COMMERCE DEPARTMENT

October 3, 2017

Daniel P. Wolf
Executive Secretary
Minnesota Public Utilities Commission
121 7th Place East, Suite 300
St. Paul, Minnesota 55101

RE: **Response Comments of the Minnesota Department of Commerce, Division of Energy Resources to Otter Tail Power Company's Reply Comments**
Docket No. E017/M-16-373

Dear Mr. Wolf:

Attached please find the Minnesota Department of Commerce, Division of Energy Resources' (Department) Response Comments to the Reply Comments of Otter Tail Power Company (OTP or the Company) in the following matter:

> Petition for Approval of the Annual Rate Update to its Environmental Upgrades Cost Recovery Rider Rate, Rate Schedule 13.08.

Based on our review of OTP's Reply Comments, the Department recommends that the Minnesota Public Utilities Commission (Commission) **approve with modifications** by adopting the Department's recommendations, as discussed in greater detail herein. The Department is available to answer any questions the Commission may have.

Sincerely,

/s/ MARK A. JOHNSON
Financial Analyst

MAJ/ja
Attachment

COMMERCE DEPARTMENT

Before the Minnesota Public Utilities Commission

Comments of the Minnesota Department of Commerce
Division of Energy Resources

Docket No. E017/M-16-373

I. BACKGROUND

On January 23, 2012, the Minnesota Public Utilities Commission (Commission) issued its Order approving Otter Tail Power Company's (OTP or the Company) request for an Advanced Determination of Prudence (ADP) regarding the installation of an Air Quality Control System (AQCS) at its Big Stone Generation Station Plant located near Milbank, South Dakota in Docket No. E017/M-10-1082. The Big Stone Plant is a multiple-owner plant that OTP owns with Montana Dakota Utilities and NorthWestern Energy. OTP owns 53.9 percent of the plant.

On December 18, 2013, the Commission issued its Order approving OTP's request to begin recovery of costs associated with the Big Stone Plant's AQCS under OTP's proposed Environmental Cost Recovery Rider (ECRR) in Docket No. E017/M-13-648.

OTP's first and second annual updates to its ECRR were approved in Docket Nos. E017/M-14-647 and E017/M-15-719, respectively.

On April 29, 2016, OTP filed the instant petition requesting approval of its third annual update to its ECRR in Docket No. E017/M-16-373 (Petition).

On July 5, 2016, the Commission issued its Order granting provisional approval of OTP's third annual update to its ECRR in the instant Petition, with the understanding that the final decision will be made at a later date.

On July 14, 2016, OTP filed its compliance filing as required by the Commission's July 5, 2016 Order. The compliance filing indicated that the effective date of the rider was September 1, 2016. OTP also included its updated Rate Schedule Section 13.08 for its ECRR as provisionally approved by the Commission.

On February 1, 2017, the Department filed its Comments in the instant Petition. The Department recommended that OTP provide the following information in its Reply Comments:

- discuss the reasonableness of charging ratepayers for current income taxes when the Company will not pay any current income taxes due to its net operating loss (NOL);
- explain why OTP's proposed 2016 deferred tax asset (DTA) in its ECRR (which only includes the AQCS project) appears to be much higher than the Company's proposed 2016 DTA in its 2015 Rate Case, which includes all projects;
- the calculations OTP used to determine its total DTA and the portion of the DTA ($17,769,693) that was attributable to the ECRR;
- indicate how long OTP expects to remain in an NOL carryforward position;
- explain why the deferred tax expense in the ECRR for any given year does not match the change in deferred tax balances (ADIT and DTA) in the ECRR for any given year;
- discuss the effect on the NOL and DTA of using a rider stand-alone basis, which uses only rider revenues, expenses, depreciation, and related accelerated depreciation to determine the NOL and related DTA, as opposed to a total-company basis; and
- identify offsetting revenues OTP received, such as those related to emission allowances or revenues or credits (such as tax credits), and indicate whether these revenues have been included in the ECRR.

The Department also recommended that the Commission approve OTP's proposed ADIT proration in the instant Petition, subject to a true-up calculation in the following year using actual non-prorated ADIT amounts.

In addition, the Department recommended that the Commission require OTP to use the actual rate of return and actual jurisdictional allocation factors approved by the Commission in its 2015 Rate Case (Docket No. E017/GR-15-1033) to recalculate its ECRR revenue requirements, true-up, and remaining tracker balance to be charged or returned to ratepayers through the ECRR over the subsequent 12 months following the implementation of final rates.

On February 21, 2017, OTP filed its Reply Comments.

On May 1, 2017, the Commission issued its *Findings of Fact, Conclusions of Law, and Order* in OTP's 2015 Rate Case in Docket No. E017/GR-151033 (Rate Case Order). The Commission stated on page 6 of its Rate Case Order that it concurred with the Administrative Law Judge (ALJ) that the resolved issues reached by the parties were reasonable and supported by the record (ALJ findings 172-265). ALJ finding 207 concluded that OTP's proposal to adjust its test-year ECRR roll-in amounts at the end of the rate case was reasonable.

