term Borrowing Rate Projections

Attached are updated Third Quarter FY 2002 price deflator and BPA borrowing rate projections for the period 1997 to 2019. These projections are based on The WEFA Group's (WEFA) CY 2002 Second Quarter Long-Term Economic Outlook.

Table 1 contains updated projections for BPA's long-term Treasury borrowing rates. WEFA projections of 30 -year U.S. Government bond rates are shown in Column A. Column B provides these projections for fiscal years. Column C summarizes BPA Treasury borrowing rates for fiscal years. BPA's borrowing rate projections include a 90 basis point markup over the 30 year T-bond rate. The markup is an average value taken from recently issued long-term Treasury bonds and BPA Treasury analyst adjustments. Table 2 compares BPA's FY 2002.Q3 borrowing rate forecast with its FY 1998.Q3 forecast. Tables 3 and 4 provide borrowing rate projections for 15 and 20-year U.S. Treasury rates. Table 5 summarizes projections of BPA's borrowing rate over the entire Treasury yield curve.

The Gross Domestic Product (GDP) price deflator is an important measure of inflation. GDP deflator forecasts are shown in Table 6. Column A summarizes the relative growth in the GDP price deflator over the forecast period. The GDP deflator forecast in BPA fiscal years is shown in Column B. Column C lists the cumulative price deflator index by fiscal year. This index assumes 1992 as the base year and is adjusted to express fiscal year dollar values as mid-year dollar values. GDP may be viewed as the goods and services produced by both domestic and foreign capital and labor within the United States. Major components of GDP include: total consumption, investment, government purchases, and net exports. The government's method for calculating GDP changed in 1996. Instead of fixed weights the new measure of GDP is based on a chain-weighted methodology. This means real GDP calculations will reflect not just the changing mix of the components in GDP, but also the relative price changes in these components. Table 7 compares the FY 2002.Q3 Quarter Inflation Forecast with BPA's FY 1998.Q3 forecast.

Please forward to the appropriate people in your group. Your assistance in identifying addressees for future forecasts is appreciated. If you have any questions, give me a call at (503) 230-5389.

RMealey:\rm:x5389 (W:\CM\FPD\BW021898.doc)

## TABLE 1

## 30 YEAR TREASURY YIELDS FY 2002.Q3 FORECAST OF BPA TREASURY BORROWING RATES

Calendar/Fiscal Years 1997-2019

|  | (A) | (B) | (C) |
| :--- | :---: | :---: | :---: |
|  |  |  |  |
| YEAR | BOND RATE 1/ <br> Calendar Year | BOND RATE | BPA RATE 2/ <br> Fiscal Year |
| 1997 |  |  | Fiscal Year |
| 1998 | $6.60 \%$ | $6.63 \%$ | $7.53 \%$ |
| 1999 | $5.58 \%$ | $5.84 \%$ | $6.74 \%$ |
| 2000 | $5.86 \%$ | $5.79 \%$ | $6.69 \%$ |
| 2001 | $5.94 \%$ | $5.92 \%$ | $6.82 \%$ |
| 2002 | $5.49 \%$ | $5.60 \%$ | $6.50 \%$ |
| 2003 | $5.74 \%$ | $5.68 \%$ | $6.58 \%$ |
| 2004 | $6.23 \%$ | $6.11 \%$ | $7.01 \%$ |
| 2005 | $6.30 \%$ | $6.28 \%$ | $7.18 \%$ |
| 2006 | $6.17 \%$ | $6.20 \%$ | $7.10 \%$ |
| 2007 | $6.19 \%$ | $6.19 \%$ | $7.09 \%$ |
| 2008 | $6.20 \%$ | $6.20 \%$ | $7.10 \%$ |
| 2009 | $6.21 \%$ | $6.21 \%$ | $7.11 \%$ |
| 2010 | $6.23 \%$ | $6.23 \%$ | $7.13 \%$ |
| 2011 | $6.27 \%$ | $6.26 \%$ | $7.16 \%$ |
| 2012 | $6.31 \%$ | $6.30 \%$ | $7.20 \%$ |
| 2013 | $6.45 \%$ | $6.42 \%$ | $7.32 \%$ |
| 2014 | $6.65 \%$ | $6.60 \%$ | $7.50 \%$ |
| 2015 | $6.90 \%$ | $6.84 \%$ | $7.74 \%$ |
| 2016 | $7.03 \%$ | $7.00 \%$ | $7.90 \%$ |
| 2017 | $7.27 \%$ | $7.21 \%$ | $8.11 \%$ |
| 2018 | $7.46 \%$ | $7.41 \%$ | $8.31 \%$ |
| 2019 | $7.71 \%$ | $7.65 \%$ | $8.55 \%$ |
|  | $7.83 \%$ |  | $8.70 \%$ |

1/ Source: The WEFA Group, U.S. Long-Term Economic Outlook, First Quarter 1999, Volume 1, Trend\Moderate Growth Scenario. Average market yield on 30-year Treasury bonds.

TABLE 2

## 30 YEAR TREASURY YIELDS FY 2002.Q3 COMPARISON OF BPA BORROWING RATE FORECASTS

Fiscal Years 1997-2019


1/ Forecast prepared May 19, 1999. Source: The WEFA Group, U.S. Long-Term Economic Outlook, First Quarter, 1999, Volume 1, Trend\Moderate Growth Scenario. Average market yield on 30-year,

TABLE 3

## 15 YEAR TREASURY YIELDS FY 2002.Q3 FORECAST OF BPA TREASURY BORROWING RATES

## Calendar/Fiscal Years 1997-2019

|  | (A) | (B) | (C) |
| :---: | :---: | :---: | :---: |
| YEAR | BOND RATE 1/ <br> Calendar Year | BOND RATE <br> Fiscal Year | BPA RATE 2/ <br> Fiscal Year |
| 1997 |  |  |  |
| 1998 | $6.41 \%$ | $6.44 \%$ | $7.12 \%$ |
| 1999 | $5.34 \%$ | $5.61 \%$ | $6.30 \%$ |
| 2000 | $5.70 \%$ | $5.61 \%$ | $6.30 \%$ |
| 2001 | $6.01 \%$ | $5.93 \%$ | $6.62 \%$ |
| 2002 | $5.14 \%$ | $5.36 \%$ | $6.04 \%$ |
| 2003 | $5.45 \%$ | $5.37 \%$ | $6.06 \%$ |
| 2004 | $6.01 \%$ | $5.87 \%$ | $6.56 \%$ |
| 2005 | $6.11 \%$ | $6.08 \%$ | $6.77 \%$ |
| 2006 | $5.96 \%$ | $6.00 \%$ | $6.69 \%$ |
| 2007 | $6.00 \%$ | $5.99 \%$ | $6.68 \%$ |
| 2008 | $6.03 \%$ | $6.02 \%$ | $6.71 \%$ |
| 2009 | $6.05 \%$ | $6.04 \%$ | $6.73 \%$ |
| 2010 | $6.08 \%$ | $6.07 \%$ | $6.76 \%$ |
| 2011 | $6.13 \%$ | $6.12 \%$ | $6.80 \%$ |
| 2012 | $6.18 \%$ | $6.16 \%$ | $6.85 \%$ |
| 2013 | $6.32 \%$ | $6.29 \%$ | $6.97 \%$ |
| 2014 | $6.53 \%$ | $6.48 \%$ | $7.17 \%$ |
| 2015 | $6.80 \%$ | $6.73 \%$ | $7.42 \%$ |
| 2016 | $6.93 \%$ | $6.89 \%$ | $7.58 \%$ |
| 2017 | $7.18 \%$ | $7.12 \%$ | $7.81 \%$ |
| 2018 | $7.39 \%$ | $7.33 \%$ | $8.02 \%$ |
| 2019 | $7.64 \%$ | $7.58 \%$ | $8.27 \%$ |
|  | $7.76 \%$ | $7.73 \%$ | $8.42 \%$ |

1/ Source: The WEFA Group, U.S. Long-Term Economic Outlook, First Quarter 1999, Volume 1, TrendlModerate Growth Scenario. Average market yield on 15 -year Treasury bonds.

TABLE 4

## 20 YEAR TREASURY YIELDS FY 2002.Q3 FORECAST OF BPA TREASURY BORROWING RATES

Calendar/Fiscal Years 1997-2019

|  | (A) | (B) | (C) |  |
| :--- | :---: | :---: | :---: | :---: |
|  |  |  |  |  |
| YEAR | BOND RATE 1/ <br> Calendar Year | BOND RATE | BPA RATE 2/ <br> Fiscal Year | Fiscal Year |
| 1997 |  |  | $7.32 \%$ |  |
| 1998 | $6.48 \%$ | $6.50 \%$ | $6.50 \%$ |  |
| 1999 | $5.42 \%$ | $5.68 \%$ | $6.49 \%$ |  |
| 2000 | $5.75 \%$ | $5.67 \%$ | $6.75 \%$ |  |
| 2001 | $5.99 \%$ | $5.93 \%$ | $6.26 \%$ |  |
| 2002 | $5.26 \%$ | $5.44 \%$ | $6.29 \%$ |  |
| 2003 | $5.55 \%$ | $5.47 \%$ | $6.77 \%$ |  |
| 2004 | $6.09 \%$ | $5.95 \%$ | $6.97 \%$ |  |
| 2005 | $6.17 \%$ | $6.15 \%$ | $6.89 \%$ |  |
| 2006 | $6.03 \%$ | $6.07 \%$ | $6.87 \%$ |  |
| 2007 | $6.06 \%$ | $6.05 \%$ | $6.90 \%$ |  |
| 2008 | $6.09 \%$ | $6.08 \%$ | $6.92 \%$ |  |
| 2009 | $6.10 \%$ | $6.10 \%$ | $6.94 \%$ |  |
| 2010 | $6.13 \%$ | $6.12 \%$ | $6.98 \%$ |  |
| 2011 | $6.18 \%$ | $6.16 \%$ | $7.03 \%$ |  |
| 2012 | $6.22 \%$ | $6.21 \%$ | $7.15 \%$ |  |
| 2013 | $6.37 \%$ | $6.33 \%$ | $7.34 \%$ |  |
| 2014 | $6.57 \%$ | $6.52 \%$ | $7.59 \%$ |  |
| 2015 | $6.83 \%$ | $6.77 \%$ | $7.75 \%$ |  |
| 2016 | $6.96 \%$ | $6.93 \%$ | $7.97 \%$ |  |
| 2017 | $7.21 \%$ | $7.15 \%$ | $8.18 \%$ |  |
| 2018 | $7.41 \%$ | $7.36 \%$ | $8.42 \%$ |  |
| 2019 | $7.67 \%$ | $7.75 \%$ | $8.57 \%$ |  |

1/ Source: The WEFA Group, U.S. Long-Term Economic Outlook, Second Quarter 2002, Volume TrendlModerate Growth Scenario. Average market yield on 20-year Treasury bonds.

Table 5
2002.Q3 BPA TREASURY BORROWING RATE YIELD CURVE FORECAST 1/

FORECAST PREPARED MAY 19, 1999

Fiscal Years 1997-2019

| Year | 1 Year | $\underline{2 Y e a r}$ | 3 Year | 4 Year | 5 Year | 6 Year | 7 Year | 8 Year | 9 Year | 10 Year | 11 Year | 12 Year | 13 Year | 14 Year | 15 Year | 16 Year |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1997 | 5.92 | 6.18 | 6.45 | 6.54 | 6.64 | 6.72 | 6.81 | 6.85 | 6.89 | 6.93 | 6.97 | 7.01 | 7.05 | 7.09 | 7.12 | 7.16 |
| 1998 | 5.52 | 5.64 | 5.75 | 5.80 | 5.84 | 5.94 | 6.03 | 6.05 | 6.07 | 6.09 | 6.13 | 6.17 | 6.21 | 6.26 | 6.30 | 6.34 |
| 1999 | 5.39 | 5.58 | 5.77 | 5.82 | 5.87 | 6.00 | 6.13 | 6.12 | 6.11 | 6.10 | 6.14 | 6.18 | 6.22 | 6.26 | 6.30 | 6.33 |
| 2000 | 6.17 | 6.29 | 6.41 | 6.42 | 6.42 | 6.50 | 6.58 | 6.55 | 6.52 | 6.49 | 6.52 | 6.54 | 6.57 | 6.59 | 6.62 | 6.64 |
| 2001 | 4.46 | 4.72 | 4.99 | 5.18 | 5.38 | 5.53 | 5.69 | 5.74 | 5.78 | 5.83 | 5.87 | 5.92 | 5.96 | 6.00 | 6.04 | 6.09 |
| 2002 | 3.19 | 3.84 | 4.49 | 4.79 | 5.09 | 5.31 | 5.53 | 5.63 | 5.73 | 5.83 | 5.87 | 5.92 | 5.97 | 6.01 | 6.06 | 6.11 |
| 2003 | 4.49 | 4.99 | 5.49 | 5.67 | 5.84 | 6.00 | 6.16 | 6.22 | 6.29 | 6.35 | 6.39 | 6.43 | 6.48 | 6.52 | 6.56 | 6.60 |
| 2004 | 5.77 | 5.96 | 6.15 | 6.22 | 6.29 | 6.39 | 6.49 | 6.52 | 6.55 | 6.57 | 6.61 | 6.65 | 6.69 | 6.73 | 6.77 | 6.81 |
| 2005 | 5.90 | 6.01 | 6.11 | 6.17 | 6.22 | 6.32 | 6.42 | 6.44 | 6.46 | 6.49 | 6.53 | 6.57 | 6.61 | 6.65 | 6.69 | 6.73 |
| 2006 | 5.83 | 5.94 | 6.05 | 6.12 | 6.19 | 6.29 | 6.39 | 6.42 | 6.45 | 6.48 | 6.52 | 6.56 | 6.60 | 6.64 | 6.68 | 6.71 |
| 2007 | 5.83 | 5.94 | 6.06 | 6.14 | 6.21 | 6.32 | 6.42 | 6.45 | 6.49 | 6.52 | 6.56 | 6.59 | 6.63 | 6.67 | 6.71 | 6.75 |
| 2008 | 5.85 | 5.96 | 6.08 | 6.16 | 6.24 | 6.35 | 6.45 | 6.48 | 6.51 | 6.54 | 6.58 | 6.62 | 6.65 | 6.69 | 6.73 | 6.77 |
| 2009 | 5.85 | 5.98 | 6.10 | 6.18 | 6.26 | 6.37 | 6.48 | 6.51 | 6.55 | 6.58 | 6.61 | 6.65 | 6.69 | 6.72 | 6.76 | 6.80 |
| 2010 | 5.86 | 5.99 | 6.12 | 6.21 | 6.30 | 6.41 | 6.52 | 6.55 | 6.59 | 6.63 | 6.66 | 6.70 | 6.73 | 6.77 | 6.80 | 6.84 |
| 2011 | 5.85 | 5.99 | 6.13 | 6.23 | 6.33 | 6.44 | 6.56 | 6.60 | 6.64 | 6.68 | 6.71 | 6.75 | 6.78 | 6.82 | 6.85 | 6.89 |
| 2012 | 5.91 | 6.07 | 6.24 | 6.34 | 6.45 | 6.57 | 6.68 | 6.72 | 6.76 | 6.80 | 6.83 | 6.87 | 6.90 | 6.94 | 6.97 | 7.01 |
| 2013 | 6.04 | 6.23 | 6.41 | 6.52 | 6.64 | 6.76 | 6.88 | 6.92 | 6.96 | 7.00 | 7.03 | 7.06 | 7.10 | 7.13 | 7.17 | 7.20 |
| 2014 | 6.29 | 6.48 | 6.67 | 6.78 | 6.90 | 7.01 | 7.13 | 7.17 | 7.21 | 7.25 | 7.28 | 7.32 | 7.35 | 7.38 | 7.42 | 7.45 |
| 2015 | 6.42 | 6.62 | 6.82 | 6.94 | 7.06 | 7.18 | 7.30 | 7.34 | 7.38 | 7.42 | 7.45 | 7.48 | 7.51 | 7.55 | 7.58 | 7.61 |
| 2016 | 6.64 | 6.84 | 7.05 | 7.17 | 7.29 | 7.41 | 7.52 | 7.56 | 7.60 | 7.64 | 7.68 | 7.71 | 7.74 | 7.77 | 7.81 | 7.84 |
| 2017 | 6.84 | 7.05 | 7.26 | 7.38 | 7.51 | 7.62 | 7.74 | 7.78 | 7.82 | 7.87 | 7.90 | 7.93 | 7.96 | 7.99 | 8.02 | 8.05 |
| 2018 | 7.07 | 7.28 | 7.50 | 7.63 | 7.76 | 7.88 | 7.99 | 8.03 | 8.07 | 8.11 | 8.14 | 8.17 | 8.21 | 8.24 | 8.27 | 8.30 |
| 2019 | 7.15 | 7.39 | 7.62 | 7.76 | 7.89 | 8.01 | 8.13 | 8.18 | 8.22 | 8.26 | 8.29 | 8.32 | 8.35 | 8.38 | 8.42 | 8.45 |

1/ Based on The WEFA Group, U.S. Long-Term Economic Outlook, Second Quarter 2002, Volume 1, TrendlModerate Growth Scenario. Treasury markup ranges from 32 to 90 bp.

