Encumbrance Processing Last Updated: July 30, 1999

Rule Table Setup

PTRECLS - Employee Class Rule Form

The Salary Encumbrance Method indicator must be set to Value Input for Employee Classes to be encumbered. SCT baseline processing will be used under this method, with only the data entry of the **Salary Encumbrance** in the NBAJOBS record, automated by a new process (PWPSENC).

NTRFRNG - Fringe Budgeting Rule Form

This form is used to derive the OPE encumbrance percent. A sliding percentage value, based on the Assigned Salary, will be calculated, per Employee Class, using the Budget Percents and Budget Amounts. The percentage will be the sum of the Budget Percents plus the sum of the Budget Amounts changed to a month basis (see figure 1).

The Budget Percents include items such as PERS, FICA, and Mass Transit. The Budget Amounts include items such as the State Insurance Contribution, Union Flexible Benefit, and Workers' Compensation. The Budget Amounts will be divided by 9 for Employee Classes of UA, UC, UE, and UG (9 month unclassified).

There are potential adjustments to this calculation. For part-time classified employees (CB or CE), the sum of the Budget Amounts is multiplied by the Appointment Percent to take the contribution proration into consideration. Also, Secondary and Overload jobs will only be charged the Budget Percents. This will miss small dollars in some cases, an example would be Workers' Compensation.

There is some latitude for changes to some NTRFRNG values. The following BDCA codes may be have varying values:

- BUF (Union Flex) has a standards value based on \$60 monthly. This value should be changed to reflect an accurate value for each campus, for each Classified Employee Class.
- ZOF (OPE on Union Flex) has a standards value based on 24% of Union Flex. This value should be changed if the value for BUF is changed.
- TSF (SAIF) has a standards value of 1%. SAIF is only changed against federal dollars, so the 1% is overstated for non-federal amounts.
- TSS (Social Security) has a standards value of 6.2%. The encumbrance process does not recognize a cap on Social Security, so this will over-encumber for higher salary employees.
- TT1 (Mass Transit) has a standards value of 0.6%. Each transit district may have a different rate, for some it is 0%.

• ZOC (OPE on Cash Back) has a standards value based on 24% of anticipated unclassified cash back. Since each campus potentially has a different average amount for cash back, this amount could vary. This value should be reviewed after each open enrollment period.

NTRFINI - HR/Finance Setup Rule Form

This form identifies the finance Rule Class codes which will be used to post the encumbrances.

- 7PRI Original Salary Encumbrance
- 7PRA Salary Encumbrance Adjustment
- 7OPI Original Fringe Encumbrance
- 7OPA Fringe Encumbrance Adjustment

It also has a Check Box under the Fringe Rules button to Recalculate All Salary or Fringe Encumbrances. This is used with the NBPBUDM process to reset encumbrance numbers, during the year-end roll process.

On-line Processing

NBAJOBS (Employee Jobs Form)

When a new job record is created the Salary Encumbrance Number and Sequence Number is generated for the job labor distribution (NBRJLBD).

The Encumbrance Number is determined by:

- Searching NBRJLBD for the first row that matches the entire FOAPAL of the new NBRJLBD record, has an encumbrance number from the current fiscal year (determined by the 3rd and 4th characters in the encumbrance number), and has a non-blank Encumbrance Number and Sequence.
- 2) If a record is found, then the Encumbrance Number and Sequence are assigned to the new NBRJLBD record.
- 3) If a record is not found, a maximum number+1 is determined from the NBRJLBD table.
- 4) If the new Sequence exceeds 9999, then the Encumbrance Number is increase by 1 and the Sequence is set to 1.

These transactions are recorded on the Job Labor Distribution Change Form (NBIJLHS). When a New Date is entered, a transaction is recorded. If that record is then changed, the changes are recorded. If the record is then changed, the reversal of the current records is not recorded in NBIJLHS. If the record is deleted, the deletion is not recorded in NBIJLHS and any records associated with the effective date can no longer be view on-line. This may lead to some confusion.

