

**Release 1679**

**Service Request 16934  
Non-U.S. Citizens Reporting Changes Phase II**

**Detail Design**

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12/05/05

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## **Introduction**

For Federal income tax purposes, the Internal Revenue Service (IRS) classifies non-U.S. citizens as either resident or nonresident aliens. Since the tax withholding requirements for resident and nonresident aliens differ, it is essential to establish the correct federal residency status of any non-U.S. citizen receiving wage payments from the University. The IRS has two tests that determine the residency status of a non-U.S. citizen: the "green card" test and the "substantial presence test" (SPT). An alien who has an immigrant visa (green card) is considered a U.S. permanent resident. Whereas, the SPT requires that non-U.S. citizens account for the number of days he or she is present in the U.S. during the current year and the two preceding years. Currently, Payroll Offices track the number of days that these non-U.S. citizens are in the U.S. manually using local systems and paper forms.

Service Request 16934 requests that the Payroll/Personnel System (PPS) be modified to add a new data element, UC W-8BEN Date, to the Employee Data Base (EDB). This value will assist the campuses with facilitating the proper citizenship status coding of non-U.S. citizens. Additionally, new reports would assist campuses in determining the appropriate citizenship status and Federal tax withholding status for non-U.S. citizens.

In phase I of this project, the UC W-8 BEN was added to the EDB and the following reports, PPP 583, PPP6201, and PPP6203 were modified. Phase II of this project will produce the new report "Status Changes for Non-US Citizens".

## **Processing Overview**

The new report "Status Changes for Non-U.S. Citizens" will be produced each month, during month end reporting. This will be produced by a new program PPP582. In this program, old data (employee and appointment level details) stored in the old history file is compared against the new data from the EDB. It also outputs the new employees and their appointments data to a new history file which will be used for the next monthly run as the old history file.

Two separate reports will be produced:

- Status Changes for Non-U.S. Citizens Report (PPP5821)
- PPP582 exception Report (ERRRPT)

If an employee has at least one change then all the related information for the employee is displayed in the PPP5821 status changes report. This report is sorted by Home Department, Employee Name, Employee ID, and Record Type (Employee record type first and Appointment Record Type next).

## Report Program PPP582

A new reporting program will be developed to produce the report “Status Changes for Non-U.S. Citizens”. This program will produce a detail report PPP5821 and an exception report file ERRRPT.

### Input:

- Input to the program PPP582 will be the Old History File (the output new History File produced from the last monthly run of PPP582):

Old History file is in Employee ID order (employee level records first, and appointment level records next). The layout of this record is shown below:

*Employee level record layout is shown below (Total Record Length is 100):*

Old History file field Name OLDHIST-	Description of Field Name	Data Extracted From the Following EDB Table.Field	Len	Start Pos
EMP-ID	Employee ID	PPPPER.EMPLOYEE_ID	9	1
RECORD-TYPE	Record Type	'E' – Employee Record Type	1	10
EMP-NAME	Employee Name	PPPPER.EMP_NAME	26	11
HOME-DEPT	Home Dept Code	PPPPER.HOME_DEPT	6	37
EMP-STATUS	Employee Status	PPPPER.EMP_STATUS	1	43
CIT-CODE	Employee Citizen Code	PPPPAY.CITIZEN_CODE	1	44
VISA -TYPE	Employee Visa Type	PPPPAY.VISA_TYPE	2	45
I-9-DATE	Employee I-9 Date	PPPPAY.I_9_DATE	10	47
WK-PER-DT	Employee Work Permit End Date	PPPPER.VISA_END_DATE	10	57
US-DT-OF-ENTRY	Employee U.S. Date of Entry	PPPPAY.US_DATE_OF_ENTRY	10	67
W8BEN-DT	Employee W8Ben Date	PPPPAY.W8BEN_DATE	10	77
Filler			14	87

*Appointment level record layout is shown below (Total Record Length is 100):*

Old History file field Name OLDHIST-	Description of Field Name	Data Extracted From the Following EDB Table.Field	Len	Start Pos
EMP-ID	Employee ID	PPPPER.EMPLOYEE_ID	9	1
RECORD-TYPE	Record Type	'A' – Appt Record Type	1	10
EMP-NAME	Employee Name	PPPPER.EMP_NAME	26	11
HOME-DEPT	Home Dept Code	PPPPER.HOME_DEPT	6	37
EMP-STATUS	Employee Status	PPPPER.EMP_STATUS	1	43
APPT-NUM	Appt Number	PPPAPP.APPT_NUM	2	44
APPT-END-DATE	Appt End Date	PPPAPP.APPT_END_DATE	10	46
Filler			45	56

- DB2 tables being accessed:

PPPAPP - Employee appointment information.