On August 21, 2017, OTP submitted its Compliance Filing in accordance with Ordering Paragraph No. 30 of the Commission's Rate Case Order.

On August 28, 2017, OTP made a Supplemental Filing in the instant docket to reflect the Commission's Rate Case Order and rider roll-in information that was provided in the Company's August 21, 2017 Compliance Filing.

The Department responds to OTP's Reply Comments and Supplemental Filing below.

II. DEPARTMENT'S ANALYSIS

A. ENSURING THAT RATEPAYERS DO NOT PAY AN EXCESSIVE AMOUNT FOR INCOME TAXES

On page 9 of its Comments, the Department stated a concern that:

> …despite claiming to be in an NOL position, OTP appears to be charging ratepayers for current income taxes in its annual revenue requirements. For example, as shown in Attachment 2 of OTP's Petition, the Company proposes to charge ratepayers $6,123,484 [footnote omitted] in current and deferred income taxes in its annual revenue requirements for 2016. However, as shown on Lines 80 and 81 of the same attachment, OTP's deferred income tax totals only $2,376,029 for 2016. In other words, OTP appears to be charging ratepayers $3,747,455 ($6,123,484 - $2,376,029) in current income taxes for 2016, despite claiming to be in an NOL position. The Department recommends that OTP explain in reply comments why it would be reasonable to charge ratepayers for current income taxes when it's clear that the Company will not be paying any current income taxes due to its NOL.

In response to this question, beginning on page 1 of its Reply Comments, OTP stated that:

> In the Initial Filing, the total tax expense provision in the rider did not reflect the appropriate breakdown of income tax expense between current income taxes and deferred income taxes. Otter Tail determined that the classification of current and deferred income tax expense should be detailed separately. Specifically, the tax expense, described as "Current and Def Income Taxes," reflected on Line 39 of Attachment 2 of the Initial Filing should be separated into two categories to clarify the portion of the tax provision that represents current income tax expense and the portion that represents deferred income tax expense. Otter Tail

> includes Attachment 2 to these Comments revising Attachment 2 to the Initial Petition to include Line 39 for Current Income Taxes and Line 40 for Deferred Income Taxes. The Total Income Tax Expense (on Line 41) does not change from the Initial Filing in this proceeding.
>
> Income tax expense is computed based on book income and generally has two components: current income tax expense and deferred income tax expense. Current income tax expense is the income tax effect resulting from the current year's results. Deferred income taxes are the taxes included in the test year that will be paid in the future due to book/tax timing differences for certain costs such as depreciation, which is the most common cause of deferred income taxes. Otter Tail's tax NOL originated in 2015 as a result of significant levels of bonus tax depreciation attributable to plant investments going into service. The tax NOL resulted in the creation of a Deferred Tax Asset (DTA) which is added to rate base. In subsequent years when Otter Tail is carrying forward the DTA, that NOL carryforward balance is reduced by the current year's taxable income amount, lowering rate base, and reducing the corresponding revenue requirement attributable to the DTA balance. The benefit of the NOL carryforward is used to offset current taxable income. The recognition of current and deferred taxes within the tax provision appropriately reflects timing and utilization of the tax benefits over the life of the asset.

The Department reviewed OTP's Reply Comments (including Attachment 2) and generally agrees with OTP's statements regarding current and deferred income taxes, with some minor clarifications. While OTP is correct that a tax NOL carryforward results in the creation of a DTA that is added to rate base, the Department notes that the creation of the DTA also reduces tax expense by the same amount. Moreover, when current income taxes result in an NOL carryforward position, these current income taxes are essentially reclassified as deferred income taxes and a corresponding deferred tax asset is created on the balance sheet.[1] Examples of accounting for income taxes and NOL's under Generally Accepted Accounting Principles (GAAP) are included in Attachment 1 to these Comments.

[1] When current income taxes result in an NOL carryback position, a current tax receivable is created on the balance sheet and there is no need to reclassify current income taxes as deferred income taxes.

In this case, the Department notes that OTP chose not to reclassify its current tax expense to deferred tax expense despite the fact that it is in an NOL carryforward position.

The Department also notes that, under OTP's proposed total-company method, the creation of the NOL DTA does not match the corresponding reduction to income taxes. As shown on Attachment 2, Page 1 of 6 of OTP's Reply Comments, OTP's 2015 NOL carryforward results in the creation of a $17,769,693 DTA (Line 15) even though the corresponding reduction to 2015 current/deferred[2] income tax expense totals $24,367,394 (Line39).[3]

The Department concludes that OTP's proposal could charge unreasonably high rates to its customers in the proposed rider, and instead recommends that the Commission require OTP to use the lower of the rider stand-alone method or total-company method when accounting for NOL's in its ECRR, whichever results in the lowest annual revenue requirements for each year. This approach takes into account that ratepayers pay a significant amount of income taxes through base rates and thus balances the benefits of extraordinary rate-making through a rider with ensuring that ratepayers are reasonably protected against paying excessive amounts for income taxes.[4] A comparison of OTP's proposed total-company method to the rider stand-alone method is discussed below in Section F of these Comments.

