BONNEVILLE POWER ADMINISTRATION

Task 5.1 – Business Unit Split Allocation Model Review

July 30, 2019

BONNEVILLE POWER ADMINISTRATION

Business Unit Split Allocation Model Review

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EXECUTIVE SUMMARY

Background

Bonneville Power Administration (BPA) engaged Baker Tilly Virchow Krause (Baker Tilly or BT) in March 2019 to perform a third-party external review regarding its business unit (BU) cash split allocation process between its Power and Transmission business units (BUs).

BPA has been conducting a review of its financial reserves after errors in the reserve forecasting process were discovered in fiscal year (FY) 2018. The identification of errors led to a more comprehensive review of BPA's financial reserves calculations, as well as systems and processes used in the allocation of cash reserves between the Power and Transmission BUs. In particular, in January 2019, BPA discovered an error in how reserves were allocated between the two BUs for Intragovernmental Payment and Collection (IPAC) transactions. These IPAC transactions (i.e., collections and payments) are processed in the IPAC system, which is the collection and payment method utilized by Federal Program Agencies (FPAs) to transfer funds from one agency to another. BPA has been deducting all IPAC payments from only its Power BU's cash reserves when, in fact, its Transmission BU also makes IPAC payments to other FPAs; this error has been observed dating back to FY2002.[1] These FPAs include other lead federal agencies of the federally-owned dams in the Columbia River Basin, such as the U.S. Army Corps of Engineers (USACE) and U.S. Bureau of Reclamation (Reclamation). The IPAC transactions are not exclusive to the Federal Columbia River Power System (FCRPS) as BPA also transacts with other federal agencies, such as the General Services Administration (GSA).

The issue around the IPAC payments specifically was how they were being deducted from the cash reserve balance for the Power and Transmission BUs in the Business Unit Cash Split Model (BU Cash Split Model). This model, developed in the early 2000s and enhanced since then, is used as a mechanism to bifurcate cash levels between its Power and Transmission BUs outside of BPA's financial system (i.e., PeopleSoft Financials) as no separate cash account is maintained for these two BUs; the IPAC transactions category is one of several different transaction categories (or modules) for which the model performs this BU cash split bifurcation. As a result of the IPAC allocation error discovered within the BU Cash Split Model, BPA has performed a review of the overall BU cash split process of all ten (10) modules given that each module contains a cash split balance by different transaction type; these 10 modules are the following: (1) **AP:** Disbursements; (2) **AR:** Accounts Receipts for Non-customers (e.g., employee accounts receivable); (3) **ARC:** Customer Accounts Receivable; (4) **DM:** Deal Management Debts; (5) **DMI:** Deal Management Investments (6) **HR:** Payroll Accounting Entries; (7) **HRJE:** Manual Journal Entries for Payroll; (8) **IPAC:** IPAC collections and disbursements; (9) **JE:** Other Manual Journal Entries; and (10) **ADJ:** Adjustments for Energy Northwest (EN) debt, Between Business Lines (BBL), and Interest offset credit (IOC).

Review approach

Beginning in March 2019, Baker Tilly worked with BPA staff (i.e., members of its Financial Analysis and Internal Audit teams) to review and evaluate all 10 modules in the BU Cash Split Model to determine whether costs were allocated to the Power and Transmission BUs in a manner consistent with BPA's financial system and processes. Through a risk assessment/scoping process, BPA reviewed each module to gain an understanding of the types of transactions allocated/attributed within the model, the allocation method(s) used, and the dollar volume of transactions flowing through allocation/attribution method. BT review of the modules initially focused on the time-frame of FY2015 – FY2018, unless an attribution and/or allocation error was discovered; then the review period went back to FY2002.[1]

[1] It should be noted that while we performed a review of FY2002, due to the lack of documentation to substantiate the errors during that year, we could only validate the value of the errors back to FY2003.

Throughout this overall engagement, we requested, received, and subsequently reviewed several key supporting documents that allowed us to follow along with the procedures associated with certain journal entry transactions and allocations that were employed in each of the 10 separate modules comprising the BU Cash Split Model. These documents included, for example: BU Cash Split procedures, Monthly and Fiscal Year BU Cash Balance workbooks, Power and Transmission Income Statements, General Ledger (GL) Balance Sheet, and GL queries/transaction details from PeopleSoft Financials. In addition, Baker Tilly received walk-throughs to understand review work performed by BPA staff and to perform its testing procedures. Through review of these documents and the walk-throughs, BT was able to understand the process in which the BU Cash Split Model picked up cash transactions and to trace/isolate the journal entries that were posted and balanced through different GL asset/liability/expense accounts for BPA's BUs.

Summary of key findings

As a result of reviewing the BU cash split allocation model and processes, BT was able to confirm the following key findings, which resulted in cash split errors as follows:

- **IPAC:** 100% of all IPAC transactions were charged directly to the Power BU, which erroneously reduced the Power BU's cash balance from FY2003 – FY2018. The various findings in the IPAC module included: (1) not applying appropriate general and administrative (G&A) allocations to allocate Corporate BU costs to the Power and Transmission BUs; (2) applying worker's compensation payments directly to the Power BU instead of the Transmission BU; (3) IPAC direct payments that should have been allocated to the Transmission BU; and (4) GSA fleet expenses that should have been charged to the Transmission BU.
- **Pay-related:** Payroll allocation errors in the manual process, which were not applying the proper allocations for different payroll expenses (e.g., leave and benefits) and proper corporate G&A rates to allocate Corporate BU payroll to the Transmission and Power BUs.
- **Corporate AP disbursements:** Corporate AP allocations during the manual process that utilized a 50% to 50% split (Power to Transmission) annually from FY2003 – FY2011 and approximately a 35% to 65% split annually between FY2012 – FY2014. Different allocations pertaining to different corporate AP GL categories in PeopleSoft should have been utilized instead.
- **Post-Retirement Benefits:** A one-time error in FY2004 in which unfunded retirement benefit contributions applied an incorrect allocation split of 21% to 79% (Power and Transmission) instead of a 50% to 50% split, which resulted in the Power BU's cash balance being over-reported by approximately $8.9 MM.
- **IPAC – Corporate GSA Fleet**[2]**:** A small amount of GSA fleet expenses that were charged to the Corporate BU annually between FY2003 – FY2018, but were not costed in the IPAC module, and should have been allocated to the Power and Transmission BUs based on a corporate G&A rate.
- **DM – Treasury Bonds:** A one-time coding error in FY2018, in which $5 million Power BU federal borrowings were incorrectly coded to the Transmission BU in PeopleSoft. Although the BU Split model worked properly as designed, it picked up the incorrect information in PeopleSoft.
- **HR – GAR Error:** A one-time anomaly occurred in the last pay period in FY2015, which led to the accrual being recorded in FY2015, whereas cash for that pay period was recorded in FY2016. This led to the use of the incorrect allocation (i.e., a GAR split of 40% to 60% for Power/Transmission) in the BU Split module instead of the overall payroll split of approximately 24% to 76% for Power/Transmission.
- **Other:** An error attributed to a difference in the Corporate AP amounts between the manual and automated cash split reports in FY2015. While the error was primarily identified when examining Corporate AP amounts, the issue may also include the impact of some allocation errors. Hence, this is being stipulated to be an "other" error.

[2] This finding is similar to the other IPAC transaction errors in which 100% of costs were being charged or allocated to the Power BU historically, but is listed separately due to the error amount being added after BPA's customer workshop in March 2019.

The table below shows a summary of the tracked errors pertaining to the key findings and the associated net cash balance adjustment for the Power and Transmission BUs. A positive value indicates that the cash amount was erroneously reduced from the Power BU's cash balance, whereas a negative value indicates the cash amount that the Power BU owes to the Transmission BU.

Table 1 – Summary of Overall Tracked Errors and Net Cash Balance Adjustment ($ in millions)

Obs. #[3]	Module / Transaction Area	FY03	FY04	FY05	FY06	FY07	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	Total
2.1 – 2.5	IPAC	$14.5	$15.0	$14.9	$14.3	$16.8	$16.0	$18.1	$18.8	$21.4	$19.2	$21.0	$21.6	$20.0	$19.9	$20.1	$19.5	**$291.1**
1.3	Pay-related	(11.2)	(10.4)	(15.5)	(16.0)	(19.9)	(20.1)	(20.6)	(20.6)	(18.5)	(19.0)	(18.6)	(17.7)	(21.7)	-	-	-	**(229.8)**
1.4	Corporate AP Disbursement	10.4	7.6	7.0	8.6	8.2	9.4	10.1	10.7	15.3	0.6	2.4	(0.3)	-	-	-	-	**89.9**
1.5	Post-Retirement Benefits	-	(8.9)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**(8.9)**
2.6	IPAC – Corporate GSA Fleet	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	**3.1**
3.1	DM – Treasury Bond	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.0	**5.0**
6.1	HR – GAR Error	-	-	-	-	-	-	-	-	-	-	-	-	-	2.4	-	-	**2.4**
1.7	Other	-	-	-	-	-	-	-	-	-	-	-	-	6.0	-	-	-	**6.0**
	Total Cash Impact	**$13.9**	**$3.5**	**$6.5**	**$7.0**	**$5.3**	**$5.5**	**$7.8**	**$9.1**	**$18.4**	**$0.9**	**$5.0**	**$3.9**	**$4.4**	**$22.5**	**$20.3**	**$24.7**	**$158.7**

[3] The observation number is provided to allow the reader the opportunity to examine the observation pertaining to the tracked errors in detail later on in the report.