Technical Note:

The criterion for the Encumbrance Number generation is found in the NBAJOBS, as the CALCULATE ENCD NUM procedure.

Note:

If a job labor distribution (NBRJLBD) is deleted for which a salary encumbrance has occurred, the records are marked with a **Change Indicator** of "D"eleted. If the job labor distribution is changed, this causes the encumbrance to be changed to a new Encumbrance Number and Sequence, any records with the same effective date as the one changed are marked with a **Changed Indicator** of "D", and new records are created. When a record's **Change Indicator** is set to "D", the salary encumbrance for that record is liquidated during the next set of encumbrance processes by setting the **Enc to Post** to the **Salary Encumbrance**. The **Change Indicator** is then set to an "H"istorical by the NHPFIN1 process.

Batch Processing

This series of process can be run one or more times each pay period. If it is to run multiple times for a given pay period, the same encumbrance date should be used each time. If the process is run with an encumbrance date of April 1st on March 31st, it could be run again on April 7th with an encumbrance date of April 1st. What this does is pick up any salary or labor distribution changes made on NBAJOBS and adjusts the encumbrances accordingly.

PWPSENC (Salary Encumbrance Recast)

Parameters

- 01) Encumbrance Date (Required, format DD-MON-YYYY) This parameter should be the first day of the month following the payroll processing cycle. For the 1998, MO, 7 cycle, the Encumbrance Date would be 01-AUG-98.
- 02) Chart of Accounts (Required) Institution Specific

Processing

This performs the automated data entry of the **Salary Encumbrance** and **Fringe Encumbrance** fields in the **Encumbering Information** block of NBAJOBS. It also sets an indicator (NBRBJOB_ENCUMBRANCE_CHANGE_IND) to a 'Y', which marks these records as changed for encumbrance processing. The **Fringe Encumbrance** is an estimate only, and is not used in further processing. The OUS OPE encumbrance processing is done solely in the NHPFIN1 process.

This process uses SCT's calculation for the salary encumbrance (NBPBUDM), which is based on calendar days. The calendar days become relevant when encumbering partial months, or future dated job labor distribution records.

The **Contract Start** and **End Dates**, from NBAJOBS, are used in encumbering to identify the length of the period to be encumbered and both dates should be within the current fiscal year. If these dates are left blank, the **Fiscal Year Begin** and **End Dates** from NBAFISC are used as default. It also will only encumber Active jobs, so employees on leave status for the summer will not be encumbered until the job becomes active.

The calculation will generate a salary encumbrance based on the period beginning with the **Encumbrance Date** parameter entered and ending with the least of the **Contract End**, **Job End Date**, or **Fiscal Year End Date**. An example, if the **Contract End** was June 15, 1999 but the **Job End Date** was March 15, 1999 (terminated job), the process would encumber through March 15. If this is the first month that a salary encumbrance was entered for this job, the entire amount will process through to finance. If this amount adjusts a current salary encumbrance value for this job, then the difference between last month's **Salary Encumbrance** and this newly calculated value will process through to finance.

Technical Note:

This process must be compiled with the Full or Semantics Pro*C option. A database procedure (PWP_CALC_SAL_ENCUMBRANCE) must be created first. This procedure was build from the forms trigger N\$_CALC_SAL_ENCUMBRANCE in NBRJOBS.

NBPBUDM - Budget Maintenance Process

Parameters

- 01) Process Mode (Required) R for report only, P for processing.
- 02) Budget Processing (Required) N
- 03) Encumbrance Processing (Required) Y
- 04) (A)ctive or (W)orking Budgets (Optional) blank (N/A to encumbrance processing)
- 05) Chart of Accounts (Optional) blank (N/A to encumbrance processing)
- 06) Fiscal Year (Optional) blank (N/A to encumbrance processing)
- 07) Budget ID (Optional) blank (N/A to encumbrance processing)
- 08) Budget Phase (Optional) blank (N/A to encumbrance processing)
- 09) Encumbrance Date (Required, format DD-MON-YYYY) This parameter should be the first day of the month following the payroll processing cycle. For the 1998, MO, 7 cycle, the Encumbrance Date would be 01-AUG-98.

