

R★STARS	Version 2.0
REFERENCE MANUAL COST ALLOCATION	14-1 12/94

INTRODUCTION

Cost allocation is defined as the distribution of overhead or indirect costs that cannot be conveniently defined to a direct cost pool at the time of incurrence. Examples of overhead or indirect costs include utility costs, supplies, or rent. In addition, Comptroller General Ledger Accounts such as encumbrances, may also be allocated.

The capability to allocate indirect costs supports the need to account for the full cost of programs, projects and grants as accurately as possible. Full and accurate cost accounting is required for reimbursable expenditures, particularly those reimbursable under Federal grants.

The R★STARS Cost Allocation Subsystem (CAS) provides the following system capabilities:

- **Actual or Standard Cost Allocation Methods** - enables the allocation of indirect costs or Comptroller General Ledger Accounts on an actual or standard basis consistent with the accounting and reporting requirements of the program.
- **Cost Allocation Includes Various Classification Elements** - optionally permits allocation of costs across Program (PCA), Organization (Index), Project, and Grant.
- **Cost Allocation by Object** - optionally permits separate identification of allocation charge and credit expenditure accounts.
- **Variance Allocation** - provides for the allocation of variances on a periodic or an annual basis.
- **Distribution Base Options** - provides for the allocation of costs based on prior period expenditures or Comptroller General Ledger activity, year-to-date expenditures or Comptroller General Ledger balances, or expenditures or Comptroller General Ledger activity incurred during a specified range of periods.

This chapter describes the cost allocation capabilities available in R★STARS.

Section	Page
14-1 Cost Allocation Overview	14-2
14-2 Cost Allocation Methods	14-12
14-3 Cost Allocation Options	14-20
14-4 Special Cost Allocation Processes	14-33
14-5 Cost Allocation Reporting	14-35

R★STARS	Version 2.0
REFERENCE MANUAL COST ALLOCATION	14-2 12/94

14-1 COST ALLOCATION OVERVIEW

The R★STARS CAS provides unique capabilities for accumulating overhead type costs and later allocating these costs to other cost pools. This section provides an overview of CAS and is divided into the following topics:

- Key Concepts
- Establishing Cost Pools
- Profile Maintenance
- Processing Overview
- Implementing a Cost Allocation Plan

Key Concepts

A discussion of CAS requires the understanding of several key concepts. These concepts are defined below and should be referred to as needed when defining a cost allocation plan. The procedures required to implement a cost allocation plan are described later in this chapter. The key concepts are:

- **Automated Transaction Generation** - R★STARS automatically generates cost allocation transactions based on parameters defined in system profiles. These transactions can be optionally posted to the R★STARS tables or the transactions can be generated for review prior to posting.
- **Agency Specific** - Cost allocation provides a simple cost redistribution capability for each agency. Cost allocation transfers do not affect cash; therefore, cost allocations must be made within an Agency.
- **Program Cost Account (PCA)** - All costs, whether direct or indirect, must be identified by a PCA. Other classification elements, such as Index, Project, or Grant may be optionally included in a cost pool.
- **PCA Type** - Identifies the type of costs accumulated in each cost pool as either indirect costs or direct costs. Indirect cost pools accumulate costs that are to be later allocated to direct cost pools. Direct cost pools receive costs from both allocations and direct expenditure charges.
- **Distribution Type** - Identifies the method of cost allocation. The R★STARS distribution types include both standard and actual cost allocation methods.
- **Distribution Base** - Identifies the expenditure or Comptroller General Ledger Accounts to which a distribution rate is to be applied or other calculations made to determine the

R★STARS	Version 2.0
REFERENCE MANUAL COST ALLOCATION	14-3 12/94

amount of the allocation. The expenditure accounts may include various data including labor costs incurred, labor hours or units of production. The Distribution Base is entered as either a range or ranges of Comptroller Objects or Agency Objects, depending on the Object Type Indicator on the Cost Allocation Profile (22), or as Comptroller General Ledger Accounts on the Cost Allocation Type Profile (23).

- **Allocation Range** - Identifies the direct cost pools that will receive distributions from the indirect cost pool being allocated.
- **Fixed Percent Allocation** - Identifies the direct cost pools that will receive distributions from the indirect cost pool and the percentage to be allocated when the fixed percentage distribution type (type 4) is selected.

These key concepts provide definitions of terms and a basis for the remainder of the cost allocation discussion.

Establishing Cost Pools

The R★STARS Cost Allocation Subsystem provides a cost redistribution capability for each agency. To use the cost allocation capabilities, agencies must first define cost pools. Indirect cost pools represent the classification where costs are accumulated and will later be allocated. Direct cost pools represent the classifications that are ultimately charged. The concept of indirect cost pools versus direct cost pools is discussed in the following paragraphs.

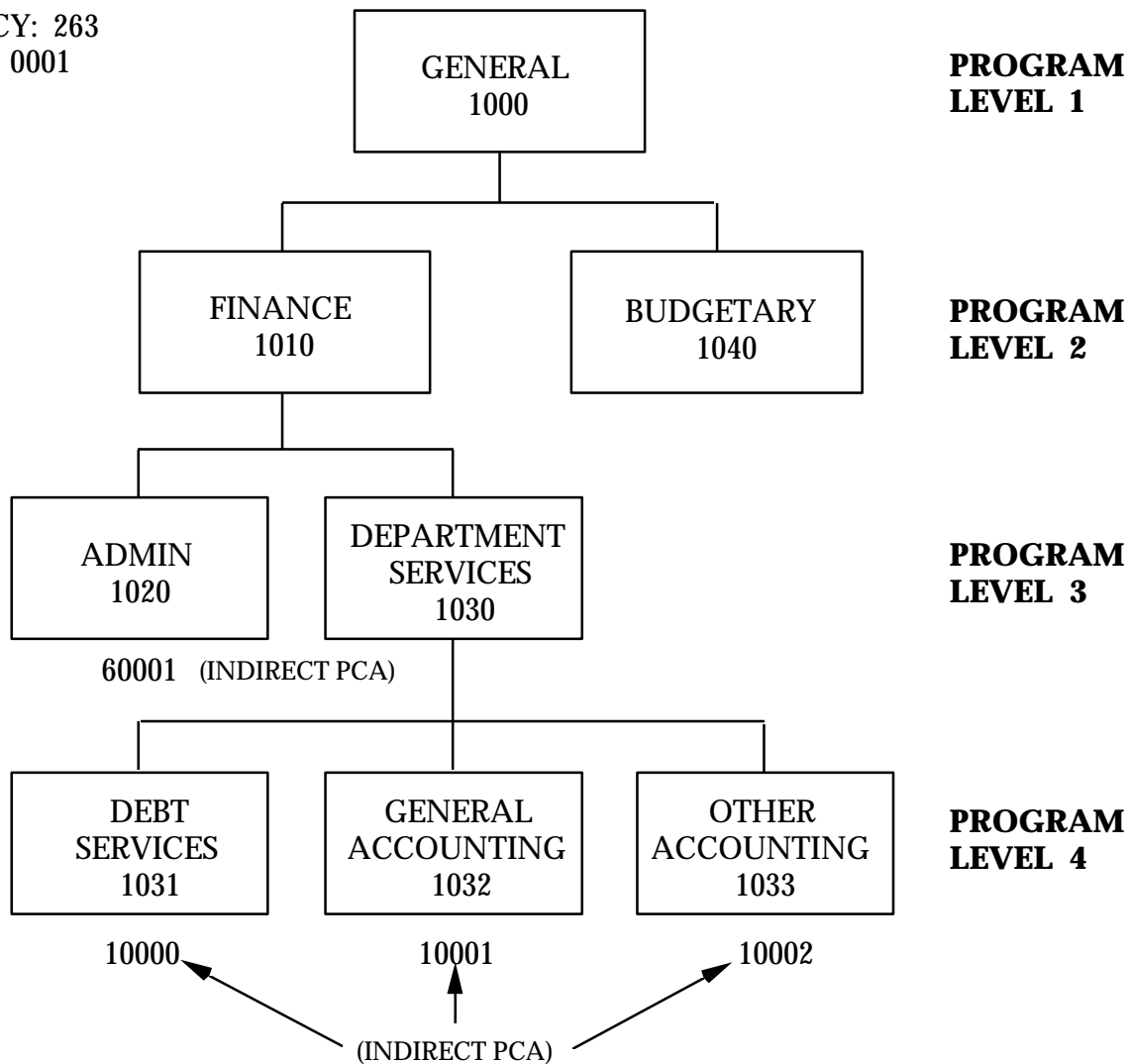
Indirect cost pools are used to accumulate those costs that are not readily charged to a specific cost pool at the time the costs are incurred. Examples of indirect costs are rent, utilities or administrative salaries. Generally, many different cost pools benefit from these indirect costs; however, the proportion to charge to each cost pool is not always known when the rent or utilities must be paid. The exhibit on page 14-4 illustrates an indirect cost pool, Administration, that may incur costs that should be allocated to other indirect cost pools.

The R★STARS Cost Allocation Subsystem provides an easy method for agencies to accumulate indirect costs and later allocate these costs to direct cost pools based on parameters defined by the user agency. If costs can be identified to a specific cost pool, it is preferable to charge the direct cost pool at the time of incurrence.