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0 – OVERVIEW OF ENGAGEMENT AND REPORT

0.1 – BT Review Scope and Approach

Baker Tilly worked with BPA's staff to gain an understanding of the various modules beginning with a review of the nature/cause of the prior IPAC BU cash split errors.

Furthermore, BT requested, received and, and subsequently reviewed several key supporting documents that allowed us to follow along the procedures associated with certain journal entry transactions and allocations that were employed in each of the 10 separate modules comprising the BU Cash Split Model. As such, Baker Tilly has received and reviewed several key documents including, but not limited to:

- BU Cash Split Procedures – including both the manual Cash Balances by Business Unit Procedures and the automated Cash Management Data Mart (CM DM) Transaction and Allocation Type Procedures
- Power and Transmission Fiscal Year Income Statements
- GL Balance Sheet
- Comprehensive Annual Corporate G&A allocation split tables
- Monthly and Fiscal Year BU Cash Balance and Reserves Balance Analysis workbook
- Journal Cubes – tied to PeopleSoft Financials (PS Financials) Online Analytical Processing (OLAP) database, which provides details and description of Journal Entries
- GL Account Description Report
- Queried outputs of GL transaction details showing costs that were allocated/settled to different BPA BUs (including Corporate)

In addition, BT received walk-throughs to understand review work performed by BPA staff and to perform its testing procedures. Through review of these documents and the walk-throughs, BT was able to understand the process in which the BU Cash Split Model picked up cash transactions and to trace/isolate the journal entries that were posted and balanced through different GL asset/liability/expense accounts for BPA's BUs.

Through a risk assessment/scoping process, BPA reviewed each module to gain an understanding of the types of transactions allocated/attributed within the model, the allocation method(s) used, and the dollar volume of transactions flowing through allocation/attribution method. The review of the modules or transaction areas initially focused on the time-frame of FY2015 – FY2018, unless an attribution and/or allocation error was discovered; in this instance, the review period went back to FY2002.

For each of the modules, BT's review/reconciliation included the following consistent procedures:

Table 2 – Summary of BT Review Scope and Approach

#	Procedures
1	BT compared and tied-out the BU Cash Split model output monthly results from FY2015 – FY2018 to BU Cash Balance and Reserves Balance Analysis workbook. If an attribution and/or allocation error was discovered, BT performed additional tie-outs back to FY2002.
2	In cases where other source files exist, BT compared and tied-out the BU Cash Split model output results to individual source files (e.g., bond issuance, payment schedules, Treasury payment files).
3	We examined any unique/manual journal entries to determine if entries were appropriately assigned costs/cash to proper BUs.

#	Procedures
4	BT re-calculated any corporate allocators to determine the appropriate calculation and application to the cash splits.
5	BT reviewed PS Financials Journal Mart queries to examine the Trial Balance for asset/liability GL accounts in which cash or other Corporate costs may first settle before allocations.

Notes/Limitations on procedures performed:

1. Where relevant, it will be noted for specific modules where it was not possible to perform reconciliation of the BU Cash Split Model outputs to supporting documentation.
2. The review of the modules primarily focused on FY2015 – FY2018 during the time-frame of the automated process, unless an attribution and/or allocation error was discovered; then the review period went back to FY2002.
3. For modules in which we performed a review back to FY2002, due to the lack of documentation to substantiate some of the errors in FY2002, BT could only validate the value of the errors back to FY2003.
4. The objective of this review was not to validate the actual/historical IPAC transactional invoices for services rendered by other federal agencies that resulted in costs being assigned/allocated to the Power or Transmission BUs.
5. The actual calculation of BPA's debt portfolio was not in scope. Reconciliation testing procedures were focused on finding evidence that the BU Split model picked up amounts that were recorded in PS Financials correctly.
6. The actual calculation of debt reassignment and refinancing programs with EN was not in scope. Reconciliation testing procedures was focused on finding evidence that the BU Split model picked up amounts that were recorded in PS Financials correctly.
7. BT's work done in regards to this engagement and report do not constitute an "audit" or "review" conducted in accordance with Generally Accepted Auditing Standards (GAAS) or Government Auditing Standards (GAS).

0.2 – Organization of this Report

For the purposes of this report, the sections are broken up as follows:

Each section of the report is organized and further broken out by these sub-sections:

1. Overview and Process
2. Detailed testing procedures performed by Baker Tilly
3. Observations and recommendations

This report is designed to be viewed using the Bookmarks function in Adobe. Bookmarks and headers are set to more easily move from section to section of the report.

1 – OVERVIEW OF BU CASH SPLIT MODEL

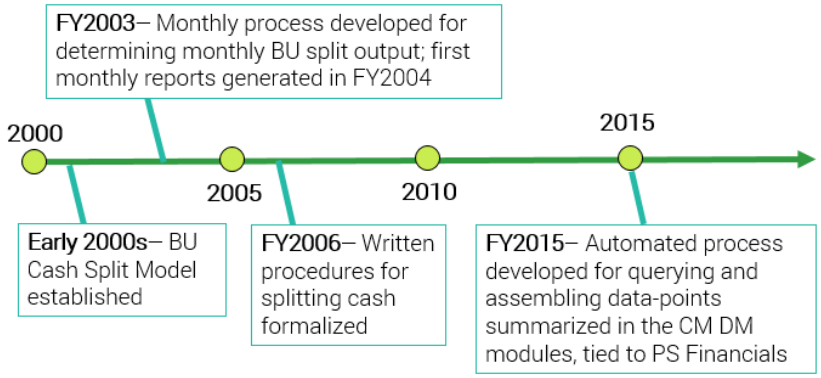
1.1 – Overview and Process

Business Unit Cash Split Model

In the early 2000s, BPA developed the BU Cash Split Model as a mechanism to bifurcate cash levels between its Power and Transmission BUs outside of the PeopleSoft Financial System as no separate cash account is maintained for these two BUs. This process of separating cash was intended to mirror how actual transactions were being split between the Power and Transmission Income Statements. Starting in FY2003, BPA developed a monthly process for gathering reports, spreadsheets, and/or queries on cash receipts, cash disbursements, cash summary, payroll accounts, and payments due to determine a monthly cash balance between Power and Transmission with the first monthly cash balance reports being generated in FY2004; these processes/procedures were documented formally in FY2006. Over the years, BPA has made some changes and enhancements to this monthly process culminating in an automated process in FY2015. This new process automated the previous manual process of querying and assembling all data-points and functionalized the different transaction types in separate "modules." A general illustration of the BU Cash Split Model development is shown in the figure down below. Each module corresponds to different cash activities and is supported by a separate Excel-querying workbook called the Cash Management Data Mart (CM DM), which is tied to BPA's financial system and can be filtered on a monthly/fiscal period and annual basis. The list of the 10 modules pertaining to different transaction types are as follows:

- **AP:** Disbursements
- **AR:** Accounts Receipts for Non-customers (e.g., employee accounts receivable)
- **ARC:** Customer Accounts Receivable
- **DM:** Deal Management Debts
- **DMI:** Deal Management Investments
- **HR:** Payroll Accounting Entries
- **HRJE:** Manual Journal Entries for Payroll
- **IPAC:** IPAC collections and disbursements
- **JE:** Other Manual Journal Entries
- **ADJ:** Adjustments for EN debt, Between Business Lines, and Interest offset credit

Figure 1 – Illustration of BU Cash Split Model Development



An illustration of how each of the CM DM modules corresponds to the monthly cash balance within the BU Cash Split Model is shown in the following figure.

Figure 2 – Illustration of BU Cash Split Model Monthly Cash Balance[4]

