Service Request 83750

NRA PostDoc - H&W Imputed Income Exclusion

Technical Specification

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Information Resources & Communications
Office of the President
University of California
# Version History

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1 Introduction

1.1.1 Service Request 83750

SR83750 asks PPS to include the NRA Post Doctoral Scholars with zero Fellowship/Scholarship Gross (EDB 5555) as well into the report PPP7712, if they are setup with at least one EDB employee appointment and the accumulated total appt percent is less than 50%.

2 Overview of System Modifications

Currently, the Fellowship/Scholarship payments and taxes are reported into the PPP7712 report for the Post Doctoral Scholars of NRA Citizenship Code (values of A, N, S, or X) with non-zero Fellowship/Scholarship Gross (EDB 5555).

SR83750 asks PPS to change the report PPP7712 so that the NRA Post Doctoral Scholars with zero Fellowship/Scholarship Gross (EDB 5555) are reported, if their EDB appointment setup qualifies them using the below steps:

1. At least one appointment exists with the Appointment Title Code (EDB2006) of Fellow (3253) or Paid Direct (3254)

2. Count the Number of Appts and Accumulate the Appt Percent (EDB2012) of all the appts with the below criteria:
   a. Appt Title Code (EDB2006) is not in (‘3253’, ‘3254’)
   b. Appointment Begin Date (EDB2002) should be less than or equal to the monthend date, which is derived from the SCR_CURRENT_DATE
   c. Appointment End Date (EDB2003) should be greater than or equal to the SCR_CURRENT_DATE

3. Qualify the Fellow/Paid Direct employee to report in PPP7712 report, if any one of the below conditions is satisfied:
   i) If the Accumulated Appt Percent is greater than zero and less than 50%
   ii) If the Accumulated Appt Percent is equal to zero and the Number of Appts counted in step 2 is greater than zero
3 Design Considerations

3.1 Assumptions and Dependencies

- No changes required to the Compute and Expense for Post Doctoral Scholars processing.
- NRA Post Doctoral reporting changes are required to the report PPP7712 that is produced by program PPP771.
- The SCR_CURRENT_DATE is used to derive the current begin and end dates for appointment validity. Therefore, report PPP7712 must be run before Monthly Maintenance for the processing month to begin next month.
- Since base does not have enough NRA Post Doctoral data, in order to test various test cases outlined in the BRD, unit testing should consider new data setup to test the inclusion of NRAs.
- Test the changes against Production data to verify that the excluded employees are now showing up in PPP7712.
- Comprehensive QA and UAT support required.
- The modification must be implemented in time to effect December 2012 time paid on January 1, 2013 or later.

4 Mainframe Design

4.1 Month End Reporting

4.1.1 COBOL Program

4.1.1.1 PPP771

Program PPP711 produces the Fellowship/Scholarship payments and taxes report (PPP7712) for the Post Doctoral Scholars.
The following steps are done for the reporting the PostDoc employee in PPP7712:

- Select employees with Citizenship Code values of ‘A’, ‘N’, ‘S’, or ‘X’ (Non Resident Aliens) and non-zero YTD YTD_FELLOWSHIP_GRS (Fellowship Gross - EDB 5555).

- Calculate the FWT Tax for the selected employee using the Visa Type (EDB 0110) as below:
  - FWT Tax for Visa Types that starts with ‘F’ or ‘J’
    \[ \text{FWT Tax} = YTD\_FELLOWSHIP\_GRS \times \text{System Parameter Number 193 (PPPPRM - FWT Tax Percent)} \]
  - FWT Tax for all other Visa Types
    \[ \text{FWT Tax} = YTD\_FELLOWSHIP\_GRS \times \text{System Parameter Number 194 (PPPPRM - FWT Tax Percent)} \]

- Any difference between the calculated FWT Tax and the YTD Federal Withholding Taxable Tax (Deduction 636-Y) is reported on the PPP7712 Report.

This Program will be changed to report employees with zero Fellowship/Scholarship Gross (EDB 5555) as well, if the EDB appointment setup satisfy certain criteria.