PPPPER - Employee ID, Name, Status, Visa End Date, and Home Department Number.

PPPHME - Home Department Description.

PPPPAY - Employee Citizenship Status Code, Visa Type, I-9 Date, U.S. Date of Entry, and UC W8Ben Date.

### Sort Record Declaration

Declare a Sort Record as shown below:

*Sort record layout is shown below (Total Record Length is 243):*

Sort file field Name SRT -	Description of Field Name	Sort Key?	Len	Start Pos
DEPT	Home Dept Code	Yes	6	1
EMP-NAME	Employee Name	Yes	26	7
EMPLOYEE-ID	Employee ID	Yes	9	33
EMP-APP-REC-TYPE 00 and 01 are Employee Level	Record Type 00 – Employee Level 01 – Employee and Appointment will be dropped by the report because there is no change 10,20,30,40,50,60,70,80,90 – Appointment level records	Yes	2	42
EMP-OR-APPT-DATA-OLD	Old History Record	No	100	44
EMP-OR-APPT-DATA-NEW	New History Record	No	100	144

## Cursor Declaration

Declare a Cursor **EMP\_SEQ\_CSR** for selecting Employee Details from table PPPPER and PPPPAY for an Employee whose Employee Status = A, N, P, I and (CITIZEN\_CODE = A, E, F, N, S, P, X or (CITIZEN\_CODE = R and VISA\_TYPE not = PR)).

```
SELECT A.EMP_NAME           , A.EMPLOYEE_ID
       , B.CITIZEN_CODE     , B.VISA_TYPE
       , B.I_9_DATE         , A.HOME_DEPT
       , A.EMP_STATUS       , A.VISA_END_DATE
       , B.US_DATE_OF_ENTRY , B.W8BEN_DATE
FROM PPPVPER1_PER      A
   , PPPVPAY1_PAY      B
WHERE A.EMPLOYEE_ID = B.EMPLOYEE_ID AND A.EMP_STATUS IN ('A', 'N', 'P', 'I')
      AND ( B.CITIZEN_CODE IN ('A', 'N', 'E', 'F', 'S', 'P', 'X') OR
            (B.CITIZEN_CODE = 'R' AND B.VISA_TYPE <> 'PR') )
ORDER BY A.EMPLOYEE_ID
```

Declare a Cursor **APPT\_CSR** for selecting Appointment number and Appointment End Date from the table PPPAPP for the Employee Id got from EMP\_SEQ\_CSR.

```
SELECT APPT_NUM
       ,APPT_END_DATE
FROM PPPAPP
WHERE EMPLOYEE_ID = :EMPLOYEE-ID from EMP_SEQ_CSR
```

## Program Logic

The program PPP582 compares the old history file records with the EDB tables and writes the sort file with all the old and new details. Then this sort file is sorted with the sort key which consists of Home Department, Employee Name, Employee ID, and Record Type. Reports will be written from this sorted file. The following is a brief description of the steps used in this program PPP582 to create the report.

### Steps for Creating PPP5821 Report:

#### Step 1:

Open the Input Specification File and the Output Report Files.  
Write the headers for the output.

Read the First Input Record from the Specification File.

If the input Specification record is valid, then

- i. Open the Input Old History File and the Output New History File .
- ii. Open the EMP\_SEQ\_CSR and fetch the first employee record from the EDB. Open the APPT\_CSR if there is a valid employee ID found.
- iii. Read the Old History record which is in Employee ID and Record Type order.

**Repeat** Performing **Step 2** to create the sort records until no more records found in EMP\_SEQ\_CSR and Old History File.

Sort the Sort file with the sort key and **Repeat** Performing **Step 6** until no more records returned from the sort file.

