

When we are determining whether a recharge is within tolerance, we look at the fund balance of the operating account to make a determination. If a recharge center is not properly using their depreciation recovery account, several issues can occur. Several of these issues are outlined below.

Depreciation Recovery Examples:

- 1.) [Transfer of depreciation into depreciation recovery account when actual activity in the recharge matches what was expected.](#)
 - 2.) [Transfer of depreciation into depreciation recovery account when the activity in the recharge is less than what was expected.](#)
 - 3.) [Transfer of depreciation into depreciation recovery account when activity in the recharge is greater than what was expected.](#)
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Example #1: Transfer of depreciation into depreciation recovery account when actual activity matches what was expected.

Scenario: A department purchases a piece of equipment in a recharge center after transferring funds from the general fund to the recharge center operating fund. Equipment has a purchase cost of \$100,000, with a 5-year useful life and no salvage value. Miscellaneous expenses in the recharge are expected \$50,000 for the salary of the equipment operator and \$10,000 for a maintenance agreement. The numbers of estimated customers is 20 users. Each service that the equipment is used for will take 2 weeks, so the rate is calculated using the number of customers.

Calculation of the rate:

Salary and Wages:	\$50,000
Maintenance Agreement:	\$10,000
Depreciation Expense:	<u>\$20,000</u>
Total Expenses:	\$80,000
Divided by estimated # of users:	<u>/ 20 customers</u>
Rate:	\$4,000 per service

(Depreciation Expense is calculated by taking the cost of the equipment divided by the useful life. In this case, depreciation expense is equal to the \$100,000 piece of equipment divided by the 5 years of useful life, which equals \$20,000 of depreciation expense per year.)

In the first year, there were truly 20 customers, and expenses matched projected expenses. Therefore, the income that we received was \$80,000 and our expenses equaled \$80,000. However, one of the expenses was depreciation of \$20,000, which is a non-cash expense. This causes our cash expenses to be only \$60,000, and cash expenses are the expenses that affect fund balance (since fund balance is a measure of working capital). Our fund balance at the end of the year – if we do not transfer an amount

equal to depreciation expense into the depreciation recovery account – will be \$20,000 (income of \$80,000 less cash expenses of \$60,000).

Let's determine if our fund balance of \$20,000 is within tolerance.

Step 1: Is income greater than \$50,000? In this case, the answer is yes – income was \$80,000.

Step 2: What is our tolerable fund balance zone? Let's calculate our possible tolerable fund balances:

- Tolerable fund balance based on 10% of income:
 - \$80,000 of income multiplied by 10% = **\$8,000**
- Tolerable fund balance based on two months of cash expenses:
 - \$60,000 total cash expenses (\$80,000 total expenses less \$20,000 depreciation expense) multiplied by 2 months divided by 12 total months in a year = **\$10,000**
- Since \$10,000 > \$8,000, this is our tolerable fund balance for the recharge center. Therefore our ***fund balance tolerance zone is from -\$5,000 to \$10,000.***

Step 3: Is our fund balance within tolerance? ***Our fund balance is \$20,000, so no; it is not within fund balance tolerance zone.***

How can we correct this?

If we transfer cash equal to our depreciation expense for the year into the depreciation recovery account, our fund balance in our operating account will be \$0. This is the target balance that we are trying to maintain in our recharge (because in a recharge income should essentially match expenses), and therefore we are now within tolerance. The fund balance of our depreciation recovery fund will be \$20,000, and those funds that are meant to be used for future capital equipment purchases are properly set aside and easily identifiable for that purpose.

Example #2: Transfer of depreciation into depreciation recovery account when the activity in the recharge is less than what was expected.

Scenario: A department purchases a piece of equipment in a recharge center after transferring funds from the general fund to the recharge center operating fund. Equipment has a purchase cost of \$100,000, with a 5-year useful life and no salvage value. Miscellaneous expenses in the recharge are expected \$50,000 for the salary of the equipment operator and \$10,000 for a maintenance agreement. The numbers of estimated customers is 20 users. Each service that the equipment is used for will take 2 weeks, so the rate is calculated using the number of customers.