**Inputs and Outputs**

As input to the appt selection process, SCR_CURRENT_DATE from the EDB table PPPSCR will be selected and used for the Current Month begin and end date calculations.

**WORKING-STORAGE**

- Define a working flag for storing if one of the PostDoc Fellow / Paid Direct Titles (‘3253’ or ‘3254’) present or not (PD_3253_3254_PRESENT → PIC X).

- Define a working flag for storing if at least one of the Post Doc Title Code value is other than ‘3253’ (PostDoc Fellow) and ‘3254’ (PostDoc Paid Direct) Titles (NON_3253_3254_APPT_PRESENT → PIC X).

- Define a working variable for storing the Accumulated Appt Percent (TOT-APPT-PERCENT → PIC S9V99 USAGE COMP-3).
• Define working variables for storing the WA-MONTH-BEGIN-DATE and WA-MONTH-END-DATE (PIC X(10) in ISO format.

    Note: These dates will be derived in ISO format from SCR_CURRENT_DATE.

• Include the PPPVZSCR into the SQL working storage to access the PPPSCR table for SCR_CURRENT_DATE.

• Include the PPPVZAPP into the SQL working storage to access the Appt Begin/End Dates, Title Code, and Appt Percent details.

• Declare a APP_ROW cursor that selects PERCENT_FULLTIME and TITLE_CODE from PPPVZAPP_APP with all of the following conditions in the WHERE clause are satisfied:

  ✓ EMPLOYEE_ID = :WA-EMPLOYEE-ID
  ✓ APPT_BEGIN_DATE <= :WA-MONTH-END-DATE (derived using SCR_CURRENT_DATE)
  ✓ APPT_END_DATE >= :WA-MONTH-BEGIN-DATE (derived using SCR_CURRENT_DATE)

• In the WHERE clause of the EDB_CURSOR cursor declaration, remove the condition that checks the YTD Fellowship Gross not equal zero so that all the NRA employees’ reporting details are selected as below:

  EXEC SQL
  DECLARE EDB_CURSOR CURSOR FOR
  SELECT
    A.EMPLOYEE_ID
  . . .
  FROM PPPVZPER_PER A, PPPVZPAY_PAY B,
  PPPVZPCM_PCM C
  WHERE A.EMPLOYEE_ID = B.EMPLOYEE_ID AND
  B.CITIZEN_CODE IN ('A', 'N',
   'S', 'X') AND
  C.YTD_FELLOWSHIP_GRS <> 0
  ORDER BY A.HOME_DEPT, A.EMP_NAME
PROCEDURE DIVISION

Initialization

In the 10000-GENERAL-INITIALIZATION section, at the end, add a perform for the PPPSCR table access as below:

*----> Print the first page containing the headings for control.
PERFORM 55200-NEW-PPP7711-REPORT-PAGE.
    PERFORM 53000-SYSTEM-CONTROL-RECORD.
*
10000-EXIT. EXIT.

Add a new section 53000-SYSTEM-CONTROL-RECORD that has the following logic to derive the current month’s begin and end dates as below:

1) After the 52000-HOME-DEPARTMENT section, add a new section 53000-SYSTEM-CONTROL-RECORD.

2) By following the program PPP883 as an example, select SCR_CURRENT_DATE from PPPVZSCR_SCR view.

3) Since PPPSCR select should return one and only one record, if SQLCODE is not zero, then exit the program with the abend message.

4) Convert the SCR-CURRENT-DATE to ISO format by calling the XDC3 routines and move that month begin date in ISO to the working variable WA-MONTH-BEGIN-DATE.

5) Call the convert to Month End XDC3 date routine and move the resulting date to WA-MONTH-END-DATE.