Process

This takes the **Salary Encumbrance** from NBAJOBS and applies the job labor distribution (NBRJLBD) breakdowns. NBRJLBD stores the salary encumbrance value last processed by NBPBUDM (can be viewed on NBIJLHS). Any differences are calculated, by effective date, and the resulting difference is saved in the **Enc to Post** (can be viewed on NBIJLHS). This **Enc to Post** amount reduces the previous NBRJLBD Salary Encumbrance. This difference will post to the **Encumbrance Number** stored in NBRJLBD. The Salary Encumbrance and **Enc to Post** may be viewed on NBIJLHS, but I had encountered some problems with records not appearing in the query even when they exist in the history table.

Note(s):

• The salary encumbrance will post with an Encumbrance Item Number of 0 and the OPE encumbrance will post with an Encumbrance Item Number of 1.

• Any records processed with a **Change Indicator** of "D" will not show on this report, but will process into Finance.

NHPFIN1 - Budget Data Finance Extract

Parameters

- 01) Interface COBRA Flag (Required) N
- 02) Interface Budget Flag (Required) N
- 03) Interface Encumbrance Flag (Required) Y

Process

The initial step of the encumbrance processing updates the Interfaced Indicator in the NHRENCD table. It scans the Encumbrance Period Detail Table (FGBENCP) for any current records in NHRENCD, matching on encumbrance number, item, and sequence, and updates the Interfaced Indicator to "Y" if it is currently a "N". This will assure that any salary encumbrance which have already posted to finance will not try to post as an original encumbrance.

The process then takes the **Enc to Post** and creates a NHRDIST and NHRFINC record. The NHRDIST record is a historical record, which can be viewed using the NHIDIST and NHIEDST forms. The NHRFINC record is used for the feed to finance. The NHRDIST and NHRFINC records will have a transaction date of the date the process was run, which will be the posting date in finance.

The **Rule Class** and **Category** for the salary encumbrance are determined via the NHRENCD table, based on the **Encumbrance Number**, **Item**, and **Sequence**. These items are checked in NHRENCD, and if the Interfaced Indicator is "Y", the Salary Encumbrance Adjustment **Rule Class** (7PRA) is used and will have a **Category** of "P". If the Interfaced Indicator is not "Y" or the record is not found, then the Original Salary Encumbrance **Rule Class** (7PRI) is used and will have a **Category** of "O". If the record was not found, one is then created, with an Interfaced Indicator of "N". This indicator of "N" is then updated to a "Y" the next time the process is run for update.

This process is where the OPE Encumbrance is generated. The amount is generated by summing the **Enc to Post** values for a job labor distribution, then multiplying that the OPE percentage determined through NTRFRNG, then subtracting the sum of the NHRDIST values for a job labor distribution. The **Category** is only used for reporting and display.

No records seem to be written to NBIJLHS during this process, so the **Enc to Post** does not reflect an accurate value. The NBAPBUD values related to encumbrances are updated during this process.

The following is an example of the OPE percentage calculation for a Unclassified 9-month employee with a \$4000 monthly salary:

NTRFRNG

E
cent
39.17%

OPE Percent =
$$24.24\% + (5373.24/9) / 4000$$
) figure 1

Now we will walk through an example and the calculations for processing salary and OPE encumbrances. The following is an example of the Job record to process:

NBAJOBS Contract	Contract	Effective		Assign	Encumb	Enc	Pct
Start	End	Date	Status	Salary	Number	Seq	
Job Base 16-Sep-98	3 15-Jun-99	9					
Job Detail		01-Jul-98	LWOP	4000			
		16-Sep-98	3 Active	4000			
		1-Feb-99	Active 9	4160			
		1-Jun-99	Active	3200			
Job L/D		1-Jul-98	3		PR990001	2	100
		16-Sep-98	3		PR990001	2	75
		16-Sep-98	3		PR990001	43	25
		15-Mar-99			PR990001	2	80
		15-Mar-99			PR990001	133	20 figure 2

When PWPSENC is run for this record with a 01-AUG-1998 encumbrance date, the following is populated:

The Salary Encumbrance is calculated using SCT's baseline encumbrance process, and the Fringe Encumbrance is estimated by an ITS function. The Encumbrance Change Indicator is set to "Y", so NBPBUDM will include it in processing.

