

BEFORE THE  
SURFACE TRANSPORTATION BOARD

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E.I. DUPONT DE NEMOURS & COMPANY )

Complainant, )

v. )

NORFOLK SOUTHERN RAILWAY COMPANY )

Defendant. )

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Docket No. NOR 42125

JOINT TECHNICAL CORRECTIONS PETITION OF E.I. DUPONT DE  
NEMOURS & COMPANY AND NORFOLK SOUTHERN RAILWAY COMPANY

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Date: April 14, 2014

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Complainant E.I. du Pont de Nemours & Company (“DuPont”) and Defendant Norfolk Southern Railway Company (“NS”) submit this Joint Petition for Technical Corrections to the Surface Transportation Board’s (“STB” or “Board”) Decision in the above-captioned rate case. *See DuPont v. NS*, STB Docket No. NOR 42125, Decision (served March 24, 2014) (“*Decision*”). Consistent with the Board’s direction and rules established in *Xcel Energy*, this joint Petition addresses only technical and computational errors—it does not address issues that are appropriately addressed in a reconsideration petition. *See Public Serv. Co. of Colorado d/b/a Xcel Energy v. Burlington N. & Santa Fe Ry. Co.*, STB Docket No. 42057 (served Dec. 14, 2004) (“*Xcel*”), slip op. at 1-2.<sup>1</sup> The revisions sought by the Petition would correct errors and omissions in the Board’s implementation of rulings and determinations set forth in the narrative text of the *Decision*, primarily through proposed changes to the Board’s workpapers and calculations. The Petition describes two categories of technical errors. The first section, which

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<sup>1</sup> Each party reserves its right to file a separate petition for reconsideration at an appropriate time. The Board recently granted DuPont’s Motion to defer the deadline for submission of reconsideration petitions until after the Board has ruled on the significant technical corrections presented in this Petition. *See Decision*, STB Docket No. NOR 42125 (served April 11, 2014).

addresses the majority of the technical errors identified by the parties, lists technical errors and the quantitative effect of the parties' agreed correction. Detailed proposed revisions to the Board's workpapers necessary to implement the agreed corrections are included as exhibits to the Petition. *See* Exhibit 1. The second section describes three items that the parties agree constitute technical errors, but have been unable to agree on the appropriate correction. Each party's proposed correction to these errors is set forth separately in Exhibits 2 (NS Corrections) and 3 (DuPont Corrections).

## **I. TECHNICAL ERRORS WITH JOINT PROPOSED CORRECTIONS.**

This section describes technical errors identified by the parties and the parties' proposed corrections to those errors. The parties have attempted to group together items related to the same general SAC evidence category (*e.g.*, Discounted Cash Flow analysis, Operating Expenses, Road Property Investment), but otherwise the list is in no particular order.

### **DISCOUNTED CASH FLOW-RELATED ERRORS**

1. Incorrect Operating Expense Volume Index. The car-miles index the Board used to project operating expenses throughout the model is calibrated incorrectly for the 2009-10 adjustment, resulting in vastly understated operating expenses for 2010 and all subsequent years. Specifically, in the NS Reply DCF model on which the Board's approach is based, the 2009 car-miles data included in the netting level of the worksheet represents only seven (7) months of 2009 traffic. In the indexing formula, this number is annualized before comparison to the 2010 full year data to develop the index. However, the Board's calculation used a full 12 months of car-miles in the netting level, rather than the seven months used in the NS DCF model. *See* STB WP "D42125 Exhibit III-H-1 STB No3.xlsm", tab "Operating SAC", at cell D53. Therefore, when the Board

“annualized” the 12-month car-mile figure (under the erroneous implicit assumption that it represented only 7 months of data), the 2009 figure used to index is actually equal to 1.71 years of data (12 months ÷ 7 months = 1.71). When compared to the 2010 annual car-miles number, the Board’s year-over-year index erroneously shows a significant decline in car-miles and all related operating expense categories from 2009-2010. *See id.* at cell E53. The net impact of correcting this computational error would be to increase the cumulative present value of underpayments by approximately 7.56 billion over the 10 year DCF period. *See* Exhibit 1 at D.1 (explaining steps necessary to correct this error).