The month begin date WA-MONTH-BEGIN-DATE and end date WS-MONTH-END-DATE are used for the APP_ROW cursor’s selection criteria (declared in the working storage).
In the 20100-PROCESS-EMPLOYEES section, introduce and use the flag **WF-EMPLOYEE-NOT-SELECTED** to the EDB fetch as below:

*------------------------------------------------------------------*

**20100-PROCESS-EMPLOYEES SECTION.**
*------------------------------------------------------------------*

```
MOVE SPACE TO EDB-ROW-SW.
PERFORM 90070-SQL-OPEN-EDB.
SET WF-EMPLOYEE-NOT-SELECTED TO TRUE
PERFORM 90071-SQL-FETCH-EDB.
PERFORM 90071-SQL-FETCH-EDB
UNTIL WF-EMPLOYEE-SELECTED OR EDB-ROW-NO-MORE

PERFORM 20200-PROCESS-ONE-EMPLOYEE
UNTIL EDB-ROW-NO-MORE.
```

In the 20200-PROCESS-ONE-EMPLOYEE section, use the flag **WF-EMPLOYEE-NOT-SELECTED** to the EDB fetch as below:

*------------------------------------------------------------------*

**20200-PROCESS-ONE-EMPLOYEE SECTION.**
*------------------------------------------------------------------*

```
PERFORM 20600-LOAD-DEDUCTIONS.
PERFORM 20350-CALC-RATES.
PERFORM 20800-REPORT-DIFF.

SET WF-EMPLOYEE-NOT-SELECTED TO TRUE
PERFORM 90071-SQL-FETCH-EDB.
PERFORM 90071-SQL-FETCH-EDB
UNTIL WF-EMPLOYEE-SELECTED OR EDB-ROW-NO-MORE.
```
In the 90071-SQL-FETCH-EDB section, use the YTD Fellowship gross amount YTD-FELLOWSHIP-GRS to qualify the employee (qualify if not zero, otherwise call the new 90075-QUALIFY-EMPLOYEE section) as below:

```sql
*----------------------------------------------------------------*
90071-SQL-FETCH-EDB  SECTION.
*----------------------------------------------------------------*
MOVE 'FETCH EDB ROW' TO DB2MSG-TAG.

EXEC SQL
   FETCH EDB_CURSOR
   ... 
PERFORM 90010-EVALUATE-SQLCODE.
IF WF-SQL-NO-DATA
   SET EDB-ROW-NO-MORE TO TRUE
ELSE
   MOVE EMPLOYEE-ID OF PER-ROW-DATA TO WA-EMPLOYEE-ID
   IF YTD-FELLOWSHIP-GRS = 0
      PERFORM 90075-QUALIFY-EMPLOYEE
   ELSE
      SET WF-EMPLOYEE-SELECTED TO TRUE
   END-IF
   IF WF-EMPLOYEE-SELECTED
      ADD +1 TO SELECT-EMPS-CT
      ADD +1 TO SELECT-EMPS-CT
   END-IF
END-IF.
```
Add a new section **90075-QUALIFY-EMPLOYEE** with the following logic to qualify the employees with Fellowship gross equal zero by accessing the APP_ROW cursor, which uses the derived current month begin and end dates, as below:

- **Initialize** the Appt% Accumulator (TOT-APPT-PERCENT) to zero, which holds the accumulated percent of all the non-3253/3254 appointment percentage(s) for the Post Doc Fellow/Paid Direct employee.

- **Set** the flag PostDoc_3253_3254_Present (PD_3253_3254_PRESENT) to FALSE that indicates if the NRA is Post Doc Fellow or Paid Direct.

- **Set** the non-3253/3254 Appt Title Present (NON_3253_3254_APPT_PRESENT) flag to FALSE, which is used to verify if this employee has at least one EDB appointment setup with Title Codes other than 3253 or 3254.

Open the APP_ROW cursor that selects appt details from PPPVZAPP_APP that satisfies the below criteria:

- EMPLOYEE_ID is equal to the current employee ID (WA-EMPLOYEE-ID)
- APPT_BEGIN_DATE is less than or equal to the current Month End Date WA-MONTH-END-DATE
- APPT_END_DATE is greater than or equal to the current Month Begin Date WA-MONTH-BEGIN-DATE

Fetch the APP_ROW cursor that gets the PERCENT-FULLTIME and TITLE-CODE values for the 1st row.