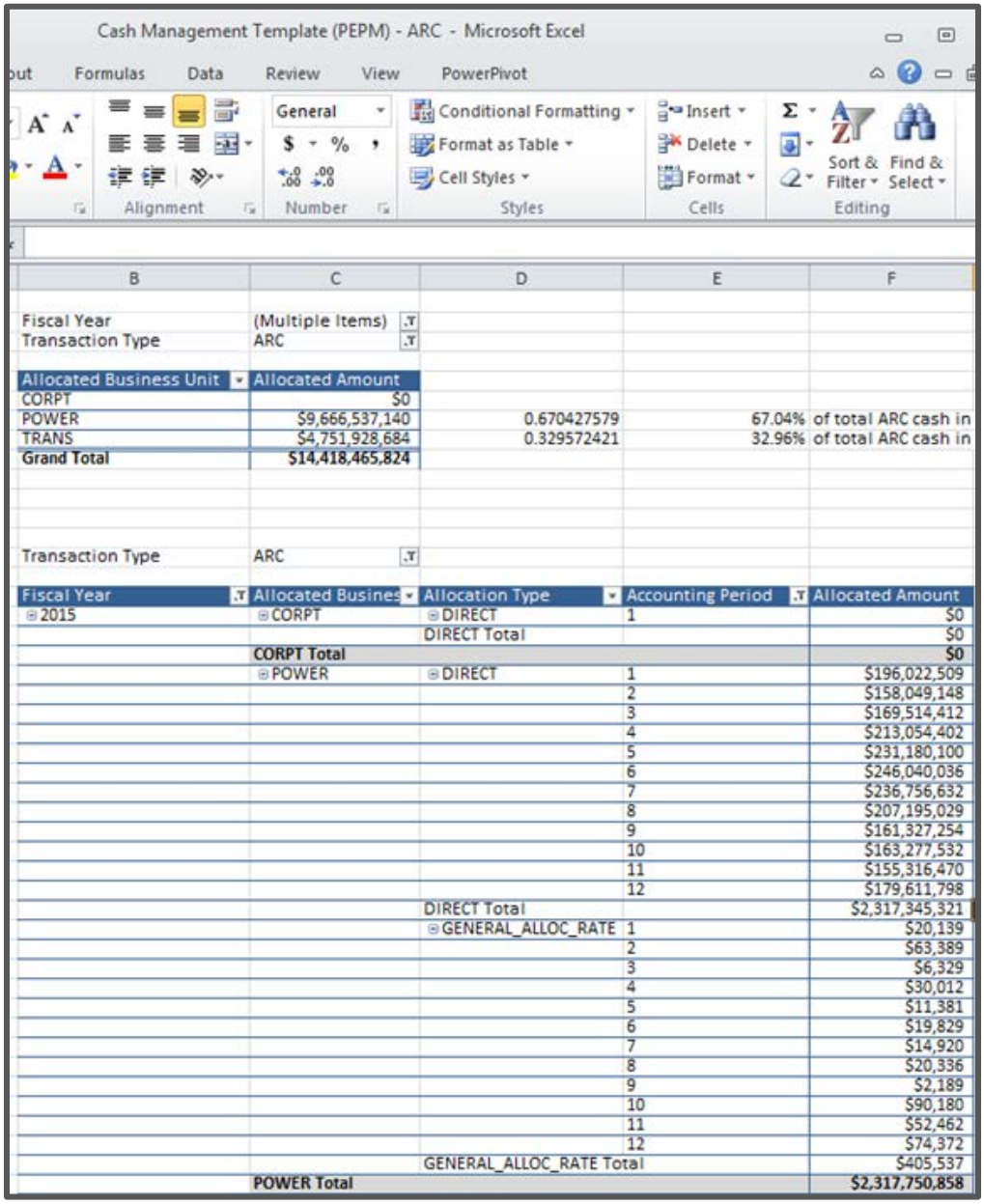
Year	Fiscal Year	Business Units Cash Balances Analysis	Power	Trans	Cash Balance	% Calc Power	% Calc Trans	CM DM - Corresponding Module(s)
		(in millions)				Cash		
Period #	MM-YY	Beg Adj Bal	$ 25.0	$ 100.0	$ 125.0			ADJ
		Receipts	64.0	45.0				AR; ARC
		Disb	(42.0)	(29.0)				AP
		Payroll	(6.0)	(20.0)				HR; HRJE
		IPAC	(32.0)	-				IPAC
		Debts	(1.6)	(3.1)				DM
		Investment	(0.1)	0.3				DMI
		Manual JE Correction	-	0.2				JE
		Ending Balance	$ 7.3	$ 93.4	$ 100.7			N/A
		ENW Adj	10.0	(10.0)				ADJ
		BBL Adj	2.0	(2.0)				ADJ
		IOC Adj	-	-				ADJ
		Adj Monthly Bal	$ 19.3	$ 81.4	$ 100.7			N/A
		Avg Month Bal	22.2	90.7	112.9	20%	80%	N/A

It should be noted that over the fiscal years in which the BU Cash Split Model has been in-place, there have been slight notational changes to the cash balance transaction categories (e.g., "Debts" was previously labeled "Interest Expense/Bonds"). As is shown in the figure above, the outputs from each of the 10 modules inform the monthly cash balance from the beginning to ending adjustment balance.

[4] Values in this figure are simply shown for illustrative purposes and do not reflect actual monthly cash balances.

The key inputs to the BU Cash Split Model monthly cash balance (as part of the automated process) are the outputs from the individual CM DM modules. An illustration of a monthly CM DM Module output file that links to the Monthly Cash Balance is shown in the following figure.

Figure 3 – Illustration of CM DM Module Monthly Output



Cash Management Template (PEPM) - ARC - Microsoft Excel

	B	C	D	E	F
	Fiscal Year	(Multiple Items)			
	Transaction Type	ARC			
	Allocated Business Unit	Allocated Amount			
	CORPT	$0			
	POWER	$9,666,537,140	0.670427579	67.04%	of total ARC cash in
	TRANS	$4,751,928,684	0.329572421	32.96%	of total ARC cash in
	Grand Total	**$14,418,465,824**			
	Transaction Type	ARC			

Fiscal Year	Allocated Busines	Allocation Type	Accounting Period	Allocated Amount
2015	CORPT	DIRECT	1	$0
		DIRECT Total		$0
	CORPT Total			**$0**
	POWER	DIRECT	1	$196,022,509
			2	$158,049,148
			3	$169,514,412
			4	$213,054,402
			5	$231,180,100
			6	$246,040,036
			7	$236,756,632
			8	$207,195,029
			9	$161,327,254
			10	$163,277,532
			11	$155,316,470
			12	$179,611,798
		DIRECT Total		$2,317,345,321
		GENERAL_ALLOC_RATE	1	$20,139
			2	$63,389
			3	$6,329
			4	$30,012
			5	$11,381
			6	$19,829
			7	$14,920
			8	$20,336
			9	$2,189
			10	$90,180
			11	$52,462
			12	$74,372
		GENERAL_ALLOC_RATE Total		$405,537
	POWER Total			**$2,317,750,858**

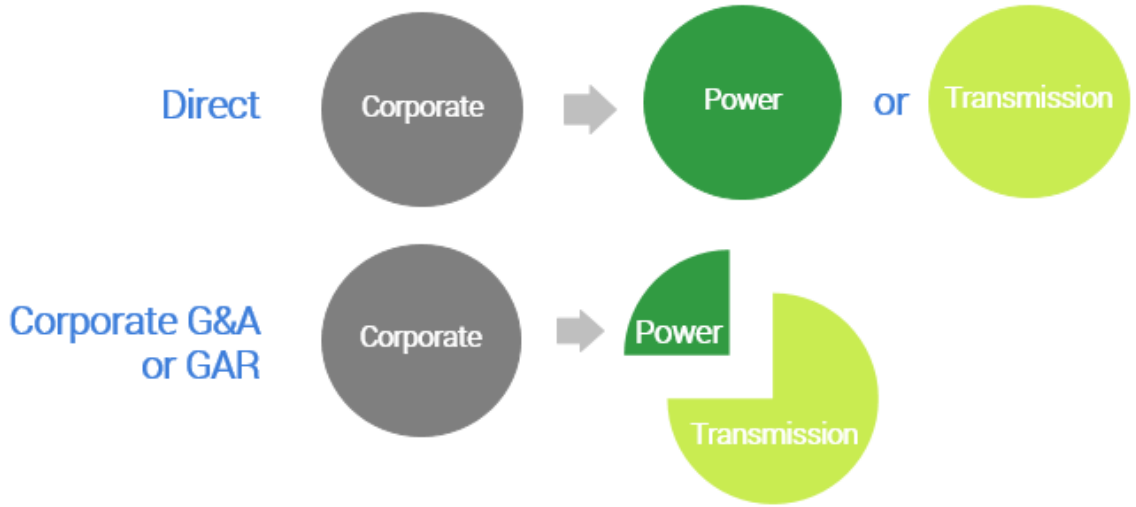
Allocations in the Modules/Transaction Areas

Each of the 10 modules or transaction areas includes a series of cash transactions that assign initial cash splits to Corporate, Power, and Transmission BUs based on the GL account string associated with these transactions in PS Financials.

For Corporate allocated amounts, there are some instances in which cash transactions that are costed to the Corporate BU level in PS Financials can be recognized as being power-specific or transmission-specific based on the GL account descriptions (e.g., Fish and Wildlife inventory tags for the Power BU). In the BU Cash Split model, these costs are then directly assigned to either the Power BU or Transmission BU.

In other instances, the Corporate BU amounts must be assessed further to determine the appropriate allocation to the Power and Transmission BUs in the BU Cash Split Model. In such instances, corporate general & administrative (G&A) allocation factors or other allocation factors (e.g., general allocation rates) from PS Financials can be utilized to allocate the Corporate BU amounts to the respective non-corporate BUs in the BU Cash Split model. Here is a general illustration of Corporate BU costs that may be allocated to the Power and Transmission BUs either directly or indirectly through other allocation factors.

Figure 4 – Corporate Allocation Illustration



There are two major allocation factors that are applied to Corporate-related costs in the modules:

1. Corporate G&A Rate
2. General Allocation Rate (GAR)

Corporate G&A Rate:

Corporate costs with assigned work orders for capital GL accounts (i.e., 107XXX, 108XXX) and expense GL accounts (i.e., 600XXX, 700XXX) are run through a corporate cost allocation process to allocate the costs to the Power or Transmission BUs. These cost allocations are pre-determined and approved annually at the beginning of the fiscal year and are assigned for the various corporate G&A shared business service areas, including for example, Security, Legal, Human Resources, Finance, Safety, Risk Management, IT Administration, Supply Chain Purchasing, etc.

General Allocation Rate (GAR):

In other instances, there are remaining Corporate costs that are allocated based on weighted average general allocation rates as there are no direct work orders to charge such amounts. In some modules, such as the DMI, the GAR is calculated using the average monthly cash balance for both the Power and Transmission BUs. In the case of the HR module, the GAR is calculated monthly based on the total aggregate balance of GL accounts that comprise the Corporate G&A program for that module.

1.2 – Procedures Performed

Baker Tilly performed the following procedures in its review and testing of the overall BU allocation split model and process.