B. WHY OTP'S PROPOSED 2016 DTA IN ITS ECRR (WHICH ONLY INCLUDES THE AQCS PROJECT) APPEARS TO BE MUCH HIGHER THAN THE COMPANY'S PROPOSED 2016 DTA IN ITS 2015 RATE CASE, WHICH INCLUDES ALL PROJECTS

In our initial Comments, the Department noted that OTP's proposed gross 2016 DTA in its ECRR totaled $17,769,693 at December 31, 2016 on a total-company basis. OTP's proposed net 2016 DTA (including the reversal balance) in its ECRR totaled $11,519,333 at December 31, 2016 on a total-company basis. In contrast, the Department noted that OTP's proposed net 2016 DTA in its 2015 Rate Case totaled only $7,218,449 at December 31, 2016 on a total-company basis.[5]

[2] The Department uses the term "current/deferred" since OTP did not reclassify its current tax expense to deferred tax expense despite being in an NOL carryforward position.
[3] As explained below in Section E, this result occurs because, under OTP's proposed total-company method the NOL balance is being forced into the rider and is not based solely on rider revenues and expenses, as would occur under the Department's rider stand-alone method.
[4] As noted in the Department's February 1, 2017 Comments, the Commission required Minnesota Power to use the lower of the rider stand-alone or consolidated methods in Docket No. E015/M-13-410. The Commission first required MP to use this approach in Docket No. E015/M-11-695.
[5] Per Mr. Peter J. Beithon's Direct Testimony in Docket No. E017/GR-15-1033, Exhibit___(PJB-1), Schedule 8, Page 1 of 1, Line 6, Column (B).

In response, OTP stated on page 2 of its Reply Comments that:

> There are two primary reasons for the difference in the DTA amounts provided in this proceeding and Otter Tail's Rate Case. The first is the timing of the filings and the associated information available at the time of those filings. The Rate Case test year uses forecasted amounts beginning in November 2015. The ECRR filing includes actual costs through March 2016 and updated forecasts thereafter. Second, based on Otter Tail's understanding of the application of the proration of ADIT at the time of the filings, the reversal of the DTA is prorated in the ECRR calculations, resulting in a higher forecasted DTA than the amount used in the Rate Case test year which was not prorated.

The Department notes the difficulty in analyzing OTP's two separately forecasted net 2016 NOL DTA balances – one in the 2015 Rate Case and another in the instant Petition. However, the Department concludes that the Company reasonably explained the different DTA amounts.

C. THE CALCULATIONS OTP USED TO DETERMINE ITS TOTAL DTA AND THE PORTION OF THE DTA ($17,769,693) THAT WAS ATTRIBUTABLE TO THE ECRR

Beginning on page 3 of its Reply Comments, OTP provided the calculations it used to determine the initial portion of the DTA that was attributable to the ECRR. Under OTP's proposed total-company method, approximately 62 percent of the DTA or $17,769,693 (not including the reversal amount) was attributable to the ECRR. The Department does not dispute OTP's calculations.

D. HOW LONG OTP EXPECTS TO REMAIN IN AN NOL CARRYFORWARD POSITION

OTP stated on page 4 of its Reply Comments that:

> At the time the ECRR update was filed, Otter Tail expected to utilize the entire DTA by 2018. This utilization, or reversal, is shown on Line 16 of Attachment 2 to these Reply Comments. The utilization of NOL's at a company level is allocated to the ECRR using the same 62.06 percent allocation factor that originated the ECRR DTA amount. As Otter Tail updates its tracker with actual results and completes actual tax returns, the NOL balance and DTA reversal will be updated in the tracker to reflect actual utilization of the NOL carryforward.

The Department appreciates OTP's response that the Company expects to fully utilize its NOL DTA by 2018.

E. WHY THE DEFERRED TAX EXPENSE IN THE ECRR FOR ANY GIVEN YEAR DOES NOT MATCH THE CHANGE IN DEFERRED TAX BALANCES (ADIT AND DTA) IN THE ECRR FOR SUCH YEAR

OTP stated on page 4 of its Reply Comments that:

> In 2016, the difference between the actual monthly deferred tax expenses shown on Lines 80 and 81 of Attachment 2 within the Initial Filing and the change in ADIT balance shown on Line 18 is the result of monthly proration of ADIT. Attachment 1 to these Reply Comments illustrates the impact of proration comparing the 2016 prorated monthly balances (Lines 1-6) with corresponding non-prorated balances (Lines 7-12). Line 1 is multiplied by Line 2 calculating the prorated amount that is to be added to the cumulative balance on Line 6. As actual results replace projected amounts, the effect of proration is eliminated and the actual, nonprorated ADIT amounts will be reflected in the ECRR.

The Department reviewed OTP's Reply Comments and notes that the Company only addressed the changes in its 2016 ADIT balance and 2016 deferred tax expense. OTP did not address the change in its NOL DTA and current/deferred tax expense. While the Department agrees that proration accounts for the difference between the change in the 2016 ADIT balance and the 2016 deferred tax expense, it does not explain the difference between the 2016 NOL DTA balance and the offsetting 2016 entry to current/deferred tax expense.