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| 20 Year | $\underline{21 \text { Year }}$ | 22 Year | $\underline{23}$ Year | $\underline{24 ~ Y e a r ~}$ | $\underline{25}$ Year | 26 Year | $\underline{27}$ Year | 28 Year | $\underline{29}$ Year | 30 Year | 50 Year | Year |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 7.32 | 7.34 | 7.36 | 7.38 | 7.40 | 7.42 | 7.44 | 7.46 | 7.48 | 7.50 | 7.53 | 7.53 | 1997 |
| 6.50 | 6.53 | 6.55 | 6.57 | 6.60 | 6.62 | 6.64 | 6.67 | 6.69 | 6.71 | 6.74 | 6.74 | 1998 |
| 6.49 | 6.51 | 6.53 | 6.55 | 6.57 | 6.59 | 6.61 | 6.63 | 6.65 | 6.67 | 6.69 | 6.69 | 1999 |
| 6.75 | 6.75 | 6.76 | 6.77 | 6.78 | 6.78 | 6.79 | 6.80 | 6.81 | 6.81 | 6.82 | 6.82 | 2000 |
| 6.26 | 6.28 | 6.31 | 6.33 | 6.36 | 6.38 | 6.40 | 6.43 | 6.45 | 6.48 | 6.50 | 6.50 | 2001 |
| 6.29 | 6.32 | 6.35 | 6.38 | 6.41 | 6.44 | 6.46 | 6.49 | 6.52 | 6.55 | 6.58 | 6.58 | 2002 |
| 6.77 | 6.79 | 6.82 | 6.84 | 6.87 | 6.89 | 6.91 | 6.94 | 6.96 | 6.98 | 7.01 | 7.01 | 2003 |
| 6.97 | 6.99 | 7.01 | 7.03 | 7.05 | 7.08 | 7.10 | 7.12 | 7.14 | 7.16 | 7.18 | 7.18 | 2004 |
| 6.89 | 6.91 | 6.93 | 6.95 | 6.97 | 6.99 | 7.02 | 7.04 | 7.06 | 7.08 | 7.10 | 7.10 | 2005 |
| 6.87 | 6.89 | 6.92 | 6.94 | 6.96 | 6.98 | 7.00 | 7.02 | 7.04 | 7.06 | 7.09 | 7.09 | 2006 |
| 6.90 | 6.92 | 6.94 | 6.96 | 6.98 | 7.00 | 7.02 | 7.04 | 7.06 | 7.08 | 7.10 | 7.10 | 2007 |
| 6.92 | 6.94 | 6.95 | 6.97 | 6.99 | 7.01 | 7.03 | 7.05 | 7.07 | 7.09 | 7.11 | 7.11 | 2008 |
| 6.94 | 6.96 | 6.98 | 7.00 | 7.02 | 7.03 | 7.05 | 7.07 | 7.09 | 7.11 | 7.13 | 7.13 | 2009 |
| 6.98 | 7.00 | 7.02 | 7.04 | 7.05 | 7.07 | 7.09 | 7.11 | 7.12 | 7.14 | 7.16 | 7.16 | 2010 |
| 7.03 | 7.05 | 7.06 | 7.08 | 7.10 | 7.11 | 7.13 | 7.15 | 7.17 | 7.18 | 7.20 | 7.20 | 2011 |
| 7.15 | 7.17 | 7.18 | 7.20 | 7.22 | 7.23 | 7.25 | 7.27 | 7.28 | 7.30 | 7.32 | 7.32 | 2012 |
| 7.34 | 7.35 | 7.37 | 7.39 | 7.40 | 7.42 | 7.44 | 7.45 | 7.47 | 7.48 | 7.50 | 7.50 | 2013 |
| 7.59 | 7.60 | 7.62 | 7.63 | 7.65 | 7.66 | 7.68 | 7.69 | 7.71 | 7.72 | 7.74 | 7.74 | 2014 |
| 7.75 | 7.76 | 7.78 | 7.79 | 7.81 | 7.82 | 7.84 | 7.85 | 7.87 | 7.88 | 7.90 | 7.90 | 2015 |
| 7.97 | 7.98 | 8.00 | 8.01 | 8.02 | 8.04 | 8.05 | 8.07 | 8.08 | 8.10 | 8.11 | 8.11 | 2016 |
| 8.18 | 8.19 | 8.21 | 8.22 | 8.23 | 8.25 | 8.26 | 8.27 | 8.29 | 8.30 | 8.31 | 8.31 | 2017 |
| 8.42 | 8.43 | 8.45 | 8.46 | 8.47 | 8.48 | 8.50 | 8.51 | 8.52 | 8.53 | 8.55 | 8.55 | 2018 |
| 8.57 | 8.58 | 8.60 | 8.61 | 8.62 | 8.64 | 8.65 | 8.66 | 8.67 | 8.69 | 8.70 | 8.70 | 2019 |

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## TABLE 6

# FY 2002.Q3 FORECAST OF INFLATIONARY TRENDS CHANGE IN GROSS DOMESTIC PRODUCT PRICE DEFLATOR 

Calendar/Fiscal Year, Index = 1996

|  | (A) | (B) | (C) |
| :---: | :---: | :---: | :---: |
| YEAR | CALENDAR YEAR <br> \%CHANGE 1/ | FY 02.Q3 <br> FISCAL YEAR <br> \% CHANGE | FISCAL YEAR <br> CUMULATIVE PRICE <br> DEFLATOR INDEX 2/ |
|  |  |  | (2002 Base Year) |
|  |  |  |  |
| 2001 | $2.19 \%$ | $2.21 \%$ |  |
| 2002 | $1.24 \%$ | $1.48 \%$ | 1.007 |
| 2003 | $2.34 \%$ | $2.07 \%$ | 1.028 |
| 2004 | $2.35 \%$ | $2.35 \%$ | 1.052 |
| 2005 | $2.33 \%$ | $2.33 \%$ | 1.077 |
| 2006 | $2.26 \%$ | $2.28 \%$ | 1.101 |
| 2007 | $2.27 \%$ | $2.26 \%$ | 1.126 |
| 2008 | $2.24 \%$ | $2.25 \%$ | 1.152 |
| 2009 | $2.26 \%$ | $2.26 \%$ | 1.178 |
| 2010 | $2.34 \%$ | $2.32 \%$ | 1.205 |
| 2011 | $2.52 \%$ | $2.48 \%$ | 1.235 |
| 2012 | $2.72 \%$ | $2.67 \%$ | 1.268 |
| 2013 | $2.80 \%$ | $2.78 \%$ | 1.303 |
| 2014 | $2.89 \%$ | $2.87 \%$ | 1.340 |
| 2015 | $2.95 \%$ | $2.93 \%$ | 1.380 |
| 2016 | $3.05 \%$ | $3.02 \%$ | 1.421 |
| 2017 | $3.15 \%$ | $3.13 \%$ | 1.466 |
| 2018 | $3.27 \%$ | $3.24 \%$ | 1.513 |
| 2019 | $3.27 \%$ | $3.27 \%$ | 1.563 |

1/ Source: WEFA Second Quarter 2002 U.S. Long-Term Economic Outlook, Gross Domestic Product Implicit Price Deflator Index, Calendar Year. Base year Index = 1996

2/ Fiscal Year Cumulative Price Deflator escalates to midyear dollars. The first year, 1994, is determined as follows: $1.012=\left[(2.45 \% / 100)^{*} .5\right]+1$. Subsequent years use the prior Fiscal Year Cumulative Price Deflator. For example, the rate in 1995 is given by: $1.038=[1+(2.5 \% / 100)] * 1.012$.

# FY2002.Q3 INFLATION FORECAST COMPARISONS GROSS DOMESTIC PRODUCT PRICE DEFLATOR INDEXES 

BPA Fiscal Year

|  | (A) | (B) | (C) |
| :---: | :---: | :---: | :---: |
| YEAR | FY 02.Q3 1/ IMPLICIT PRICE DEFLATOR INDEX | FY 98.Q3 2/ IMPLICIT PRICE DEFLATOR INDEX | $(A-B)$ <br> DIFFERENCE |
| 2001 | 2.21\% | 2.46\% | -0.25\% |
| 2002 | 1.48\% | 2.55\% | -1.08\% |
| 2003 | 2.07\% | 2.74\% | -0.68\% |
| 2004 | 2.35\% | 2.58\% | -0.24\% |
| 2005 | 2.33\% | 2.52\% | -0.19\% |
| 2006 | 2.28\% | 2.57\% | -0.29\% |
| 2007 | 2.26\% | 2.62\% | -0.35\% |
| 2008 | 2.25\% | 2.63\% | -0.38\% |
| 2009 | 2.26\% | 2.63\% | -0.38\% |
| 2010 | 2.32\% | 2.63\% | -0.30\% |
| 2011 | 2.48\% | 2.63\% | -0.15\% |
| 2012 | 2.67\% | 2.63\% | 0.04\% |
| 2013 | 2.78\% | 2.64\% | 0.14\% |
| 2014 | 2.87\% | 2.64\% | 0.23\% |
| 2015 | 2.93\% | 2.64\% | 0.29\% |
| 2016 | 3.02\% | 2.64\% | 0.39\% |
| 2017 | 3.13\% | 2.63\% | 0.50\% |
| 2018 | 3.24\% | 2.64\% | 0.60\% |
| 2019 | 3.27\% | 2.64\% | 0.63\% |

1/ Source: WEFA Second Quarter 2002 U.S. Long-Term Economic Outlook, Gross Domestic Product Implicit Price Deflator Index, Calendar Year. Base Year Index $=1996$

2/ Source: WEFA, Third Quarter 1998 Long Term Economic Outlook Gross Domestic Product Implicit Price Deflator Index. Base Year Index $=1992$

## Section 4

## PROJECTED BONDS ISSUED TO TREASURY

## I. Introduction

This section documents the bonds that BPA projects it will issue to the U.S. Treasury to finance BPA capital investments and Reclamation/COE investments that will be directfunded by BPA.

## II. Issuing Bonds

BPA primarily funds capital outlays by issuing new long-term debt in the form of bonds issued to Treasury. BPA issues four types of bonds: Construction, Conservation, Fish and Wildlife/Environment, and Reclamation/COE direct - funded. Construction bonds included in the generation study are the portions of bonds that fund furniture, ADP hardware and software for PBL. (Construction bonds are also issued to fund capital expenditures of the Transmission Business Line including IT hardware and software and furniture.) Conservation bonds traditionally were issued to fund the legacy conservation program, however, now such bonds are projected to be issued to fund conservation augmentation in the FY 2003-2006 rate period. Fish and Wildlife bonds are issued to fund the capital portion of BPA's Fish and Wildlife program. BPA also issues bonds to fund Reclamation/COE generation efficiency and reliability improvements. All bonds projected for issuance have been entered into the generation repayment study.

Construction and Reclamation/COE direct funding bonds are entered in the repayment program with a maximum period to maturity of 45 years. Fish and Wildlife bonds are entered with a period to maturity of 15 years. Construction bonds are given a maturity of 35 years. Conservation augmentation has been given a maturity date of 2011 for all years, to be consistent with customer contracts.

New bonds for the cost evaluation period (FYs 2003-2006 are based on projected BPA and Reclamation/COE capital program outlays). Maturities reflect the average service lives of the assets. The interest rates used are in Chapter 3.

Bonneville Power Administration
Total Bonds Issued
(\$ in millions)