Table 3 – Procedures Performed – Overall BU Split Model

#	Procedures
1	BT tied-out BU Cash Split model output monthly results from FY2015 – FY2018 to BU Cash Balance and Reserves Balance Analysis workbook. As an attribution and/or allocation error was discovered, BT performed additional tie-outs back to FY2002.
2	For the manual process, BT reviewed select monthly cash summary files to tie-out to the BU Cash Balance and Reserves Balance Analysis workbook.
3	BT reviewed and recalculated any formulae contained in the BU Cash Balance and Reserves Balance Analysis workbook.
4	BT noted instances in which there were any issues or where it was unable to perform tie-out testing or a recalculation.
5	BT summarized the general impact of any misclassified or miscalculated cash balance entries.

1.3 – Observations and Recommendations

Baker Tilly makes the following observations and recommendations regarding the overall BU split model.

Table 4 – Observations and Recommendations – Overall BU Split Model

#	Sub-area	Observations	Recommendations
1.1	BU Monthly Cash Balance Reports	BT has noted that the nomenclature of the cash balance sheet items have changed slightly over the past few fiscal years. While BT understands that some allocations are no longer applicable (e.g., IOC_ADJ), there can be confusion around how to assign the outputs of the CM DM BU Cash Split Model to the Cash Balance sheet.	BT recommends that any modifications to the Cash Balance Report to account for future transaction activities be clearly labeled and tie to the description of the appropriate BU Cash Split Model Module.
1.2	BU Monthly Cash Balance Reports	In addition to the slight nomenclature changes to the monthly cash balance reports, there appeared to be version control issues with respect to the transition from the monthly process to the automated process in FY2015.	BT recommends a formal review/sign-off of the monthly cash balance reports to ensure accuracy and would allow for review of non-recurring transactions (e.g., adjustments).

Baker Tilly found additional errors in the previously-administered manual process or general allocations that are not directly associated with the functionality of the modules. While these errors were first discovered when reviewing the individual BU Cash Split modules, they did not pertain to issues with the modules themselves. For the purposes of this report, we are including the summary of these other observations and corollary recommendations in this section of the report.

Table 5 – Observations and Recommendations – Other Process or Allocation Errors

#	Sub-area	Observations	Recommendations
1.3	Manual Process - Pay-related allocation	The monthly cash split payroll allocation utilized a cash split of approximately 20% to 80% (Power to Transmission); these cash split values changed slightly by +/- 1% for each year of the manual process. However, the payroll allocation should have utilized a combination of different allocations based on actual time for Leave and Benefits and also overall corporate G&A rates to allocate Corporate payroll to Transmission and Power. The net result of these errors were approximately $10.4 MM – $20.6 MM annually between FY2003 – FY2015 in which the Power BU's cash balance was being over-reported; the corollary effect is the Transmission BU's cash balance was being under-reported during that same period.	This error should be included in the net cash balance adjustment for the Power and Transmission BUs. BT has included this in the tracking summary found in Table 1.
1.4	Manual Process Error – Corporate AP disbursements	For the total corporate AP disbursement amounts from the monthly cash balance, a 50% to 50% split (Power to Transmission) cash allocation split was utilized; this split changed to approximately a 35% to 65% split in FY2012. However, there were actually three separate GL categories of Corporate AP disbursement that should have applied three separate corporate allocation splits: (1) GL184004 - allocation based on the credit side; (2) 107XXX and 108XXX GLs - rate at which the depreciation expense on the Corporate assets is distributed to Power and Transmission; and (3) overall weighted average corporate G&A rate for other GLs. The net result of these errors were that roughly (-) $0.3 MM – $15.3 MM annually between FY2003 – FY2015 was being under-reported as the Power BU's cash balance; the corollary effect is the Transmission BU's cash balance was being over-reported during that same period. This error does not affect FY2016 and beyond as the BU Split Model accounts for different allocation types for AP transaction types (e.g., direct, corporate G&A, P-Card account allocations, pooled allocations).	This error should be included in the net cash balance adjustment for the Power and Transmission BUs. BT has included this in the tracking summary found in Table 1.

#	Sub-area	Observations	Recommendations
1.5	Manual Process Allocation Error – Post retirement benefits	Due to approximately $30.9 MM in unfunded retirement benefit contributions from September 2004 that applied a 21% to 79% (Power to Transmission) cash allocation split instead of a 50% to 50% split, which are reflected in the Power and Transmission BU Income Statements, this resulted in the Power BU's cash balance being over-reported by approximately $8.9 MM. Conversely, this resulted in the Transmission BU's cash balance being under-reported by approximately $8.9 MM in FY2004. This error was not an error in the BU Cash Split model as it pertained to a manual year-end disbursement cash entry in FY2004 and thus does not affect the current BU Cash Split model.	This error should be included in the net cash balance adjustment for the Power and Transmission BUs. BT has included this in the tracking summary found in Table 1.
1.6	AP allocation (Manual process)	During the manual process for aggregating the monthly AP disbursement files, there was a high potential for error since GL codes were being manually removed from an Excel Pivot Table. While controls over this process has been tightened through an automated process starting in FY2015, the relatively large magnitude of errors related to the pay-related allocations may suggest a review of the overall disbursement process for cash allocations. In addition, given the high value of the Corporate AP expenses that are split annually to Power and Transmission, there is the general potential for error in cost allocation assignment to the different corporate AP disbursement GL accounts.	BT recommends that the process owners for corporate AP disbursements consider memorializing the allocation basis to be utilized in a policy document.
1.7	Other (Manual Process)	As FY2015 was a transition year between the manual and automated cash split processes, the automated cash split report indicated that the Power BU paid $5.9 MM less for Total AP than what was calculated in the manual process report. While the error was primarily identified when examining Corporate AP amounts, the issue may also include the impact of some allocation errors. Hence, this is being stipulated to be an 'other' category error.	This error should be included in the net cash balance adjustment for the Power and Transmission BUs. BT has included this in the tracking summary found in Table 1.

2 – IPAC Module

2.1 – Overview and Process

IPAC, short for the Intragovernmental Payment and Collection, is the collection and payment system used by Federal Program Agencies to transfer funds from one agency to another. Per the Direct Funding Agreements signed with the other lead federal agencies, Reclamation and the USACE, on the FCRPS, BPA has been directly funding activities at Reclamation projects since 1996 and at USACE projects since 1997. The IPAC system is not exclusive to working with the USACE and Bureau nor the FCRPS as BPA also coordinates work with other federal agencies, such as GSA.

BPA has been conducting a review of its financial reserves after discovering errors in the reserve forecasting process during its fiscal year 2018 Quarter 3 Business Review. Subsequent to finding this forecast reserves error, BPA discovered an error in the allocation of cash between its two BUs, Power and Transmission, in its BU Cash Split Model. Since FY2003, BPA has been deducting all IPAC payments from only its Power BU's cash reserves when, in fact, the Transmission BU also utilizes IPAC transactions to pay federal-related costs.

IPAC Module and Relevant Files

To obtain an understanding of the cash split that is being queried within the IPAC module of the BU Cash Split Model and corollary to that, the monthly cash balance for the Power and Transmission BUs, Baker Tilly has reviewed several key documents including, but not limited to:

- BU Cash Split Procedures
- Power and Transmission Fiscal Year Income Statements
- GL Balance Sheet
- Comprehensive Annual Corporate General and Administrative (G&A) allocation split tables
- Monthly and Fiscal Year BU Cash Balance and Reserves Balance Analysis workbook
- Journal Cubes – tied to PS Financials OLAP database, which provides details and description of Journal Entries
- GL Account Description Report
- Queried outputs of GL transaction details showing costs that were allocated/settled to different BPA BUs (including Corporate)

These documents were utilized to understand the up-stream process in which the BU Cash Split Model is picking up IPAC cash activity and to trace/isolate the journal entries that are posted and balanced through different GL asset/liability/expense accounts for BPA BUs.

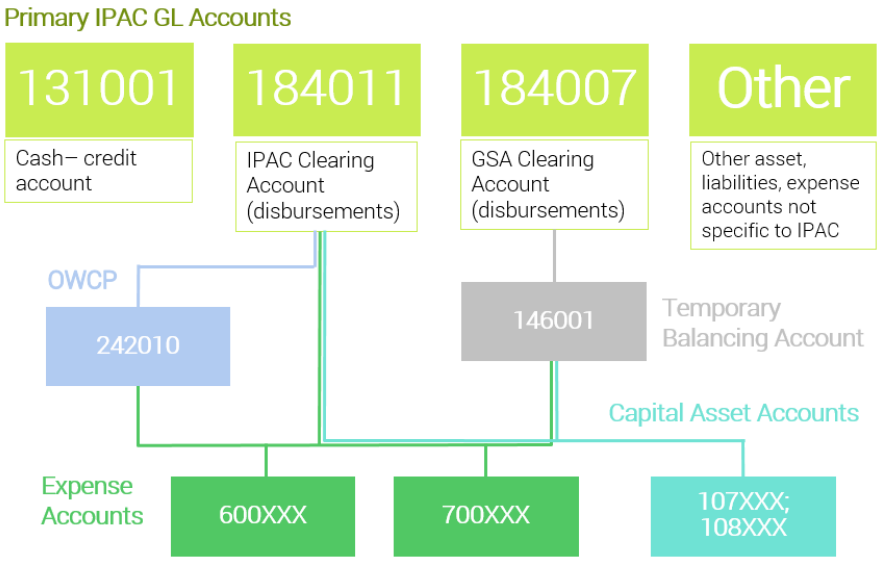
IPAC Transactions

To gain an understanding of IPAC transactions that are captured within the IPAC module (or the monthly cash summary files prior to FY2015), Baker Tilly reviewed and analyzed the relevant GL accounts associated with IPAC cash activity summary (collections and disbursements) that are uploaded from the U.S. Treasury IPAC system weekly. Prior to the IPAC costs actually being allocated to the appropriate BPA BUs, they are costed and settled in PS Financials to certain balancing or clearing GL accounts. The primary GL accounts associated with the initial IPAC cash activity include the following:

- **131001:** BPA's main cash account for IPAC collection and disbursement activity
- **184011:** Clearing account for cash paid out through IPAC
- **184007:** General Services Administration (GSA) clearing account
- Other asset, liability, and expense accounts (e.g., 146001 – balancing account, 224014 – Direct Funding Reclamation liability, 232007 – miscellaneous accrued expenditures)

Within these primary GL accounts used to record IPAC transactions, costs can be cleared in one account and moved temporarily to a balancing account (e.g., 146001 – balancing account for consolidated corporate reporting) and then allocated and settled to various expense accounts (i.e., 600XXX, 700XXX) and capital asset accounts (i.e., 107XXX, 108XXX). The clearing accounts are usually credited, as individual transactional invoices are reviewed/approved based on more supporting documentation for services rendered by the federal agencies. In the case of the main IPAC clearing account 184011, the Office of Workers' Compensation programs (OWCP) benefit payments are accrued through GL account 242010 at the Corporate BU level and then settled to various expense accounts. A general illustration of the primary IPAC-related GL accounts are shown in the following figure:

Figure 5 – General Illustration of IPAC-related GL Accounts[5]



[5] This figure is only meant to provide an illustration of cost activity through the different GL accounts and not necessarily the full set of GL accounts reflecting IPAC transactions.

Corporate Allocations in the IPAC Module

Allocations play a major role in IPAC and other module transaction types that may be costed to the BPA Corporate level, which then subsequently need to be allocated to the Power and Transmission BUs. Different allocation rates apply for different transaction types that allocate Corporate-level costs to the Power and Transmission BUs.

An incorrect procedure in both the Cash Balances by Business Unit Procedures (i.e., BU Cash Split Procedures prior to FY2015) and the CM DM Procedures (i.e., BU Cash Split Procedures since FY2015) stated that costs for IPAC transactions were to be manually imputed or automatically allocated solely to the Power BU. This incorrect procedure played a contributing role with respect to the resulting IPAC deduction errors to Power's cash balance in the BU Cash Split Model.

Some GL asset/liability accounts that charge IPAC transactions to the Corporate level can be assigned directly to Power and Transmission:

- **242010:** OWCP benefit payments, which pertains solely to Transmission employees
- **224014:** Direct-funding account for Reclamation capital, thus Power-related
- **224016:** Direct-funding account for Fish and Wildife, thus Power-related

In other instances, corporate expense GL accounts (i.e., 600XXX, 700XXX) with assigned work orders run through the corporate G&A allocation process in which cost allocations are pre-determined and approved annually at the beginning of the fiscal year for the purpose of allocating the costs to the Power or Transmission BUs.

Manual Journal Entry Corrections or Adjustments

As noted there were incorrect procedures to both the Cash Balances by Business Unit Procedures and the CM DM Procedures throughout the time-frame of the BU Cash Split Model, so, corrective journal entries were relatively rare. Only one journal entry (JE) adjustment was made in FY2010 (in December 2009) in which the IPAC transaction details represent a land purchased by Transmission from the U.S. Department of Interior Bureau of Indian Affairs to appropriately reduce the amount of the transaction from Power to Business.

2.2 – Procedures Performed

Baker Tilly performed the following procedures in its review and testing of the IPAC module.

Table 6 – Procedures performed during testing and review of the IPAC module

#	Procedures
1	BT reviewed BPA workpapers to understand the nature/cause of prior IPAC BU cash split errors.
2	For the IPAC module, BT compared and tied-out FY2015 – FY2018 BU model output results to the individual source files. As an attribution and/or allocation error was discovered, BT performed additional tie-outs back to FY2002.
2	BT performed a review of GL accounts to determine movement of IPAC transactions from balance or clearing GL accounts being settled to asset/liability/expense accounts to different BUs. BT performed additional analysis to reconcile cash activity from main IPAC GL accounts through usage of the Journal Cubes, GL query outputs, and GL Balance Sheet.
3	BT performed a re-calculation of the weighted annual corporate G&A allocation rates to be applied to corporate expense costs to be allocated to Power and Transmission based on review of corporate work order listing and their assigned Level 3 (L3) G&A allocator.
4	BT noted instances in which there were any transactional issues or where it was unable to perform tie-out testing or a recalculation.
5	BT summarized the general impact of misclassified IPAC charges for review period.

Notes/Limitations on procedures performed:

- The objective of this review was not to validate the actual/historical IPAC transactional invoices for services rendered by other federal agencies that resulted in costs being assigned/allocated to the Power or Transmission BUs.

2.3 – Observations and Recommendations

Baker Tilly makes the following observations and recommendations regarding the IPAC module.

Table 7 – Observations and Recommendations – IPAC module review

#	Sub-area	Observations	Recommendations
2.1	Corporate G&A Allocation	Through review of the G&A allocations for specific work orders for IPAC transactions from each year, BT confirmed that the weighted average G&A rate applied for corporate cost allocations for Transmission would have been 60% (and 40% for power). As a result of not applying this 40% to 60% (Power to Transmission) for corporate costs, BT confirmed and re-tested that approximately $4.7 MM – $10.0 MM annually between FY2003 – FY2018 was erroneously costed to Power instead of Transmission.	This error should be included in the net cash balance adjustment for the Power and Transmission BUs. BT has included this in the tracking summary found in Table 1.
2.2	Worker's Compensation IPAC Payments	BT observed that one particular GL account 242010 (for the Office of Workers' Compensation programs), which was paid through the IPAC payments were erroneously allocated 100% to Power in the BU Cash Split Model, instead of mostly to Transmission. The net result of these errors were approximately $2.9 MM – $3.6 MM annually between FY2003 – FY2018 in which the Power BU's cash balance was being under-reported; the corollary effect is the Transmission BU's cash balance was being over-reported during that same period.	This error should be included in the net cash balance adjustment for the Power and Transmission BUs. BT has included this in the tracking summary found in Table 1.
2.3	IPAC Direct Payments to Transmission	BT confirmed and re-tested that approximately $0.8 MM – $ 4.3 MM annually between FY2003 – FY2018 was erroneously costed to Power instead of Transmission. In one particular year (FY2010), the IPAC payments costed directly to Transmission was $19.6 MM, but that was offset largely by an IPAC adjustment (see next Observation).	This error should be included in the net cash balance adjustment for the Power and Transmission BUs. BT has included this in the tracking summary found in Table 1.
2.4	IPAC Adjustment	BT confirmed the one instance of an IPAC adjustment (moving IPAC cost from Power to Transmission) that occurred in FY2010 (December 2009) for a land purchase by the Transmission business unit from the U.S. DOI Bureau of Indian Affairs for approximately $16.2M. This was further validated based on the PS Financials Journal Data Cube showing a JE for Transmission payment that was costed to a Land Capital Asset account.	N/A - this observation identified an instance of the correct IPAC adjustment in the BU Split Model. Amount should be included in the net cash balance adjustment to offset the IPAC payments that were direct-costed to the Transmission BU. BT has included this in the overall tracking summary found in Table 1.

#	Sub-area	Observations	Recommendations
2.5	GSA Fleet – Transmission Costs	BT confirmed and re-tested that approximately $5.0 MM – $6.4 MM annually between FY2003 – FY2018 was erroneously costed to Power instead of Transmission by showing the costs that settled to the Transmission Capital Asset accounts (107XXX, 108XXX) and Expenses (600XXX).	This error should be included in the net cash balance adjustment for the Power and Transmission BUs. BT has included this in the tracking summary found in Table 1.
2.6	Corporate GSA Fleet	Through review of the IPAC Clearing Account 184007, BT confirmed and re-tested that approximately $256K – $369K annually between FY2003 – FY2018 settled to the Corporate Expense Account primarily for GSA fleet, which would require GL transactional details to determine actual Power/Transmission split, but were erroneously costed to Power. By applying an overall G&A % for Power/Transmission for each fiscal year, this error amounts to approximately $156K – $238K annually between FY2003 – FY2018.	This error should be included in the net cash balance adjustment for the Power and Transmission BUs. BT has included this in the tracking summary found in Table 1.

3 – DM/DMI/JE Modules

3.1 – Overview and Process

BPA's debt portfolio includes both federal debt and non-federal for funding capital needs of its Power and Transmission BUs. Through its arrangement with the U.S. Treasury, BPA manages a portfolio of bonds and appropriations with scheduled borrowings and payments both on a monthly basis and at fiscal year-end. BPA's Treasury Department utilizes the PS Financials Deal Management module to capture the amounts that are reflected in BPA's Financial Statements.