R★STARS	Version 2.0
REFERENCE MANUAL COST ALLOCATION	14-4 12/94

**INDIRECT PCA'S USED FOR
COST ALLOCATION**

AGENCY: 263
FUND: 0001



For example, PCA 60001 costs may be allocated to PCA'S 10000, 10001, 10002

R★STARS	Version 2.0
REFERENCE MANUAL COST ALLOCATION	14-5 12/94

Cost pools may be defined by many different classification elements; however, in R★STARS the classification elements must always include the PCA. The PCA is similar to an Index Code, except its function is to look-up the Program structure rather than an Organization structure. Detail coding instructions for developing the PCA Profile (26) are presented in Chapter 6 - “Non-Descriptive Profile Maintenance” of the R★STARS Data Entry Guide

The PCA defines whether the cost pool includes indirect costs or indirect variance costs by the PCA type data element. Valid PCA types for CA purposes include the following:

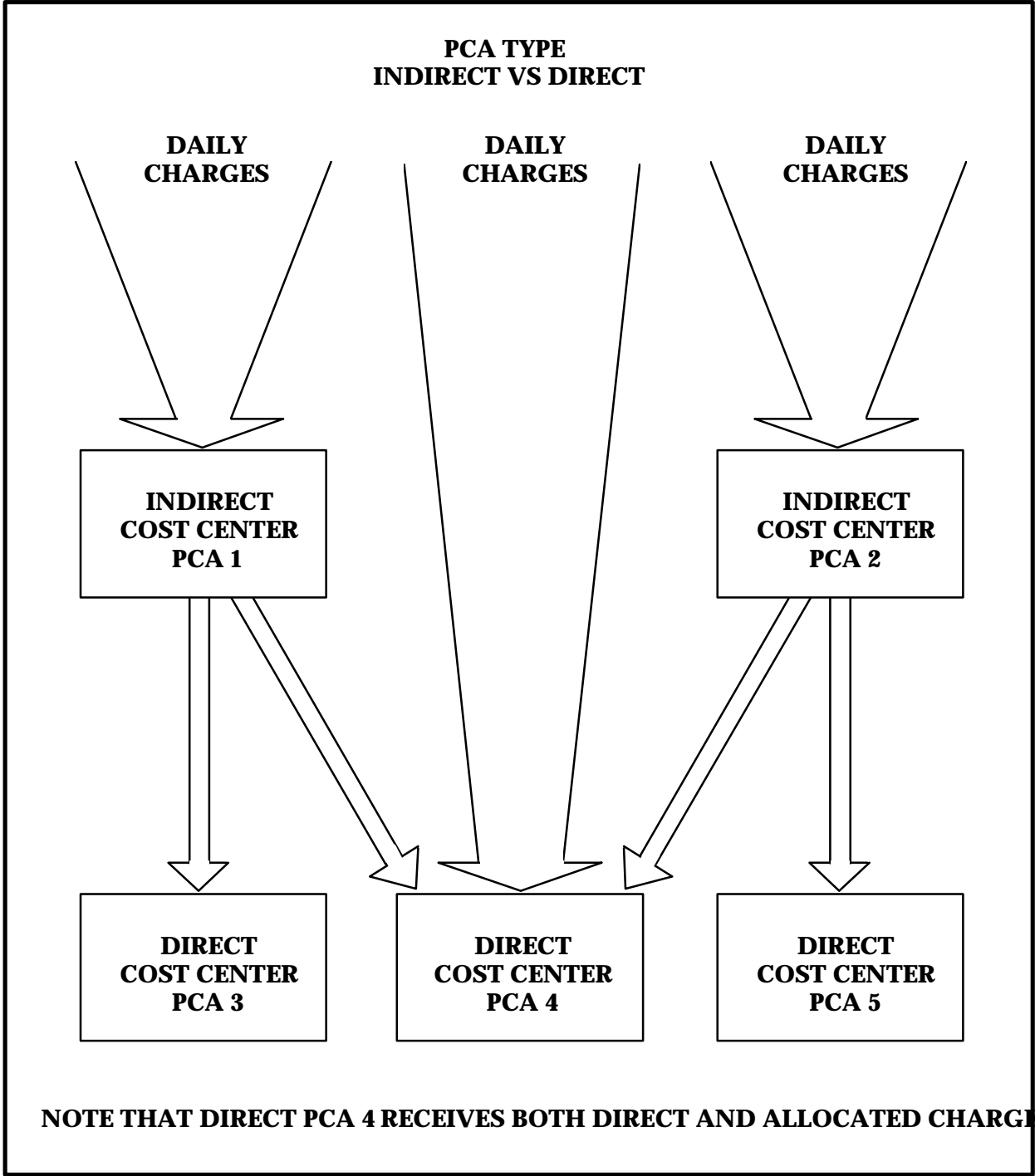
- **Direct PCA** - Accumulates direct costs and receives allocated costs.
- **Indirect PCA** - Accumulates and allocates costs.
- **Indirect Variance PCA** - Accumulates and allocates indirect cost pools that are not included in regular cost allocation runs, such as labor distribution variance amounts.

Page 14-6 illustrates the concept of indirect versus direct PCAs.

One warning is necessary when establishing PCA codes. If an agency is planning to use cost allocation, the integrity of the PCA numbering convention must be considered. R★STARS Cost Allocation provides for the definition of up to five ranges of direct cost pools (PCAs). The size of the range is not restricted, but a Cost Allocation plan can impact the numbering convention required when defining direct cost pools (PCAs). This concept is discussed at several points throughout this chapter. It is recommended that an agency define its cost allocation requirements prior to establishing PCA codes in R★STARS.

The majority of this chapter uses the terms indirect cost pool and direct cost pool. Keep in mind that for cost allocation a cost pool is always defined by a PCA and may optionally include other data elements such as Index, Grant, or Project. The classification element options are discussed later in this chapter. The generic indirect and direct cost pool terms are used to simplify the discussion of the various cost allocation methods.

R★STARS	Version 2.0
REFERENCE MANUAL COST ALLOCATION	14-6 12/94



R★STARS	Version 2.0
REFERENCE MANUAL COST ALLOCATION	14-7 12/94

Profile Maintenance

Agencies control the R★STARS cost allocation process through the maintenance of the system profiles. The five profiles that affect the cost allocation process are the following:

- **Program Cost Account Profile (26)** - Defines all valid PCAs and their related Program structures and identifies each PCA as either an indirect or direct cost pool.
- **Cost Allocation Profile (22)** - Controls the cost allocation process within the system. All allocation information related to the indirect cost pool is contained in this profile. The key to the Cost Allocation Profile identifies the indirect cost pool to be allocated.
- **Cost Allocation Type Profile (23)** - Controls the allocation amount and bases for Comptroller General Ledger Accounts that are user defined on this profile. The Cumulative Balance Indicator in conjunction with the Run Type Indicator on the Agency Control Profile (25), defines whether the allocated amount is the General Ledger balance or activity.
- **Agency Control Profile (25)** - Controls the execution of cost allocation at the agency level. It includes indicators that identify when an agency is ready to run cost allocation, the type of cost allocation (standard or variance), whether optional classification elements (Projects or Grants) will be included in the allocation, whether the generated transactions should post and the range of time included in the distribution base and indirect cost pools.
- **System Management Profile (97)** - Controls execution of the cost allocation process systemwide.

It should be noted, however, that the Agency Control Profile (25) is generally the only profile which requires on-going maintenance by agencies.

Processing Overview

Indirect costs are recorded in R★STARS from various sources including:

- Purchase vouchers
- Interagency transfer vouchers

Statistical units may also be recorded if cost allocation is going to be based on hours or units.

These costs and units accumulate until the CAS is processed. Page 14-9 provides a flow chart of the cost allocation process which is described in the following paragraphs.

R★STARS	Version 2.0
REFERENCE MANUAL COST ALLOCATION	14-8 12/94

The CAS performs the following steps to determine the amount to be allocated:

1. CAS accesses the Agency Control (AC) Profile (25) to determine which agencies will be included in the cost allocation run.
2. CAS accesses the General Ledger Table and summarizes all records related to the indirect cost pool(s) identified in the agency's Cost Allocation (CA) Profile (22) and the Comptroller General Ledger Accounts on the related Cost Allocation Type Profile (23).
3. CAS accesses the General Ledger Table and summarizes all records related to the distribution base identified in the agency's CA Profile (22) or on the related Cost Allocation Type Profile (23).
4. CAS calculates the allocation amounts based on the parameters defined in the agency's CA Profile (22), Agency Control Profile (25), and the Cost Allocation Type Profile (23).
5. CAS creates accounting transactions to be processed through the Input, Edit, Update Subsystem. The transaction codes used by the CAS to create the accounting transactions are entered on the CA Profile (22).

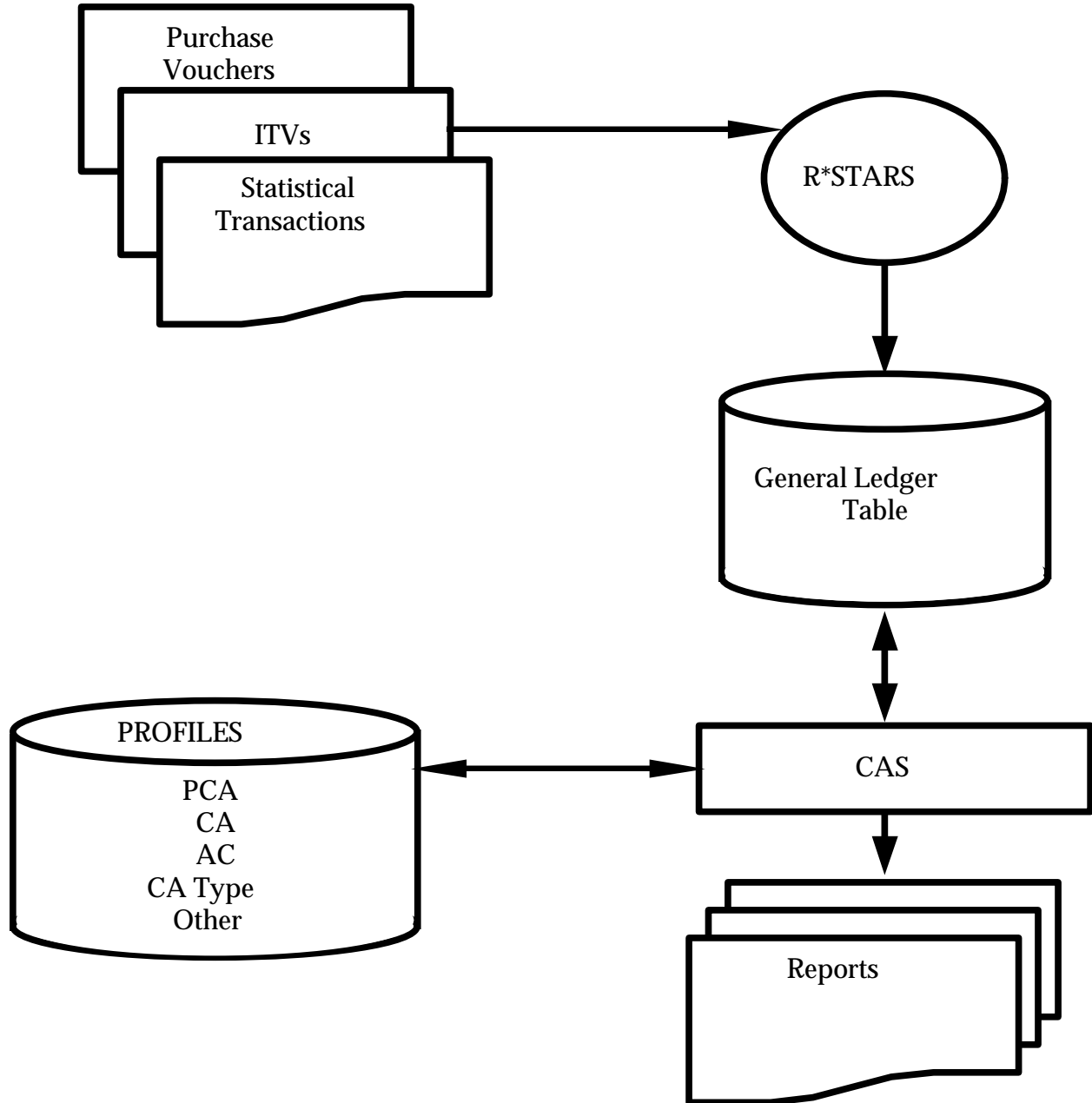
The accounting impact of the cost allocation transactions is to charge the allocation amount to the direct cost pool and to record a recovery to the indirect cost pool or specified recovery PCA.