|  |  | Amount Issued | Interest Rate | Term | Maturity Date | ----1st Call---- |  | Refinanced Bonds |  | Amortized Bonds |  | $\begin{aligned} & \text { Call } \\ & \text { Price } \end{aligned}$ | Out- <br> Stand | Interest Due | Semiannual Interest |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Date | Type |  |  |  |  | Date | Price | Date | Amount | Date | Amount |  |  |  |  |
| 9/30/1978 | C | 50.0 | 8.95\% | 35 | 2013 | 9/30/1983 | 107.64 |  |  | 9/30/1991 | -50.0 | 105.53 | 0.0 | Mar/Sep | 0 |
| 6/30/1979 | C | 75.0 | 9.45\% | 35 | 2014 | 6/30/1984 | 108.10 |  |  | 9/30/1985/86/91 | -75.0 | various | 0.0 | Dec/Jun | 0 |
| 9/30/1979 | C | 50.0 | 9.90\% | 35 | 2014 | 9/30/1984 | 108.49 |  |  | 9/30/1985 | -50.0 | 108.20 | 0.0 | Mar/Sep | 0 |
| 9/30/1980 | C | 115.0 | 13.00\% | 35 | 2015 | 9/30/1985 | 111.14 |  |  | 9/30/1985 | -115.0 | 111.14 | 0.0 | Mar/Sep | 0 |
| 9/30/1981 | C | 175.0 | 16.60\% | 35 | 2016 | 9/30/1986 | 114.23 |  |  | 9/30/1986 | -175.0 | 114.23 | 0.0 | Mar/Sep | 0 |
| 12/31/1981 | C | 50.0 | 14.40\% | 35 | 2016 | 12/31/1986 | 112.34 |  |  | 2/28/1987 | -50.0 | 112.34 | 0.0 | Jun/Dec | 0 |
| 4/30/1982 | C | 100.0 | 14.40\% | 35 | 2017 | 4/30/1987 | 112.34 |  |  | 4/30/1987 | -100.0 | 112.34 | 0.0 | Oct/Apr | 0 |
| 7/31/1982 | C | 85.0 | 14.15\% | 35 | 2017 | 7/31/1987 | 112.13 | 7/31/1987 | -85.0 |  |  | 112.13 | 0.0 | Jan/Jul | 0 |
| 11/30/1982 | C | 40.0 | 10.85\% | 35 | 2017 | 11/30/1987 | 109.30 | 2/29/1988 | -40.0 |  |  | 109.30 | 0.0 | May/Nov | 0 |
| 6/30/1983 | C | 30.0 | 11.70\% | 35 | 2018 | 6/30/1988 | 110.03 |  |  | 11/30/1988 | -30.0 | 110.03 | 0.0 | Dec/Jun | 0 |
| 9/30/1983 | C | 45.0 | 12.25\% | 35 | 2018 | 9/30/1988 | 110.50 |  |  | 9/30/1988 | -45.0 | 110.50 | 0.0 | Mar/Sep | 0 |
| 9/30/1983 | K | 140.0 | 12.20\% | 20 | 2003 | 9/30/1988 | 109.15 |  |  | 9/30/1988 | -140.0 | 109.15 | 0.0 | Mar/Sep | 0 |
| 11/30/1983 | C | 30.0 | 12.30\% | 35 | 2018 | 11/30/1988 | 110.54 |  |  | 11/30/1988 | -30.0 | 110.54 | 0.0 | May/Nov | 0 |
| 9/30/1984 | C | 60.0 | 13.05\% | 35 | 2019 | 9/30/1989 | 111.19 |  |  | 9/30/1989 | -60.0 | 111.19 | 0.0 | Mar/Sep | 0 |
| 9/30/1984 | K | 150.0 | 13.05\% | 20 | 2004 | 9/30/1989 | 109.79 | 9/30/1989 | -120.0 | 9/30/1989 | -30.0 | 109.79 | 0.0 | Mar/Sep | 0 |
| 6/30/1985 | C | 100.0 | 11.25\% | 45 | 2030 | 6/30/1990 | 110.00 |  |  | 6/30/1990 | -100.0 | 110.00 | 0.0 | Dec/Jun | 0 |
| 9/30/1985 | K | 50.0 | 10.15\% | 5 | 1990 | none | none |  |  | 9/30/1990 | -50.0 | none | 0.0 | Mar/Sep | 0 |
| 3/31/1986 | C | 100.0 | 8.15\% | 10 | 1996 | none | none |  |  | 3/31/1996 | -100.0 | none | 0.0 | Sep/Mar | 0 |
| 3/31/1986 | K | 50.0 | 8.15\% | 10 | 1996 | none | none |  |  | 3/31/1996 | -50.0 | none | 0.0 | Sep/Mar | 0 |
| 3/31/1986 | K | 50.0 | 7.80\% | 5 | 1991 | none | none |  |  | 3/31/1991 | -50.0 | none | 0.0 | Sep/Mar | 0 |
| 6/30/1986 | C | 300.0 | 8.95\% | 45 | 2031 | 6/30/1991 | 107.96 | 8/31/92,5/31/94 | -240.0 | 9/30/1991/94 | -60.0 | various | 0.0 | Dec/Jun | 0 |
| 4/30/1987 | C | 100.0 | 9.30\% | 45 | 2032 | 4/30/1992 | 108.27 | 4/30/1992 | -100.0 |  |  | 108.27 | 0.0 | Oct/Apr | 0 |
| 4/30/1987 | K | 75.0 | 9.30\% | 20 | 2007 | 4/30/1992 | 106.98 | 7/31/1992 | -75.0 |  |  | 106.98 | 0.0 | Oct/Apr | 0 |
| 6/30/1987 | C | 100.0 | 8.35\% | 5 | 1992 | none | none |  |  | 6/30/1992 | -100.0 | none | 0.0 | Dec/Jun | 0 |
| 6/30/1987 | K | 50.0 | 8.35\% | 5 | 1992 | none | none |  |  | 6/30/1992 | -50.0 | none | 0.0 | Dec/Jun | 0 |
| 7/31/1987 | C | 95.0 | 9.55\% | 30 | 2017 | 7/31/1992 | 107.96 |  |  | 9/30/1992 | -95.0 | 107.96 | 0.0 | Jan/Jul | 0 |
| 7/31/1987 | C | 50.0 | 9.55\% | 45 | 2032 | 7/31/1992 | 108.49 |  |  | 7/31/1993 | -50.0 | 108.49 | 0.0 | Jan/Jul | 0 |
| 2/29/1988 | C | 150.0 | 9.50\% | 45 | 2033 | 2/28/1993 | 108.44 | 10/31/93,5/31/94 | -150.0 |  |  | various | 0.0 | Aug/Feb | 0 |
| 2/29/1988 | C | 43.7 | 9.50\% | 30 | 2018 | 2/28/1993 | 107.92 |  |  | 9/30/1993 | -43.7 | 107.92 | 0.0 | Aug/Feb | 0 |
| 4/30/1988 | K | 90.0 | 9.90\% | 20 | 2008 | 4/30/1993 | 107.43 |  |  | 5/31/1993 | -90.0 | 107.43 | 0.0 | Oct/Apr | 0 |
| 6/30/1988 | C | 40.0 | 9.90\% | 45 | 2033 | 6/30/1993 | 108.80 |  |  | 6/30/1993 | -40.0 | 108.80 | 0.0 | Dec/Jun | 0 |
| 5/31/1989 | F | 25.0 | 8.95\% | 10 | 1999 | none | none |  |  | 5/31/1999 | -25.0 | none | 0.0 | Nov/May | 0 |
| 5/31/1989 | C | 75.0 | 8.95\% | 10 | 1999 | none | none | 5/31/1999 | -26.2 | 5/31/1999 | -48.8 | none | 0.0 | Nov/May | 0 |
| 7/31/1989 | K | 40.0 | 8.55\% | 20 | 2009 | none | none |  |  |  |  |  | 40.0 | Jan/Jul | 1,710,000 |
| 9/30/1989 | K | 66.0 | 8.60\% | 6 | 1995 | none | none |  |  | 9/30/1995 | -66.0 | none | 0.0 | Mar/Sep | 0 |
| 9/30/1989 | K | 66.0 | 8.65\% | 13 | 2002 | none | none |  |  | 9/30/2002 | -66.0 | none | 0.0 | Mar/Sep | 0 |
| 1/31/1990 | C | 50.0 | 9.25\% | 40 | 2030 | 1/31/2000 | 106.94 | 1/31/2000 | -50.0 |  |  | 106.94 | 0.0 | Jul/Jan | 0 |
| 2/28/1991 | C | 60.0 | 7.55\% | 4 | 1995 | none | none |  |  | 2/28/1995 | -60.0 | none | 0.0 | Aug/Feb | 0 |
| 5/31/1991 | F | 50.0 | 7.95\% | 5 | 1996 | none | none |  |  | 5/31/1996 | -50.0 | none | 0.0 | Nov/May | 0 |
| 4/30/1992 | C | 150.0 | 8.80\% | 40 | 2032 | 4/30/1997 | 107.70 | 8/31/1997 | -103.3 | 7/31/1997 | -46.7 | 107.70 | 0.0 | Oct/Apr | 0 |
| 4/30/1992 | C | 50.0 | 7.00\% | 5 | 1997 | none | none |  |  | 4/30/1997 | -50.0 | none | 0.0 | Oct/Apr | 0 |
| 4/30/1992 | C | 80.0 | 6.20\% | 3 | 1995 | none | none |  |  | 4/30/1995 | -80.0 | none | 0.0 | Oct/Apr | 0 |
| 4/30/1992 | C | 28.3 | 7.00\% | 5 | 1997 | none | none |  |  | 4/30/1997 | -28.3 | none | 0.0 | Oct/Apr | 0 |
| 7/31/1992 | C | 150.0 | 8.13\% | 40 | 2032 | 7/31/1997 | 107.11 | 4/30 \& 5/31/98 | -138.2 | 5/31/1997 | -11.8 | 107.11 | 0.0 | Jan/Jul | 0 |
| 7/31/1992 | K | 100.0 | 7.14\% | 15 | 2007 | 7/31/1997 | 104.76 | 9/30/1998 | -100.0 |  |  | 104.28 | 0.0 | Jan/Jul | 0 |
| 7/31/1992 | K | 80.2 | 5.80\% | 5 | 1997 | none | none |  |  | 7/31/1997 | -80.2 | none | 0.0 | Jan/Jul | 0 |
| 8/31/1992 | C | 107.8 | 6.60\% | 8 | 2000 | none | none | 8/31/2000 | -15.3 | 8/31/2000 | -92.5 | none | 0.0 | Feb/Aug | 0 |
| 8/31/1992 | C | 107.7 | 7.25\% | 15 | 2007 | 8/31/1997 | 104.83 | 8/31/1998 | -107.7 |  |  |  | 0.0 | Feb/Aug | 0 |
| 10/31/1992 | C | 50.0 | 6.05\% | 5 | 1997 | none | none |  |  | 10/31/1997 | -50.0 | none | 0.0 | Apr/Oct | 0 |
| 10/31/1992 | K | 50.0 | 8.05\% | 20 | 2012 | 10/31/1997 | 106.04 |  |  | 5/31/1998 | -50.0 | 106.04 | 0.0 | Apr/Oct | 0 |
| 10/31/1992 | C | 100.0 | 8.35\% | 40 | 2032 | 10/31/1997 | 107.31 |  |  | 5/31/1998 | -100.0 | 107.31 | 0.0 | Apr/Oct | 0 |

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| 2/28/1993 | F | 20.0 | 6.95\% | 15 | 2008 | 2/28/1998 | 104.63 |  |  | 9/30/2002 | -20.0 | 102.78 | 0.0 | Aug/Feb | 0 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 2/28/1993 | K | 50.0 | 7.40\% | 20 | 2013 | 2/28/1998 | 105.55 | 9/30/1998 | -50.0 |  |  |  | 0.0 | Aug/Feb | 0 |
| 2/28/1993 | C | 130.0 | 7.80\% | 40 | 2033 | 2/28/1998 | 106.83 | 5/31/1998 | -130.0 |  |  |  | 0.0 | Aug/Feb | 0 |
| 4/30/1993 | C | 100.0 | 7.50\% | 40 | 2033 | 4/30/1998 | 106.56 | 8/31/1998 | -100.0 |  |  |  | 0.0 | Oct/Apr | 0 |
| 8/31/1993 | C | 110.0 | 6.95\% | 40 | 2033 | 8/31/1998 | 106.08 |  |  |  |  |  | 110.0 | Feb/Aug | 3,822,500 |
| 8/31/1993 | K | 40.0 | 6.75\% | 20 | 2013 | 8/31/1998 | 105.06 |  |  | 9/30/2002 | -40.0 | 103.71 | 0.0 | Feb/Aug | 0 |
| 10/31/1993 | C | 108.4 | 6.85\% | 40 | 2033 | 10/31/1998 | 105.99 |  |  |  |  |  | 108.4 | Apr/Oct | 3,712,700 |
| 10/31/1993 | C | 50.0 | 6.85\% | 40 | 2033 | 10/31/1998 | 105.99 |  |  |  |  |  | 50.0 | Apr/Oct | 1,712,500 |
| 1/31/1994 | K | 50.0 | 6.75\% | 20 | 2014 | 1/31/1999 | 105.06 |  |  | 9/30/2002 | -36.7 | 104.05 | 13.3 | Jul/Jan | 447,694 |
| 1/31/1994 | C | 50.0 | 7.05\% | 40 | 2034 | 1/31/1999 | 106.17 |  |  |  |  |  | 50.0 | Jul/Jan | 1,762,500 |
| 5/31/1994 | C | 50.0 | 8.20\% | 40 | 2034 | 5/31/1999 | 107.18 |  |  | 6/30/1999 | -50.0 | 107.18 | 0.0 | Nov/May | 0 |
| 5/31/1994 | K | 50.0 | 7.10\% | 4 | 1998 | 5/31/1995 | 100.00 | 5/31/98 | -37.7 | 9/30/1996 | -12.3 | 100.00 | 0.0 | Nov/May | 0 |
| 5/31/1994 | C | 97.1 | 7.10\% | 4 | 1998 | 5/31/1995 | 100.00 |  |  | 9/30/1995 | -97.1 | 100.00 | 0.0 | Nov/May | 0 |
| 9/30/1994 | C | 55.0 | 7.65\% | 5 | 1999 | 9/30/1995 | 100.00 |  |  | 9/30/1995 | -55.0 | 100.00 | 0.0 | Mar/Sep | 0 |
| 9/30/1994 | F | 20.0 | 7.65\% | 5 | 1999 | 9/30/1995 | 100.00 |  |  | 9/30/1995 | -20.0 | 100.00 | 0.0 | Mar/Sep | 0 |
| 1/31/1995 | C | 55.0 | 8.35\% | 6 | 2001 | 1/31/1996 | 100.00 |  |  | 3/31/1996 | -55.0 | 100.00 | 0.0 | Jul/Jan | 0 |
| 5/31/1995 | K | 85.0 | 7.50\% | 20 | 2015 | 5/31/2000 | 105.63 |  |  | 5/31/2000 | -85.0 | 105.63 | 0.0 | Nov/May | 0 |
| 5/31/1995 | B | 35.0 | 7.50\% | 20 | 2015 | 5/31/2000 | 105.63 |  |  | 9/30/2001 | -35.0 | 105.25 | 0.0 | Nov/May | 0 |
| 7/31/1995 | C | 50.0 | 7.70\% | 30 | 2025 | 7/31/2000 | 106.42 |  |  | 9/30/2002 | -15.0 | 105.90 | 35.0 | Jan/Jul | 1,346,576 |
| 8/31/1995 | C | 65.0 | 7.70\% | 30 | 2025 | 8/31/2000 | 106.42 |  |  | 9/30/2002 | -65.0 | 106.90 | 0.0 | Feb/Aug | 0 |
| 8/31/1995 | F | 35.0 | 7.20\% | 15 | 2010 | 8/31/2000 | 104.80 |  |  | 9/30/2001 | -35.0 | 104.32 | 0.0 | Feb/Aug | 0 |
| 1/31/1996 | C | 60.0 | 5.90\% | 7 | 2003 | none | none |  |  | 1/31/2003 | -60.0 |  | 0.0 | Jul/Jan | 0 |
| 1/31/1996 | K | 30.0 | 6.70\% | 15 | 2011 | 1/31/2001 | 104.47 |  |  |  |  |  | 30.0 | Jul/Jan | 1,005,000 |
| 8/31/1996 | C | 70.0 | 7.05\% | 10 | 2006 | none | none |  |  |  |  |  | 70.0 | Feb/Aug | 2,467,500 |
| 11/30/1996 | K | 40.0 | 7.20\% | 20 | 2016 | 11/30/2001 | 105.40 |  |  | 9/30/2002 | -40.0 | 105.04 | 0.0 | May/Nov | 0 |
| 11/30/1996 | E | 40.0 | 6.95\% | 15 | 2011 | 11/30/2001 | 104.63 |  |  |  |  |  | 40.0 | May/Nov | 1,390,000 |
| 1/31/1997 | C | 30.0 | 6.80\% | 7 | 2004 | none | none |  |  |  |  |  | 30.0 | Jul/Jan | 1,020,000 |
| 5/31/1997 | C | 80.0 | 6.90\% | 8 | 2005 | none | none |  |  |  |  |  | 80.0 | Nov/May | 2,760,000 |
| 5/31/1997 | B | 50.0 | 6.50\% | 3 | 2000 | none | none |  |  | 5/31/2000 | -50.0 | 100.00 | 0.0 | Nov/May | 0 |
| 8/31/1997 | C | 111.3 | 6.65\% | 10 | 2007 | none | none |  |  |  |  |  | 111.3 | Feb/Aug | 3,700,725 |
| 1/31/1998 | F | 60.0 | 6.10\% | 15 | 2013 | none | none |  |  |  |  |  | 60.0 | Jul/Jan | 1,830,000 |
| 04/30/98 | C | 75.3 | 6.00\% | 10 | 2008 | none | none |  |  |  |  |  | 75.3 | Oct/Apr | 2,259,000 |
| 04/30/98 | C | 50.0 | 6.65\% | 30 | 2028 | 4/30/2008 | 104.43 |  |  |  |  |  | 50.0 | Oct/Apr | 1,662,500 |
| 04/30/98 | B | 25.0 | 6.00\% | 10 | 2008 | none | none |  |  |  |  |  | 25.0 | Oct/Apr | 750,000 |
| 05/31/98 | C | 72.7 | 6.00\% | 11 | 2009 | none | none |  |  |  |  |  | 72.7 | Nov/May | 2,181,000 |
| 05/31/98 | C | 40.0 | 6.20\% | 13 | 2011 | none | none |  |  |  |  |  | 40.0 | Nov/May | 1,240,000 |
| 05/31/98 | C | 98.9 | 6.70\% | 34 | 2032 | 5/31/2008 | 104.73 |  |  |  |  |  | 98.9 | Nov/May | 3,313,150 |
| 05/31/98 | K | 37.7 | 6.00\% | 11 | 2009 | none | none |  |  |  |  |  | 37.7 | Nov/May | 1,131,000 |
| 08/31/98 | C | 106.5 | 5.85\% | 30 | 2028 | none | none |  |  |  |  |  | 106.5 | Feb/Aug | 3,115,125 |
| 08/31/98 | C | 112.3 | 5.85\% | 30 | 2028 | none | none |  |  |  |  |  | 112.3 | Feb/Aug | 3,284,775 |
| 08/31/98 | C | 40.0 | 5.75\% | 10 | 2008 | none | none |  |  |  |  |  | 40.0 | Feb/Aug | 1,150,000 |
| 09/30/98 | K | 104.3 | 5.30\% | 10 | 2008 | none | none |  |  |  |  |  | 104.3 | Mar/Sep | 2,763,950 |
| 09/30/98 | K | 52.8 | 5.60\% | 15 | 2013 | none | none |  |  |  |  |  | 52.8 | Mar/Sep | 1,478,400 |
| 02/28/99 | C | 60.0 | 5.90\% | 15 | 2014 | none | none |  |  |  |  |  | 60.0 | Aug/Feb | 1,770,000 |
| 05/31/99 | C | 26.2 | 5.95\% | 5 | 2004 | none | none |  |  |  |  |  | 26.2 | Nov/May | 779,450 |
| 09/30/99 | C | 40.0 | 6.20\% | 3 | 2002 | none | none |  |  | 9/30/2002 | -40.0 |  | 0.0 | Mar/Sep | 0 |
| 09/30/99 | F | 20.0 | 6.30\% | 4 | 2003 | none | none |  |  |  |  |  | 20.0 | Mar/Sep | 630,000 |
| 09/30/99 | B | 20.0 | 6.40\% | 5 | 2004 | none | none |  |  |  |  |  | 20.0 | Mar/Sep | 640,000 |
| 11/30/99 | C | 40.0 | 6.40\% | 3 | 2002 | none | none |  |  | 11/30/2002 | -40.0 |  | 0.0 | May/Nov | 0 |
| 01/31/00 | C | 53.5 | 7.15\% | 5 | 2005 | none | none |  |  |  |  |  | 53.5 | Jul/Jan | 1,912,625 |
| 04/30/00 | B | 40.0 | 6.85\% | 3 | 2003 | none | none |  |  |  |  |  | 40.0 | Oct/Apr | 1,370,000 |
| 07/31/00 | K | 32.0 | 6.95\% | 3 | 2003 | none | none |  |  |  |  |  | 32.0 | Jan/Jul | 1,112,000 |