The Department notes that this discrepancy is due to OTP's proposed total-company method, where changes in the NOL DTA balances do not match the corresponding changes to income taxes, as they would under GAAP and the Department's preferred rider stand-alone method. For example, under the total-company method shown on Attachment 2, Page 3 of 6 of OTP's Reply Comments, OTP's net 2016 NOL DTA balance changed by $6,250,360 (Line 16) even though OTP's corresponding 2016 current/deferred tax expense changed by $3,673,815 (Line 39). As noted in Section A above, calculating the ECRR factor using OTP's total-company method has the potential to result in unreasonably high ECRR rates by charging ratepayers excessive amounts for income taxes.

F. THE EFFECT ON THE NOL AND DTA OF USING A RIDER STAND-ALONE BASIS, WHICH USES ONLY RIDER REVENUES, EXPENSES, DEPRECIATION, AND RELATED ACCELERATED DEPRECIATION TO DETERMINE THE NOL AND RELATED DTA

As explained in our initial Comments, the Department extensively reviewed the accounting for NOL's, and their applicability to riders, in Minnesota Power's 2013 Transmission Cost Recovery Rider in Docket No. E015/M-13-410 and in Docket No. E015/M-11-695. In those cases, the Commission required Minnesota Power to use a hybrid approach when accounting for NOL's in its riders. Under the hybrid approach, Minnesota Power uses either the rider stand-alone method or consolidated method, whichever results in the lowest annual revenue requirements for ratepayers.

Beginning on page 4 of its Reply Comments, OTP provided the effects on the NOL DTA and 2015 through 2017 ECRR revenue requirements under the total-company method and the rider stand-alone method. As shown therein, at this point in time, the total-company method results in a smaller NOL DTA and annual revenue requirements for 2015, 2016, and 2017 than the rider stand-alone method. However, because the rider rates change each year, over time ratepayers could be harmed by not using the hybrid approach the Commission previously required for MP.

Since the Department concluded that OTP's proposed total-company method is similar to Minnesota Power's consolidated method, the Department recommends that the Commission require OTP to use a similar hybrid approach when accounting for NOL's in its ECRR. In other words, the Department recommends that the Commission require OTP to use the lower of the rider stand-alone method or total-company method when accounting for NOL's in its ECRR filings, whichever results in the lowest annual revenue requirements for each year.

G. IDENTIFY OFFSETTING REVENUES OTP RECEIVED, SUCH AS THOSE RELATED TO EMISSION ALLOWANCES OR REVENUES OR CREDITS (SUCH AS TAX CREDITS), AND INDICATE WHETHER THESE REVENUES HAVE BEEN INCLUDED IN THE ECRR

OTP stated on page 6 of its Reply Comments that:

> To date, Otter Tail has not received any offsetting revenues, such as those related to emissions allowances or revenues or credits, such as tax credits. In the event Otter Tail does receive any applicable revenues or credits while the rider remains in effect, they will be included in the ECRR.

Based on the above, the Department concludes that OTP has not received any related offsetting revenues at this time.

H. *ROLLING RIDER INTO BASE RATES AND UPDATING RATE OF RETURN AND JURISDICTIONAL ALLOCATORS*

OTP stated the following on page 6 of its Reply Comments:

> As part of Otter Tail's current General Rate Case (Docket No. E017/GR-15-1033), the AQCS project, which is the only project included in the ECRR, is proposed to be rolled into base rates. Otter Tail agrees with the Department recommendation to use the actual rate of return and actual jurisdictional allocation factors approved by the Commission in Otter Tail's General Rate Case to recalculate its ECRR revenue requirement. Otter Tail will update any forecasted project spend with actuals as well as update the DTA and NOL amounts based on actual tax return data available at the time of roll-in. Any true-up and remaining tracker balance will be charged or returned to ratepayers through the ECRR over the subsequent 12 months following implementation of final rates, or through the appropriate mechanism as determined by the Commission in the Rate Case.

The Department agrees with OTP's proposal to charge any true-up and remaining tracker balance through the ECRR over the subsequent 12 months following implementation of final rates. OTP's proposal matches the ECRR treatment proposed and agreed upon by the Department and OTP in the 2015 Rate Case.[6]

On August 28, 2017, OTP made its Supplemental Filing in the instant Petition to reflect the Commission's Rate Case Order and the appropriate rate of return, jurisdictional allocators, and rider roll-in information used to recalculate its ECRR revenue requirements and remaining tracker balance to be recovered from ratepayers over the 12 months following the implementation of final rates, which OTP proposes to begin on November 1, 2017.

OTP's revised calculations are shown in Attachments 1 through 6 of its Supplemental Filing. As shown therein, OTP's initial and revised annual revenue requirements (excluding carrying costs and true-up) for the period from September 2016 to August 2017 have decreased from $12,487,422 to $11,003,200.[7] In addition, OTP's shows an estimated remaining tracker balance of ($1,943,044) through October 2017, which OTP proposes to refund to ratepayers over the

[6] Department witness Mr. Mark A. Johnson's Surrebuttal Testimony in Docket No. E017/GR-15-1033, Pages 6-7.
[7] OTP's August 28, 2017 Supplemental Filing in Docket No. E017/M-16-373, REVISED Attachment 2, Pages 1-3.