Close the Input and the Output Files.

## Step 2:

In this step, we will create the sort records which has the sort key populated, and old and new history records data stored after the sort key. The following steps explain how do we populate the sort key and the old and new records.

- i. If no more records found in the input Old History file or Old History employee ID is greater than New History employee ID then sort key is populated with the new history details. Space is moved to the old history details in the sort record and new history record is moved into the new history details in the sort record. Employee Record Type (00) is set for this sort record and the sort record is released. Now fetch the APPT\_CSR, and **Repeat** Performing **Step 3 until no more appointments are found** in the APPT\_CSR. Break Step 2.
- ii. If no more records found in the EMP\_SEQ\_CSR or Old History employee ID is less than New History employee ID then sort key is populated with the old history details. Also space is moved to the new history details in the sort record and old history record is moved into the old history details in the sort record. Employee Record Type (00) is set for this sort record and the sort record is released. Now read the Old History file again, and **Repeat** Performing **Step 4 until no more appointments are found** for the current employee in the Old History file. Break Step 2.
- iii. If the Old History employee ID is equal to the New History employee ID then sort key is populated with the **new history** details. New History record is moved to the new history details in the sort record and old history record is moved into the old history details in the sort record. Employee Record Type (00) is set for this sort record and this sort record is stored for releasing it after all their appointment records are checked to see whether they are changed or not. Now read the Old History file again and fetch the APPT\_CSR, and **Repeat** Performing **Step 5 until no more appointments are found** for the current employee in the Old History file and in the APPT\_CSR. Now release the stored employee sort record.

## Step 3:

In this step, we will create the sort appointment records when there is no old history found.

- i. Populate the sort key with the new history details.
- ii. Space is moved to the old history details in the sort record and new history appointment record is moved into the new history details in the sort record. New Appointment Number (10, 20, ... 90) is moved as record type for this sort record and the sort record is released.
- iii. Now fetch the APPT\_CSR.

## Step 4:

In this step, we will create the sort appointment records when there is no new history found.

- i. Populate the sort key with the old history details.
- ii. Space is moved to the new history details in the sort record and old history appointment record is moved into the new history details in the sort record. Old History Appointment Number (10, 20, ... 90) is moved as record type for this sort record and the sort record is released.
- iii. Now read the old history file.

### **Step 5:**

In this step, we will create the sort records which has the sort key populated, and old and new history records data stored after the sort key. The following steps explain how do we populate the sort key and the old and new records.

- i. If no more appointment records found in the input Old History file for this employee or Old History Appointment Number is greater than New History Appointment Number ID then sort key is populated with the new history details. Space is moved to the old history Appointment details in the sort record and new history Appointment record is moved into the new history details in the sort record. New History Appointment Number (10, 20, ... , 90) is moved for this sort record type and the sort record is released. Set this Employee's Sort record type of the employee level record which we stored earlier as '00' because this employee has a change in appointment details to report. Now fetch the APPT\_CSR and break Step 5.
- ii. If no more appointment records found in the APPT\_CSR or Old History Appointment Number is less than New History Appointment Number then sort key is populated with the old history details. Also space is moved to the new history details in the sort record and old history record is moved into the old history details in the sort record. Old History Appointment Number (10, 20, ... , 90) is moved for this sort record and the sort record is released. Set this Employee's Sort record type of the employee level record which we stored earlier as '00' because this employee has a change in appointment details to report. Now read the Old History file again and break Step 5.
- iii. If the Old History Appointment Number is equal to the New History Appointment Number then sort key is populated with the new history details. New History appointment record is moved to the new history details in the sort record and old history appointment record is moved into the old history details in the sort record. Old History Appointment Number (10, 20, ... , 90) is moved for this sort record and the sort record is released. Employee Record Type (00) is set for this sort record if the appointment end date is changed (this sort record is stored for releasing it after all their appointment records are checked to see whether they are changed or not). Now read the Old History file again and fetch the APPT\_CSR.

### **Step 6:**

Here each sort record is checked to see if there is an Employee break and/or a Home department break.