Implementing a Cost Allocation Plan

Agencies that decide to use CAS must first determine a cost allocation plan. This plan defines the indirect costs to be allocated, the direct cost pools to receive costs, and the allocation method.

R★STARS	Version 2.0
REFERENCE MANUAL COST ALLOCATION	14-9 12/94

COST ALLOCATION PROCESSING



R★STARS	Version 2.0
REFERENCE MANUAL COST ALLOCATION	14-10 12/94

The cost allocation plan is established in the following steps:

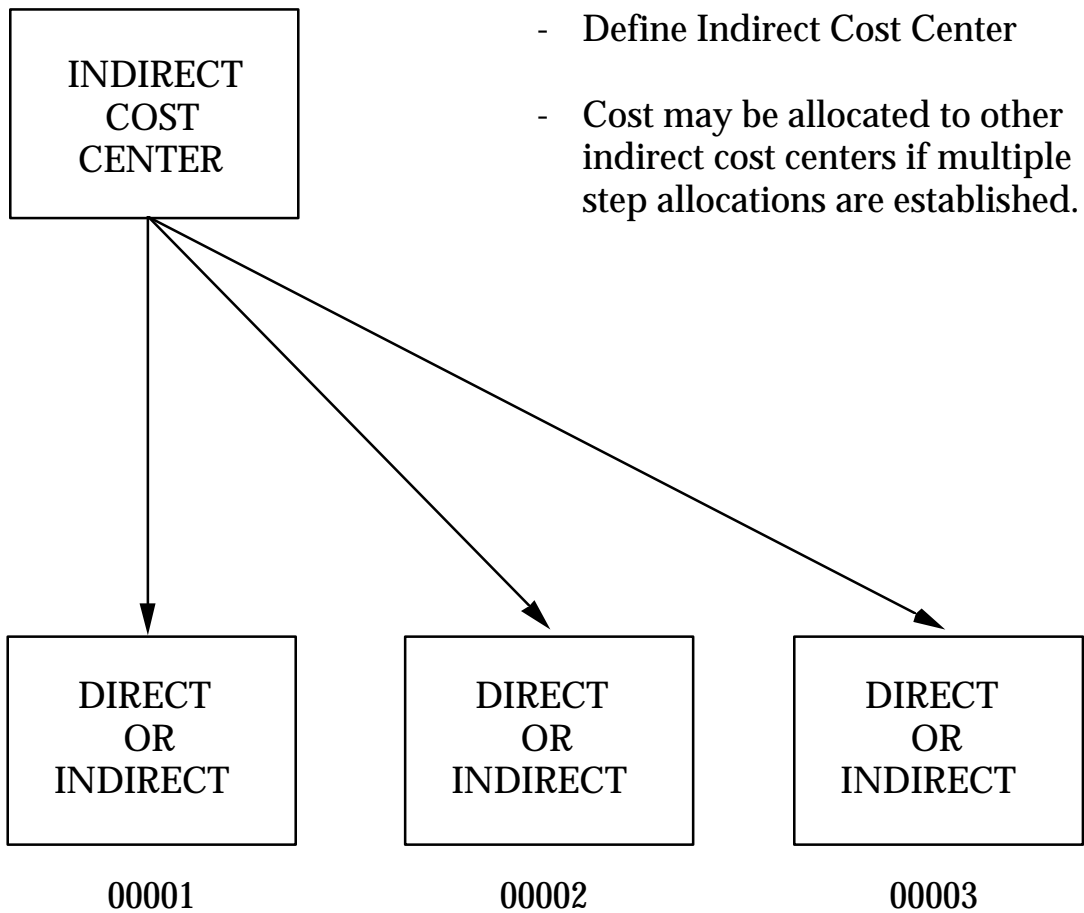
1. Prepare cost allocation diagram
2. Determine cost allocation method
3. Complete PCA Profile (26) entries
4. Complete CA Profile (22) entries
5. Complete and monitor CA Indicators in the AC Profile (25)

Step 1 is the most critical step for all agencies that plan to use CAS. The actual profile coding requirements for cost allocation are fairly simple; however, agencies must have a clear understanding of how costs are to be allocated prior to coding profiles.

Page 14-11 illustrates how a cost allocation diagram should be completed. The remaining items of the cost allocation plan are discussed later in this chapter.

R★STARS	Version 2.0
REFERENCE MANUAL COST ALLOCATION	14-11 12/94

FLOWCHART OF HOW COSTS CAN BE ALLOCATED



- Define Indirect Cost Center
- Cost may be allocated to other indirect cost centers if multiple step allocations are established.

- Define Direct Cost Centers
- Numeric integrity must be considered when assigning PCA numbers

R★STARS	Version 2.0
REFERENCE MANUAL COST ALLOCATION	14-12 12/94

14-2 COST ALLOCATION METHODS

CAS allocates costs using either actual or standard methods. Under actual cost allocation methods, the dollars to be allocated must be initially posted to an indirect cost pool (PCA); all of the costs accumulated in the indirect cost pool are allocated. The allocation is calculated by applying percentage rates to the costs accumulated in the indirect cost pool. These percentage rates may be a fixed percentage (specified in CA Profile (22)) or a calculated percentage (calculated percentage rate based on the dollars accumulated in the distribution base accounts).

Standard methods do not require that dollars be posted to indirect cost pools prior to allocation, as the costs accumulated in the indirect PCA are not considered during the allocation process. Instead, a specific rate is applied to a distribution base to determine the amount allocated to the direct cost pool. The distribution base can be a dollar amount such as labor charges, or a physical quantity such as hours, miles or square feet.

The desired cost allocation method is indicated by the distribution type in the CA Profile (22). A detailed description of each method is provided below for each Distribution Type. The examples provided continue to use the terms indirect and direct cost pool in order to describe the different allocation methodologies available in R★STARS. Assume that these cost pools are defined for PCAs only. The options to expand the allocation classifications across Index, Project, or Grant are described later in this chapter.

The examples shown assume a regular periodic cost allocation run. This means that cost allocation occurs as a part of the normal period closing process; therefore, the costs included during a regular periodic cost allocation are the costs posted during the prior period (which is about to be closed). The options to allocate costs based on year-to-date expenditures or based on a defined range of periods are discussed later in this chapter.

Standard Cost Methods

Each method described below is a standard method of cost allocation. Therefore, the allocated amount is different than the actual costs. Consequently, a variance remains in the indirect cost pool. This variance can later be allocated during a variance cost allocation. This process is described later in this chapter.

Distribution Type 1 - Standard Rate

The standard rate method applies a standard percentage rate to the distribution base expenditures recorded in the direct cost pools. The standard percentage rate is defined by the agency and coded as the distribution rate in the CA Profile (22). The direct cost pools are identified by the classification elements identified in the allocation range on the CA Profile (22).

R★STARS	Version 2.0
REFERENCE MANUAL COST ALLOCATION	14-13 12/94

During regular periodic cost allocation, the system accumulates the total charges for the prior period in the direct cost pools. CAS calculates the allocation amount as the standard percentage rate times the distribution base accumulated in the direct cost pools. The allocation amount is then charged to the direct cost pools and is credited to the indirect cost pool. An illustration of Distribution Type 1 is presented on page 14-14.

Distribution Type 2 - Standard Cost Per Unit

The standard cost per unit allocation is based on units or hours recorded in special Statistical Object Codes. The Statistical Object Codes must be coded as the distribution base. The system accumulates the units recorded in the direct cost pools as defined in the allocation range. The distribution rate is then applied to the summarized units. The allocation amount is charged to the direct cost pools identified in the allocation range and the credit transaction is posted to the indirect cost pool. Page 14-15 illustrates Distribution Type 2.