12-month period from November 2017 to October 2018, resulting in an Environmental Cost Recovery Factor of ($0.935) percent.[8]

The Department reviewed OTP's calculations and agrees with the Company's revised annual revenue requirements, remaining tracker balance, proposal for refund, and resulting Environmental Cost Recovery Factor. Based on our review, the Department recommends that the Commission approve OTP's revised annual revenue requirements, remaining tracker balance, proposal method for refunding, and resulting Environmental Cost Recovery Factors.

III. SUMMARY OF RECOMMENDATIONS

The Department recommends that the Commission:

- require OTP to use the lower of the rider stand-alone method or total-company method when accounting for NOL's in its ECRR, whichever results in the lowest annual revenue requirements for each year; and
- approve OTP's revised annual revenue requirements, remaining tracker balance, proposal for refund, and resulting Environmental Cost Recovery Factors.

/ja

[8] OTP's August 28, 2017 Supplemental Filing in Docket No. E017/M-16-373, REVISED Attachment 4, Page 1.

Professor Paul Zarowin - NYU Stern School of Business

Financial Reporting and Analysis - B10.2302/C10.0021 - Class Notes

Income Taxes

- book (financial statement) vs. taxable income
- permanent vs. temporary (timing) differences
- permanent differences: effective vs. statutory tax rates
- temporary differences: deferred taxes (expense, asset, liability)
- tax expense: current vs. deferred components
- examples of deferred tax asset, liability
- journal entries
- balance sheet (asset and liability) method
- net operating loss (NOL): carryback vs. carryforward
- deferred tax asset valuation allowance
- footnote disclosure

Income Taxes

The key feature that drives accounting for income taxes is that pre-tax taxable income (what the firm reports to the IRS) generally does not equal pre-tax book (financial statement) income, due to 2 types of differences, *temporary differences* and *permanent differences*. Thus: book income = taxable income ∀ temporary differences ∀ permanent differences. As we know, book income is measured according to the accrual principal, wherein revenue and expense recognition need not follow the flow of cash. The IRS calculates taxable income on a cash basis (virtually).

Temporary (timing) differences between book vs. taxable income are due to items of revenue or expense that are recognized in one period for taxes, but in a different period for books. Book recognition can come either before or after tax recognition. These revenue and expense items cause a timing difference between the two incomes, but over the Along run@, they cause no difference between the two incomes. This is why they are temporary. When the difference first arises it is called an *originating* timing difference; when it later reverses it is called a *reversing* timing difference. Examples of temporary differences are: (1) computing depreciation expense by the SL method for books and by an accelerated method for taxes, and (2) computing bad debts expense by the allowance method for books and by the direct write-off method for taxes. Over the life of the firm, total depreciation expense and bad debts expense are unaffected by the method. What is affected is how much expense is recognized in any given period. Temporary differences are said to Areverse@, because if they cause book income to be higher (lower) than taxable income in one period, they must cause taxable income to be higher (lower) than book income in another period.

Permanent differences are differences that never reverse. That is, they are items of book (or tax) revenue or expense in one period, but they are never items of tax (or book) revenue or expense. They are either non-taxable revenues (book revenues that are non-taxable) or non-deductible expenses (book expenses that are non-deductible). Examples of permanent differences are (non-taxable) interest revenue on municipal bonds and (non-deductible) goodwill (GW) amortization expense under the purchase method for acquisitions.

Temporary differences cause *deferred taxes*, while permanent differences cause a firm=s *effective income tax rate* (book income tax expense) pre-tax book income) to differ from the statutory tax rate. We will first discuss temporary differences and then permanent differences.

Temporary Differences: Deferred Taxes

Accounting for temporary differences is called *deferred tax accounting* or *inter-period tax allocation.*[1] The terms refer to the fact that the total income tax expense recognized for books in a given period can be paid to the IRS over different periods (both before, during, and after book recognition); alternatively, the amount of tax (cash) paid to the IRS in a given period is recognized as book tax expense over different periods.

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[1]Recall that *intra-period tax allocation* is the allocation of total book tax expense of a given period across the various categories on the income statement for that period.

Deferred Tax Assets and Liabilities

What drives deferred tax accounting is (the changes in) the deferred tax asset and liability accounts. *Deferred tax liabilities* are liabilities for taxes due in the future (future cash outflow for taxes payable) on income that has already been recognized for books. In effect, although you have already recognized the income on your books, the IRS lets you pay the taxes later (due to the timing difference). *Deferred tax assets* are reductions in future taxes payable, because you have already paid the taxes on book income to be recognized in the future (like a prepaid tax).

Because of the *matching principle*, we care about the *total* income tax expense to be matched against pre-tax book income, regardless of whether this expense involves a current cash outflow or not (just like any other expense under the accrual method). Under accrual accounting, not all expenses involve current cash outflows; some expenses (prepayments:assets) involve past cash outflows, and some expenses involve future cash outflows (payables:liabilities).