For **each** fetched APP_ROW details for an employee, loop through the processing logic below:

1. If the Appt Title Code (TITLE-CODE) is equal to ‘3253’ (PostDoc Fellow) or ‘3254’ (PostDoc Paid Direct), then set the flag PostDoc_3253_3254_Present (PD_3253_3254_PRESENT) to TRUE.

2. For all the remaining Title Codes (TITLE-CODE) that are not in (‘3253’, ‘3254’)
   - Add the Appt Percent (PERCENT-FULLTIME) to Appt% Accumulator (TOT-APPT-PERCENT)
   - Set the NON_3253_3254_APPT_PRESENT to TRUE.

3. Fetch the APP_ROW cursor that gets the PERCENT-FULLTIME and TITLE-CODE for the next row

Close the APP_ROW cursor after all the Appointments from APP_ROW are processed.
Qualify the Fellow/Paid Direct employee to report in PPP7712 report (SET WF-EMPLOYEE-SELECTED TO TRUE), if any one of the below conditions is satisfied:

- If the Accumulated Appt Percent (TOT-APPT-PERCENT) is greater than zero and less than 50% OR
- If the Accumulated Appt Percent is equal to zero and at least one non-3253/3254 appointment present at zero Appt Percent (i.e., if the flag NON_3253_3254_APPT_PRESENT is TRUE).

5 Unit Testing Requirements

5.1.1 PPP771 Run

In the EDB, select all the employee IDs (and YTD_FELLOWSHIP_GRS) with Citizenship Code (CITIZEN-CODE) values of ‘A’, ‘N’, ‘S’, or ‘X’ (Non Resident Aliens).

From the above employees selected, verify that all the employees with non-zero YTD Fellowship Gross (YTD_FELLOWSHIP_GRS) are reported in PPP7712 report. This test verifies that all the employees reported currently are still reported into PPP7712.

From all of the remaining (i.e. employees with YTD-FELLOWSHIP-GRS equal to zero) employees, select few employee IDs that qualify with their Appt Setup conditions (outlined below) and mark them into different lists suggested as below:

- LIST1 – Employees with no Appointments present in the EDB
- LIST2 – Employees with only one Appt of Title Code (TITLE_CODE) = ‘3253’
- LIST3 – Employees with only one Appt of Title Code (TITLE_CODE) = ‘3254’
- LIST4 – Employees with one or more Appt of Title Code (TITLE_CODE) not in (‘3253’, ‘3254’)
- LIST5 – Employees with one Appt of Title Code (TITLE_CODE) = (‘3253’ or ‘3254’) and one Appt of Title Code (TITLE_CODE) not in (‘3253’, ‘3254’) with zero Appt Percent (PERCENT-FULLTIME)
• LIST6 – Employees with one Appt of Title Code (TITLE_CODE) = (‘3253’ or ‘3254’) and one Appt of Title Code (TITLE_CODE) not in (‘3253’, ‘3254’) with Appt Percent (PERCENT-FULLTIME) of **50% or more**

• LIST7 – Employees with one Appt of Title Code (TITLE_CODE) = (‘3253’ or ‘3254’) and one Appt of Title Code (TITLE_CODE) not in (‘3253’, ‘3254’) with Appt Percent (PERCENT-FULLTIME) of **1 to 49 %**

• LIST8 – Employees with one Appt of Title Code (TITLE_CODE) = (‘3253’ or ‘3254’) and **more than one** Appt of Title Code (TITLE_CODE) not in (‘3253’, ‘3254’) with **total** Appt Percent (PERCENT-FULLTIME) of **1 to 49 %**

• LIST9 – Employees with one Appt of Title Code (TITLE_CODE) = (‘3253’ or ‘3254’) and **more than one** Appt of Title Code (TITLE_CODE) not in (‘3253’, ‘3254’) with **total** Appt Percent (PERCENT-FULLTIME) of **50% or more**

In the PPP7712 report, verify that the employees in the following lists are **not reported**:  
1. LIST1  
2. LIST2  
3. LIST3  
4. LIST4  
5. LIST6  
6. LIST9

In the PPP7712 report, verify that the employees in the following lists are **reported**:  
1. LIST5  
2. LIST7  
3. LIST8