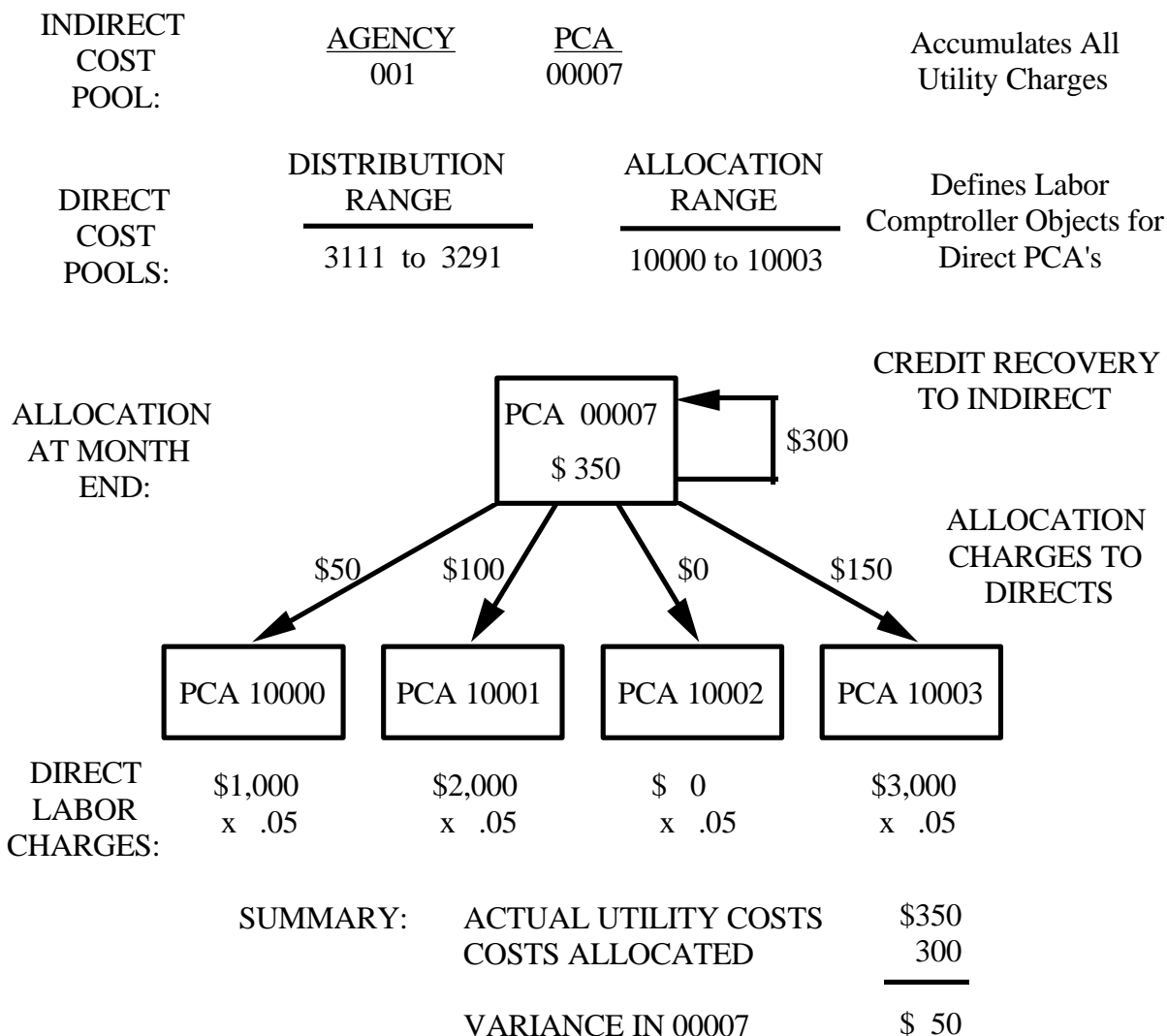
Distribution Type 3 - Standard Amount

The standard amount allocation is based on a standard fixed amount which is coded in the Distribution Rate field on the CA Profile (22). No calculation is required for this method. The standard amount is charged to the direct cost pool identified in the allocation range and the Standard Amount is credited to the indirect cost pool. Note that a distribution base is still required for this method, and further, costs must be posted to the distribution base in order for the allocation amount to be posted. In other words, if a direct cost pool has a zero amount posted, the fixed amount will not be allocated to that direct cost pool. Page 14-16 provides an illustration of Distribution Type 3.

R★STARS	Version 2.0
REFERENCE MANUAL COST ALLOCATION	14-14 12/94

**DISTRIBUTION TYPE 1
STANDARD RATE**

An agency wants to accumulate all the utilities costs in one indirect cost pool (PCA) and later allocate these charges to direct cost pools (PCA's) based on labor charges in the direct cost pools (PCA's). Using prior year information, the agency estimates that utilities generally equal 5% of total labor costs.

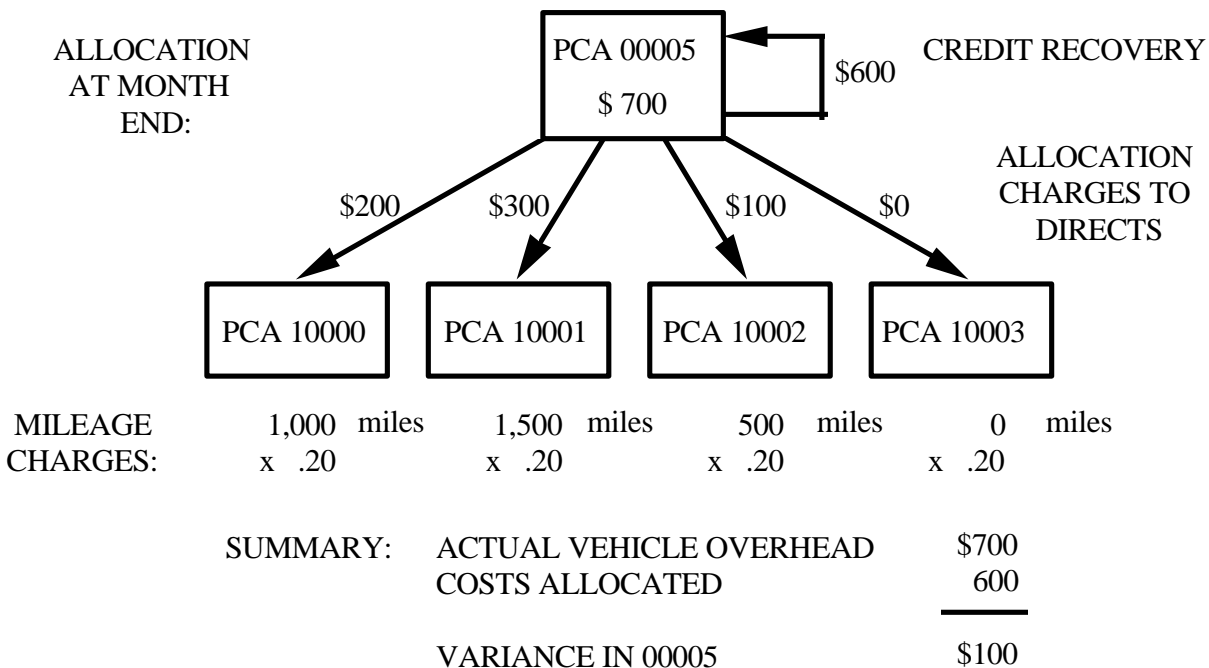


R★STARS	Version 2.0
REFERENCE MANUAL COST ALLOCATION	14-15 12/94

**DISTRIBUTION TYPE 2
STANDARD COST PER UNIT**

An agency wants to charge an overhead cost to the agency's cost pools that use county vehicles. The overhead rate is 20 cents per mile. Whenever a county vehicle is used, the miles are recorded to a special Statistics Object 9001. All actual overhead vehicle costs are charged to an indirect PCA.

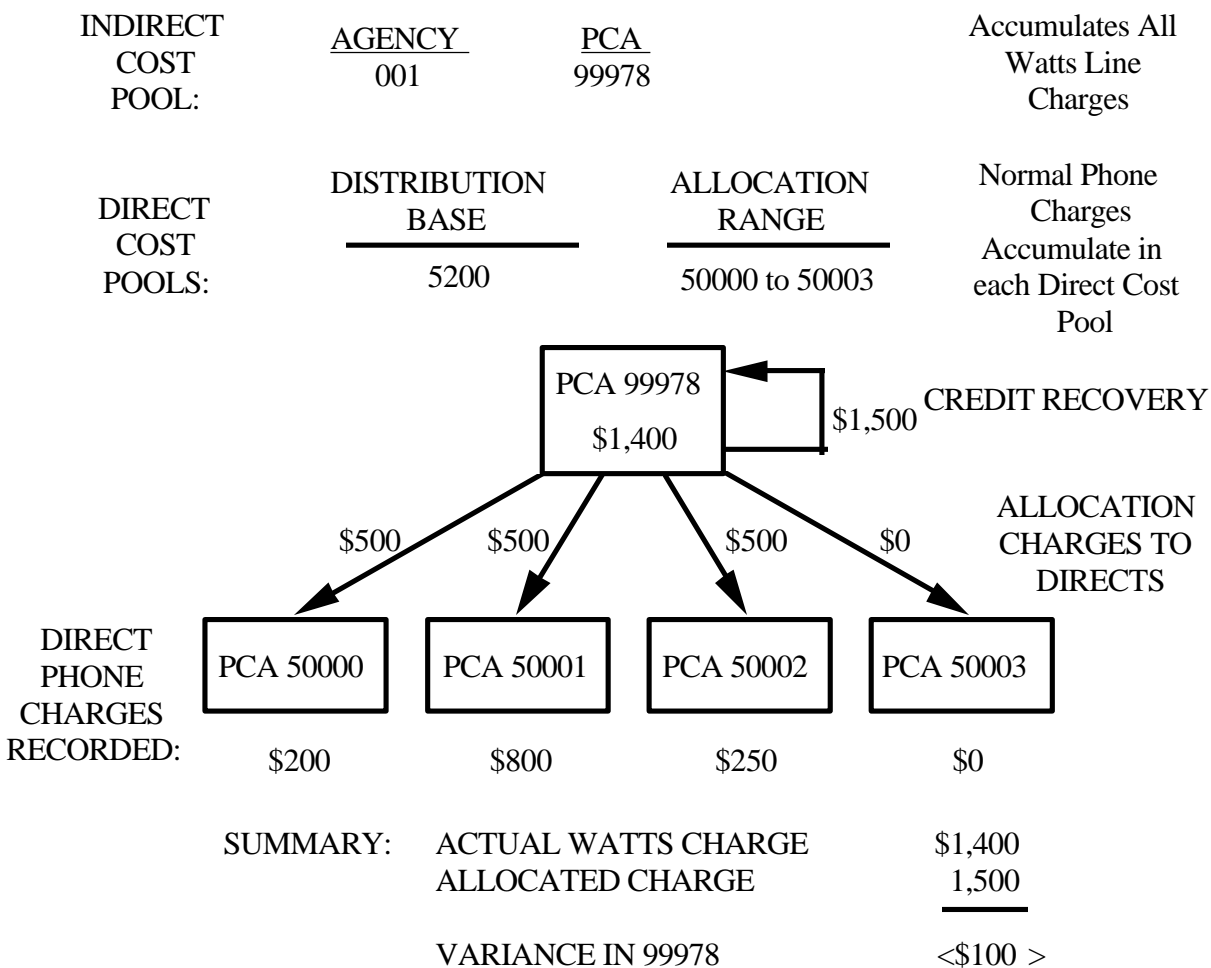
INDIRECT COST POOL:	<u>AGENCY</u> 001	<u>PCA</u> 00005	Accumulates All Overhead Costs
DIRECT COST POOLS:	<u>DISTRIBUTION RANGE</u> (OBJ) 9001	<u>ALLOCATION RANGE</u> 10000 to 10003	Direct Cost pools Which Use County Vehicles



R★STARS	Version 2.0
REFERENCE MANUAL COST ALLOCATION	14-16 12/94

**DISTRIBUTION TYPE 3
STANDARD AMOUNT**

An agency is planning to allocate long distance telephone charges to four direct cost pools which share the same watts line. The actual watts line bills vary; however, based on prior year charges, the agency has estimated an average watts line bill of \$500 per month for each direct cost pool. The standard amount is allocated to each direct cost pool which incurs regular phone charges during the month. The regular phone charges are recorded in Comptroller Object 5200.