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| 07/31/00 | C | 50.0 | $7.00 \%$ | 4 | 2004 | none | none |
| :---: | :---: | ---: | :---: | :---: | :---: | :---: | :---: |
| $08 / 31 / 00$ | C | 15.3 | $6.85 \%$ | 3 | 2003 | none | none |
| $09 / 30 / 00$ | C | 40.0 | $6.75 \%$ | 6 | 2006 | none | none |
| $09 / 30 / 00$ | B | 20.0 | $6.70 \%$ | 5 | 2005 | none | none |
| $1 / 31 / 2001$ | C | 20.0 | $5.65 \%$ | 4 | 2005 | none | none |
| $1 / 31 / 2001$ | F | 25.0 | $5.65 \%$ | 4 | 2005 | none | none |
| $1 / 31 / 2001$ | E | 30.0 | $6.05 \%$ | 9 | 2010 | none | none |
| $1 / 31 / 2001$ | C | 60.0 | $6.05 \%$ | 9 | 2010 | none | none |
| $6 / 30 / 2001$ | B | 50.0 | $4.75 \%$ | 3 | 2004 | none | none |
| $6 / 30 / 2001$ | C | 25.0 | $5.95 \%$ | 10 | 2011 | none | none |
| $8 / 31 / 2001$ | C | 50.0 | $5.75 \%$ | 10 | 2011 | none | none |
| $3 / 31 / 2002$ | C | 110.0 | $4.60 \%$ | 3 | 2005 | none | none |
| $3 / 31 / 2002$ | B | 30.0 | $4.60 \%$ | 3 | 2005 | none | none |
| $6 / 30 / 2002$ | C | 60.0 | $3.75 \%$ | 3 | 2005 | none | none |
| $6 / 30 / 2002$ | K | 40.0 | $3.75 \%$ | 3 | 2005 | none | none |
| $9 / 30 / 2002$ | C | 100.0 | $3.05 \%$ | 4 | 2006 | none | none |
| $9 / 30 / 2002$ | E | 30.0 | $3.05 \%$ | 4 | 2006 | none | none |
| $9 / 30 / 2002$ | B | 20.0 | $3.05 \%$ | 4 | 2006 | none | none |
| $10 / 31 / 2002$ | C | 50.0 | $3.00 \%$ | 3 | 2005 | none | none |
| $11 / 30 / 2002$ | C | 40.0 | $2.80 \%$ | 3 | 2005 | none | none |
| $12 / 31 / 2002$ | B | 40.0 | $3.05 \%$ | 4 | 2006 | none | none |


| 50.0 | $\mathrm{Jan} / \mathrm{Jul}$ | $1,750,000$ |
| ---: | :---: | ---: |
| 15.3 | $\mathrm{Feb} / \mathrm{Aug}$ | 524,025 |
| 40.0 | $\mathrm{Mar} / \mathrm{Sep}$ | $1,350,000$ |
| 20.0 | $\mathrm{Mar} / \mathrm{Sep}$ | 670,000 |
| 20.0 | $\mathrm{Jul} / \mathrm{Jan}$ | 565,000 |
| 25.0 | $\mathrm{Jul} / \mathrm{Jan}$ | 706,250 |
| 30.0 | $\mathrm{Jul} / \mathrm{Jan}$ | 907,500 |
| 60.0 | $\mathrm{Jul} / \mathrm{Jan}$ | $1,815,000$ |
| 50.0 | $\mathrm{Jun} / \mathrm{Dec}$ | $1,187,500$ |
| 25.0 | $\mathrm{Jun} / \mathrm{Dec}$ | 743,750 |
| 50.0 | Aug/Feb | $1,437,500$ |
| 110.0 | $\mathrm{Mar} / \mathrm{Sep}$ | $2,530,000$ |
| 30.0 | $\mathrm{Mar} / \mathrm{Sep}$ | 690,000 |
| 60.0 | $\mathrm{Jun} / \mathrm{Dec}$ | $1,125,000$ |
| 40.0 | $\mathrm{Jun} / \mathrm{Dec}$ | 750,000 |
| 100.0 | $\mathrm{Mar} / \mathrm{Sep}$ | $1,525,000$ |
| 30.0 | $\mathrm{Mar} / \mathrm{Sep}$ | 457,500 |
| 20.0 | $\mathrm{Mar} / \mathrm{Sep}$ | 305,000 |
| 50.0 | $\mathrm{Oct} / \mathrm{Apr}$ | 750,000 |
| 40.0 | $\mathrm{Nov} / \mathrm{May}$ | 560,000 |
| $\mathbf{4 0 . 0}$ | $\mathrm{Jun} / \mathrm{Dec}$ | 610,000 |
|  |  | $\mathbf{8 2 , 1 8 9 , 6 9 5}$ |
| $\mathbf{\$ 2 , 8 0 0 . 4}$ |  |  |

(\$1,668.4)
$(\$ 3,585.2)$
\$2,800.4
*Net amount issued $\$ 6,385.6$
Weighted average interest rate for outstanding bonds
$\mathrm{C}=$ Transmission Construction
$\mathrm{K}=$ Conservation
$\mathrm{F}=$ Fish and Wildlife
$\mathrm{B}=$ Corps and Bureau
$\mathrm{E}=$ Environment

## Section 5

## CAPITALIZED CONTRACTS AND OTHER LONG-TERM RESOURCE ACQUISITION OBLIGATIONS

## I. Introduction

This section documents the data on third party debt service or payment costs associated with capitalized contracts and other long-term, fixed contractual obligations.

## II. Methodology

To determine debt service streams for Energy Northwest (formerly the Washington Public Power Supply System) Nuclear Projects WNP-1, WNP-2, and WNP-3, a bond model specifically developed for Energy Northwest debt is used, and streams are based on the amount of Energy Northwest debt outstanding. BPA's Contracting Resources staff verifies model results. The debt service streams reflect all Energy Northwest refinancings to date. Debt service streams for other capitalized contracts are derived from such sources as Official Statements, Agency agreements, Agency contracts, and budgetary data. The data used in the repayment study is shown in the attached tables.

For Cowlitz Falls the debt service stream input into the repayment model is $\$ 1$ million higher per year through the rate period than shown on Table 10. This is due to the inclusion of the estimated debt service stream for a projected $\$ 12$ million in additional costs to complete fish facilities.

Table 11 reflects debt service for the Northern Wasco project. After the bond issuance, BPA decided to cancel its participation in the project. The debt service will be paid from the construction fund until it is exhausted in 2011. The debt service in the repayment study is zero from 1999 to 2011. From 2012 to 2025, the repayment study reflects the data on Table 11.

Table 4
FY $1998 . Q 2$ FOREGAST OF WNP． 1 NET DEBT SERVICE REQUIRENENT： Foroeast Prepared April 2． 1996 Ferocest Period FY 1008－2017

|  | 0 | 3 | 6a | 迷 | 0 | 0 | 90．ded |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Pincion | Lmant | Tobalt． Canean Debit farvion | trusitrmert ikenere 21 | Mrge Fuving equanmen | Resemen <br> fies－uya | tish Fei Debe feract | $\begin{aligned} & \text { Consinuciky } \\ & \mid \text { Fasp-405 } \end{aligned}$ | bin Mat Dest service |
| T00 3 | 68.478 mon | $14 \times 1012000$ | 18，ackoun | 12，Prame | gonery | vovire |  | 60，P6479 | （m）CuFas |
| tane 4 | 65000.500 |  | Tmo，0es， 216 | 1，7es600 | －2xag | 604.14 | Tinome， 197 | 1，202，750 | ［79，064，42 |
| Dos ar | T6， 6,600 | 136．7nosw | Syomiot |  | （1） | 0 | 120．206，300 | 6 | 174，2risey |
| 2090 | 60．3EL20 | 125 Te215 | Ev5sume | A，weypre | 4724 | toosod | traboender | 6 | majoria |
| 2005 | cation and | 146， 200.092 | 10， 300000 | Q ©5，20 | 2 ta eng | 08.27 | tsounc，mea | 6 |  |
| 2000 | 77，204 | 130100 限4 |  | ［170，206 | $-1,10 \mathrm{w}$（6） | 2,0465 | 177，70a，908 | 0 | ［77，70asa |
| 2 may | 13．13P．600 | 108，\％evee | （1）209， 506 | 7，wnizat | －60．10？ | 3ucasid |  | 6 | 14／30nut |
| 2 m | Tejzavor | 1 cos 2041 | 17\％） | 7，00381 | 245004 | 71，41 | tilucsisel | 0 | Tharessm |
| 2006 | TR， 1205000 | OAPeese | fimber，ine | 7，217，710 | 4 tas 50 | ज1， 100 | Impaso，zeq | 0 | 15r，910，28 |
| 2006 | cerest jou | T2，06602 | fagnesues | 7，antue | TME］ | 0 | ［79，201，000 | 6 | ITM， 901.00 C |
| 2007 | TEDtessor | T40623 | 150．458， 64 | 7，453000 | 4.411 | W6， 110 | Trasmopod | 0 | Troment |
| 2owe | mestes cos | 3150 d．4．1 | 1／4，391，451 |  | 6e． 138 | t，305880 | treasmer | 0 |  |
| 28009 | weoces 750 | 740008 | 12， 2 at，017 | 7，209，202 | － 159.044 | 2005010 | ［72， 20 运 | － |  |
| 2110 | H10761200 | 6，615，54． |  | 7，291，200 | 4negre | 0 |  | 6 | talyicalic |
| $2 \times 11$ | T 28.115 | －2，00）4E－ | 2sx teitute | 7，40pars | 4275，\％6 | 208020 | 7 me 20780 | 6 |  |
| 2012 | 29\％65s，000 | 54sater1 | Svistsat |  | Tramer | 77517 l | 1818．art， 38 | 6 |  |
| 2001 | 15902000 | 46，318， 6 |  | 7，20，916 | 431， 51 | 0 | $200,204,200$ | 6 | 200， 2404.2 Cl |
| 2016 | vereme 35 | गponem | 204100,100 | 7，240000 | 7，yes | 2，394，150 | 129，34，709 | 6 | 127，24 70 |
| 2015 | We6tesat | 38161614 | $206,40,2 x+5$ | 7，wrou6 | 61． 157 | t，mbent | bubet 614 | \％ | 13 yeas， 61 |
| $2 \times 10$ | 7eblebis， 6 C－ | 70＋6．39 | 2abley | 8，176， 005 | 3）106 | 20，20，110 | trajamut | 6 | 70，${ }^{\text {Premet }}$ |
| 28 | TE， 014 ， 11 | 0，200，160 | $100,304,281$ | 2,000200 | 728，${ }^{\text {a }}$ | 20,0041008 | $12,041,20$ | 6 | $12 \mathrm{O} 041,28$ |
| Trax |  | 1 | 1980 |  | memer | 201 | 974\％ | 9 | 7， |





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## Table 5

1998.Q2 FORECAST OF WNP. 2 NET DEBT SERMCE REQUIFEMENT!

## Forecast Propared April 2, 1508

Forecast Poriod FY 1998-2012
Assumes No Financing of WNP-2 Capital Addritiont

|  | 14 | (ti) | 18 | 迷 | N | 7 | ic-dre-6 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Fernew <br> bala <br> aselter | Prixipai | Intast | Betai 11 Gows Geke Serime |  | Fikd Farding Ampalapont | Ruseres Fimen | Binh Metbouth Servien |
| 200\% 3 | T0000.700 | $1 \mathrm{HES7,000}$ | 218580.783 | If enaza | 212800 | B211-8 | 1203008 |
| T000 4 | SC,0e2,500 |  | 22041900 | 14730,76 | [7,000 | 4.10 | 294,200, 12 |
| vase 5 | 104,160000 | 17) 1808.200 |  | 14.593060 | 1,47380 | 0 | 20204080 |
| 3000 | 101,651800 | tzatram |  | 15,470, 12 | V1) 0 E 4 | 0 | 260, 2 20, 300 |
| 3001 | tail 122,000 | IMPOEME | स217ग | 18000,209 | -20,xeg | 0 | 201504 100 |
| 2000 |  | 106,60.854 | 2145 c | 11502,40it | -4, t5] |  | $127 / 4124$ |
| 3000 | 10.281010 | N2, mill | T3, 6+40ce | 12 man 34 | 4.204,752 | 5700,04 | 24,905 bee |
| 2064 | 1037)1706 | 106,664148 | 26644.918 | 12110.306 | ¢ 7 /819 | 1344906 | 293,60473 |
| 3006 | 128, 3014 | 114000 , 10 | 2 Se 510061 | 11 asbuto | -2,76,638 | $31.453,008$ | 180806508 |
| 2048 |  |  | 296430/40 | A y00, $0^{\text {a }}$ | 411403 | t6000919 | 21199688 |
| 200] | 106460, 306 | 77868.368 | $208590 / 16$ | + $60 \pm$,0] | t,91756 | $117 \times 2 / 4-$ | 23400070 |
| 3004 | F/14.143 | 00,204, and | 76. 31375 | 849815 | 7014] | b | 2 m |
| 3005 | 200,290304 |  | 205436054 | 1490606 | 44.760 | 6 | DACTIE年 |
| 3015 | 201, 660,796 | 4 T AP) 424 | 30eraviot |  | 4m, ${ }^{\text {ars }}$ | E86a | 3ngrev/ |
| 3011 | 22145020 | 34 Cl ary | 30605890 | 7 , mitome |  | (Titald | 371909.123 |
| 2012 | 25,461,700 | $15,002,411$ |  | (80,000) | 10109470 | 42, 3 E | 2njoce, sa |
| 2013 | 1 | 0 | 1 | 1 | $\dagger$ | 0 | 0 |
| 2014 | 1 | 0 | $t$ | 1 | 9 | 0 | 0 |
| 2018 | 1 | 0 | 1 | 1 | 1 | 6 | 0 |
| 2016 | 1 | 0 | 4 | 8 | 1 | 1 | 6 |
| 2017 | 1 | 0 | 8 | 1 | $a$ | 0 | 0 |
| 2011 | 1 | 0 | 1 | 1 | 3 | 6 | 0 |
| Inten | 706\|cil | तथmer | 1980060 | गramer | Txatil | Txymay |  |





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Table 6

## 1936. 22 FORECAST OF WNP 4 NET DEBT SERVICE REQUIREMENT: <br> Forecast Proparad April 21908 <br> Forocast Poriod FY 1995-2015

|  | (1) | (t) | (c) | (b) | $1 \mathrm{H}_{6}$ | (t) | (04) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Princigat | Hinest | Total IT Cross lobit Sempen | $\begin{aligned} & \text { imestront } \\ & \text { mocore } 2 \end{aligned}$ | RHS Funding Rovainanere | Auserve <br> Freetips | BPA Mut Debi Service |
| 1 DeP 3 | 3800000 | DADMIE | 721 31.106 | 0.108000 | -1232000 | tall20x | 12120148 |
| 1098 | 45.51876 | 86441600 | 738968.65 | 7,900,200 | -150.6ab | 454.78 | 124,603,38 |
| 15006 | T2, 451750 | 回, 142 mel | F2, ict 6Es | 7/209030 |  | 0 |  |
| 2000 | 76,917,44 | 14-412, 201 | no.ten 6d1 | at tay 26 | 4) 816 | 0 | 152,27044 |
| 2004 | T6.8C\%,040 | 04771711 | W0ndes ${ }^{\text {c }}$ | 7,801,811 | 5808 | 56.40 | 153,79690 |
| 2000 | T8, \%\% \%\% |  | W0plere 64 | 7,700, 40 | 4 Em | 70, ${ }^{\text {a }}$ | 198,719534 |
| 2002 | T6,8\%e 423 | 6ccastime | 70, 62.50 |  | न7, ces | 154239 | 122, m3, 17 |
| 2004 | -2,60e900 | K6, 22 , 5ed | 766,223501 |  | -34262 | 462,760 | 140,222,300 |
| 2006 | 64 7014E | P908, 415 | \%80Rapl | 7, imspe | -0.278 | 0 | 14, 4,479,915 |
| 2008 | 64,0] 94 | B-34)759 | \%4,067 700 | G98508 | -taser | 0 | 107, 105 720 |
| 2009 | 60,06080 | 65, 101511 | 160,485, 173 | 4,3 th, 0 , | -564, 37 | 0 | 14, 307, 488 |
| 2006 | 6e,astev3 | 6E.18, 380 | T0,60t261 |  | 1t, $\mathrm{TO}_{6}$ | 23, 76 | 14485,77 |
| 2000 | 64,7e 120 | beses def | B0, te गoe | ब120 | Euc\% | 3007.17 | 10201200 |
| 2015 | T1, 150 274 | -19372, OEC | EC.j14.347 | axamol | 201,208 | 7,158,74 | 148,301,309 |
| 2011 | gever 34 | 7212, 139 | W0.8Ct 473 | 6,441481 | T6, 81 | 0 | 150,130,23 |
| 2012 | 5, 631 81 | 7070268 | VR,3427 | 6,0+70 | 709, anc: | 4 | 103,4 51.93 |
| 2013 | 26,201 600 | 72327,025 | 2eseces 434 | denajat | 26,516 | (660, 700 | 101302, 2 |
| 2014 | 506124 恠3 | 65194665 | Nobethess | $0,+56-28$ | 17.424 | 4 Ne2, 100 | 154,20,42 |
| 2015 | 70,31E76 | 38722,801 | vause 50 | 6.08 coses | 1988 F | 9 | 183,286, m |
| 2014 | trucelt | 30508.47 T | VR,645531 | 6506.350 | -441235 |  | 1564700,95 |
| 2017 | T90,205 306 | 26.26416 |  | $65+1,40$ | -6t3, 437 | 12,603, 12 | 137,600, 3 7 |
| 2011 | t31 358 | 16434.106 | 3077016 | 23tertil | 4063964 | 42 Etisd |  |
| Tus | 1760016s4 | 159293600 | 39062.5010 | H1-202030 | b221,581 | 7275077 | IThisman |





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Table 7
EWEB's SHARE OF TROJAN PROJECTED NET DEBT SERVICE STREAM
BPA FY 1999-2009

| Payment Date | Principal | Interest | Total Gross Debt Service | Investment Income 1/ | Reserve <br> Account Freeups | Total <br> Net Debt Service |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1999 | 5,542,500 | 5,014,631 | 10,557,131 | 628,950 | 0 | 9,928,181 |
| 2000 | 5,871,250 | 4,689,615 | 10,560,865 | 638,663 | 0 | 9,922,203 |
| 2001 | 6,213,750 | 4,343,211 | 10,556,961 | 620,813 | 0 | 9,936,149 |
| 2002 | 6,581,250 | 3,976,600 | 10,557,850 | 610,313 | 0 | 9,947,538 |
| 2003 | 6,967,500 | 3,588,306 | 10,555,806 | 601,913 | 0 | 9,953,894 |
| 2004 | 7,380,000 | 3,177,224 | 10,557,224 | 593,250 | 0 | 9,963,974 |
| 2005 | 7,818,750 | 2,741,804 | 10,560,554 | 571,463 | 0 | 9,989,092 |
| 2006 | 8,278,750 | 2,280,498 | 10,559,248 | 549,938 | 0 | 10,009,311 |
| 2007 | 8,766,250 | 1,792,051 | 10,558,301 | 544,950 | 0 | 10,013,351 |
| 2008 | 9,283,750 | 1,274,843 | 10,558,593 | 549,675 | 0 | 10,008,918 |
| 2009 | 9,831,250 | 727,101 | 10,558,351 | 557,550 | 10,500,000 | -499,199 |
| 2010 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total | 82,535,000 | 33,605,884 | 116,140,884 | 6,467,475 | 10,500,000 | 99,173,409 |

1/ Reflects earnings on Debt Service Reserve Funds. Interest rate assumptions based on WEFA 1995 Third Quarter Long Term Economic Outlook, Volume 1, Trend Growth Scenario.