When NBPBUM is processed with a 01-AUG-1998 encumbrance date, the following is populated.

NBAJOBS	S Encumb	Effective	Encumb	Encumb	Percent	Salary	Sal Enc
	Change	Date	Number	Seq		Encumb	To Post
Job Base	N					36240	
Job L/D		1-Jul-98	PR990001	2	100	0	0
		16-Sep-98	PR990001	2	75	18077.42	18077.42
		16-Sep-98	PR990001	43	25	6025.81	6025.81
		15-Mar-99	PR990001	2	80	9709.42	9709.42
		15-Mar-99	PR990001	133	20	2427.35	2427.35

figure 4

The **Encumbrance Change Indicator** is set back to "N" in the Job Base record. The **Salary Encumbrance** in the Job L/D represents the way the Job **Base Salary Encumbrance** was split. The **Enc to Post** amounts are the values NHPFIN1 will continue to process into Finance, and then set to zero.

The Salary Encumbrance for the 01-JUL-98 Job L/D is 0, because the Job was on Leave Without Pay while this Job L/D record was active. The **Salary Encumbrance** for 16-Sep-98 is calculated as:

Effective	Effective	Months	Assign		Salary
Date 1	Date2	Between	Salary	Percent	Encumb
16-Sep-98	1-Feb-99	4.516129	4000	75.00%	13548.39
1-Feb-99	15-Mar-99	1.451612	4160	75.00%	4529.03
					18077.42
16-Sep-98	1-Feb-99	4.516129	4000	25.00%	4516.13
1-Feb-99	15-Mar-99	1.451612	4160	25.00%	1509.68
					6025.81

figure 5

The Effective Dates 1 and 2 span the entire period of a Job L/D effective period, but are broken by a Job Detail **Assigned Salary** change. The calculation takes the first Job L/D effective date and uses a Months Between function, which calculates full months first, then any partial months are done by calendar days. So, between 16-Sep-98 and 01-FEB-99, there are 4 full months and a partial month for September (16/30=.533333). The **Months Between** are then multiplied by the Job Detail **Assigned Salary** and the Job L/D Percent to arrive at the **Salary Encumbrance**.

When dealing with the last Job L/D period, the remaining **Salary Encumbrance** is used instead of the above calculation, and multiplied by the Job L/D Percent.

NBAJOBS Effective		Salary	
	Date	Encumb	Percent
Job Base		36240.00	
Job L/D	16-Sep-98	18077.42	
	16-Sep-98	6025.81	
		12136.77	
	15-Mar-99	9709.42	80.00%
	15-Mar-99	2427.35	20.00%
figure 6			

When NHPFIN1 is run, it first transfers the **Enc to Post** values in the Job L/D to NHRDIST and NHRFINC, with a transaction date of the date the process was run, then sets the **Enc to Post** to zero. The OPE Encumbrance is calculated as follows:

NBAJOBS	S Effective	Encumb		Salary	OPE	Recast OPE	Sum NHRDIST	
Job Base	Date	Number	Seq	Encumb	Percent	Encumb	Encumb	Encum
	4 1 1 0 0	DD000004	_	•				
Job L/D	1-Jul-98	3 PR990001	2	0				
	16-Sep-98	3 PR990001	2	18077.42				
	15-Mar-99	PR990001	2	9709.42				
				27786.84	39.17%	10884.11	0	10884.11
	15-Mar-99	PR990001	133	2427.35				
				2427.35	39.17%	950.793	0	950.79
	16-Sep-98	3 PR990001	43	6025.81				
				6025.81	39.17%	2360.31	0	2360.31
figure 7								

Note:

The OPE Percent and OPE Encumbrance are not currently stored with the Job L/D, but created as previously stated, during the NHPFIN1 process.