One way to think about deferred tax assets and liabilities is: because of the timing differences between tax and financial reporting, some of this period=s (book) income tax expense has been (pre)paid in prior periods, having caused a deferred tax asset when paid, that we now draw down (reducing current cash outflow); some of this period=s income tax expense will be paid in the future, causing a deferred tax liability now (also reducing current cash outflow). Some of the income tax expense is being currently paid, so it does not cause deferred tax assets or liabilities. Another way to think about deferred tax assets and liabilities is: some of the current tax cash outflow is paying for current taxes; some of the outflow is paying for past taxes (paying off a deferred tax liability); and some is paying for future taxes (building up a deferred tax asset).

The following table shows how the timing difference between book vs. tax revenue and expense and recognition causes deferred tax assets and liabilities. Simultaneous recognition (paying cash for current tax expense), of course, does not cause deferred taxes. There are thus 4 possible cases.

	Revenues	Expenses
recognize for books before taxes	1.Deferred tax liability	2.Deferred tax asset
recognize for taxes before books	3. Deferred tax asset	4. Deferred tax liability

In case 1, you show revenue for books now, but you will pay taxes on it in the future, causing a deferred tax liability (future cash outflow, increase in future taxes payable). In case 2, you show expenses for books now, but you will get the tax deduction in the future, causing a deferred tax asset (current cash outflow, reduction in future taxes payable). In case 3, you pay taxes now, on book revenues that you will recognize in the future causing a deferred tax asset (a prepaid tax, reduction in future taxes payable). In case 4, you take a tax deduction now for a future book expense, so you will have to pay more taxes in the future, causing a deferred tax liability (future cash outflow, increase in future taxes payable).

An example of #1 is an installment sale; revenue is recognized up front for financial reporting, but is recognized for tax purposes later, when cash is received each period.

An example of #2 is bad debts expense. The allowance method for books recognizes the expense in the period of sale by the adjusting entry (matching principle), while the direct write-off method
recognizes the expense in a later period, when the receivable is actually written off.

An example of #3 is a prepayment where revenue is recognized for tax purposes up front as cash is received , while accrual accounting delays revenue recognition until revenue is earned later.

An example of #4 is depreciation expense; firms use an accelerated method for taxes and SL for books. This combination recognizes some depreciation for taxes first and for books later.

RCJ give additional examples of revenues and expenses that produce deferred tax assets and liabilities in Table 13.1 on page 630.

Total Income Tax Expense on the I/S is the sum of 2 components, *current* plus *deferred*, either one of which (or both) can be positive or negative. The current part is the amount paid to (or refund received from) the IRS. If the current component is positive, the entry is:

DR	CR
(current) income tax expense	
	Cash or income taxes payable

The firm will credit the current liability because it makes its tax accrual as of December 31st, but sends the check a few weeks later. If the current component is negative, the entry is:

DR	CR
cash or income tax refund receivable	
	(current) income tax expense

Negative current income tax expense is due to a *Net Operating Loss (NOL)*, discussed below. Like in the positive case, either cash or a current asset account can be in the entry.

The deferred component of income tax expense is the other side in the journal entry to deferred tax assets/liabilities. Here are some possible cases.
(1) If deferred tax assets increase by 100 (DR) and deferred tax liabilities increase by 200 (CR), then deferred income tax expense is positive (DR) 100. The entry is:

DR		CR	
(deferred) income tax expense	100		
deferred tax assets	100		
		Deferred tax liabilities	100

(2) If deferred tax assets increase by 200 (DR) and deferred tax liabilities increase by 100 (CR), then deferred income tax expense is negative (CR) 100. The entry is:

DR		CR	
deferred tax assets	200		
		Deferred tax liabilities	100

(deferred) income tax expense 100

(3) If deferred tax assets decrease by 100 (CR) and deferred tax liabilities decrease by 200 (DR), then deferred income tax expense is negative (CR) 100. The entry is:

DR		CR	
Deferred tax liabilities	200		
		(deferred) income tax expense	100
		deferred tax assets	100

(4) If deferred tax assets decrease by 200 (CR) and deferred tax liabilities decrease by 100 (DR), then deferred income tax expense is positive (DR) 100. The entry is:

DR		CR	
(deferred) income tax expense	100		
Deferred tax liabilities	100		
		deferred tax assets	200

(5) If deferred tax assets increase (DR) and deferred tax liabilities decrease (DR), then deferred tax expense must be negative (CR). The entry is:

DR		CR	
Deferred tax liabilities			
Deferred tax assets			
		(deferred) income tax expense	

(6) If deferred tax assets decrease (CR) and deferred tax liabilities increase (CR), then deferred tax expense must be positive (DR). The entry is:

DR		CR	
(deferred) income tax expense			
		Deferred tax liabilities	
		deferred tax assets	

I have the shown the journal entries for the 2 components of income tax separately, but they can be combined into one. For example, assume that the current component of income tax expense is a positive (DR) 300, and the deferred component is as shown in entry #3, above. The combined entry is:

DR		CR	
Income tax expense	200		
Deferred tax liabilities	200		
		Cash or taxes payable	300
		Deferred tax assets	100

It is obvious from the entry that the current and deferred components of income tax expense are 300 and -100, respectively.