Table 8

## EWEB CONSERVATION PROJECTED NET DEBT SERVICE STREAM

| Payment <br> Date <br> (Fiscal Year) |
| :---: |
|  |
| 1999 |
| 2000 |
| Total |


| Principal | Interest | Total <br> Gross <br> Debt Service | Investment <br> Income | Reserve <br> Account <br> Freeups |
| :---: | ---: | :---: | :---: | :---: |
| $1,690,000$ | 231,240 | $1,921,240$ | 0 |  |
| $1,800,000$ | 119,70 | $1,919,700$ | 0 | 0 |
| $3,490,000$ | 350,940 | $3,840,940$ | 0 | 0 |


| Total |
| :---: |
| Net Debt |
| Service |$|$|  |
| :--- |
| $1,921,240$ |
| $1,919,700$ |
| $3,840,940$ |

Table 9
IDAHO FALLS PROJECTED NET DEBT SERVICE STREAM BPA FY 1999-2014

| Payment Date <br> (Fiscal Year) | Principal | Interest 1/ | Total 1/ Gross Debt Service | Investment Income 2/ | Reserve Account Freeups | Total Net Debt Service |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1999 | 1,080,000 | 3,017,069 | 4,097,069 | 242,146 | 0 | 3,854,923 |
| 2000 | 1,185,000 | 2,910,021 | 4,095,021 | 245,885 | 0 | 3,849,136 |
| 2001 | 1,300,000 | 2,738,908 | 4,038,908 | 239,013 | 0 | 3,799,895 |
| 2002 | 1,420,000 | 2,554,835 | 3,974,835 | 234,971 | 0 | 3,739,864 |
| 2003 | 1,560,000 | 2,408,965 | 3,968,965 | 231,737 | 0 | 3,737,228 |
| 2004 | 1,725,000 | 2,247,900 | 3,972,900 | 228,402 | 0 | 3,744,498 |
| 2005 | 1,905,000 | 2,069,280 | 3,974,280 | 220,013 | 0 | 3,754,267 |
| 2006 | 2,095,000 | 1,875,797 | 3,970,797 | 211,726 | 0 | 3,759,071 |
| 2007 | 2,310,000 | 1,666,416 | 3,976,416 | 209,806 | 0 | 3,766,610 |
| 2008 | 2,525,000 | 1,437,120 | 3,962,120 | 211,625 | 0 | 3,750,495 |
| 2009 | 2,775,000 | 1,185,413 | 3,960,413 | 214,657 | 0 | 3,745,756 |
| 2010 | 2,795,000 | 933,766 | 3,728,766 | 217,588 | 0 | 3,511,178 |
| 2011 | 3,055,000 | 670,597 | 3,725,597 | 218,295 | 0 | 3,507,302 |
| 2012 | 3,335,000 | 383,236 | 3,718,236 | 217,386 | 0 | 3,500,850 |
| 2013 | 3,650,000 | 68,894 | 3,718,894 | 214,354 | 4,042,507 | -537,967 |
| 2014 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total | 32,715,000 | 26,168,217 | 58,883,217 | 3,357,605 | 4,042,507 | 51,483,105 |

1/ Reflects July 23, 1991, Memorandum of Understanding between Bonneville and the City of Id Falls to reduce BPA's debt service obligation.
2/ Reflects projected earnings from the Debt Service Reserve Fund, and Repair and Replacement Reserve Fund investments. Interest rates based on WEFA 1995 Third Quarter Long Term Economic Outlook, Volume 1, Trend Growth Scenario.

Table 10
COWLITZ FALLS PROJECTED NET DEBT SERVICE STREAM 1/ BPA FY 1999-2024

| Payment Date (Fiscal Year) | Principal | Interest | Total 1/ Gross Debt Service | Investment Income |  | Total <br> Net Debt Service |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1999 | 3,260,000 | 9,794,064 | 13,054,064 | 875,326 | 0 | 12,178,738 |
| 2000 | 3,445,000 | 9,606,774 | 13,051,774 | 875,326 | 0 | 12,176,448 |
| 2001 | 3,650,000 | 9,405,031 | 13,055,031 | 875,326 | 0 | 12,179,705 |
| 2002 | 3,865,000 | 9,187,693 | 13,052,693 | 875,326 | 0 | 12,177,367 |
| 2003 | 4,050,000 | 9,004,105 | 13,054,105 | 875,326 | 0 | 12,178,779 |
| 2004 | 4,245,000 | 8,806,668 | 13,051,668 | 875,326 | 0 | 12,176,342 |
| 2005 | 4,460,000 | 8,594,418 | 13,054,418 | 875,326 | 0 | 12,179,092 |
| 2006 | 4,690,000 | 8,365,843 | 13,055,843 | 875,326 | 0 | 12,180,517 |
| 2007 | 4,930,000 | 8,121,963 | 13,051,963 | 875,326 | 0 | 12,176,637 |
| 2008 | 5,190,000 | 7,863,138 | 13,053,138 | 875,326 | 0 | 12,177,812 |
| 2009 | 5,465,000 | 7,584,175 | 13,049,175 | 875,326 | 0 | 12,173,849 |
| 2010 | 5,765,000 | 7,283,600 | 13,048,600 | 875,326 | 0 | 12,173,274 |
| 2011 | 6,085,000 | 6,966,525 | 13,051,525 | 875,326 | 0 | 12,176,199 |
| 2012 | 6,425,000 | 6,631,850 | 13,056,850 | 875,326 | 0 | 12,181,524 |
| 2013 | 6,775,000 | 6,278,475 | 13,053,475 | 875,326 | 0 | 12,178,149 |
| 2014 | 7,150,000 | 5,905,850 | 13,055,850 | 875,326 | 0 | 12,180,524 |
| 2015 | 7,540,000 | 5,512,600 | 13,052,600 | 875,326 | 0 | 12,177,274 |
| 2016 | 7,950,000 | 5,097,900 | 13,047,900 | 875,326 | 0 | 12,172,574 |
| 2017 | 8,395,000 | 4,660,650 | 13,055,650 | 875,326 | 0 | 12,180,324 |
| 2018 | 8,855,000 | 4,198,925 | 13,053,925 | 875,326 | 0 | 12,178,599 |
| 2019 | 9,340,000 | 3,711,900 | 13,051,900 | 875,326 | 0 | 12,176,574 |
| 2020 | 9,855,000 | 3,198,200 | 13,053,200 | 875,326 | 0 | 12,177,874 |
| 2021 | 10,395,000 | 2,656,175 | 13,051,175 | 875,326 | 0 | 12,175,849 |
| 2022 | 10,970,000 | 2,084,450 | 13,054,450 | 875,326 | 0 | 12,179,124 |
| 2023 | 11,985,000 | 1,481,100 | 13,466,100 | 875,326 | 0 | 12,590,774 |
| 2024 | 12,700,000 | 762,000 | 13,462,000 | 875,326 | 13,466,550 | -879,876 |
| 2025 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total | 177,435,000 | 162,764,072 | 340,199,072 | 22,758,476 | 13,466,550 | 303,974,046 |

1/ Reflects 1993 refunding of 1991 Cowlitz Falls Hydroelectric Project Revenue Bonds.

Table 11
Northern Wasco Projected Net Debt Service Stream BPA FY 1999-2025

| Payment <br> Date <br> (Fiscal Year) |
| :---: |
|  |
|  |
| 1999 |
| 2000 |
| 2001 |
| 2002 |
| 2003 |
| 2004 |
| 2005 |
| 2006 |
| 2007 |
| 2008 |
| 2009 |
| 2010 |
| 2011 |
| 2012 |
| 2013 |
| 2014 |
| 2015 |
| 2016 |
| 2017 |
| 2018 |
| 2019 |
| 2020 |
| 2021 |
| 2022 |
| 2023 |
| 2024 |
| 2025 |
| Total |


| Principal | Interest | Total <br> Gross Debt <br> Service | Rnvestment <br> Income | Reserve <br> Account <br> Freeups |
| :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |
| 628,750 | $1,596,965$ | $2,225,715$ | 0 | 0 |
| 653,750 | $1,571,815$ | $2,225,565$ | 0 | 0 |
| 682,500 | $1,544,428$ | $2,226,928$ | 0 | 0 |
| 708,750 | $1,515,421$ | $2,224,171$ | 0 | 0 |
| 741,250 | $1,483,959$ | $2,225,209$ | 0 | 0 |
| 776,250 | $1,450,603$ | $2,226,853$ | 0 | 0 |
| 811,250 | $1,414,494$ | $2,225,744$ | 0 | 0 |
| 850,000 | $1,376,058$ | $2,226,058$ | 0 | 0 |
| 890,000 | $1,335,683$ | $2,225,683$ | 0 | 0 |
| 933,750 | $1,291,720$ | $2,225,470$ | 0 | 0 |
| 982,500 | $1,244,324$ | $2,226,824$ | 0 | 0 |
| $1,032,500$ | $1,194,216$ | $2,226,716$ | 0 | 0 |
| $1,082,500$ | $1,141,559$ | $2,224,059$ | 0 | 0 |
| $1,136,250$ | $1,086,351$ | $2,222,601$ | 0 | 0 |
| $1,195,000$ | $1,028,403$ | $2,223,403$ | 0 | 0 |
| $1,258,750$ | 966,550 | $2,225,300$ | 0 | 0 |
| $1,323,750$ | 901,095 | $2,224,845$ | 0 | 0 |
| $1,392,500$ | 832,260 | $2,224,760$ | 0 | 0 |
| $1,466,250$ | 759,850 | $2,226,100$ | 0 | 0 |
| $1,541,250$ | 683,605 | $2,224,855$ | 0 | 0 |
| $1,620,000$ | 603,460 | $2,223,460$ | 0 | 0 |
| $1,703,750$ | 519,220 | $2,222,970$ | 0 | 0 |
| $1,792,500$ | 430,625 | $2,223,125$ | 0 | 0 |
| $1,886,250$ | 337,415 | $2,223,665$ | 0 | 0 |
| $1,985,000$ | 239,330 | $2,224,330$ | 0 | 0 |
| 528,750 | 27,495 | 556,245 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 |
| $29,603,750$ | $26,576,901$ | $56,180,651$ | 0 | 0 |


| Total 1/ |
| :---: |
| Net Debt |
| Service |
|  |
|  |
| $2,225,715$ |
| $2,225,565$ |
| $2,226,928$ |
| $2,224,171$ |
| $2,225,209$ |
| $2,226,853$ |
| $2,225,744$ |
| $2,226,058$ |
| $2,225,683$ |
| $2,225,470$ |
| $2,226,824$ |
| $2,226,716$ |
| $2,224,059$ |
| $2,222,601$ |
| $2,223,403$ |
| $2,225,300$ |
| $2,224,845$ |
| $2,224,760$ |
| $2,226,100$ |
| $2,224,855$ |
| $2,223,460$ |
| $2,222,970$ |
| $2,223,125$ |
| $2,223,665$ |
| $2,224,330$ |
| 556,245 |
| 0 |
| $56,180,651$ |

1/ Construction funds will be used to satisfy debt service obligation through BPA fiscal year 2011.

Table 12
EMERALD PROJECTED NET DET SERVICE STREAM
BPA FY 1999-2010

| Pay Date |
| :---: |
|  |
|  |
| 1999 |
| 2000 |
| 2001 |
| 2002 |
| 2003 |
| 2004 |
| 2005 |
| 2006 |
| 2007 |
| 2008 |
| 2009 |
| 2010 |
| Total |


| Principal | Interest | Gross Debt <br> Service | Investment <br> Income | Reserve <br> Account <br> Freeups |
| ---: | ---: | ---: | :---: | :---: |
|  |  |  |  |  |
| 125,528 | 127,812 | 253,340 | 0 | 0 |
| 134,084 | 119,256 | 253,340 | 0 | 0 |
| 143,275 | 110,064 | 253,340 | 0 | 0 |
| 153,072 | 100,267 | 253,340 | 0 | 0 |
| 163,541 | 89,799 | 253,340 | 0 | 0 |
| 174,728 | 78,611 | 253,340 | 0 | 0 |
| 186,683 | 66,656 | 253,340 | 0 | 0 |
| 199,459 | 53,880 | 253,340 | 0 | 0 |
| 213,112 | 40,228 | 253,340 | 0 | 0 |
| 227,702 | 25,637 | 253,340 | 0 | 0 |
| 234,748 | 10,044 | 244,793 | 0 | 0 |
| 24,913 | 217 | 25,129 | 0 | 0 |
| $1,980,846$ | 822,471 | $2,803,317$ | 0 | 0 |


| Total |
| :---: |
| Net Debt |
| Service |$|$|  |
| ---: |
| 253,340 |
| 253,340 |
| 253,340 |
| 253,340 |
| 253,340 |
| 253,340 |
| 253,340 |
| 253,340 |
| 253,340 |
| 253,340 |
| 244,793 |
| 25,129 |
| $2,803,317$ |

Table 13
CONSERVATION AND RENEWABLE ENERGY SYSTEM PROJECTED NET DEBT SERVICE STREAM

BPA FY 1999-2014

| Payment <br> Date <br> (Fiscal Year) |
| :---: |
|  |
|  |
| 1999 |
| 2000 |
| 2001 |
| 2002 |
| 2003 |
| 2004 |
| 2005 |
| 2006 |
| 2007 |
| 2008 |
| 2009 |
| 2010 |
| 2011 |
| 2012 |
| 2013 |
| 2014 |
| 2015 |
| Total |


| Principal | Interest | Total <br> Gross Debt <br> Service | Investment <br> Income | Reserve <br> Account <br> Freeups |
| :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |
| $1,255,000$ | $2,098,660$ | $3,353,660$ | 0 | 0 |
| $1,320,000$ | $2,035,282$ | $3,355,282$ | 0 | 0 |
| $1,390,000$ | $1,965,982$ | $3,355,982$ | 0 | 0 |
| $1,465,000$ | $1,891,617$ | $3,356,617$ | 0 | 0 |
| $1,545,000$ | $1,811,775$ | $3,356,775$ | 0 | 0 |
| $1,630,000$ | $1,726,027$ | $3,356,027$ | 0 | 0 |
| $1,720,000$ | $1,633,932$ | $3,353,932$ | 0 | 0 |
| $1,820,000$ | $1,535,032$ | $3,355,032$ | 0 | 0 |
| $1,925,000$ | $1,428,562$ | $3,353,562$ | 0 | 0 |
| $2,040,000$ | $1,313,062$ | $3,353,062$ | 0 | 0 |
| $2,165,000$ | $1,190,662$ | $3,355,662$ | 0 | 0 |
| $2,300,000$ | $1,056,432$ | $3,356,432$ | 0 | 0 |
| $2,445,000$ | 911,532 | $3,356,532$ | 0 | 0 |
| $2,600,000$ | 756,275 | $3,356,275$ | 0 | 0 |
| $2,775,000$ | 577,525 | $3,352,525$ | 0 | 0 |
| $2,960,000$ | 397,150 | $3,357,150$ | 0 | 0 |
| $3,150,000$ | 204,550 | $3,354,750$ | 0 | 0 |
| $34,505,000$ | $22,534,257$ | $57,039,257$ | 0 | 0 |


| Total |
| :---: |
| Net Debt |
| Service |$|$|  |
| :---: |
| $3,353,660$ |
| $3,355,282$ |
| $3,355,982$ |
| $3,356,617$ |
| $3,356,775$ |
| $3,356,027$ |
| $3,353,932$ |
| $3,355,032$ |
| $3,353,562$ |
| $3,353,062$ |
| $3,355,662$ |
| $3,356,432$ |
| $3,356,532$ |
| $3,356,275$ |
| $3,352,525$ |
| $3,357,150$ |
| $3,354,750$ |
| $57,039,257$ |