R★STARS	Version 2.0
REFERENCE MANUAL COST ALLOCATION	14-17 12/94

Actual Cost Methods

The remaining two Distribution Types are actual methods of cost allocation. Under actual cost allocation, all of the costs accumulated in the indirect cost pool are allocated and there is no variance remaining. The actual cost allocation methods are fixed percentage and calculated percentage. Each method is described below.

Distribution Type 4 - Fixed Percentage

The fixed percentage method uses the Fixed Percent Allocation fields to define the direct cost pools. The direct cost pool classifications must be entered along with the percentage of the total indirect dollars to be allocated. R★STARS allocates the actual dollars in the indirect cost pool to each direct cost pool based on the percentage coded. Up to fifteen direct cost pools may be defined, and the total percentage allocated must equal 100%. The direct cost pools may include a PCA, or a PCA/Index combination only. Allocation to Project or Grant is not available under the fixed percentage method. An example of Distribution Type 4 is presented on page 14-18.

Distribution Type 5 - Calculated Percentage

Under the calculated percentage method, the system first totals the distribution base expenditures in the direct cost pools. The direct cost pools are the classifications defined in the allocation range. There are five ranges available in the allocation range. The ranges must have numerical integrity and be in order, but the ranges have no size limit.

R★STARS calculates the percentage that each direct cost pool represents of the total direct costs. This calculated percentage is applied to the actual dollars recorded in the indirect cost pool to determine the allocation amount. Allocation transactions are charged to the direct cost pools and credited to the indirect cost pool. An illustration of Distribution Type 5 is presented on page 14-19.

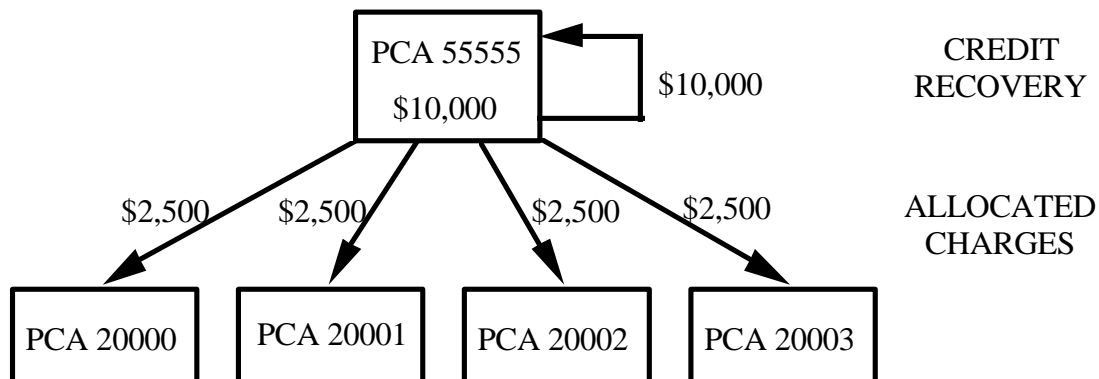
R★STARS	Version 2.0
REFERENCE MANUAL COST ALLOCATION	14-18 12/94

**DISTRIBUTION TYPE 4
FIXED PERCENTAGE**

An agency is planning to allocate the total rent for a building which is shared by four direct cost pools. The rent amount will be shared equally by each direct cost pool. The rent charge is recorded in the indirect PCA.

INDIRECT COST POOL:	<u>AGENCY</u> 001	<u>PCA</u> 55555
---------------------------	----------------------	---------------------

DIRECT COST POOLS:	<u>PCA</u>	<u>FIXED PERCENTAGE</u>
	20000	25%
	20001	25%
	20002	25%
	20003	25%



SUMMARY:	ACTUAL RENT	\$10,000
	CHARGE	10,000
	ALLOCATED CHARGE	<u> </u>
		\$ 0
	VARIANCE IN 55555	

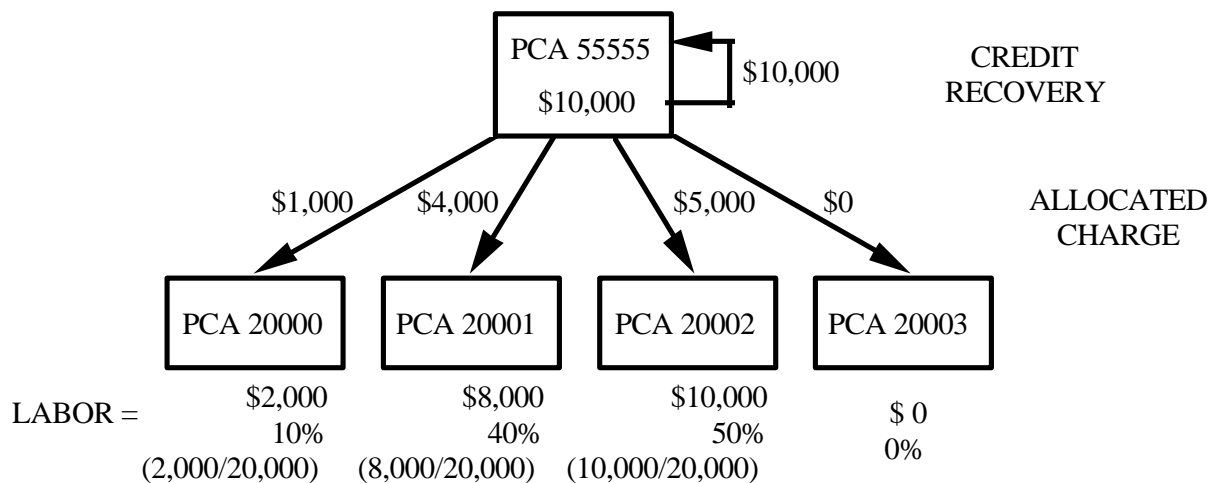
R★STARS	Version 2.0
REFERENCE MANUAL COST ALLOCATION	14-19 12/94

**DISTRIBUTION TYPE 5
CALCULATED PERCENTAGE**

An agency wants to allocate all clerical costs based on the direct labor dollars charged in four direct cost pools. The clerical costs will be allocated in proportion to the actual labor costs recorded.

INDIRECT COST POOL:	<u>AGENCY</u> 001	<u>PCA</u> 55555
---------------------------	----------------------	---------------------

DIRECT COST POOLS:	<u>DISTRIBUTION BASE</u> (OBJ) 3111 - 3291	<u>ALLOCATION RANGE</u> 20000 to 20003
--------------------------	---	---



(ACTUAL COSTS/TOTAL COSTS)

SUMMARY:	ACTUAL CLERICAL COSTS	\$10,000
	ALLOCATED CHARGE	10,000
		<hr/>
	VARIANCE	\$ 0

R★STARS	Version 2.0
REFERENCE MANUAL COST ALLOCATION	14-20 12/94

14-3 COST ALLOCATION OPTIONS

CAS may be used by agencies requiring only basic allocation needs and by agencies with more sophisticated requirements. This flexibility is provided through the selection of various options, including:

- Allocation by Object
- Allocation by Index
- Allocation by Other Classification Elements
- Distribution Base Period Options
- Multiple Step Cost Allocation
- Transaction Posting Option

These options are described below.

Allocation by Object

R★STARS provides the capability to separately identify the charge and credit expenditure Objects in the agency's CA Profile (22). This enables the original charges to the indirect cost pool, the recovery credit to the indirect cost pool, and the allocated charges to the direct cost pool to be reported separately. In other words, the transaction to record the recovery is credited to a different expenditure Object than the original charge to the indirect cost pool. This option is available for both standard and actual methods of allocation and when the AllocationBy-Object Indicator in the CA Profile (22) is 'N'.

To provide flexibility in recording allocation transactions, a second option is available when using actual methods. The allocation transactions maintain the expenditure account originally posted to the indirect cost pool if the AllocationBy-Object Indicator in the CA Profile (22) is coded 'Y' and the charge and credit expenditure accounts on the CA Profile (22) are blank. This means that the recovery transactions are posted to the same expenditure accounts that were originally charged to the indirect cost pool, and after cost allocation, a zero amount remains in the indirect cost pool expenditure account. The AllocationBy-Object option is available for the actual methods of cost allocation only (Distribution Types 4 and 5).

The exhibits on pages 14-22, 14-23 and 14-24 compare the results of allocating by Object and not allocating by Object. PCA 00007 is an indirect PCA that allocates supply costs to two direct PCAs: 70000 and 70001. Each direct PCA has incurred direct supply costs. CAS will allocate 50 percent of the cost in PCA 00007 to each of the direct PCAs, 70000 and 70001.

Page 14-23 illustrates the recovery transactions posted to PCA 00007 under both allocating by Object conditions. Page 14-24 illustrates the charge transactions posted to PCA 70000 under both allocation by Object conditions.

R★STARS	Version 2.0
REFERENCE MANUAL COST ALLOCATION	14-21 12/94

Allocation by Index

The Allocation-By-Index option allows an agency to allocate costs based on Organizational classifications. For example, this option is useful if an agency wants to allocate the costs recorded to an administrative division to all other operating divisions within the agency. Agencies planning to use the Allocation-By-Index option must carefully analyze their cost allocation plan, as the allocation by Index options can result in moving charges between agency budgets.

The Allocation-By-Index option is controlled by an indicator in the AC Profile (25). The indicator value selected also requires the Index fields on the CA Profile (22) to be coded in a specific manner. Each Allocation-By-Index indicator value and the related CA Profile (22) coding requirements are discussed below.

The Allocation-By-Index Indicator values are:

- **Allocation-By-Index = 1.** This value indicates allocation without regard to Index. The indirect cost pool is identified as a PCA only and the costs recorded in the indirect PCA are summarized without regard to the Index recorded. Likewise, the direct cost pools are determined without regard to Index. The charge and credit transactions contain an Index identified as '00000'. The charge and credit Index on the CA Profile (22) must be coded with '00000' if allocation is to be made without regard to index. The cost allocation charge and credit transaction will 'wash' through Index '00000'. Under this method of allocation-by-index, the Index low and high coded for the allocation range must be '00000'. The CAS moves '99999' into the INDEX field if the CA Profile (22) is '00000'. An INDEX of '99999' must be established in the Index Code Profile (24) to prevent the CA transactions from being flagged with an invalid Index error.