Note that income tax expense is like any other expense account under the accrual method in that the expense does not necessarily equal the cash outflow. In this sense, deferred tax accounting is just another example of accrual accounting.

Balance Sheet Method[2]

The method to compute the components of income tax expense and deferred tax assets and liabilities is called the balance sheet method. (1) Compute the current component of income tax expense (tax reporting), equal to current taxable income x currently prevailing tax rate. This is always the first step, because it is independent of financial reporting rules.[3] (2) Compute the deferred component of income tax expense by calculating the (changes in the) deferred tax asset and deferred tax liability accounts. It is important to know whether the timing differences are originating or reversing. If they are originating, construct a schedule of all future revenues and expenses for book and tax purposes. Multiply each future year=s timing difference (between book vs. tax revenue and expense) by the tax rate *expected to be in effect* at the time of future reversal. Then sum over all future years, to calculate the increase in the deferred tax asset (DR) or liability (CR) balances. If they are reversing, the decrease in the deferred tax asset (CR) or liability (DR) balance is the reversing amount x the tax rate used to create the balance originally. (3) Compute total income tax expense as the sum of the 2 components. RCJ flowchart this procedure in Figure 13.5 (page 644) and show a detailed example on pages 641-647. It is called the balance sheet method because you back into deferred (and thereby total) income tax expense via the changes in the B/S (deferred tax asset and liability) accounts. Thus,

deferred tax liability (asset) = future taxable (deductible) amount due to timing difference x future tax rate [or, future timing difference = deferred tax A or L) tax rate], and

Δdeferred tax liability (asset) = Δfuture taxable (deductible) amount x future tax rate [or, Δfuture timing difference = Δdeferred tax A or L) tax rate].

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[2]RCJ call this the *liability method.* The old (Income Statement) method computed total book income tax expense as the current tax rate x book income, and then subtracted the current income tax expense to compute deferred income tax expense. As long as there are no permanent differences and the current tax rate does not change in the future, both methods produce the same results. The B/S method is superior, because it can handle permanent differences and future tax rate changes, and because it explicitly isolates deferred tax assets and liabilities.

[3]The one exception is when taxable income is negative. See NOL=s, below.

Note that the B/S method absorbs the full effect of a tax rate change on net income in the year that the change is enacted (even if the rate change will not go into effect right away). This is because the beginning of year balances of deferred tax assets and liabilities are based on the old tax rate, while the end of year balances are based on the new tax rate (when the differences reverse); thus, the change in the balances, which equals the deferred tax expense, are affected right away. The effect on net income due to the rate change is a one-time, transitory effect (unless rates keep changing. The impact of the rate change on NI depends on: 1. the change in the tax rate 2. whether the firm has a net deferred tax asset or liability balance 3. the magnitude of the balance. RCJ summarize the tax journal entry procedure in Figure 13.8 (page 652).

Net Operating Losses (NOL=s)

An NOL is negative *taxable* income. Book income may be either positive or negative, it doesn=t matter. An NOL means that current and/or deferred income tax expense is negative (CR). An NOL firm has two choices. It can *carryback* the loss to offset past taxable income and get a refund of past taxes paid. The entry is:

DR	CR
cash or tax refund receivable	
	(current) income tax expense

The maximum carryback period is 2 years (offset the earlier year first, as in FIFO); i.e, a firm must have had positive taxable income in at least one of the past 2 years in order to carryback. Or, the firm can *carryforward* the loss to offset future income (also FIFO) and thereby reduce the payment of future taxes, producing a deferred tax asset. The entry is:

DR	CR
deferred tax asset	
	(deferred) income tax expense

A firm can carryforward an NOL for up to 20 years. Thus, NOL carryforwards are another source of deferred tax assets, in addition to the timing differences discussed above. Why would a firm choose to carryforward (other than not being able to carryback because of 2 years of losses)? The Atime value of money@ incentive says to get the cash now (carryback). But, if tax rates are expected to go up in the future, a dollar of deduction will become worth more, so this incentive says to wait (carryforward).

Deferred Tax Asset Valuation Allowance

A deferred tax asset is a reduction in future cash outflow (taxes to be paid). But, the asset has value only if the firm expects to pay taxes in the future. For example, an NOL carryforward is worthless if the firm does not expect to have positive taxable income for the next 20 years. Since accounting is *conservative*, firms must reduce the value of their deferred tax assets by a deferred tax asset *valuation allowance*. This is a contra-asset account (CR balance on the B/S - just like accumulated depreciation or the allowance for uncollectible accounts) that reduces the deferred tax asset to its expected realizable value. The easiest way to record the valuation allowance is to record the deferred tax asset in the usual way (as if there were no valuation allowance) and then to make an additional entry:

DR	CR
(deferred) income tax expense	
	deferred tax asset valuation allowance

Note that increasing the allowance (CR) increases deferred income tax expense; decreasing the allowance does the opposite. Increases in the valuation allowance are recorded by the above entry, and decreases in the allowance are recorded by a reversal of the entry. Thus, changes in the allowance affect income tax expense, and are another reason why the B/S method is superior to the I/S method. Although the need for an allowance is subjective, its existence and magnitude reveals management=s expectation of future earnings. Management can use changes in the allowance to Amanipulate@ NI, by affecting income tax expense.