Table 14
TACOMA PROJECTED NET DEBT SERVICE STREAM
BPA FY 1999-2015

| Principal | Interest | Total <br> Gross <br> Debt Service | Investment <br> Income | Reserve <br> Account <br> Freeups |
| ---: | ---: | ---: | :---: | :---: |
|  |  |  |  |  |
| 695,000 | $1,267,179$ | $1,962,179$ | 0 | 0 |
| 735,000 | $1,227,782$ | $1,962,782$ | 0 | 0 |
| 775,000 | $1,185,295$ | $1,960,295$ | 0 | 0 |
| 822,500 | $1,139,547$ | $1,962,047$ | 0 | 0 |
| 872,500 | $1,090,159$ | $1,962,659$ | 0 | 0 |
| 926,250 | $1,036,847$ | $1,963,097$ | 0 | 0 |
| 981,250 | 979,359 | $1,960,609$ | 0 | 0 |
| $1,043,750$ | 917,317 | $1,961,067$ | 0 | 0 |
| $1,112,500$ | 850,174 | $1,962,674$ | 0 | 0 |
| $1,182,500$ | 777,564 | $1,960,064$ | 0 | 0 |
| $1,260,000$ | 699,065 | $1,959,065$ | 0 | 0 |
| $1,347,500$ | 614,471 | $1,961,971$ | 0 | 0 |
| $1,437,500$ | 523,959 | $1,961,459$ | 0 | 0 |
| $1,531,250$ | 427,475 | $1,958,725$ | 0 | 0 |
| $1,637,500$ | 323,866 | $1,961,366$ | 0 | 0 |
| $1,747,500$ | 212,355 | $1,959,855$ | 0 | 0 |
| $1,868,750$ | 93,019 | $1,961,769$ | 0 | 0 |
| $19,976,250$ | $13,365,431$ | $33,341,681$ | 0 | 0 |


| Total <br> Net Debt <br> Service |
| :---: |
|  |
|  |
| $1,962,179$ |
| $1,962,782$ |
| $1,960,295$ |
| $1,962,047$ |
| $1,962,659$ |
| $1,963,097$ |
| $1,960,609$ |
| $1,961,067$ |
| $1,962,674$ |
| $1,960,064$ |
| $1,959,065$ |
| $1,961,971$ |
| $1,961,459$ |
| $1,958,725$ |
| $1,961,366$ |
| $1,959,855$ |
| $1,961,769$ |
| $33,341,681$ |

## Section 6 <br> IRRIGATION ASSISTANCE

## I. Introduction

This section documents the amount of irrigation construction costs for Federal reclamation projects in the Pacific Northwest allocated to irrigation use that the FCRPS has an obligation to repay. These payments are known as irrigation assistance.

## Background

In an effort to encourage settlement of the arid and semiarid lands of the Western United States, the 1902 Reclamation Act created the Reclamation to develop water resources for irrigation. The 1902 Reclamation Act provided that irrigators using the reclamation projects had 10 years to repay the construction costs of such projects. Title to the reclamation projects, however, remained with the Federal government even after all construction costs were repaid.

By the 1920s, a 10-year repayment period for irrigators was determined to be economically unrealistic. After several leniency acts and extensions, Congress passed the 1939 Reclamation Act, which changed the repayment period on reclamation projects to 40 years after a 10-year development period. Later revisions and project-specific legislation extended repayment periods for most reclamation projects to 50 years after a 10 -year development period. However, the Kennewick project has a 66-year repayment period.

Originally, irrigators were responsible for repaying all project construction costs without interest. However, hydropower is a by-product of many reclamation projects and not all of the power generated is needed for irrigation works. As early as the Town Sites and

Power Development Act (April 16, 1906, ch. 1631, 34 Stat. 116) Congress authorized Reclamation to lease surplus power and use the proceeds to repay part of the costs of the reclamation projects.

The concept of power revenues contributing to the repayment of Reclamation's multipurpose projects evolved to the current policy, in which power revenues are used to repay that portion of the project construction costs allocated to irrigation use that are beyond the irrigators' "ability to repay." Moreover, the costs to be repaid by power revenues, known as irrigation assistance, are to be repaid without interest. Reclamation has the responsibility to make the determination of the amount that is beyond the irrigators' "ability to repay" through a farm budget analysis. The results of this analysis are used to establish the irrigators' repayment responsibility. The irrigators, as an irrigation district, and Reclamation formalize this repayment responsibility in irrigation contracts.

## II. Irrigation Repayment

In the Pacific Northwest, the Third Powerplant, Grand Coulee Dam legislation, P.L. 89-448, authorized repayment of the irrigation assistance costs from net revenues of the entire FCRPS. There are, however, limitations on the FCRPS's repayment responsibility. These limitations were added in amendment to the Third Powerplant, Grand Coulee Dam legislation, P.L. 89-561, and apply to reclamation projects, including projects not previously receiving similar assistance, which are authorized to receive such assistance, for which construction was authorized after September 7, 1966.

## The limitations are:

- The irrigation assistance for such projects is to be paid only from net revenues of the power system. Net revenues are defined as those revenues over and above the amount
needed to recover all costs allocated to power, including the cost of acquiring power by purchase or exchange, and previously authorized irrigation assistance.
- The construction of such projects shall be scheduled so that the repayment of the irrigation assistance associated with such projects from power revenues will not require an increase in the BPA power rate level.
- The total of all irrigation assistance to be repaid from power revenues shall not average more than $\$ 30$ million per year in any period of 20 consecutive years.

Reclamation provides BPA with data on the irrigation assistance to be repaid from each reclamation project, and estimates for future additions to such projects. The generation repayment study includes information provided in August 1998. Because irrigation assistance costs are repaid without interest and BPA repays highest interest-bearing investment first, irrigation assistance is generally scheduled to be repaid in the last year of the repayment period on each reclamation project. BPA made its first payment of $\$ 25,143$ thousand in 1997. A payment of $\$ 16,650$ thousand was paid in 2001. A single payment totaling \$739 thousand is due during the 2002-2006 rate period, in FY 2004.

In December 2002, BPA received updated data from Reclamation. This updated data is attached herein. The Final Proposal will reflect the updated irrigation assistance.

## Boise Project

The irrigation assistance data provided by Reclamation for the Boise project reflects unsold space, in the Cascade and Deadwood reservoirs, as a source of future revenues. Previously, Reclamation proposed to sell 380,000 acre-feet of conservation pool space in these reservoirs to the State of Idaho. The Memorandum of Agreement (MOA) between Reclamation and the State of Idaho was never signed due to the State's objection to language in the MOA that pertained to endangered species issues. Reclamation no longer
considers the storage space to be available for sale, and instead, is using the space to store water to address salmon issues. Although the current data does not reflect this change, the Reclamation anticipates some future adjustment in the irrigation assistance data. BPA is including the unadjusted data, provided by Reclamation, in the revenue requirement study since BPA has no basis to project revised costs.

## Columbia Basin Project and Green Springs Project

At Columbia Basin, Reclamation completed an examination of project purposes that resulted in a reallocation to power of plant previously associated with irrigation (directly as irrigation or indirectly as common general plant). As a result, the investment at the project for which power rates are responsible increased by $\$ 69.226$ million, and there was a decrease in irrigation assistance of $\$ 98.345$ million. In addition, Green Springs (Rogue River Irrigation Project), a project in southern Oregon, with investment of $\$ 11.17$ million, was added to the FCRPS. Irrigation assistance was increased by $\$ 9.9$ million for this project.

The following letter from the Bureau of Reclamation including the enclosed tables, reflects the Columbia Basin reallocation included in the current repayment studies.

# United States Department of the Interior 

BUREAU OF RECLAMATION

Wathington, D.C. 20240
NARTMABTATO
D-5200

## MEMORANDUM

To: \begin{tabular}{l}
Regional Director, Boise, Idaho <br>
Attention: PN-1000 <br>
From: <br>
Commissioner L Martinez <br>
Subject:

 

Approval Mernorandum for Cost Reallocetion Interum Roport, Columbia Basin <br>
Project, Washington
\end{tabular}

This is in response to your memorandum of May 17, 2000, in which you requested approval of the subject report entitled "Interim Cont Reallocation Report, Columbia Basin Project, Washington, May 2000," This cost reallocation is considered "interim" because the project has not been completed. The original authorization has not been amended and remains in place,

The principal purposes of a cost allocation are to assign specific and separable costs to individual project purposes and to determine an equitable allocation of the remaining joint costs to those saves authorized project purposes. Several methodologies are available to perform the allocation, including the alternative jurtifiable expenditure (AJE) method. This method was used for the allocations completed in 1945 and 1963, and for consistency and because it appeared to be appropriate, this method was used in the subject interim allocation as well.

The last interim allocation of costs was completed in 1963, and significant changes have occurred since then that would influence the allocation of the project investment costs. The 1963 analysia preceded the addition of the third powerplaat and pump-generating units and also assumed development of the full $1,029,000$ aeres for irrigation. The subject interim allocation utilized only the 671,000 acres that are currently in service. These specific changes along with the recommendation from the Office of Inspector General (OIG) resulted in a decision to perform a new interin allocation of project investment costs. In part, the recommendation of the OIG states "that the Commissioner, Bureau of Reclamation, ensure that the Pacific Northwest Region prepares an interim cost allocution for the Columbia Basin Project that reflects the Project as currently developed."

Rather than allocate directly to irrigation in this allocation, coats were first allocated to the water cupply purposes. These costs were then furtber suballocated to irrigation, and municipal and industrial (M\&D) water supply. This procedure permitted costs to be allocated to M\&I, which had not been done in previous allocations. It should be noted that M\&I service is not specifically

identified as a project purpose in the authorizing legislation, but allocating costs to this purpose will allow these costs to be recovered tarough existing or future M\&si contracts. Costs allocmted to powes were also suballocated with a portion of the costs being allocated back to irrigation, since part of the power production is used to pump water for this purpose.

Flood control is an authorized project parpose; however, estimates of flood cortrol benefita attributable to project facilities were reduced in absolute and relative terms compared to the previous allocations. This occurs because of additional storage constructed elsewhere in the basin and the addition of levees downstream from the project. Navigation was initially considered to be a project purpose with benefits attributed to the reduction in the cost of anmual maintenance dredging. The Copps of Engineers has now found the benefits derived from the facilities to be minimal due to downstream channel deepening, construction of upstream daras, and the use of pile dikes in the lower reaches of the river to train the river flows. Thus, no costs have been allocated to this purpose.

These changes in assumptions and comprutational procedures resulted in the following proposed interim allocation contained in the subject report. This allocation is compared here to the 1963 allocation for background purposes.

|  | 1263 allocation | Proposed allocation |
| :---: | :---: | :---: |
| Power | 5172,582,000 | \$1,129,541,983 |
| Irigation | 738,325,000 | 543,948,761 |
| M\&I |  | 1,984,232 |
| Flood control | 48,798,000 | 26,912,074 |
| Navigation | 1,000,000 |  |
| Other | 499,000 | + |
| Total | 5961,204,000 | \$1,702,387,050 |

The subject interim reallocation report is approved with the following understandings:

1. The interim reallocation will be put into efficet on October 1,2000 , and will not be ipplied retroactively (i.e., It will not apply to past payments made by the Bonneville Power Administration (BPA) pursuant to the 1963 fmerim reallocation report).
2. The reallocation results in an increase in reimburtable investanent costs allocated to commetcial power. The repayment of such costs is the responsibility of the Federal Columbia River Power System (FCRPS). The payment of the investment will be in accordance with the Prolect authorizations and BPA's payment priority under applicable ailithority lor Yepayang FCRPS costs and its assoclated agreements with Treasury.
3. Interest will accumulate on apy umpaid investment. In other words, interest will begin acaruing on the interest bearing components of the interim reallocation beginning on October 1, 2000, at he appropriate authorized project interest rates or other rates applicable to


FCRPS costs. However, it is recognized that BPA may choose from among several methods to repay the commercial power investment obligation to the U.S. Treasury witnin the preseribed 50 -year period, including lunp rum, periodic payments, or deferred payments.
4. The interim reallocation includes allocations to flood control and to water supply which, in turn, was suballocated to irrigation and M\&L Allocations to thete purposes whll also be implemented October 1, 2000. As the irrigation repayment and water service contracts specify fixed obligations, the imigation assistance from the FCRPS will be adjusted accordingly. Investrent cost allocated to MdeI will be recovered via existing and futuro Mel contracts.
5. The now allocation for operations and maintenance (O\&M) will be fimplemented on October 1, 2000. This will increase the proportion of Grand Coulee Dam and Reservoir O\&M costs paid by BPA from $69.87 \%$ to $92.054 \%$. However, I understand that there wall be no impact to the O\&M costs which the project irrigation districts pay since these costs are establishod under a separate process. Under this process, Reclamation recovers irrigation O\&M costs through i 5 -ybar, fixed-rate per arre-foot charge for water delivered to the irrigation districts which charge is eatablished by criteria in artiele 36 of the December 1968 araendatory contracts, i.e., the Diversion Rate. A new irrigation O\&MM rate was reeently established for the pariod 2000-2004 with the execution of a Diversion Rate agreement.

If you have any questionn, please contact Larry Schluntr at 303-445-2901 or vin the LAN,

## FCRPS Percent of Joint Costs Allocated to Power

Joint \% MWH

| BUREAU PROJECTS: |  |  |  |
| :--- | ---: | ---: | ---: |
| BOISE | 8.7 | 5,871 | 51,078 |
| COLUMBIA BASIN | 79.7 | 710,836 | $56,660,738$ |
| HUNGRY HORSE | 70.0 | 36,275 | $2,539,250$ |
| MINIDOKA-PALISADES | 1.4 | 21,576 | 30,206 |
| YAKIMA | 22.9 | 19,878 | 455,206 |
| $\quad$ TOTAL BUREAU | 75.2 | 794,436 | $59,736,478$ |
| CORPS PROJECTS: |  |  | - |
| ALBENI FALLS | 97.5 | 67,732 | $6,603,870$ |
| BONNEVILLE | 50.0 | 489,308 | $24,465,400$ |
| CHIEF JOSEPH | 100.0 | 485,479 | $48,547,900$ |
| COUGAR | 23.0 | 22,251 | 511,773 |
| DETROIT-BIG CLIFF | 40.5 | 69,520 | $2,815,560$ |
| DWORSHAK | 87.4 | 248,890 | $21,752,986$ |
| GREEN PETER-FOSTER | 49.5 | 57,279 | $2,835,311$ |
| HILLS CREEK | 24.5 | 22,779 | 558,086 |
| ICE HARBOR | 78.6 | 185,132 | $14,551,375$ |
| JOHN DAY | 77.5 | 386,886 | $29,983,665$ |
| LIBBY | 78.0 | 282,925 | $22,068,150$ |
| LITTLE GOOSE | 93.3 | 214,463 | $20,009,398$ |
| LOOKOUT POINT-DEXTER | 31.0 | 77,484 | $2,402,004$ |
| LOST CREEK | 5.5 | 23,751 | 130,631 |
| LOWER GRANITE | 98.4 | 267,964 | $26,367,658$ |
| LOWER MONUMENTAL | 94.1 | 232,751 | $21,901,869$ |
| MCNARY | 81.3 | 452,934 | $36,823,534$ |
| THE DALLES | 74.0 | 389,344 | $28,811,456$ |
| $\quad$ TOTAL CORPS | 78.2 | $3,976,872$ | $311,140,625$ |
| TOTAL GENERATING PROJECTS | 77.7 | $4,771,308$ | $370,877,102$ |
| Non-Power Share | 22.3 |  |  |

The following letter from the Bureau of Reclamation, including the enclosed tables, reflects the Irrigation Assistance included in the current repayment studies.