As it relates to the BU Cash Split Model, BPA utilizes three separate modules, which are used to track cash amounts across all federal debt cash activity. These modules include:

- **DM Module:** captures Federal new borrowings and payments on a net basis, bond interest payments, and premiums and discounts. These cash amounts are allocated to the Power and Transmission BUs based on the deal portfolios defined for each deal.
- **DMI Module:** captures interest earnings associated with the Deal Management investments and are direct allocated to BPA's Corporate BU. These direct transaction costs are allocated to the Power and Transmission BUs based on the GAR being used in the DMI module.
- **JE Module:** captures the year-end treasury payment net of credits/offsets, and is manually entered into the module. The year-end Treasury Payment is of primary interest relating to BPA's federal debt, but there are other transactions captured in the JE Module: IOC, Radio Spectrum, and miscellaneous cash disbursements/collections. Each of the JE Module transaction types require a manual allocation and upload into the BU Cash Split Model with the exception of the Radio Spectrum cash entries, which are all allocated to the Transmission BU.

DM/DMI/JE Modules and Relevant Files

To obtain an understanding of the cash split that is being queried within the DM, DMI, and JE modules of the BU Cash Split Model and corollary to that, the monthly cash balance for the Power and Transmission BUs, Baker Tilly reviewed key documents including, but not limited to:

- BU Cash Split Procedures
- Power and Transmission Fiscal Year Income Statements
- GL Balance Sheet
- Monthly and Fiscal Year BU Cash Balance and Reserves Balance Analysis workbook
- Journal Cubes
- GL Account Description Report
- U.S. Treasury Payment Schedules that are used for managing the PS Financials Deal Management module

These documents were utilized to reconcile the BU Cash Split Model outputs to actual amounts being captured in Treasury Payment files and Fiscal Year Income Statements.

Deal Management Debt:

For the purposes of reconciling the outputs of the BU Split Model DM Module, the direct allocated results in the DM Module for each fiscal year were compared to Federal Principal Payment files and New Bond Issuance files managed by BPA's Treasury Department. The following components comprise the BU Split Model and the Federal Debt Summary tracking for new borrowings and principal payments.

BU Split Model:

1. Net Borrowings/ Repayment Bonds (Liability accounts for amounts owed to U.S. Treasury for bonded debt)
2. Premium/Discounts
3. Bond Interest Expense Payment (GL Account 237001 – Liability clearing account for Interest Payable Bonds)

Total Federal Debt amount captured in BU Split Model

Federal Debt Summary tracking:

1. New Capital Borrowings (source of cash) *
2. New Expense Note Borrowing **
3. Premium/Discounts
4. Repayment Bonds – Scheduled Amortization ^
5. Repayment Expense Note (Generation only) ^^
6. Bond Interest Expense Payment

Total Federal Debt amount tracked through Treasury

Notes:

* New Capital Borrowings include both Power and Transmission-specific borrowings as well as Agency borrowings for each fiscal year, which are split 35% Power to 65% Transmission.

** New Expense Note Borrowings include the expense amounts specifically for Power BU borrowings only.

^ Repayment Bonds – Scheduled Amortization reflect the total bond amortization schedule for both the Power and Transmission BUs during the fiscal year.

^^ Repayment Expense Note includes the total amount for the repayment of the short-term Expense Note (for Power BU only).

Deal Management Investments:

For the purposes of reconciling the outputs of the BU Split Model DMI Module, the direct allocated results in the DMI Module for each fiscal year were compared to the PS Journal Cubes for interest income-related journal entry cash amounts.

BU Split Model:

1. Interest income amount first charged to Corporate BU, then allocated based on the GAR to the Power and Transmission BUs [#]

Total Debt Interest captured in BU Split Model

Federal Debt Summary tracking:

1. Interest Income – U.S. Treasury Investments

Total Interest Income reflective of PS Journal Cubes

Notes:
[#] The GAR is calculated using the average monthly cash balance for both the Power and Transmission BUs.

Journal Entries (Treasury Payment):

For the purposes of reconciling the outputs of the BU Split Model JE Module, the year-end net treasury payments from the JE Module for each fiscal year were compared to the Year-end Treasury Payment file managed by BPA's Treasury Department and the Income Statement for interest accumulated during construction.

BU Split Model:

1. Net year-end Treasury Payment

Total year-end Treasury Payment

Federal Debt Summary tracking:

1. Principal Scheduled Amortization - Repayment Appropriations
2. Amortization from Additional Debt Management Authorization – Advanced
3. Appropriation O&M Payments for the Reclamation, USACE, Lower Snake River Compensation Program (LSRCP) [~]
4. Payment Irrigation Assistance
5. Total Credit Offset from Year-end Treasury Payment Summary
6. Additional Post Retirement Payment
7. Appropriated Interest Expense (including Interest During Construction – Appropriations)

Total from year-end Treasury Payment Summary file

Notes:
[~] The appropriation O&M payments are for the Power BU only.

Journal Entries (Other):

For the purposes of reconciling the outputs of the BU Split Model JE Module, the outputs for the other transaction types (i.e., non-Treasury payment related) in the JE Module for each fiscal year were compared to the PS Journal Mart and other supporting files. A summary of these other transaction types include:

- **Interest Offset Credit (IOC)/Investment true-up** – the IOC was the method by which BPA used to earn interest on funds deposited in the Bonneville Fund at the US Treasury. The interest earnings rate was equal to the weighted average interest rate on BPA's federal long-term debt outstanding. This method for earning interest income had been in place since the mid 1970s. In 2008, BPA established a new borrowing/earnings agreement, the Investment Memorandum of Understand (MOU), which gave BPA much greater borrowing flexibility, including the ability to borrow for expenses, but also required that BPA move to Treasury's standard interest earnings construct - investing funds in Treasury Market-based Specials. Beginning in FY2017, there were no IOC journal entries as the IOC was phased out since BPA's Transition Termination Balance per the MOU had reached a zero balance. Testing/reconciliation procedures for the IOC are summarized in the **ADJ Module** Section.
- **Radio Spectrum** – Manual JEs are developed monthly to reclassify the remaining balance of OMB appropriated funds for relocation of the Radio Spectrum and credit the Bonneville Fund GL Cash Account 131001 for the Transmission BU only.
- **Miscellaneous cash disbursements and collections** – There are other miscellaneous cash collections and disbursements activity that are recorded as manual journal entries through the JE Module.

3.2 – Procedures Performed

Baker Tilly performed the following procedures in its review and testing of the DM, DMI, and JE modules.

Table 8 – Procedures performed during testing and review of the DM, DMI, and JE modules

#	Procedures
1	BT reviewed BPA workpapers to understand reconciliation testing around DM, DMI, and JE modules for BU Cash Split.
2	For the DM module, BT compared and tied-out FY2015 – FY2018 BU model output results to the individual source files, including new bond issuance, principal amortization plans, and treasury payment files.
3	For the DMI module, BT compared and tied-out FY2015 – FY2018 BU model output results to the individual source files, including the PS Journal Cubes cash GL accounts.
4	For the JE module (U.S. Treasury Payment transactions), BT compared and tied-out FY2015 – FY2018 BU model output results to the individual source files, including the Year-End Treasury Payment file.
5	For the JE module (other transaction types), BT compared and tied-out FY2015 – FY2018 BU model output results to the PS Journal Cubes cash accounts.
6	BT performed a reconciliation of certain Power and Transmission cash amounts in BU Cash Balance and Reserves Analysis workbook to cash GL account queries for FY2015 – FY2018.
7	BT noted instances in which there were any transactional issues or where it was unable to perform tie-out testing or a recalculation.
8	BT summarized the general impact of misclassified charges to Power and/or Transmission for review period.

Notes/Limitations on procedures performed:

- The actual calculation of the debt portfolio was not in scope. Reconciliation testing procedures were focused on finding evidence that the BU Split model picked up amounts that were recorded in PS Financials correctly.

3.3 – Observations and Recommendations

Baker Tilly makes the following observations and recommendations regarding the DM, DMI, and JE modules.

Table 9 – Observations and Recommendations – DM/DMI/JE modules review

#	Sub-area	Observations	Recommendations
3.1	DM Module	BT was able to tie-out the BU Split DM Module outputs to the supporting source files without any errors or any variance. Exceptions to this included: In FY2018, there was a known error of $5 MM in federal borrowings due to a miscoding issue in PS and therefore incorrectly picked up in the BU Split Model and impacts both the Power and Transmission BUs. This issue has been identified and has been indicated for correction in FY2019 in PS Financials and will be corrected in the BU Split model as part of a larger one-time correction.	BT has no specific recommendations regarding the BU Split Model DM Module as the error was a miscoding issue in PS. This error should be included in the net cash balance adjustment for the Power and Transmission business units. BT has included this in the tracking summary found in Table 1.
3.2	DMI Module	BT was able to tie-out the BU Split DMI Module outputs to the supporting source files without any errors or any significant variance. Any clearly trivial variance would appear to be due to slight timing differences between the actual interest income reported on the Transmission BUs Income Statement and what is recorded in the BU Split Cash Balance report and also due to slight different since the method of interest computation.	BT has no recommendations regarding the BU Split Model DMI Module.
3.3	JE Module – Year-end Treasury Payment	BT was able to tie-out the BU Split JE Module outputs to the supporting source files without any errors any significant variance. However, the Treasury Payment details comprising the year-end net JE entry are difficult to decipher. There are many values (e.g., credits) that are utilized for the year-end payment calculation without clear labeling and also identification of the source details.	The process owners managing the Treasury Payment file should update the organization/layout to allow for easier determination of the year-end net JE entry.