When this series of processes (PWPSENC, NBPBUDM, NHPFIN1) is run with a 01-SEP-98 date, no changes would occur, since the employee is still on LWOP.

When PWPSENC is run for this record with an 01-OCT-1998 encumbrance date, the following is populated:

NBAJOBS	Salary	Fringe	Encumb
	Encumb	Encumb	Change
Job Base	34240.00	13410.30	Υ
figure 8			

When NBPBUDM is for with an 01-OCT-1998 encumbrance date, the following is populated.

NBAJOBS	Encumb	Effective	Encumb	Encumb	Percent	Salary	Sal Enc
	Change	Date	Number	Seq		Encumb	To Post
Job Base	N					34240	
Job L/D		1-Jul-98	PR990001	2	100	0	0.00
		16-Sep-98	PR990001	2	75	16529.03	(1548.39)
		16-Sep-98	PR990001	43	25	5509.68	(516.13)
		15-Mar-99	PR990001	2	80	9761.03	51.61
		15-Mar-99	PR990001	133	20	2440.26	12.91
C. O							

figure 9

The sum of the **Enc to Post** values should equal the difference between the previous Salary Encumbrance (\$36,240) and the current Salary Encumbrance (\$34,240), or \$2000. The future Job L/D records also adjust slightly in this case, since now the effective period becomes whole months, and the calendar days issue is removed.

Then NHPFIN1 is run, the **Enc To Post** values in the Job L/D are transferred to the NHRDIST and NHRFINC tables, with a transaction date of the date the process was run, then they are set to zero. The OPE Encumbrance is then calculated as follows:

						Recast	Sum	
NBAJOBS	Effective	Encumb	Enc	Salary	OPE	OPE	NHRDIST	Finance
	Date	Number	Seq	Encumb	Percent	Encumb	Encumb	Encum
Job Base								
Job L/D	1-Jul-98	PR990001	2	0				
	16-Sep-98	PR990001	2	16529.03				
	15-Mar-99	PR990001	2	9761.03				
				26290.06	39.17%	10297.82	10889.11	(591.29)
	15-Mar-99	PR990001	133	2440.26				
				2440.26	39.17%	955.85	950.79	5.06
	16-Sep-98	PR990001	43	5509.68				
				5509.68	39.17%	2158.14	2360.31	(202.17)

figure 10

The Sum NHRDIST Encumbrance has a value for this processing cycle. It is the sum of the previous OPE Encumbrance records being written to NHRDIST, which would be the amounts transferred during the 01-AUG-1998 run.

NHPFIN2 Finance Interface Process

Note: This process can generate a large report in Summary mode and a very large report (possible boxes of paper). It should not be printed. If required, it can be reviewed on-line.

Parameters

• 01) Detail Report Flag (Required) – a 'Y' generates a report by employee. This report is very helpful in tracking problems with the interface, so this is the preferred option. N generates a "totals only" report.

- 02) Interface Flag (Required) a 'Y' transfers the transactions into the Interface process (GURFEED), so they can be processed into finance. N acts as a report only option.
- 03) Pay ID (Optional) Blank (leave blank for encumbrance processing).

Process

This process summarizes data by transaction date, rule class, FOAPAL and transfers the Salary and OPE Encumbrance documents into the interface process for finance.