Permanent Differences - Effective Tax Rates

The importance of permanent differences is that they cause the effective income tax rate to differ from the statutory (government) rate (T); non-deductible expenses raise the effective income tax rate, while non-taxable revenues lower the effective income tax rate. To see this, write the effective income tax rate (ETR) as:

$$ETR = \frac{\text{current tax expense + deferred tax expense}}{\text{Taxable income + temp diffs - non-deductible expenses + non-taxable revenues}}$$

$$\text{By definition, } \frac{\text{current tax expense}}{\text{taxable income}} = T = \frac{\text{deferred tax expense}}{\text{Temp diffs}}$$

$$\text{Thus, } T = \frac{\text{current tax expense+deferred tax expense}}{\text{taxable income + temp diffs}}$$

Note that in the absence of permanent differences, T equals the statutory tax rate. From the definitions for ETR and T, non-deductible expenses lower the denominator of ETR, raising the ratio above T; non-taxable revenues raise the denominator of ETR, lowering the ratio below T. RCJ give some examples of permanent differences in Table 13.2 on page 632. Additionally, the tax footnote disclosure (see below) contains a reconciliation between the effective and the (federal) statutory tax rates; permanent differences can be a key component of this difference.

Financial Statement Disclosures

Total income tax expense is shown on the I/S, while the *net* current and *net* non-current deferred tax asset or liability are shown on the B/S.[4] The following additional information is disclosed in a footnote: (1) current and deferred components of total income tax expense, (2) reconciliation between the federal statutory and effective tax rates, and (3) components of deferred tax assets and liabilities (e.g., revenue and expense items that cause the deferred tax assets and liabilities, such as depreciation, bad debts, installment sales, etc.), both at the end and at the beginning of the year (remember that the net change is the other side of the entry for deferred tax expense).

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[4]Current deferred tax assets and liabilities are grouped separately from non-current deferred tax assets and liabilities, and a net position is determined for each group. Current vs. non-current is determined by the specific asset or liability (e.g., PPE, A/R, etc.) that the deferred tax asset or liability relates to. If there is no specific asset or liability linkage, use the expected reversal date of the temporary difference.

An example of the required disclosure is in Exhibit 12.2 on pages 628-629, which shows the tax footnote for Amoco Corp. Note the three parts of the disclosure. From part (1), you can deduce the tax journal entry, except that you cannot determine whether the offset to deferred tax expense is deferred tax assets and/or liabilities (part (3) enables you to do this). Note that the information in part (1) pertains only to Income From Continuing Operations (because the Abelow the line@ components are shown net of tax). From part (2), you can tell why the firm=s book income is taxed at a higher or lower rate than the statutory rate, which tells you about the firm=s tax policy (i.e., is the firm using the tax system effectively).[5] Part (3) shows the beginning of year and end of year balances in the components of the firm=s deferred tax assets and liabilities. This data can be used for the tax journal entry and to know what specific accounts cause the timing differences.

Large increases in deferred tax liabilities or decreases in deferred tax assets might require special scrutiny. Such changes are Alegitimate@ if they are associated with increases in the underlying assets or liabilities, such as PPE or A/R, which can be deduced from the SCF. Changes that can=t be linked with underlying assets or liabilities might indicate manipulation of NI, via changes in accounting estimates. For example, an increase in depreciable life (for books) lowers book dep=n, increasing the excess of tax dep=n over book dep=n, increasing the deferred tax liability.

Changes in deferred tax assets and liabilities can also be used to compute expenses and revenues on the firm=s tax return. As pointed out above, *Δfuture timing difference = Δdeferred tax A or L) tax rate*. Thus, the Δdeferred tax A or L from the footnote can be used to compute the Δfuture timing difference, which is the current year=s difference between book vs tax revenue or expense. This can then be added to or subtracted from the book revenue or expense to compute the corresponding tax figure. RCJ (pg 657) show an example with depreciation.

Note that *current federal tax expense=federal statutory tax rate x taxable income*; *or current federal tax expense) federal statutory tax rate = taxable income.* The ratio pre-tax book income/taxable income can be used as a measure of accounting conservatism (i.e., earnings quality). Taxable income is a very conservative performance measure (because firms try to minimize tax payments). The lower (higher) the ratio, the more conservative (aggressive) is the firm=s accounting. Using this ratio, one can then compare different companies at a point in time, or one company over time.

[5]Amoco=s major reconciling item is Tax Credits, which are a permanent difference.

CERTIFICATE OF SERVICE

I, Sharon Ferguson, hereby certify that I have this day, served copies of the following document on the attached list of persons by electronic filing, certified mail, e-mail, or by depositing a true and correct copy thereof properly enveloped with postage paid in the United States Mail at St. Paul, Minnesota.

Minnesota Department of Commerce
Response Comments

Docket No. E017/M-16-373

Dated this 3rd day of October 2017

/s/Sharon Ferguson

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