- i. If there is an Employee break then an empty line is printed in the report. The employee record level is checked to see if it is '00' or '01'. If '01', then all the sort records for this employee are released without printing till we get to the next employee level record with record type '00'. Then all the employee level and appointment level records are formatted and printed for this employee.
- ii. If there is a Home Department break then a new page is printed with the page number reset to 1. Then the employee is written as mentioned above.

## JCL For PPP582

The JCL has one Job Step to execute PPP582.  
The input files are CARDFIL and OLDHIST.  
The output files are NEWHIST, PPP5821, and ERRRPT.  
The plan name is PPP582.

The JCL needed looks like below.

```
//RUN582 EXEC PGM=PPP582,REGION=4M
//SYSTSIN DD *
SYSTEM(DB2D)
PLAN(PPP582)
DIAG(NO)
MSGDD(DB2MSGS)
//CARDFIL DD *
PPP582-SPEC
//*-----
//OLDHIST DD DSN=PAYBCC.RLSE.OLDHIST,DISP=SHR
//NEWHIST DD DSN=PAYBCC.RLSE.NEWHIST,
// DISP=(NEW,CATLG),
// SPACE=(TRK,(200,200),RLSE),
// UNIT=SYSDA,
// DCB=(LRECL=100,RECFM=FB)
//*PPP5821 DD SYSOUT=*,DEST=S3A1
//PPP5821 DD DSN=PAYBCC.RLSE.PPP5821,
// DISP=(NEW,CATLG),
// SPACE=(TRK,(200,200),RLSE),
// UNIT=SYSDA,
// DCB=(LRECL=133,RECFM=FB)
//*ERRRPT DD SYSOUT=*,DEST=S3A1
//ERRRPT DD DSN=PAYBCC.RLSE.ERRRPT,
// DISP=(NEW,CATLG),
// SPACE=(TRK,(200,200),RLSE),
// UNIT=SYSDA,
// DCB=(LRECL=133,RECFM=FB)
//SYSOUT DD SYSOUT=*
//DB2MSGS DD SYSOUT=*
//SYSABOUT DD SYSOUT=*
//SYSDBOUT DD SYSOUT=*
//SYSUDUMP DD SYSOUT=*
//SORTWK01 DD SPACE=(1024,(252)),UNIT=SYSDA
//SORTWK02 DD SPACE=(1024,(252)),UNIT=SYSDA
//SORTWK03 DD SPACE=(1024,(252)),UNIT=SYSDA
//SORTWK04 DD SPACE=(1024,(252)),UNIT=SYSDA
//*
```

## Control Table Updates

### System Messages Table (PPPMMSG)

The following message will be added to this table:

MSG_NUMBER	→58201	MSG_REFERENCE	→0
MSG_SEVERITY	→5	MSG_TURNAROUND	→0
MSG_TEXT	→INPUT SPECIFICATION FILE IS EMPTY		
MSG_BATCH_SEVERITY	→8	MSG_ONLIN_SEVERITY	→0
MSG_NUMBER	→58202	MSG_REFERENCE	→0
MSG_SEVERITY	→5	MSG_TURNAROUND	→0
MSG_TEXT	→ INVALID PROGRAM RUN SPECIFICATION ID		
MSG_BATCH_SEVERITY	→8	MSG_ONLIN_SEVERITY	→0
MSG_NUMBER	→58203	MSG_REFERENCE	→0
MSG_SEVERITY	→5	MSG_TURNAROUND	→0
MSG_TEXT	→ PPP582 TERMINATED ABNORMALLY - NEGATIVE SQLCODE		
MSG_BATCH_SEVERITY	→9	MSG_ONLIN_SEVERITY	→0

## Bind Member

### **PPP582:**

A plan bind will be created for the new program PPP582.

```
BIND -
      PLAN ( PPP582 ) -
      MEMBER ( PPP582 , -
              PPCTTUTL , -
              PPMSSG2 ) -
      ACTION ( REPLACE ) -
      VALIDATE ( RUN ) -
      ISOLATION ( CS ) -
      FLAG ( W ) -
      ACQUIRE ( USE ) -
      RELEASE ( COMMIT ) -
      EXPLAIN ( NO )
```