FURFEED, FGRTRNI, FGRTRNR

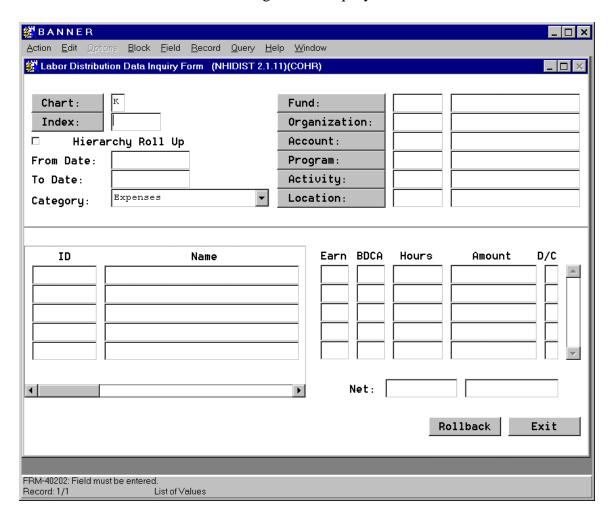
These are the standard finance interface processes. These will transfer the encumbrances into journal vouchers. FGRTRNI performs the editing of the records, while FGRTRNR generates the output of any errors.

FGRTRNR Errors

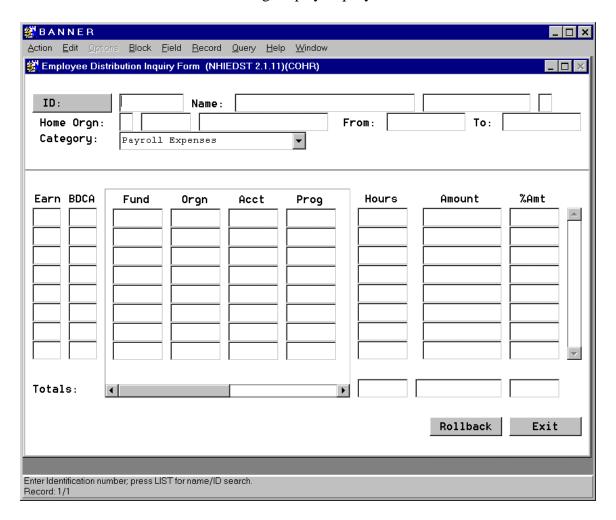
• Encumbrance has not had an original posting – an adjustment (7PRA or 7OPA) is being processed, but no original has been posted. If the transaction looks correct, the rule class can be changed to an original (7PRI or 7OPI) using the Transaction Detail view on the Journal Voucher Entry form (FGAJVCD).

Query Screens

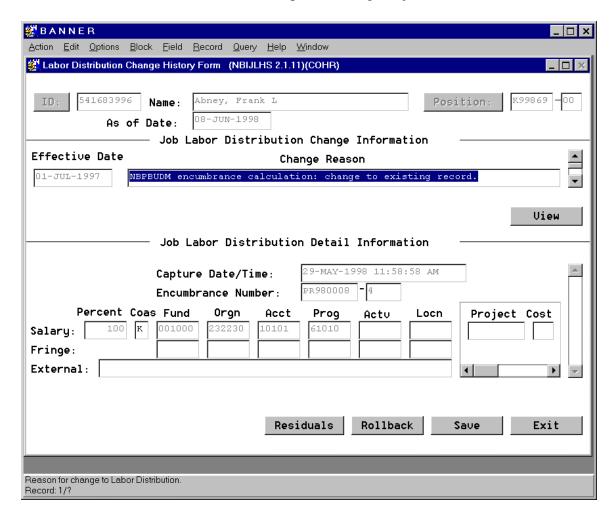
• Labor Distribution Data Inquiry Form (NHIDIST) - This screen allows query of encumbrance information based using FOAPAL query criteria.



• Employee Distribution Inquiry Form (NHIEDST) - This screen allows query of encumbrance information based using Employee query criteria.



• Labor Distribution Change History Form (NBIJLHS) - This screen shows the current encumbrance number the FOAPAL will post to for a given job.



Change Log

April 12, 1999 – Made changes in NTRFRNG area, changing the Budget Amount divisor to be determine by the Employee Class, not the Annual Basis

April 16, 1999 – Added the Change Log. Added Batch Processing documentation for running encumbrances multiple times per month.