# United States Department of the Interior 

BUREAU OF RECLAMATION

Pacific Nortlowest Region
1150 North Curtis Road, Suite 100
Boise, Idaho 83706-1234
*sven To
PN-3324
WTR-4.00
AUGG 281998

Mr. Tom Thompson
Manager of Financial Operations, CR-2
Department of Energy
Bonneville Power Administration
PO Box 3621
Portland OR 97208-3621

# Subject: Federal Columbia River Power System, Assistance To Authorized Reclamation Irrigation Projects in the Pacific Northwest, Fiscal Year 1997 

Dear Mr. Thompson:
Enclosed are three tables which summarize the schedule for repayment of irrigation assistance from the Federal Columbia River Power System (FCRPS) to authorized irrigation projects. This information is being furnished as requested by your letter of September 7, 1966, and your agency's annual call for project cost data on Reclamation projects that are part of the FCRPS.

Table 1 is a summary, in chronological order, for all authorized projects. Table 2 contains more detailed data for all projects except the Columbia Basin Project. Table 3 contains the detailed information for the Columbia Basin Project. The data on irrigation assistance reflects the latest Reclamation cost data for fiscal year 1997.

The data furnished for fiscal year 1997 contains several noteworthy details. As shown, data for the Boise Project reflects that irrigation assistance was due and paid by the Bonneville Power Administration (BPA) in 1997. Public Law 105-9, April 14, 1997, titled the Oroville-Tonasket Claim Settlement And Conveyance Act, transferred title of the irrigation works of the OrovilleTonasket Project to the Oroville-Tonasket Irrigation District. Section 5 (c) of the Act provided that the transfer of title shall not affect the timing and amount of the irrigation assistance obligation of BPA as determined by the Secretary of the Interior. And finally, data for the Columbia Basin Project reflects the current developed platted acreage ( 558,106 acres). Although the project is authorized to serve over a million acres, Reclamation is currently not requesting Congressional appropriations for construction of the "second half" of the project. Should conditions change, the "second half" of the project could be added to the list.

Also, as you are aware, Reclamation is currently engaged in a reallocation study of the costs of the Columbia Basin Project. The reallocation, an interim allocation, will reflect the current developed acreage, inclusion of the Third Powerplant, Pump/Generators, and will also reflect changes in operational aspects of the project. The reallocation will be completed in fiscal year 1999.

Four authorized projects are excluded from the list. These projects are: The Salmon Falls Division of the Upper Snake River Project; the Rogue River Basin Project, Merlin Division; the Walla Walla Project, Touchet Division; and the Yakima Project, Kennewick Division Extension. If these projects become active in the future, they will be rescheduled and added to the list.
If you have any questions about this data, please call Al Reiners at (208) 378-5344.

# Sincerely, <br>  

for Steven R. Clark
Acting Regional Director

## Enclosures

ce: Bonneville Power Administration 3550 Americana Terrace Ste 360 Boise ID 83702

TABLE 1. -SUMMARY OF FINANCLAL ASSISTANCE TO IRBGATON - FY 1397 FEDERAL COLUMBIA RIVER POWER SYSTEM (FCRPS) Authorred Projects, Thru Sept 30, 1997

| PROJECT | FISCAI YEAR DUE | Assistance fanuled |  |
| :---: | :---: | :---: | :---: |
|  |  | $\begin{aligned} & \text { RuOUNT } \\ & (\$ 1,000) \end{aligned}$ | cimelative <br> ( 51,000 ) |


| BOISE <br> PALISADES | 1897 | 24,909 | 24,909 |
| :---: | :---: | :---: | :---: |
| AMONDAIE | 2091 | 16,560 | 41,559 |
| DALTON GAR | 2004 | 164 | 41.743 |
| DATIONGMRDENS | 2004 | 205 | 41,951 |
| MANM CREEK | 2004 | 347 | 42,298 |
| COLUMRIA BASN | 2008 | 2950 | 45,248 |
| COLUMAA EASIN | 2069 | 5,702 | 50,950 |
| SPOIANE VALLEY | 2009 | 2,007 | 52,957 |
| COLUMGK LASIN | 2012 | 811 | 53,760 |
| COLUMBA EASIN | 2013 | 49,796 | 103584 |
| COLLMEAA BASIN | 2014 | 48,554 | 152.118 |
| COLUMEA BASIN | 2015 | 54, 101 | 208219 |
| COLUMBU BASIN | 2016 | 64.284 | 270,483 |
| COLUMBUA BASM | 2017 | 60.457 | 350,940 |
| CHIEF JOSEPH DAM, GREATER WCNATCHEE | 2017 | 1.051 | 332,011 |
| COUMA ROZA | 2017 | 718 | 332,729 |
| COLUMBA BASIN | 2018 | 24,267 | 358.906 |
| CHEFF JOSEPH OMM FOSTER CREEK | 2018 | 680 | 357.676 |
| YAKIMA, ROZA | 2018 | 513 | 358.189 |
| COLUMBU EASIN | 2019 | 61,343 | 419.532 |
| CHIEF JOSEPM DAM, FOSTER CREEK | 2015 | 1,125 | 420.657 |
| MICHAUD FLATS | 2019 | 2075 | 422,736 |
| MCHEMUDFORT HALL | 2019 | 2070 | 424,815 |
| YAKIMA ROZA | 2018 | 375 | 428,190 |
| CROOKEA RIVER | 2020 | 34,103 | 49,290 |
| CROOKED RIVER COUUMBU EUSIN | 2020 | 2,835 | 461,933 |
| COLUMALA EASIN YAKJM, ROZA | 2041 | 15,436 | 477368 |
| YAKIM, ROZA COLUMBU EASIN | 2021 | 1,390 | 478.759 |
| COLUMBLA BASIN YNGOA ROEA | 2022 | 15,416 | 494,175 |
| YAVMA ROEA | 2022 | 415 | 494.500 |
| COLUMEV BASIM | 2023 | 9.663 | 504,25] |
| COLUNALA BASIN | 2024 | 14.068 | 510,341 |
| CHIEF JOSEPH DAM, GREATER WENATCHEE | 2024 | 1,943 | 520,234 |
| YAKIMA KENNEWCK COLUMRA EASIN | 2024 | 5,041 | 525,325 |
| COLUMRYA EASIN CROOKLD RIVER EXT | 2025 | 17,104 | 542,429 |
| CROOKED RIVER EXT | 2025 | 1,184 | 543.813 |
| CRIEF JOSEPW DAM, WHITESTONE COULEE UNIT COLUMBLA EASIN | 2025 | 3,510 | 547,423 |
| CHIEF JOSEPH DAM, GREATER WENATCIEE | 2026 | 11,994 | 559.417 |
| CHIEF JOSEPH DAM, GREATER WEMATCIEE YAUM, AOEA | 2025 | 853 | 500,370 |
| COLUMBIA BASIN | 2026 | 2.150 | 562,469 |
| LOWER TETON | 2027 | 8, 171 | 570.660 |
| LOWER TETON | 2027 | 17.793 | 588,453 |
| COLUMEM BASIN THE DALES | 2020 | 14,159 | 602812 |
| THE DALES BAXER | 2028 | 4.204 | 606,816 |
| GAKER | 2029 | 4,092 | 610,800 |
| LOWER TETON | 2029 | 0.705 | 620.613 |
| RATHDRLIM PRAIRIE, EAST GREENACRES COMUMRUAMSIN | 2030 | 2,432 | 623045 |
| COLUMBLA BASIN | 2031 | 15,606 | 638.651 |
| COLUMBLA BASIN | 2035 | 12,038 | 650.689 |
| CHIEF JOSEPH DAM, WHITESTONE COULEE UNIT | 2036 | 3.660 | 654,3e9 |
| CHIEF JOSEPH DAM, MANSON UNET TUALATIN | 2035 | 16,163 | 670.512 |
| TUALATIN RATHDAUM PPALRIE, EAST GREENACRES | 2098 | 9,805 | 680,405 |
| RATHDAUM PPALRIE, EAST CREENACAES COLUMEIA BASIN | 2037 | 4,720 | 665,218 |
| COLLMALA BASIN TUALATAN | 2037 | 22.009 | 707,287 |
| tualatin | 2039 | 15.612 | 722,906 |
| LOWER TETON | 2041 | 5.931 | 72a,897 |
| CHEF JOSEPH DMM OROVILE TONASKET | 2042 | 73.699 |  |
| LOWER TETON | 2042 | 6.470 | 800.006 |
| LOWER TETON | 2043 | 7,000 | $8+5.015$ |
| LOWER TETON | 2044 | 7,009 | 823024 |
| COLUMEIA BASNA | 2045 | 28,320 | 049.353 |

FFCRPGFCRPPS $197 \mathrm{we} \mathrm{wt3}$



1/ Pubik Law 105-9, Apel 14, 1997, transfored the of the project irigation works to the
Orovile Tonasket inigasion, Distict Per Secfon Sick, the amount or timing of the infigation
assistance tiligation by BPA
assistance tilgation by EPA is net changed.
2) Due to the falure of Teton Dent
preject as scoped prior io falire. The finat determination of profect has been taminaied. Data refect the YCRPSVLops की ty 97 , wh3

TABLE 3
COLUMBIA BASIN PROJECT - Fy 1 Bi
ASSISTANCE PROM FEDERAL COLUNBIA RNER POWER EYSTEM (FCRPS)

| $\begin{aligned} & \text { IFRIOATICN } \\ & \text { BLOCNS } \end{aligned}$ | FInST <br> DEVELOPMENT <br> YEAR | FIRsT YEAR OF REPAYMENT | $\begin{aligned} & \text { IRROQABLE } \\ & \text { ACRES } \end{aligned}$ | cost ALIDCATED TO BLOCX | HEPAYNENT FROM FCRPS |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  | AMOUST | YEAR DUE |
|  | (Cal Year) | (Cal Yean) |  | 5 | 3 | (Fscel Year) |
| 1 | 1949 | 1569 | 5.790 | 6,527.000 | 5,702,000 | 2009 |
| 2 | 1952 | 1562 | 1319 | 1,022,000 | 811,000 | 2012 |
| 45,41,76,701,71,72 | 1953 | \$563 | 65844 | 60,281,000 | $49.736,000$ | $20+3$ |
| 11,42, 42, 73 | 1954 | T1534 | Sa, 506 | 57,705,000 | 4, $4,554,000$ | 2014 |
| 12,15,43,74,75 | 1955 | Ines | 50,017 | 53, 374,000 | 54,501,000 | 2015 |
| 13,16,44,76,78 | 1950 | 1066 | 67,966 | $75.111,000$ | 64,254,000 | 2056 |
| 18.45, 88, 67 | 1957 | 1987 | 54,823 | 82. 230000 | 60,457,000 | 2057 |
| 421,47,89 | 1358 | 1988 | 22,073 | 25.954,000 | $24,267,000$ | 2048 |
| .14, $18,401,46.77,70$ | 1599 | 1985 | 57,210 | 72.957, 000 | 61,343,000 | 2019 |
| 20.as | \$809 | 1970 | 24,738 | 30,002,000 | 34,104,000 | 2020 |
| B2, 381 | 1701 | 1071 | 11,295 | 17,241,000 | 15,438,000 | 2021 |
| 201,65,88 | TR02 | 1972 | 15,399 | 17.76E.000 | 15,416,000 | 2002 |
| 09 | 1063 | 5183 | 11,000 | 11,421.000 | 0,663,000 | 2023 |
| 23 | 1984 | $5 \mathrm{tiT4}$ | 8.770 | 15,480.000 | 14,63,000 | 2004 |
| 17 | 1965 | tips | 14.006 | 19,341000 | 17,104,000 | 2005 |
| 741.51 | 1906 | 5076 | 14.527 | \$4,318,000 | 11,904,000 | 2008 |
| 581 | 1987 | 5977 | 4.425 | P.17e,000 | 8,171,000 | 2087 |
| 21,48 | 1988 | 15 FP | 7874 | 15,417,000 | 14,159,000 | 2008 |
| NONE | 1909 | 1070 | 0 | 0 | 0 | 3 ms |
| NONE | 4970 | 1080 | 0 | 0 | $\bigcirc$ | 2031 |
| 25 | 1971 | 1981 | 11, Ma\% | ITSusa00 | 15,000000 | 2092 |
| MONE | 1012 | 1982 | 0 | 0 | 0 | 2039 |
| NONE | 18T3 | 1983 | 0 | 0 | 0 | 2033 |
| NOCNE | 1274 | 1984 | - | 9 | 9 | 2035 |
| 251 | tris | 1905 | 8752 | 1337000 | 52,005,000 | 2036 |
| NONE | T076 | 1966 |  | 34244000 | 32.009 .000 | 2097 |
| 253,24 | 1977 | teer | 13009 | 24244000 | 22.002,000 | 2007 |
| NCNE | 1978 | +509 | 0 | 0 |  | 2009 |
| NCENE | 1979 | 1893 | 0 | 0 | 0 | 2089 |
| NONE | 1980 | 1900 | 0 | 0 | 8 | 2089 |
| NONE | 1901 | 4991 | 0 | 0 | 0 | 2041 |
| NONL | 1962 | 1022 | 0 | 0 | 0 | 2043 |
| NONE | 1983 | 1923 | 0 | 0 | 9 | 2043 |
| NONE | 1584 | 1084 | 0 | 0 | 0 | 2044 |
| 26061(PART 1) | t305 | 1965 | 13,668 | $28.515,000$ | 26,329,000 | 2045 |
| TOTALS | - |  | 351705 | 674,681,000 | B6S,4\%,000 |  |



The following letter from the Bureau of Reclamation, including the enclosed tables, reflects the Irrigation Assistance that will be included in repayment studies for Final Proposal.

# United States Department of the Interior 

BUREAL OF RECLAMLAION

Pacilir Nortimest Hegion
1150 Norih Crario Rosud, Suite 100

PN-3324

$$
\text { DEC } 112002
$$

WIR-4.00

Mr. Steve Wright, Administrator
Attention: Mr. Jerry Dinan, KSRD-2
Bonneville Power Administration
P.O. Box 3621

Portland, OR 97208-3621
Subject: Federal Columbia River Power System, Assistance to Authorized Bureau of Reclamation Irrigation Projects in the Pacific Northwest, Fiscal Year 2001

Dear Mr. Wright:
Enclosed are three tables which summarize the schedule for repayment of irrigation assistance from the Federal Columbia River Power System (FCRPS) to authorized imigation projects in the Pacific Northwest Region of the Bureau of Reclamation. This information is being furnished as requested by your letter of September 7, 1966, and your agency's annual call for project cost data on Reclamation projects that are part of the FCRPS.

Table I is a summary, in chronological order, for all authorized projects. Table 2 contains more detailed data for all projects except the Columbia Basin Project. Table 3 contains the detailed information for the Columbia Basin Project. The data on irrigation assistance reflects Reclamation cost data for fiscal year 2001.

The data furnished for fiscal year 2001 contains several noteworthy details. As shown, data for the Boise and Palisades Projects reflects that irrigation assistance was due and paid by the Bonneville Power Administration (BPA) in 1977 and 2001, respectively. Public Law 105-9, April 14, 1997, titled the Oroville-Tonasket Claim Settlement and Conveyance Act, transferred title of the irrigation works of the Oroville-Tonasket Project to the Oroville-Tonasket Irrigation District. Section S(c) of the Act provided that the transfer of title shall not affect the timing and amount of the irrigation assistance obligation of BPA as determined by the Secretary of the Interior. Finally, data for the Columbia Basin Project reflects the current developed platted acreage ( 558,106 acres). Although the project is authorized to serve over a million acres, Reclamation is currently not requesting Congressional appropriations for construction of the "second balf" of the project. Should conditions change, the "second half" of the project could be added to the list.

Four authorized projects are excluded from the list. These projects are the Salmon Falls Division of the Upper Snake River Project; the Rogue River Basin Project, Merlin Division; the Walla Walla Project, Touchet Division; and the Yakima Project, Kennewick Division Extension. If these projects become active in the future, they will be rescheduled and added to the list.