#	Sub-area	Observations	Recommendations
3.4	JE Module – Year-end Treasury Payment	Relating to Observation 3.3, the year-end net JE entry includes an additional post retirement contribution payment, which appears to be an amount allocated to the Power and Transmission BUs. The source file for the Year-end Treasury Payment does not provide any detail on the cost allocation split for this payment. However, the post retirement allocation amounts tie-out to the amounts charged to the Power and Transmission BUs in their respective income statements.	The process owners managing the Treasury Payment file should update to show the cost allocation split between the Power and Transmission BUs.
3.5	JE Module – Other transactions	BT was able to tie-out the BU Split JE Module outputs for other non-Treasury transactions to the supporting source files without any errors or any significant variance.	BT has no recommendations regarding the non-Treasury manual JE transactions in the BU Split Model JE Module.

4 – ADJ Module

4.1 – Overview and Process

BPA's cash activity includes transactions that are characterized as adjustment transactions for purposes of transferring cash between the Power and Transmission BUs and/or based on true-up processes. As it relates to the BU Cash Split Model, the ADJ module picks up adjustment transactions for:

1) **Energy Northwest (EN) Adjustments:** these recurring transactions reflect manual adjustments required to transfer cash from the Transmission BU to the Power BU as part of the Transmission BU's Debt Service Reassignment (DSR) obligation. The DSR was implemented as part of the Debt Optimization (DO) Program with EN between 2001 to 2012 to extend the maturing of EN debt for nonfederal generation facilities through repayment of federal debt for Transmission projects. As such, the DSR obligation is equal to the:
   - Base debt service, which is the debt service on the actual new EN bonds issued to extend/roll out maturing EN principal payment component (i.e., portion that benefitted Transmission BU only), converted from a calendar year to a BPA fiscal year; plus
   - Transmission BU's portion of the transactions costs associated with the EN bond issuance; plus
   - A "carrying charge", which represents the interest on the principal component of the Transmission BU's payment obligation for the three months between the beginning of EN's fiscal year (July 1, when the new bonds were effective) and beginning of the Federal fiscal year (October 1) plus other associated costs.

   In 2014, BPA and EN started a series of refinancing efforts, identified as Regional Cooperation Debt (RCD). The actual disbursements to EN as far as the BU Cash Split Model is concerned are captured in the **AP Module**. The vast majority of EN payments hit the Corporate BU and are for payments at the various generating facilities owned by EN through the GL accounts:
   - **165001**: Prepaid Expense for EN's Washington Nuclear Project No. 1
   - **165002**: Prepaid Expense for EN's Columbia Generating Station
   - **165003**: Prepaid Expense for EN's Washington Nuclear Project No.3

   Other EN disbursements are costed directly to the Power and Transmission BUs. Initially, the BU Split Model (within the AP module) attributes all of these Corporate EN disbursements as a use of Power cash. All Corporate EN disbursements are initially attributed to Power. In the ADJ module, the cash transfer from Transmission to Power is for the DSR; the amount is equal to the annual Transmission DSR obligation. This Transmission DSR obligation represents the repayment obligation Transmission has for Debt Optimization transactions from FY03 - FY09 that benefitted Transmission; the obligation is the amount documented in Transmission Rate Cases. The amount can vary if subsequent refinancings take place.

2) **Between Business Line (BBL) Adjustments:** These transactions capture the cash side of all BBL transactions for revenues and expenses. The BBL adjustment amounts vary by fiscal year, depending on the actual billing or purchasing activity between the Power and Transmission BUs. Further, the ADJ module pick-ups any cash activity between the business lines that impact the Trial Balance. The primary GL accounts associated with the BBL cash activity include the following:
   - **107530** – This asset account represents the CWIP costs for between business line agreements.
   - **165226** – This asset account is used to record inter-unit prepayments between BPA BUs.
   - **253026** - This liability account is used to record inter-unit Advances between BPA BUs.
   - **253027** – This liability account is used to record Network Open Season security deposits received from BPA internal BU customers to be used in planning for construction of future transmission capacity. No interest is payable on these deposits.
   - **400003** - This revenue account represents the power revenue billed to another BPA Business Line for account use ONLY.
   - **400011** - This revenue account represents Revenue directly attributable to reimbursable projects to internal customers.
   - **600530 –** This expense account represents the expense costs for between business line agreements.
   - **600531 –** This expense account is used during the consolidation process.
   - **600540 –** This expense account represents the costs of transmission purchases by Power Business Line from Transmission Business Line.
   - **600550** – This expense account represents the costs of power purchases by Transmission Business Line from Power Business Line.

3) **IOC Adjustments:** As discussed in the **DM/DMI/JE Modules** section, the IOC was the method by which BPA used to earn interest on funds deposited in the Bonneville Fund at the US Treasury. The ADJ module picks up the total IOC amount for the Power and Transmission BUs that needs to be adjusted based on the monthly true-up process of the original IOC split between Power and Transmission. The semi-annual IOC adjustment transactions (in periods 5 and 11) record the accumulated true-up difference. A final adjustment was made in the final period of FY2016 when the IOC was scheduled for phase-out.

4) **Beginning Balance Adjustment:** The beginning balance for each fiscal year (i.e., beginning of October) from the BU Cash Split report is simply the ending balance for the prior fiscal year (i.e., end of September). The ADJ Module picks up any true-up of the beginning balances for the Power and Transmission BUs at the beginning of the fiscal year (shown as period 0 in the BU Cash Split Model).

ADJ Module and Relevant Files

To obtain an understanding of the cash split that is being queried within the ADJ Module of the BU Cash Split Model and corollary to that, the monthly cash balance for the Power and Transmission BUs, Baker Tilly has reviewed key documents including, but not limited to:

- BU Cash Split Procedures
- Power and Transmission Fiscal Year Income Statements
- GL Balance Sheet
- Monthly and Fiscal Year BU Cash Balance and Reserves Balance Analysis workbook
- Journal Cubes
- GL Account Description Report
- DSR Principal & Interest Payment Schedules
- Rate Case Transmission DSR Payment Obligation table
- IOC calculation and tracking spreadsheet

These documents were utilized to reconcile the BU Cash Split Model outputs to actual amounts being captured in Treasury Payment files and Fiscal Year Income Statements.

4.2 – Procedures Performed

Baker Tilly performed the following procedures in its review and testing of the ADJ module.

Table 10 – Procedures performed during testing and review of the ADJ module

#	Procedures
1	BT reviewed BPA workpapers to understand reconciliation testing around ADJ module for BU Cash Split.
2	For EN adjustment transactions, BT compared and tied-out the ADJ module output results for DSR repayments to the Corporate EN payment schedule found in BPA's approved Rate Case schedule and DSR Principal & Interest Payment Schedules.
3	For BBL adjustment transactions, BT compared and tied-out the BU Cash Split reports to the BBL revenues and operating expenses from PS Journal Cubes, which reflect the Income Statement.
4	For additional testing of BBL adjustment transactions, BT reviewed all GL accounts that may potentially be included in BU Cash Split Model, whether they affect the Income Statement or Balance Sheet and compare to PS Journal Mart, which reflect the Trial Balance.
5	For IOC adjustment transactions, BT compared and tied-out the IOC entries within the ADJ module (and JE module) to the IOC calculation and tracking spreadsheet.
6	For beginning balance adjustment transactions, BT performed reconciliation of beginning balance adjustment to the prior fiscal year's ending balance.
7	BT noted instances in which there were any transactional issues or where it was unable to perform tie-out testing or a recalculation.
8	BT summarized general impact of misclassified charges to Power and/or Transmission for review period.

Notes/Limitations on procedures performed:

- The actual calculation of the EN DSR and RCD programs was not in scope. Reconciliation testing procedures was focused on finding evidence that the BU Split model picked up amounts that were recorded in PS Financials correctly.

4.3 – Observations and Recommendations

Baker Tilly makes the following observations and recommendations regarding the ADJ module.

Table 11 – Observations and Recommendations – ADJ module review

#	Sub-area	Observations	Recommendations
4.1	EN	BT was able to tie-out the EN adjustment transactions in the BU Split ADJ Module outputs to the supporting files without any notable errors or significant variance.	BT has no recommendations regarding the EN adjustment transactions in BU Split Model ADJ Module.
4.2	BBL	BT was able to tie-out the BBL adjustment transactions from the BU Split ADJ Module Outputs to the supporting files without any notable errors or significant variance. There are instances of clearly trivial variance when comparing the BBL adjustment line of the BU Cash Balance workbook to the Trial Balance and Transmission Income Statement. These variances are not due to any issues with the ADJ module, but rather as it relates to the corporate G&A rates that are applied to some of the Corporate BU amounts that then are allocated to the Transmission BU.	The process owners managing the BBL adjustment entries in the ADJ module may consider developing a tracking workbook that shows all the GL accounts and related cash BBL activity for supporting the resulting BBL cash split for the Power and Transmission BUs. This would also help provide a better glimpse of the G&A allocation of cash that originates from the Corporate BU.
4.3	IOC	BT was able to tie-out the IOC adjustment transactions from the BU Split ADJ Module Outputs to the supporting files without any notable errors or significant variance. In addition, BT was able to tie-out the JE transactions from the BU Split JE Module Outputs to the supporting files without any notable errors or significant variance. In a similar vein as Observation 3.3 regarding the Treasury Payment Schedule pertaining to the JE Module, the IOC adjustment entry process is manual and some of the IOC tracking spreadsheets can be difficult to follow without clear labeling in the provided documentation and explanation.	The process for recording manual entries in the ADJ and also the JE modules could be enhanced and streamlined through more detailed documentation and a review/signoff process.
4.4	Beginning Balance	BT was able to tie-out the beginning balance adjustment at the beginning of each fiscal year to the ending balance from the prior fiscal year within the ADJ module and the BU Cash Balance workbook without any notable errors or significant variance.	BT has no recommendations regarding the Beginning Balance adjustment entries in the ADJ module.