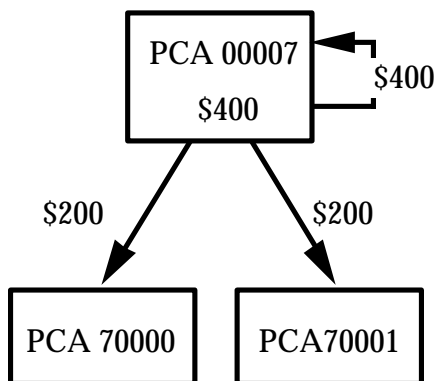
- **Allocation-By-Index = 2.** This value indicates allocation with regard to Index. The indirect cost pool is identified as a PCA/Index combination. The costs recorded in the indirect cost pool are summarized according to the PCA and Index defined in the CA Profile (22). The Index Code integrity is also maintained in determining the direct cost pools. The charge transactions generated by cost allocation will contain the Index Code identified in the allocation range or the Fixed Percent Allocation (for Distribution Type 4). The credit transactions contain the credit Index which must be coded on the CA Profile (22). This option 'moves' the expenditure from the Credit Index to the Charge Indexes.

R★STARS	Version 2.0
REFERENCE MANUAL COST ALLOCATION	14-22 12/94

**DISTRIBUTION TYPE 4
ALLOCATION BY OBJECT**

An agency allocates the total cost of office supplies to two direct cost pools. The cost of supplies is shared equally by each cost pool. The supplies charge is recorded in the indirect cost pool while each direct cost pool incurs its own supply costs.

INDIRECT COST POOL:	<u>AGENCY</u> 001	<u>PCA</u> 00007
DIRECT COST POOLS:	<u>PCA</u> 70000 70001	<u>FIXED PERCENTAGE</u> 50% 50%



ACTUAL COSTS:	\$30	\$100
ALLOCATED COSTS:	<u>200</u>	<u>200</u>
TOTAL COSTS:	\$230	\$300

R★STARS	Version 2.0
REFERENCE MANUAL COST ALLOCATION	14-23 12/94

**COST ALLOCATION
ALLOCATION BY OBJECT
RECOVERY TRANSACTIONS**

BEFORE ALLOCATION:

INDIRECT PCA 00007

**PRIOR PERIOD
EXPENDITURE:**

	EXP COBJ/AOBJ	4200 4201 OFFICE SUPPLIES - PAPER	\$100.00
		4200 4202 OFFICE SUPPLIES - PENS	200.00
		4200 4203 OFFICE SUPPLIES - TAPE	100.00
		4200 4299 ALLOCATION RECOVERY	0.00
TOTAL PCA 00007			\$400.00

AFTER ALLOCATION:

ALLOC-BY-OBJ = N

ALLOC-BY-OBJ = Y

INDIRECT PCA 00007

	EXP COBJ/AOBJ	4200 4201	\$100.00
		4200 4202	200.00
		4200 4203	100.00
		4200 4299	-400.00

INDIRECT PCA 00007

	EXP COBJ/AOBJ	4200 4201	\$0.00
		4200 4202	0.00
		4200 4203	0.00
		4200 4299	0.00

TOTAL PCA 00007 \$ 0.00

TOTAL PCA 00007 \$0.00

R★STARS	Version 2.0
REFERENCE MANUAL COST ALLOCATION	14-25 12/94

- **Allocation-By-Index = 3.** This value indicates allocation with regard to Index for the charge transactions only. The indirect cost pool is identified as a PCA only and the costs recorded in the indirect cost pool are summarized according to the indirect PCA only. The Index Code is retrieved from the General Ledger Financial Table for the Distribution Base expenditures charged in the direct cost pools; the allocation is based only on the PCA ranges identified in the Allocation Range, and all Indexes are considered eligible to receive allocations. The charge transactions contain the Index Code determined from the direct cost pools for the Distribution Base expenditures.

- **Allocation-By-Index = 4.** This value indicates allocation with regard to Index for the Indices identified in the allocation range only. Again, the indirect cost pool is identified as a PCA only and the costs recorded in the indirect cost pool are summarized according to the indirect PCA only. Index/PCA combinations are identified in the allocation range; therefore, the distribution base is summarized only for the Index/PCA combinations identified in the allocation range. All Index Codes are not eligible to receive allocations. The charge and credit transactions contain the Index in the CA Profile (22) credit line.

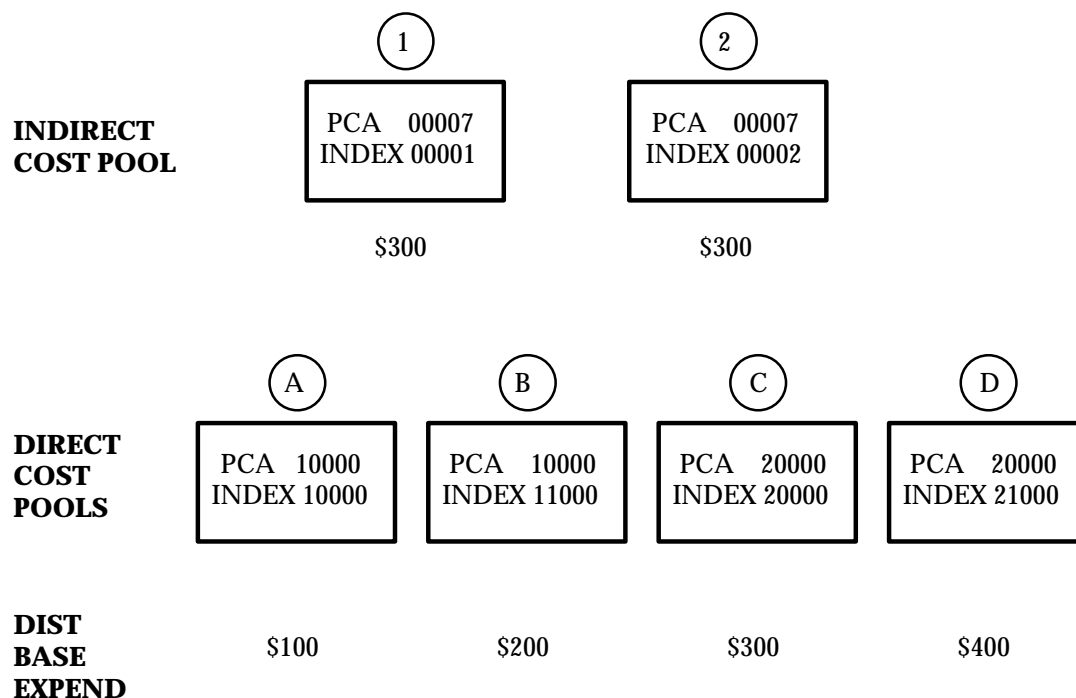
The following is a summary of the data elements required on the CA Profile (22) under each of the four Allocation-by-Index options.

CA Profile (22) Elements:	Allocate-by-Index Options:			
	1	2	3	4
The Index in the Key	'00000'	Any Valid Index	'00000'	'00000'
Credit Index	'00000'	Any Valid Index	'00000'	Any 5 Digits
Allocation Range Index Low/High	0's only	0's or Valid Index	0's only	Valid Index only

An example for each value of the AllocationBy-Index Indicator which resides on the AC Profile (25) is provided on the following page.

R★STARS	Version 2.0
REFERENCE MANUAL COST ALLOCATION	14-26 12/94

**COST ALLOCATION
ALLOCATION BY INDEX EXAMPLE**



ASSUME: CALCULATED PERCENTAGE METHOD

AGENCY = 001 CR INDEX = 00000 (for CA by Index Methods '1' and '3')

CR PCA = 00007 (for CA by Index Methods '2' and '4' OR 00001)

ALLOCATION RANGE INDEX (IF CODED) = 11000 - 21000

R★STARS	Version 2.0
REFERENCE MANUAL COST ALLOCATION	14-27 12/94

**COST ALLOCATION
ALLOCATION BY INDEX EXAMPLE**

ALLOCATION BY-INDEX INDICATOR	1	2	3	4
CA KEY	0010000 00007	00100000 00007	00100000 00007	00100000 00007
INDIRECT COST POOL	(1) + (2) = \$600	(1) = \$300	(1) + (2) = \$600	(1) + (2) = \$600
ALLOCATED INDEX CODED		11000- 11000 21000- 21000		11000- 11000 21000-21000
DIRECT COST POOLS	PCA 10000 (A) + (B) = \$300 PCA 20000 (C) + (D) = \$700	PCA 10000 INDEX 11000 (B) = \$200 PCA 20000 INDEX 21000 (D) = \$400	PCA 10000 INDEX 10000 (A) = \$100 PCA 10000 INDEX 11000 (B) = \$200 PCA 20000 INDEX 20000 (C) = \$300 PCA 20000 INDEX 21000 (D) = \$400	PCA 10000 INDEX 11000 (B) = \$200 PCA 20000 INDEX 21000 (D) = \$400
ALLOCATION CHARGES	(A) + (B) = \$180 (300/1000)\$600 (C) + (D) = \$420 (700/1000)\$600	TO (B) = \$100 (200/600)\$300 TO (D) = \$200 (400/600)\$300	TO (A) = \$ 60 TO (B) = \$120 TO (C) = \$180 TO (D) = \$240	TO (B) = \$200 TO (D) = \$400
ALLOCATION CREDIT	INDEX 00000 PCA 00007 \$600	INDEX 00001 PCA 00007 \$300	INDEX 00000 PCA 00007 \$600	INDEX 00001 PCA 00007 \$600

R★STARS	Version 2.0
REFERENCE MANUAL COST ALLOCATION	14-28 12/94

Allocation by Other Classification Elements

R★STARS provides for the optional inclusion of other classification elements when defining cost pools. These classification elements are Project and Grant. Each of these options is described below.

Allocation by Project

The Allocation-By-Project option allows agencies to allocate cost to Projects based on the costs incurred by the Project. The Allocation-By-Project option is controlled by an indicator in the agency's AC Profile (25).

If an agency desires cost allocation to Projects, R★STARS includes Projects as a part of the direct cost pools. The direct cost pools are determined by retrieving from the General Ledger Financial Table the Projects coded with the PCAs or PCAs/Indexes identified in the Allocation Range. R★STARS calculates the Distribution Base by summarizing the appropriate expenditure Objects for each PCA/Project or PCA/Index/Project combination identified in the Allocation Range and retrieved from the General Ledger Financial Table. Note that only the PCA or the PCA/Index is coded in the Allocation Range in the CA Profile (22). PCAs identified in the Allocation Range which do not have Projects as part of the Direct Cost Pool are still included in the total Distribution Base eligible to receive allocated costs.

The cost allocation charge transactions are then posted to each PCA/Project or PCA/Index/Project combination identified as a direct cost pool. The credit transaction is posted to the indirect cost pool identified in the CA Profile (22).

Note that the Allocation-By-Project option is available for all Distribution Types except Distribution Type '4', Fixed Percentage. Page 14-29 illustrates cost allocation using the Allocation-By-Project option.