Calculation of the rate:

Salary and Wages:	\$50,000
Maintenance Agreement:	\$10,000
Depreciation Expense:	<u>\$20,000</u>
Total Expenses:	\$80,000

Divided by estimated # of users: / 20 customers
Rate: \$4,000 per service

(Depreciation Expense is calculated by taking the cost of the equipment divided by the useful life. In this case, depreciation expense is equal to the \$100,000 piece of equipment divided by the 5 years of useful life, which equals \$20,000 of depreciation expense per year.)

In the first year, there were only 15 customers, but expenses still matched projected expenses. Therefore, the income that we received was only \$60,000 (\$4,000 per customer * 15 customers) and our expenses equaled \$80,000. However, one of the expenses was depreciation of \$20,000, which is a non-cash expense. This causes our cash expenses to be only \$60,000, and cash expenses are the expenses that affect fund balance (since fund balance is a measure of working capital). Our fund balance at the end of the year – if we do not transfer an amount equal to depreciation expense into the depreciation recovery account – will be \$0 (Income of \$60,000 less cash expenses of \$60,000).

Let's determine if our fund balance of \$0 is within tolerance.

Step 1: Is income greater than \$50,000? In this case, the answer is yes – income was \$60,000.

Step 2: What is our tolerable fund balance zone? Let's calculate our possible tolerable fund balances:

- Tolerable fund balance based on 10% of income:
 - \$60,000 of income multiplied by 10% = **\$6,000**
- Tolerable fund balance based on two months of cash expenses:
 - \$60,000 total cash expenses (\$80,000 total expenses less \$20,000 depreciation expense) multiplied by 2 months divided by 12 total months in a year = **\$10,000**
- Since \$10,000 > \$6,000, this is our tolerable fund balance for the recharge center. Therefore our ***fund balance tolerance zone is from -\$5,000 to \$10,000.***

Step 3: Is our fund balance within tolerance? ***Our fund balance is \$0, so yes; it is within fund balance tolerance zone.***

In this case, we think that because our operating account has a fund balance of \$0, which is within the fund balance tolerance zone, that we are okay. However, are we really okay? Even though fund balance is \$0, we did not recover any money for depreciation expense, and therefore we will not have those funds to purchase equipment in the future.

What happens when we transfer cash equal to depreciation expense into the depreciation recovery? Cash of \$20,000 will be moved from the operating account into the depreciation recovery account, causing the operating account to have a fund balance of -\$20,000. This fund balance is out of tolerance because it is less than -\$5,000. Therefore, when we properly transfer cash equal to depreciation expense into the depreciation recovery account, we get a true picture of whether or not we are actually recovering the costs that we are trying to recover. When we see that fund balance in our operating account is truly -\$20,000 rather than \$0, ***we realize that we need to be changing our rate so that we can recover the costs that we need to recover.***

In this case, the re-calculation of the rate to bring the fund within tolerance (with the same assumptions in the original scenario but with an decrease in number of customers) should look as follows:

Calculation of the rate:

Salary and Wages:	\$50,000
Maintenance Agreement:	\$10,000
Depreciation Expense:	<u>\$20,000</u>
Total Expenses:	\$80,000
Plus deficit to be recovered:	<u>+\$20,000</u>
Equals costs to be recovered:	\$100,000
Divided by estimated # of users:	<u>/ 15 customers</u>
NEW Rate:	\$6,667 per service

Note: The deficit in the recharge can be recovered over a period of up to three years, in order to not raise the rates too much in any given year. In this case, we could recover only \$6,667 (\$20,000 deficit divided by three) in year one, making the rate \$5,777 per service.

Example #3: Transfer of depreciation into depreciation recovery account when activity in the recharge is greater than what was expected.