5.0 – AP Module

5.1 – Overview and Process

BPA's cash disbursement activities cover a wide array of Accounts Payable transactions to other agencies, entities, and also for internal payments. As it relates to the BU Cash Split Model, the AP module picks up cash disbursements for a variety of different AP transaction types:

- **Direct – Power:** Costs directly assigned to Power BU.
- **Direct – Transmission:** Costs directly assigned to Transmission BU.
- **Direct – Corporate (allocated to Power):** Costs labeled as Corporate, but directly related to the Power BU, for example, GL154009 (Fish and Wildlife inventory tags) and actual disbursements to EN for payments at the various generating facilities owned by EN.
- **Direct – Corporate (allocated to Transmission)**: Costs labeled as Corporate, but directly related to the Transmission BU; there are currently no GL accounts set up in this manner.
- **P-Card Account Allocation:** allocation based on current month's P-Card transaction activities; Corporate amounts are further allocated using the GAR.
- **Pooled Allocation:** costs here are allocated based on pre-determined Corporate G&A rates
- **GARs:** these rates are used for costs in GL accounts without work orders and are based on monthly G&A rates calculated in the pooled allocations
- **Correction:** when any corrective entries against AP transactions are needed, corrected amounts to the Power and Transmission BU cash balance are picked up in the module.

5.2 – Procedures Performed

Baker Tilly performed the following procedures in its review and testing of the AP module.

Table 12 – Procedures performed during testing and review of the AP module

#	Procedures
1	BT reviewed BPA workpapers to understand reconciliation testing around AP module for BU Cash Split.
2	For the Direct – Corporate costs, BT compared and tied-out FY2015 – FY2018 BU model output results to the individual source files, including the PS Journal Cubes cash GL accounts.
3	For the P-Card account allocated costs, BT compared and tied-out FY2015 – FY2018 BU model output results to the PS Journal Cubes for determining reasonableness of allocation rates.
4	For the pooled allocated costs, we validated the approved G&A rates for each fiscal year associated with each G&A category to ensure alignment to the allocation rates in PS Financials.
5	For the GARs, BT reviewed disbursements that utilized the GAR allocation method for reasonableness of usage.
6	BT noted instances in which there were any transactional issues or where it was unable to perform tie-out testing or a recalculation.
7	BT summarized the general impact of misclassified charges to Power and/or Transmission for review period.

5.3 – Observations and Recommendations

Baker Tilly makes the following observations and recommendations regarding the AP module.

Table 13 – Observations and Recommendations – AP module review

#	Sub-area	Observations	Recommendations
5.1	AP Module	BT was able tie-out the AP Module outputs to the supporting source files without any errors or any variance.	BT has no recommendations regarding the Split Model AP Module.

6.0 – HR/HRJE Modules

6.1 – Overview and Process

The HR and HRJE modules cover payroll cash amounts that are allocated to each BU (i.e., Corporate, Power, Transmission) based on the payroll accounting entries for each period.

As it relates to the BU Cash Split Model, the HR module picks up payroll cash entries based on the payroll account entries for each period for each BU (i.e., Corporate, Power, Transmission). As the payroll entries also include payroll cash for the Corporate BU, these costs are allocated to Power and Transmission based on different categories of costs and allocation factors:

- **Accrued Employee Leave (GL 242001):** allocated based on straight time changes in employee timesheets. Remaining corporate charges are further allocated to Power and Transmission based on a monthly GAR rate.
- **Accrued Payroll Benefits (GL 184002):** allocated based on straight time changes in employee timesheets. Remaining corporate charges are further allocated to Power and Transmission based on a monthly GAR rate.
- **Other pooled accounts (GL 107XXX, 108XXX, 600XXX) for straight type pay, overtime, premium pay cash awards; retention; and miscellaneous other costs:** allocated based on predetermined corporate G&A rates associated with WO charged for these costs.
- **GAR:** remaining Corporate general amounts allocated based on a monthly GAR rate calculated based on aggregate balance of Corporate G&A costs in GL Accounts 107XXX, 108XXX, and 600XXX.

The HRJE module handles miscellaneous payroll adjustments, which are initially processed as Corporate. The module then allocates the amounts using the GAR method from the HR module of the BU Split model, which generally results in an allocation cash split of 40% to Power and 60% to Transmission. The average annual total amount processed in this module from FY2015 – FY2018 was approximately $0.5 MM - $0.8 MM annually.

6.2 – Procedures Performed

Baker Tilly performed the following procedures in its review and testing of the HR and HJRE modules.

Table 14 – Procedures performed during testing and review of the HR and HRJE modules

#	Procedures
1	BT reviewed BPA workpapers to understand reconciliation testing around the HR and HRJE modules for BU Cash Split.
2	For the HR module, BT compared and tied-out FY2015 – FY2018 BU model output results to the individual source files (i.e., PS Financials queries for miscellaneous receivables).
3	For the HR module – leave and benefits accounts, BT compared totals in the HR module for GL Accounts 242001 and 184002 to the direct amounts multiplied by time sheet pay percentages
4	For the HR module – pooled accounts, BT compared the Corporate-related GL600110 (annual straight-time pay) paycheck amounts allocated to the Power BU to the allocations in the Power 2018 Income Statements for the same category.
5	For HR module – GAR costs, BT compared totals from the HR module to the FY2018 actuals from PS Financials.
6	For the HRJE module, BT compared totals from the HRJE modules from FY2015 – FY2018 to the CM DM monthly output files.

#	Procedures
7	BT noted instances in which there were any transactional issues or where it was unable to perform tie-out testing or a recalculation.
8	BT summarized general impact of misclassified charges to Power and/or Transmission for review period.

6.3 – Observations and Recommendations

Baker Tilly makes the following observations and recommendations regarding the HR and HRJE modules.

Table 15 – Observations and Recommendations – HR and HRJE modules review

#	Sub-area	Observations	Recommendations
6.1	HR Module	BT was able to tie-out the BU Split HR Module outputs to the supporting source files without any errors or any variance. The exception to this is: In FY2016, an error was discovered relating to the timing difference for the last pay period in FY2015, which occurred in the beginning of FY2016 whereas the accrual amount was recorded in FY2015. The magnitude of the error relates to using the GAR split of 40% to 60% (Power to Transmission) for payroll carried over from the last period in FY2015, which went out in FY2016, instead of the overall payroll split of approximately 24% to 76% (Power to Transmission). The result was approximately $2.4 MM in which the Power BU was over-reported in FY2016.	BT has no recommendations regarding the BU Split Model HR Module as the discovered error is a one-time anomaly due to a timing error. The discovered error should be included in the net cash balance adjustment for the Power and Transmission BUs. BT has included this in the tracking summary found in Table 1.
6.2	HRJE Module	BT was able to tie-out the BU Split HRJE Module outputs to the supporting source files without any errors or any variance.	BT has no recommendations regarding the BU Split Model HRJE Module.

7.0 – AR/ARC Modules

7.1 – Overview and Process

BPA's accounts receivable transactions mainly result from billings to customer accounts and in some instances, cash associated with non-customer transactions. As it relates to the BU Cash Split Model, BPA utilizes two separate modules, which are used to track cash amounts across all accounts receivable activity. These modules include:

- **AR module:** picks up the cash activity associated with non-customer accounts receivables, generally associated with employee accounts receivable and other small miscellaneous non-customer receivables.
- **ARC module:** picks up the cash activity associated with customer accounts receivables for Power and Transmission sales. While the majority of the billings are 'directly' attributed to Power and Transmission, a small portion pertains to Corporate receipts that are then allocated to the Power and Transmission BUs utilizing the GAR methodology.

7.2 – Procedures Performed

Baker Tilly performed the following procedures in its review and testing of the AR and ARC modules.

Table 16 – Procedures performed during testing and review of the AR and ARC modules

#	Procedures
1	BT reviewed BPA workpapers to understand reconciliation testing around the AR and ARC modules for BU Cash Split.
2	For the AR module, BT compared and tied-out FY2015 – FY2018 BU model output results to the main supporting files (i.e., PS Financials queries for miscellaneous receivables).
3	For the ARC module, BT compared and tied-out FY2015 – FY2018 BU model output results to the main supporting files (i.e., PS Financials queries for customer accounts receivables and revenues).
4	BT noted instances in which there were any transactional issues or where it was unable to perform tie-out testing or a recalculation.
5	BT summarized general impact of misclassified charges to Power and/or Transmission for review period.

7.3 – Observations and Recommendations

Baker Tilly makes the following observations and recommendations regarding the AR and ARC modules.

Table 17 – Observations and Recommendations – AR and ARC modules review

#	Sub-area	Observations	Recommendations
7.1	AR Module	BT was able to tie-out the BU Split AR Module outputs to the supporting source files without any errors or any variance.	BT has no recommendations regarding the BU Split Model AR Module.
7.2	ARC Module	BT was able to tie-out the BU Split ARC Module outputs to the supporting source files without any errors or any variance.	BT has no recommendations regarding the BU Split Model ARC Module.