Allocation by Grant

The Allocation by Grant option allows agencies to allocate costs to Grants, based on the costs incurred by the Grant. The Allocation-By-Grant option is controlled by an indicator in the agency's AC Profile (25).

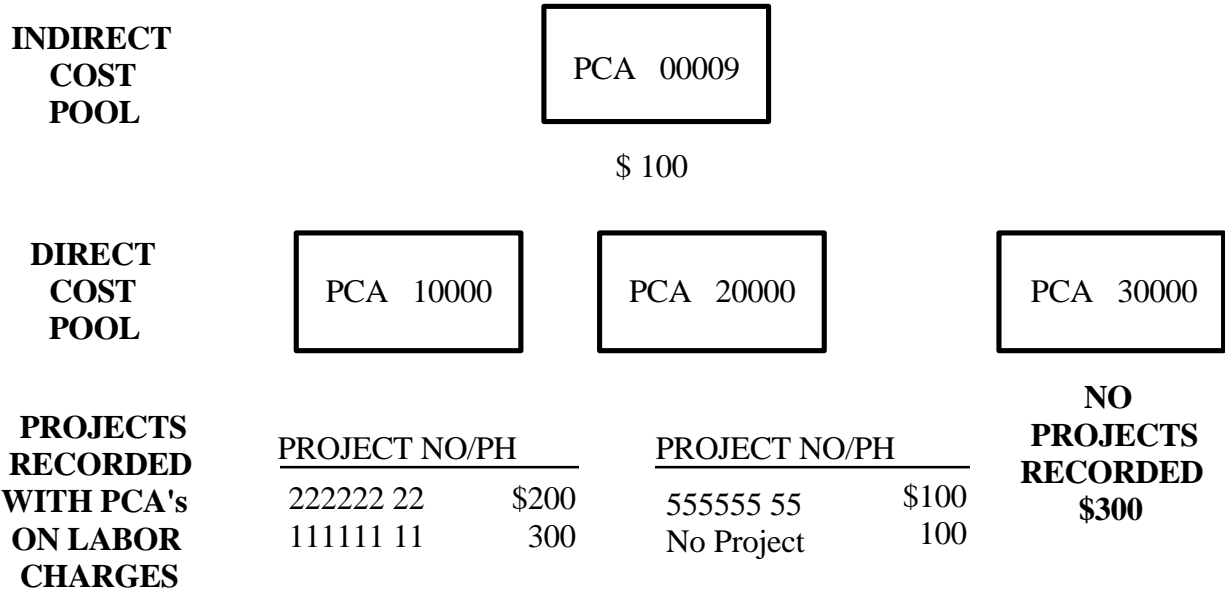
If an agency desires cost allocation to Grants, R★STARS includes Grants as a part of the direct cost pools. The Allocation-By-Grant option works in the same manner as the Allocation-By-Project option described above.

R★STARS	Version 2.0
REFERENCE MANUAL COST ALLOCATION	14-29 12/94

EXAMPLE - COST ALLOCATION INCLUDING PROJECTS

**CA - PLAN - ALLOCATE UTILITY COSTS BASED ON LABOR
COSTS CHARGED TO EACH PCA AND PROJECT**

DIST TYPE = 5 DIST BASE = 3111 - 3291 AGENCY



ALLOCATION CHARGE TRANSACTIONS:

<u>INDEX</u>	<u>PCA</u>	<u>PROJECT</u>	<u>AMOUNT</u>
05001	10000	222222 22	\$ 20
05001	10000	111111 11	\$ 30
05001	20000	555555 55	\$ 10
05001	20000		\$ 10
05001	30000		\$ 30

R★STARS	Version 2.0
REFERENCE MANUAL COST ALLOCATION	14-30 12/94

Note that the Allocation-By-Grant option is available for all Distribution Types except Distribution Type 4, Fixed Percentage.

Distribution Base Period Options

The Distribution Base period options allow agencies to select the period of time included in the Distribution Base. The options enable the allocation to include only the prior period expenditures/General Ledger activity, year-to-date expenditures/General Ledger balances, or expenditures/General Ledger activity incurred during a specified range of periods as the Distribution Base. The period options are controlled by the CAType and the CA-Range indicators in the agency's AC Profile (25) in conjunction with the Cumulative Balance Indicator on the Cost Allocation Type Profile (23). The indicator values for each of the options are described in Chapter 15 - "Cost Allocation" of the R★STARS Data Entry Guide

Multiple Step Allocations

Agencies with more elaborate program accounting requirements may require a multiple step allocation plan. This is required when one indirect cost pool is allocated to another indirect cost pool as step one. These allocated costs plus any other costs charged to the second indirect cost pool are accumulated and allocated as step two. Agencies may define up to nine different cost allocation steps if required.

R★STARS controls the sequencing of the cost allocation steps through the sequence indicator located in the CA Profile (22). Agencies identify the cost allocation step for each indirect cost pool by coding the step number in this field. Indirect cost pools with a sequence indicator of '1' are allocated during the first execution of the cost allocation process. Next, indirect cost pools with a sequence indicator of '2' are allocated during the second execution of the cost allocation process. This process continues until all steps identified are allocated.

Multiple executions of the cost allocation process are possible without processing the R★STARS Input, Edit, Update Subsystem. In other words, many steps of cost allocation can be executed during one night's batch process. The transactions generated during each step are held until all steps are executed, and then the transactions are posted to R★STARS.

Agencies have a choice of running all steps of cost allocation in one night or running only one step during each nightly process. Agencies control the number of steps run through the CARun Indicator in the AC Profile (25).

R★STARS	Version 2.0
REFERENCE MANUAL COST ALLOCATION	14-31 12/94

Agencies can monitor the cost allocation process through the NoSteps and the LastStep-Run indicators in the AC Profile (25). Agencies code the total number of steps required for cost allocation in the NoSteps indicator. The LastStep-Run indicator identifies the last step of cost allocation that was executed. R★STARS automatically updates the LastStep-Run field after each execution of the cost allocation process if the cost allocation transactions are posted. This indicator is not updated if the cost allocation transactions are generated but not posted. The posting option is discussed below. Page 14-32 is an example of the multiple step option.

Transaction Posting Option

Normally, cost allocation transactions are generated by R★STARS and posted through the Input, Edit, Update Subsystem. Agencies may optionally select to not post the transactions generated by the CAS. The 'do not post' option is useful if an agency wants to review the cost allocation transactions prior to posting. Transactions can be reviewed to determine if the rates entered in the CA Profile (22) are appropriate.

If the No-Post option is selected, the cost allocation transactions batch is placed on the Internal Transaction File in error (Mode = 3). They can then be reviewed and released for posting at the agency's option. R★STARS forces the allocation transactions to the error by changing the Batch Date field in the Batch ID to 'NOPOST'.

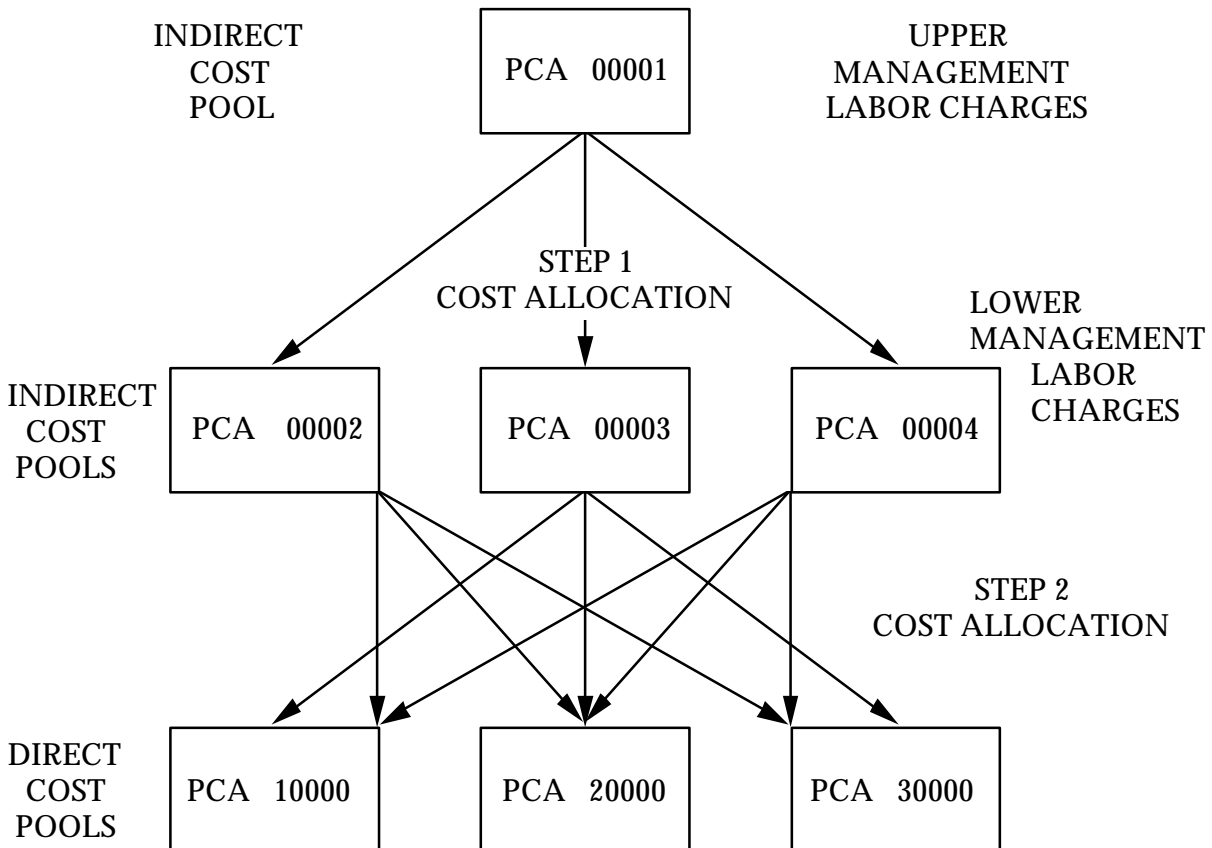
Recall that the Batch ID forms the first thirteen characters to the Transaction ID. Therefore, agencies can identify the NoPost cost allocation transactions by the 'NOPOST' in the Batch Date field of the Transaction ID. The transactions will print on the R★STARS Error Report (DAFR2151).

Note, if the CA-Post Indicator on the AC Profile (25) is 'N', Do Not Post, R★STARS does not automatically update the LastStep-Run. Therefore, if the transactions are subsequently released, the Last-Step-Run must be manually incremented on the AC Profile (25) before the next step of cost allocation is run.