Scenario: A department purchases a piece of equipment in a recharge center after transferring funds from the general fund to the recharge center operating fund. Equipment has a purchase cost of \$100,000, with a 5-year useful life and no salvage value. Miscellaneous expenses in the recharge are expected \$50,000 for the salary of the equipment operator and \$10,000 for a maintenance agreement. The numbers of estimated customers is 20 users. Each service that the equipment is used for will take 2 weeks, so the rate is calculated using the number of customers.

Calculation of the rate:

Salary and Wages:	\$50,000
Maintenance Agreement:	\$10,000
Depreciation Expense:	<u>\$20,000</u>
Total Expenses:	\$80,000
Divided by estimated # of users:	<u>/ 20 customers</u>
Rate:	\$4,000 per service

(Depreciation Expense is calculated by taking the cost of the equipment divided by the useful life. In this case, depreciation expense is equal to the \$100,000 piece of equipment divided by the 5 years of useful life, which equals \$20,000 of depreciation expense per year.)

In the first year, there were 25 customers instead of 15, but expenses still matched projected expenses. Therefore, the income that we received was \$100,000 (\$4,000 per customer * 25 customers) and our expenses equaled \$80,000. However, one of the expenses was depreciation of \$20,000, which is a non-

cash expense. This causes our cash expenses to be only \$60,000, and cash expenses are the expenses that affect fund balance (since fund balance is a measure of working capital). Our fund balance at the end of the year – if we do not transfer an amount equal to depreciation expense into the depreciation recovery account – will be \$40,000 (Income of \$100,000 less cash expenses of \$60,000).

Let's determine if our fund balance of \$40,000 is within tolerance.

Step 1: Is income greater than \$50,000? In this case, the answer is yes – income was \$100,000.

Step 2: What is our tolerable fund balance zone? Let's calculate our possible tolerable fund balances:

- Tolerable fund balance based on 10% of income:
 - \$100,000 of income multiplied by 10% = **\$10,000**
- Tolerable fund balance based on two months of cash expenses:
 - \$60,000 total cash expenses (\$80,000 total expenses less \$20,000 depreciation expense) multiplied by 2 months divided by 12 total months in a year = **\$10,000**
- Both tolerable fund balances are \$10,000, so this is our tolerable fund balance for the recharge center. Therefore our ***fund balance tolerance zone is from -\$5,000 to \$10,000.***

Step 3: Is our fund balance within tolerance? ***Our fund balance is \$40,000, so no; it is not within fund balance tolerance zone.***

In this case, we realize that we need to revise our rates because our fund balance is outside of the tolerance zone. However, we need to correctly determine how much of that \$40,000 is truly a surplus. If we do not transfer cash equal to depreciation expense into the depreciation recovery account, it looks like we have over recovered by \$40,000. Is this truly the case? No, because we recovered some money for depreciation expense that was truly incurred but not reflected in our fund balance, since we did not transfer cash equal to depreciation expense into our depreciation recovery account.

When we properly transfer cash equal to depreciation expense into the depreciation recovery account, we get a true picture of how much we have actually over recovered. In this case, we have actually only over recovered by \$20,000 (rather than \$40,000). In this case, the re-calculation of the rate to bring the fund within tolerance (with the same assumptions in the original scenario but with an increase of number of customers) should look as follows:

Calculation of the rate:

Salary and Wages:	\$50,000
Maintenance Agreement:	\$10,000
Depreciation Expense:	<u>\$20,000</u>
Total Expenses:	\$80,000
Less surplus over recovery:	<u>-\$20,000</u>
Equals costs to be recovered:	\$60,000
Divided by estimated # of users:	<u>/ 25 customers</u>
NEW Rate:	\$2,400 per service

Note: The surplus in the recharge can be used to lower the rate over a period of up to three years, in order to not lower the rates too much in any given year. In this case, we could lower the rates by only \$6,667 (\$20,000 surplus divided by three) in year one, making the rate \$2,933 per service.