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## Attachments

Attachment A – Status Changes for Non-U.S. Citizens Report

Attachment B – Exception Report

**Attachment A:** Sample Output file PPP5821 of the Run of PPP582

PPP5821/PPP582 /110405 UNIVERSITY OF CALIFORNIA-SYSTEMWIDE PAGE NO. 1  
 RETN: SEE RPTS DISP SCHEDULE/DIST. STATUS CHANGES FOR NON-U.S. CITIZENS RUN DATE 11/21/05  
 IN SEQUENCE BY HOME DEPARTMENT

HD NAME : CHAN OFFICE  
 HD NUMBER: 804918

EMPLOYEE ID # EMPLOYEE NAME	EMP STAT	DESCRIPTION	BEFORE	AFTER
801000006 ADDENDUM, AUDIE	A	CITIZENSHIP CODE	A	A
		VISA TYPE	A1	A1
		WORK PERMIT END DATE	12/31/05	12/31/05
		US DATE OF ENTRY	01/01/04	01/01/04
		UC W8-BEN DATE	01/01/04	* 02/01/05
		I-9 DATE	01/01/04	01/01/04
		APPT NUMBER	10	10
		APPT END DATE	12/31/05	12/31/05
		801000002 DOOTS, ANN E.	A	CITIZENSHIP CODE
VISA TYPE	A1			* E2
WORK PERMIT END DATE	12/31/05			12/31/05
US DATE OF ENTRY	01/01/05			01/01/05
UC W8-BEN DATE	01/01/05			01/01/05
I-9 DATE	01/01/04			01/01/04
APPT NUMBER	10			10
APPT END DATE	12/31/05			12/31/05
APPT NUMBER	20			20
APPT END DATE	11/30/05			11/30/05
APPT NUMBER	30			30
APPT END DATE	10/31/05			10/31/05
801000007 GIDDY, GLADIUS	A			CITIZENSHIP CODE
		VISA TYPE	A1	A1
		WORK PERMIT END DATE	12/31/05	12/31/05
		US DATE OF ENTRY	01/01/04	01/01/04
		UC W8-BEN DATE	01/01/04	01/01/04
		I-9 DATE	01/01/04	01/01/04
		APPT NUMBER	10	10
		APPT END DATE	12/31/05	* 01/31/06
801000004 MANDER, GERRY	A	CITIZENSHIP CODE	A	A
		VISA TYPE	A1	A1
		WORK PERMIT END DATE	12/31/05	12/31/05
		US DATE OF ENTRY	01/01/04	* 02/01/05
		UC W8-BEN DATE	01/01/04	01/01/04
		I-9 DATE	01/01/04	01/01/04
		APPT NUMBER	10	10
		APPT END DATE	12/31/05	12/31/05

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PPP5821/PPP582 /110405  
 RETN: SEE RPTS DISP SCHEDULE/DIST.

UNIVERSITY OF CALIFORNIA-SYSTEMWIDE  
 STATUS CHANGES FOR NON-U.S. CITIZENS  
 IN SEQUENCE BY HOME DEPARTMENT

PAGE NO. 2  
 RUN DATE 11/21/05

HD NAME : CHAN OFFICE  
 HD NUMBER: 804918

EMPLOYEE ID # EMPLOYEE NAME	EMP STAT DESCRIPTION	BEFORE	AFTER
801000001 TWOSTEP, JIM E.	A CITIZENSHIP CODE	A	* E
	VISA TYPE	A1	A1
	WORK PERMIT END DATE	12/31/05	12/31/05
	US DATE OF ENTRY	01/01/05	01/01/05
	UC W8-BEN DATE	01/01/05	01/01/05
	I-9 DATE	01/01/04	01/01/04
	APPT NUMBER	10	10
	APPT END DATE	12/31/05	12/31/05

TOTAL NUMBER OF EMPLOYEES REPORTED: 5

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**Attachment B:**        Sample Output file PPP5822 (Error Report) of the Run of PPP582

PPP5822/PPP582 /110405	UNIVERSITY OF CALIFORNIA-SYSTEMWIDE	PAGE NO.	1
RETN: SEE RPTS DISP SCHEDULE/DIST.	PPP582 ERROR REPORT	RUN DATE	11/21/05

58-202    8-SEE OPERATN    INVALID PROGRAM RUN SPECIFICATION ID