If you have any questions about this data, please call Al Reiners at 208-378-5344.
Sincerely,

J. William McDonald

Regional Director
Enclosures - 3

TABLE 1. -SUMMARY OF FINANCIAL ASSISTANCE TO RRRIGATION - FY 2001 FEDERAL COLUMBUA RNER POWER SYSTEM (FCRPS)
Authorized Projects. Thru Sept. 30. 2001

| PROJECT | FISCALYEAR | Assistance Requied |  |
| :---: | :---: | :---: | :---: |
|  |  | AMOUNT <br> ( $\$ 1,000$ ) | CIMALATMI ( $\$ 1,000$ ) |


| BOISE | paid-1997 | 24,999 | 24.969 |
| :---: | :---: | :---: | :---: |
| PALISADES | paid - 2001 | 16.943 | 41,942 |
| AVONDALE | 2004 | 184 | 42,126 |
| DALTON GARDENS | 2004 | 208 | 42,334 |
| RATHDRUMPRAIRIE | 2004 | 347 | 42,651 |
| MANN CREEEK | 2008 | 2.950 | 45,631 |
| COLUMBIA GASIN | 2009 | 5,408 | 51,037 |
| SPOKANE VALLEY | 2009 | 2,007 | 53,044 |
| COLUMEIA EASIN | 2012 | T76 | 53.820 |
| COLLMELA EASIN | 2013 | 45.911 | 99.731 |
| COLUMBLA ERSIN | 2014 | 44,207 | 143,938 |
| COLUMBIA OASIN | 2015 | 45,250 | 189,100 |
| COLUMBLA BASIN | 2016 | 57,929 | 247,117 |
| COLUMEIA EASIN | 2017 | 53,790 | 300,907 |
| GREATER WENATCHEE | 2017 | 1,071 | 301,978 |
| YAKMA,RO2A | 2017 | 1,018 | 302,996 |
| COLUMBIA EASIN | 2018 | 22,295 | 325,294 |
| FOSTER CREEK | 2018 | 674 | 325,95B |
| YAKMM,FOLA | 2018 | 705 | 326,673 |
| COLUMBIA EASIN | 2019 | 53,402 | 380,075 |
| FOSTER CREEK | 2018 | 1.125 | 381.200 |
| MICHALD FLATS | 2019 | 2,079 | 383,279 |
| MICHALJ-FORT HALL | 2019 | 2,079 | 385,358 |
| YAKMAA,FOOZA | 2019 | 546 | 385,908 |
| COLUMEIA BASIN | 2020 | 31.318 | 417,224 |
| CFOORED RTVER | 2020 | 2,553 | 419,787 |
| COLUMBIA BASIN | 2021 | 13,109 | 432,976 |
| YAKIMA, FOOZA | 2025 | 1,858 | 434,935 |
| COLUMELA EASIN | 2022 | 13,089 | 448,004 |
| YAKMA POZ | 2022 | 427 | 448,631 |
| COLUMBIA BASIN | 2023 | 8,710 | 457,341 |
| COLUMELA BASIN | 2024 | 13,476 | 470,817 |
| GREATER WENATCHEE | 2024 | 1,943 | 472,760 |
| YAKMA KENNEWICK | 2024 | 6,621 | 479,381 |
| COLLIMBIA BASIN | 2025 | 10,406 | 489.787 |
| CROOKED RIVER EXT | 2025 | 1,184 | 490,971 |
| WHITESTONE COULEE UNIT | 2026 | 3,810 | 494,781 |
| COLLMBIA BASIN | 2026 | 10,718 | 505,498 |
| GREATER WENATCHEE | 2026 | . 853 | 506,452 |
| YAKMM, FOOZA | 2026 | 2.979 | 505,431 |
| COLUMBIA BASIN | 2027 | 4,153 | 513,504 |
| LONVER TETON | 2027 | 17,793 | 531,377 |
| COLUMBIA BASIN | 2028 | 0,716 | 540,093 |
| THE DALLES | 2028 | 4,203 | 544,296 |
| EAKER | 2029 | 4,092 | 548,388 |
| LONER TETON | 2029 | 9,705 | 550.093 |
| EAST GREENACRES | 2030 | 2,358 | 560,451 |
| COLUMBIA EASIN | 2031 | 12.309 | 572,820 |
| COLUMBIA BASIN | 2035 | 8,602 | 581,512 |
| WHITESTONE OCULEE UNIT | 2036 | 3,060 | 585,172 |
| MANSON UNIT | 2036 | 10,163 | 601,335 |
| TUALATIN | 2036 | 10,005 | 611,340 |
| EAST GREENACRES | 2037 | 4,576 | 615.816 |
| COLUMBIA BASIN | 2037 | 17,555 | 633,471 |
| TUALATIN | 2039 | 15,951 | 649,122 |
| LOWER TETON | 2041 | 5,931 | 655,053 |
| OROVILLE TONASKET | 2042 | 73.8099 | 728,752 |
| LOWER TETON | 2042 | 6,470 | 735,222 |
| LOWER TETON | 2043 | 7,009 | 742,231 |
| LOWER TETON | 2044 | 7,009 | 748,200 |
| COLUMEIA GASIN | 2045 | 22.123 | 771,383 |

Note: Bonneville does not include the $\$ 53,917,000$ assistance for Lower Teton which was never completed and has never produced electricity, therefore has no obligation to recover those costs

Table 2 - Irrigation Assistance - Fiscal Yoar 2001
(All Prajects Except Columbis Easin Frojact)

| Project | Imigatod Acres | Inifal Testng Yesr Calendar Yesr | Development Period <br> Cannder Yearl | Water Users <br> Repheyment <br> Period <br> Calendar Yuar | Tota krigation Alocation $(\$ 1,000)$ | imgation <br> Assistance <br> Roquiled <br> From FCRFS <br> ( $\$ 1,000)$ | Yestr Assistance is Due Figal Yes |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| In Service as of Sept 30,2001 |  |  |  |  |  |  |  |
| Boise Project | 390,126 | - | -- | - | 09,629 | 24.989 | Ps in 1997 |
| Palisades | 528.397 | - | * | 1961-2000 | 30,725 | 16.543 | Pd in 2001 |
| Avondale | 922 | - | -- | 1964 2003 | 573 | 184 | 2004 |
| Daton Gardens | 844 | - | - | 1964-2003 | 504 | 200 | 2004 |
| Rathorum Praike, Hayden Lake | 5,050 | - | Nane | 1964-2003 | 1,730 | 347 | 2004 |
| Mann Crook Froject | 5,110 | 1967 | Nane | 19588.2007 | 3,763 | 2,900 | 2008 |
| Spokane Valley Project | 7.241 | 1968-68 | Nane | 1969-2008 | 5,132 | 2,007 | 2008 |
| Yakima Project, Roera Division |  |  |  |  |  |  |  |
| Block 1 <br> Block 2 <br> Elock 3 <br> Elock 4 <br> Blocks 586 <br> Elock 7 | 9,282 6,828 4,858 17.976 5,362 27,385 | - <br> - <br> - | $\square$ <br> - <br> - <br> - | $1942-2016$ $1943-2017$ $1944-2018$ $1946-2020$ $1947-2021$ $1951-2025$ | ** | 1.018 706 548 1.869 627 2.979 | 2017 2015 2019 2021 2022 2025 |
| Total | 71,511 |  |  |  | 26,510 | 7,836 |  |
| Chist Josaph Dam Project Greater Wenatchee Division Elock 1 East Unit Blocks 283 East 8 Howard Flat Block 4 Erays Landing | - | 1963 <br> 1963 <br> 1965 | 1964-66 1964.73 $1966-75$ | $\begin{aligned} & 1967-2016 \\ & 1974-2023 \\ & 1976-2025 \end{aligned}$ | - | 1,071 1,943 963 | 2017 2024 2025 |
| Total | 7,104 |  |  |  | 8,064 | 3,967 |  |
| Chief Joaeph Dam Propoct Foster Creek Division Bridgopert Ear Dist. Brewester Flat Dist. | - | 1957 1958 | $1958-67$ $1959-68$ | $1966-2017$ $1969-2018$ | $\begin{array}{r}760 \\ 2.591 \\ \hline\end{array}$ | $\begin{array}{r}674 \\ 1.125 \\ \hline\end{array}$ | 2018 2018 |
| Tobal | 2,854 |  |  |  | 3.371 | 1.799 |  |
| Michaud Fiats Project | 11,000 | 1958 | 1559-68 | 1969-2013 | 5,009 | 2.079 | 2019 |
| Michaud-Font Hall | * | - | - | \% | " | 2.078 | 2019 |
| Crooked River Project | 20.410 | - | 5963-69 | 1970-2019 | 7,438 | 2,503 | 2020 |
| Yakima Project, Kerremick Div. | 19,171 | 1957 | 1058-67 | 1953-2023 | 11,050 | 6.821 | 2024 |
| Crooked River Project Crooked Fiver Extenaion | 2,850 | 1957 | $1958 \cdot 74$ | 1975-2024 | 1,884 |  | 2075 |


| Project | Impitated Acres | \|nitial <br> Testing Year Calendar Year | Development Period <br> Calender Year | Water Usent Repaymerat Periad Caleudar Yeal | Total Irrigation Allocizion $\text { ( } 51.8003 \text { ) }$ | Irrigztion <br> Assistanes <br> Required From IC.RPS $\langle \$ 1,000)$ | Yew <br> Assistance Is Due <br> Fixal Yex |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |


| The Dalles Project Westem Division | 5.420 | 1566 | 1968-77 | 1978-2007 | 6,824 | 4,203 | 2028 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Baker Froject, Upper Division | 18,000 | 1968 | 1909.78 | 1979-2028 | 5,225 | 4,092 | 2029 |
| Chief Joeeph Dam Project Chetan Division, Manson Unit | 6,055 | 1975 | 1976-85 | 1906-2005 | 10,823 | 16,163 | 2036 |
| Rathotrum Praivie Project East Greenacres Unit |  |  |  |  |  |  |  |
| Elack 1 <br> Eliock 2 | $\begin{aligned} & 1,780 \\ & 3,530 \end{aligned}$ | $\begin{aligned} & 1976 \\ & 1976 \end{aligned}$ | $\begin{aligned} & 1977-79 \\ & 1977-86 \end{aligned}$ | $\begin{aligned} & 1980-2029 \\ & 1987-2036 \end{aligned}$ | + | $\begin{aligned} & 2,358 \\ & 4,576 \end{aligned}$ |  |
| Total | 5.910 |  |  |  | 8.211 | 6.934 |  |
| Chief Jomeph Dams Project Whiteslone Coulee Unit block 1 Block 2 | $\begin{aligned} & 1,270 \\ & 1,220 \end{aligned}$ | $\begin{aligned} & 1975 \\ & 1975 \end{aligned}$ | $\begin{gathered} \text { None } \\ 1976-85 \end{gathered}$ | $\begin{aligned} & 1976-2025 \\ & 1986-2035 \end{aligned}$ | $\begin{aligned} & 4,274 \\ & 4,105 \end{aligned}$ | $\begin{aligned} & 3,810 \\ & 3,600 \end{aligned}$ |  |
| Total | 2.490 |  |  |  | 8,360 | 7,470 |  |
| Tualatio Projoct Block 1 Block 2 | $\begin{array}{r} 6,670 \\ 10,330 \end{array}$ | $\begin{aligned} & 1976 \\ & 1978 \end{aligned}$ | $\begin{gathered} 1976-85 \\ 1972-88 \end{gathered}$ | $\begin{aligned} & 1806-2035 \\ & 1889-2038 \end{aligned}$ | - | $\begin{aligned} & 10,005 \\ & 15,651 \end{aligned}$ |  |
| Total | 17,000 |  |  |  | 31.829 | 25,656 |  |
| Chief Joseph Dam Project i/ Orovild-Tonaskot Unit Ext. | 10,000 | 1887 |  | 1992-2041 | 85,054 | $1 /$ <br> 73,699 |  |
| Toton Basin Project Lower Teton Drision $2 /$ |  |  |  |  |  | 21 |  |
|  | * | 1976 | Nono | 1977-2026 | $\square$ | 17.793 | 2027 |
| Block 2 | - | 1978 | None | 1979.2028 | $\rightarrow$ | 9,705 | 2028 |
| Block 3 | - | 1980 | 1981-90 | 1991-2040 | - | 5,931 | 2041 |
| Block 4 | - | 1981 | 1982-81 | 1982-2041 | - | 6.470 | 2042 |
| Block 5 | - | 1982 | 1983-92 | 1993-2042 | - | 7,009 | 2043 |
| Elock 6 | - | 1963 | 1984-93 | 1994-2043 | * | 7,009 | 2044 |
| Total | 148.210 |  |  |  | 74,720 | 53.917 |  |

1/ Pubfic Liwn 105-9, Agri 14, 1997, transfared tife of the project imgation works to the Orovile Tonssket Imgation District. Per Section S/c), the amourt or fiming of tha irrigation assistance bligation by BPA is not changed.
${ }^{2 f}$ Due to the falure of Tetan Dam, al construction work on the project has been terminated. Data reflect the project as scoped priar to failure. The finat detamination of propect cost repayment has not been made.

Table 3
Columbia Basin Project－Fiscal Year 2001
Assistance To Irrigation From Federal Columbia Rover Power System

| Block | First Devalop． Year | Firm Year of Repaymant | irrigable Acres | Cost <br> Allocated <br> To Block | Anpaymami From FCRPS |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  | Ampunt | Year Due |
|  | （Cal Yow） | （Cad rea） |  | $\stackrel{ }{4}$ | 1 | IFiscal Your） |
| 1 | 1949 | 1952 | 5，790 | 6．330．999 | 5，400，545 | 2，009 |
| 2 | 1952 | 1962 | 1，312 | 967，055 | 770，232 | 2.012 |
| 40，41，70，701，71，72 | 7853 | 1963 | 65，844 | 66，403，274 | 45，510，503 | 2.013 |
| 11，42，49，73 | 1954 | 1964 | 58.505 | 53，568，640 | 4，207，242 | 2，014 |
| 12，15，43，74，75 | 1955 | 1965 | 50.017 | 54， 523.373 | 45，250，136 | 2，015 |
| 53，10．44，76，\％2 | 1956 | 1955 | 67.865 | 60．776．479 | 57，929，011 | 2，015 |
| 19，45，86，87 | 1957 | 1987 | 54.823 | 62，502，612 | 53，769，892 | 2，017 |
| 421，47，日9 | 1858 | 1964 | 22,073 | $2 \mathrm{ta}, \mathbf{2 4} 4,568$ | 22，297，640 | 2.918 |
| $3,14,18,401,46,77,79$ | 1589 | 1869 | 57210 | 62．5461．570 | 53，402，321 | 2,019 |
| 2085 | 1000 | 1970 | 24.735 | 35.272 .005 | 31，317，268 | 2，020 |
| 82881 | 1951 | 1971 | 11.285 | 14.984 .724 | 13，189，370 | 2，021 |
| 201，48，88 | 1962 | 1972 | 15.330 | 15．518．595 | 13．069，502 | 2，022 |
| $80$ | 1983 | 1973 | \＄1，000 | 10，467．745 | 8，700．543 | 2,023 |
| 23 | 1984 | 1974 | 目，770 | 14，877，335 | 13，470，568 | 2.024 |
| 17 | 1968 | 1975 | 14.005 | 12，645，014 | 10，400，208 | 2，025 |
| 741，81 | 1968 | 1976 | 14.527 | 33，040，217 | 10，710，239 | 2.025 |
| 161 | 1967 | 1877 | 4.425 | 4880.741 | 4，159，405 | 2，027 |
| 21，4日 | 1986 | 1978 | 7 7874 | 8，874，505 | 8.716 .667 | 2，028 |
| NONE | 1962 | 1979 | 0 | 0 | 0 | 2，029 |
| NONE | 1970 | 1950 | 0 | 0 | 0 | 2，030 |
| 25 | 1971 | 1951 | 11．8日？ | 14，265，302 | 12，308，898 | 2，031 |
| NONE | 1972 | 1962 | 0 | 0 | 0 | 2，032 |
| NONE | 1873 | 1860 | 0 | 0 | 0 | 2，033 |
| NONE | 1874 | 1804 | － | － | 0 | 2，034 |
| 251 | 1975 | 1805 | 0.752 | 10，090．030 | 8， $85+577$ | 2.935 |
| NONE | 1976 | 1956 | 0 | 0 | 0 | 2.096 |
| 253，24 | 1977 | 1987 | 13.607 | 19，729．738 | 17，854，874 | 2，037 |
| NONE | 1978 | 1988 | 0 | 0 | 0 | 2，035 |
| NONE | 1979 | 1959 | 0 | 0 | 0 | 2，039 |
| NONE | $5050$ | 1960 | 0 | 0 | 0 | 2，040 |
| NONE | 1885 | 1991 | 0 | 0 | 0 | 2.041 |
| NONE | 1982 | 1982 | 0 | 0 | 0 | 2.062 |
| NONE | 1983 | 1990 | 0 | 0 | 0 | 2，043 |
| NONE | $1084$ | 1094 | 0 | 0 | 0 | 2，044 |
| 26．431PART 1） | 1985 | 1986 | 13，688 | 24.307 .905 | 22，123，260 | 2，045 |
| TOTALS |  |  | 858．160 | 582．868．873 | 509.463 .181 |  |
| Allocation and Assistance Summary |  |  |  |  |  |  |
| Alocaton To krigason |  |  |  |  |  | 5642．164．667 |
| Lass：Miesler Wibar Service Contract Costs |  |  |  |  |  | 548，436，697 |
| Equals：Total Itrigaton Costs Sutinct To mrigation Assistance |  |  |  |  |  | \＄502，056，970 |
| Leses：Part Timw Farm U－its |  |  |  |  |  | －$\$ 500,000$ |
| Less：Average Repsymert of $\$ 131 / 90$ Per Acre |  |  |  |  |  | $-573,446,739$ |
| Less：State of Washingion and Misc．Corritbutions |  |  |  |  |  | －$\$ 15.259 .000$ |
| Total Assistence Required |  |  |  |  |  | 5503．483．181 |


[^0]:    $\backslash 1$ Other credits and Misc. Sales includes: Total Ancillary \& Reserve services, Colville settlement, Crops \&