R★STARS	Version 2.0
REFERENCE MANUAL COST ALLOCATION	14-32 12/94

**COST ALLOCATION
MULTIPLE STEP ALLOCATION**

An agency charges all upper management salaries to one indirect cost pool. Each manager also records salaries to separate indirect cost pools. The agency wants to allocate the upper management salaries based on labor dollars charged by the managers. Secondly, the managers want to charge their total labor costs based on the labor dollars charged to the direct cost pools.



R★STARS	Version 2.0
REFERENCE MANUAL COST ALLOCATION	14-33 12/94

14-4 SPECIAL COST ALLOCATION PROCESSES

The CAS is generally run every period and allocates all indirect costs accumulated during the prior period. Additionally, agencies require the execution of 'special' cost allocation processes in order to allocate any variance amounts remaining in the indirect cost pool or to allocate the expenditures accumulated during the adjustment period. R★STARS provides special cost allocation processing for each of these events. The special cost allocation processes are described in the following paragraphs.

Variance Allocations

Cost allocation variance amounts accumulate in the indirect cost pools whenever a standard method of cost allocation is used. This occurs because the standard amount recorded as a recovery (credit) to the indirect cost pool generally differs from the actual amount originally charged to the indirect cost pool.

In addition to the standard cost allocation variances, the distribution of other standard costs (e.g. by an Agency Labor Distribution Subsystem), can result in variance amounts which are accumulated in special variance PCAs. These variance PCAs are identified as PCA Type 3 and can be allocated along with the cost allocation variance amounts during a variance cost allocation process.

CAS has the capability to distribute variances periodically, at the option of the agency. The cost allocation variances (identified as PCA Type 2) are distributed in proportion to the sum of the standard cost allocations recorded year-to-date. For example, the variance in the indirect cost pool for 'Supplies' is allocated in proportion to the total amount of the supplies costs allocated to the direct cost pools since the beginning of the fiscal year. If direct cost pool 'X' received ten percent of the amount allocated for supplies costs, it would receive ten percent of the variance amount. The variance amount is automatically allocated based on an actual method; therefore, there is no variance amount remaining after a variance cost allocation process.

Agencies can specify the method used for the indirect variance PCAs (PCA Type 3); however, the allocation method specified must be an actual method, Distribution Type 4 or 5. A CA Profile (22) must be completed for each indirect variance PCA identifying how the indirect variance PCA is to be allocated.

Variance allocations should normally only be made once or twice a year, but must be made at year end. Note that frequent variance allocations are self-defeating because periodic allocation of variances is equivalent to allocating period costs on an actual method. Instead, the agency should use the actual method of cost allocation or adjust its standard cost factors to reduce the variance experienced at period end. If variance allocations are made frequently, significant additional transaction volumes are created and the performance of the system may be lowered.

Adjustment Period Cost Allocation

R★STARS	Version 2.0
REFERENCE MANUAL COST ALLOCATION	14-34 12/94

The adjustment period allocation allows agencies to allocate the costs charged to the indirect cost pools during the adjustment period.

R★STARS generates allocation transactions as identified in the CA Profile (22). The adjustment period expenditures only are summarized for the Distribution Base for Standard Methods. Under actual methods, the adjustment period indirect expenditures are summarized for allocation.

R★STARS	Version 2.0
REFERENCE MANUAL COST ALLOCATION	14-35 12/94

14-5 COST ALLOCATION REPORTING

The R★STARS System provides several means of identifying cost allocation transactions including the following:

- System Generated Reports
- Standard Financial Reports

Each report type is described in the following paragraphs.

System-Generated Reports

CAS automatically generates six reports during the cost allocation process. Two reports detail the accounting transactions generated during the cost allocation process. The remaining four reports are processing control reports which detail the number of records input and the number of transactions generated by each program in CAS. A description of each of the cost allocation reports is described below:

- **Cost Allocation Extract (DAFR5651)** - displays a picture of the AC Profile (25) indicators at the time the cost allocation was run. It also prints the number of General Ledger records read, the number of indirect and distribution base records written, and the financial month read.
- **Cost Allocation Extract (DAFR5652)** - displays the summary statistics from Cost Allocation Extract Report (DAFR5651).
- **Indirect PCA Summarizations (DAFR5711)** - displays the number of indirect General Ledger records read and the number of records written by agency.
- **Indirect PCA Summarizations (DAFR5712)** - displays the number of indirect General Ledger records read and written system wide.
- **Direct PCA Summarizations (DAFR5721)** - displays the number of General Ledger records read and the number of direct records written.
- **Cost Allocation Transaction Generation (DAFR5801)** - displays a summary of the transactions generated during the cost allocation process. This report identifies both the indirect costs to be allocated and the account classifications that were charged/credited during cost allocation. Cost accounting managers will find this report useful because it provides a complete picture of the allocation that occurred for each indirect cost pool.

This program assigns document numbers as follows:

R★STARS	Version 2.0
REFERENCE MANUAL COST ALLOCATION	14-36 12/94

Doc Type - From System Parameters Profile (D54) with Table ID 'DTYP' and Key1 'DAFM580'

YYMMDD - Effective date of cost allocation transaction (year, month, day)

- **Cost Allocation Transaction Control (DAFR5802)** - displays summary totals identifying the number of indirect transactions read and the number and total amount charged and credited during the cost allocation run. This report reflects summary statistics of Cost Allocation Transaction Generation Report (DAFR5801).
- **Cost Allocation Transaction Summarization Detail (DAFR5851)** - displays a detail list of all cost allocation transactions generated during each allocation process. Summary control totals by agency are included.
- **Cost Allocation Transaction Summarization Detail (DAFR5852)** - displays system wide summary statistics from the Cost Allocation Transaction Summarization Detail Report (DAFR5851).
- **Cost Allocation OC Update (DAFR5881)** - displays the number of Agency Control records updated.

R★STARS	Version 2.0
REFERENCE MANUAL COST ALLOCATION	14-37 12/94

14	INTRODUCTION	14-1
14-1	COST ALLOCATION OVERVIEW	14-2
	Key Concepts	14-2
	Establishing Cost Pools	14-3
	Profile Maintenance	14-7
	Processing Overview	14-7
	Implementing a Cost Allocation Plan	14-8
14-2	COST ALLOCATION METHODS	14-12
	Standard Cost Methods	14-12
	Actual Cost Methods	14-17
14-3	COST ALLOCATION OPTIONS	14-20
	Allocation by Object	14-20
	Allocation by Index	14-21
	Allocation by Other Classification Elements	14-28
	Distribution Base Period Options	14-30
	Multiple Step Allocations	14-30
	Transaction Posting Option	14-31
14-4	SPECIAL COST ALLOCATION PROCESSES	14-33
	Variance Allocations	14-33
	Adjustment Period Cost Allocation	14-34
14-5	COST ALLOCATION REPORTING	14-35
	System Generated Reports	14-35

R★STARS	Version 2.0
REFERENCE MANUAL COST ALLOCATION	14-38 12/94

A

Actual Cost Methods	14-17
Actual or Standard Cost Allocation Methods	14-1
Adjustment Period Cost Allocation	14-34
Agency Control Profile (25)	14-7
Agency Specific	14-2
Allocation by Grant	14-28
Allocation by Index	14-21
Allocation by Object	14-20
Allocation by Other Classification Elements	14-28
Allocation by Project	14-28
Allocation Range	14-3
Automated Transaction Generation	14-2

C

COST ALLOCATION ALLOCATION - Allocation by Index Example	14-26, 14-27
COST ALLOCATION ALLOCATION BY OBJECT CHARGE TRANSACTIONS	14-24
COST ALLOCATION ALLOCATION BY OBJECT RECOVERY TRANSACTIONS	14-23
Cost Allocation by Object	14-1
Cost Allocation Extract (DAFR5651)	14-35
Cost Allocation Extract (DAFR5652)	14-35
Cost Allocation Includes Various Classification Elements	14-1
Cost Allocation Including Projects - Example	14-29
COST ALLOCATION METHODS	14-12
Cost Allocation Multiple Step Allocation	14-32
Cost Allocation OC Update (DAFR5881)	14-36
COST ALLOCATION OPTIONS	14-20
COST ALLOCATION OVERVIEW	14-2
Cost Allocation Processing	14-9
Cost Allocation Profile (22)	14-7
COST ALLOCATION REPORTING	14-35
Cost Allocation Transaction Control (DAFR5802)	14-36
Cost Allocation Transaction Generation (DAFR5801)	14-35
Cost Allocation Transaction Summarization Detail (DAFR5851)	14-36
Cost Allocation Transaction Summarization Detail (DAFR5852)	14-36
Cost Allocation Type Profile (23)	14-7

D

Direct PCA Summarizations (DAFR5721)	14-35
--------------------------------------	-------

Distribution Base	14-3
Distribution Base Options	14-1
Distribution Base Period Options	14-30
Distribution Type	14-2
Distribution Type 1 - Standard Rate	14-13, 14-14
Distribution Type 2 - Standard Cost Per Unit	14-13, 14-15
Distribution Type 3 - Standard Amount	14-13, 14-16
Distribution Type 4 - Allocation by Object	14-22
Distribution Type 4 - Fixed Percentage	14-17, 14-18
Distribution Type 5 - Calculated Percentage	14-17, 14-19

E

Establishing Cost Pools	14-3
--------------------------------	------

F

Fixed Percent Allocation	14-3
Flowchart of How Costs Can Be Allocated	14-11

I

Implementing a Cost Allocation Plan	14-8
Indirect PCA Summarizations (DAFR5711)	14-35
Indirect PCA Summarizations (DAFR5712)	14-35
Indirect PCA's Used for Cost Allocation	14-4
Introduction	
Cost Allocation	14-1

K

Key Concepts	14-2
---------------------	------

M

Multiple Step Allocations	14-30
----------------------------------	-------

P

PCA Type	14-2
PCA Type Indirect vs. Direct	14-6
Processing Overview	14-7
Profile Maintenance	14-7
Program Cost Account (PCA)	14-2
Program Cost Account Profile (26)	14-7

R★STARS	Version 2.0
REFERENCE MANUAL COST ALLOCATION	14-2 12/94

S

SPECIAL COST ALLOCATION PROCESSES	14-33
Standard Cost Methods	14-12
System Management Profile (97)	14-7
System-Generated Reports	14-35

T

Transaction Posting Option	14-31
-----------------------------------	-------

V

Variance Allocation	14-1
Variance Allocations	14-33