2. Allocation of Contingency and Mobilization. The *Decision* adopted NS’s DCF model and real estate acquisition costs. *See Decision* at 141. However, the Board’s workpapers did not make adjustments to the DCF model necessary to allocate mobilization and contingency costs between real estate acquisition costs and all other road property accounts. *See* STB WP “D42125 Exhibit III-H-1 STB No3.xlsm”, tab “Construction \$”, at cells M13:M29, J51, and J56. *See* Exhibit 1 at D.2.
3. Understated Investment Contingency Costs. The *Decision* states that road property investment contingency is \$2,863,660,195. *Decision* at 138, Table B-1. The Board’s DCF model, however used a figure that is \$179 million lower (i.e. \$2,609,564,348) than that specified by the *Decision*, apparently reflecting an omission of a contingency factor for engineering investment. *See* STB WP “D42125 Exhibit III-H-1 STB No3.xlsm”, tab “Input”, at cell F24. *See* Exhibit 1 at D.3.
4. Bonus Depreciation. The *Decision* states that the Board accepted DuPont’s position on bonus depreciation. *Decision* at 278. The Board’s workpapers did not implement this

change from NS's approach in the DCF model. *See* STB WP "D42125 Exhibit III-H-1 STB No3.xlsx", tab "Tax Depreciation", at cells M55, AA120, and AS120. This omission resulted in an understatement of bonus depreciation and an overstatement of capital carrying charges. *See* Exhibit 1 at D.4.

5. Incorrect Miles Used to Develop State Income Tax Rates. The *Decision* accepted NS's proposed route miles. *See Decision* at 46. However, the Board's workpapers did not make the corresponding adjustment to DRR operating miles in the DCF model, which are used to develop the DRR's weighted average state income tax rate. *See* STB WP "D42125 Exhibit III-H-1 STB No3.xlsx", tab "Investment SAC", at cell L240. *See* Exhibit 1 at D.5.
6. Real Estate Acquisition Costs. The *Decision* adopted \$112 million in real estate acquisition costs proposed by NS. *See Decision* at 141. However, the Board's workpapers did not include these costs in its calculation of land investment values. *See* STB WP "DCF Transfer III-F Total No2.xlsx", tab "Sheet1", at cells F11 and F28. *See* Exhibit 1 at D.6.

#### **OPERATING COST ERRORS**

7. Overstated Number of Locomotives. The *Decision* adopted the locomotive "peaking factor" proposed by DuPont and adjustments to that factor to account for warm-up and cool-down periods. *See Decision* at 70-72 & n.13. It is not clear from the Board's workpapers how it calculated the adjustments described in the *Decision*. The parties agree, however, that correct application of the adjustments adopted in the text of the *Decision* would reduce the number of DRR GP38 locomotives from 931 to 921, and

would reduce the number of DRR ES44AC locomotives from 287 to 283. *See* Exhibit 1 at B.1.

8. Peaking Factor. The *Decision* adopted DuPont's peaking factor for determining locomotive and railcar requirements. *See Decision* at 70-71. The Board's workpapers implemented this decision with respect to locomotive requirements by applying DuPont's peaking factor of 5.4 percent for calculating locomotive requirements. However when calculating railcar requirements, the Board's workpapers applied NS's 8.3 percent peaking factor, rather than the 5.4 percent factor adopted in the text of the *Decision*. This technical error generated a \$3,383,457 overstatement of operating costs in the first year of the DCF model. *See* Exhibit 1 at B.2.
9. Start-up and Training. The *Decision* generally accepted NS's proposed maintenance-of-way ("MOW") staffing, with a few downward adjustments. *See, e.g., Decision* at 81. The Board's workpapers computed DRR start-up and training expenses without making a further adjustment necessary to reflect the downward revisions the *Decision* made to NS's MOW staff numbers. *See* STB WP "DRR Operating Expense – STB.xlsx", tab "Training", at cells D27:D137. *See* Exhibit 1 at B.5.
10. Fringe Benefit Ratio on MOW Salaries. The *Decision* adopted NS's fringe benefit ratio of 49.2 percent. *See Decision* at 82. However, the Board's workpapers computing salaries for certain MOW employees applied DuPont's proposed fringe benefit ratio (37.5 percent) rather than the 49.2 percent ratio adopted in the text of the *Decision*. *See* STB WP "STB Copy of Exhibit III-D-3 NS DRR MOW.xlsx", tab "STB - MOW Staff", at column D. Correction of this error would increase DRR First Year operating expenses by \$11,897,673. *See* Exhibit 1 at B.4.

11. Bridge Inspector Wages. The *Decision* adopted the bridge inspector numbers and salaries proposed by NS. *Decision* at 116. However, the Board’s workpapers incorrectly computed total bridge inspector wages by multiplying the *total* bridge inspector wages proposed by DuPont by the number of bridge inspectors proposed by NS. See STB WP “STB Copy of Exhibit III-D-3 NS DRR MOW.xlsx”, tab “STB - MOW Staff”, at cell D37. Correction of this error would reduce the bridge inspector wages included in DRR First Year operating expenses by \$4,184,220 (from \$5,711,725 to \$1,527,505). See Exhibit 1 at B.3.

### **ROAD PROPERTY INVESTMENT ERRORS**

12. Understated Fuel Facilities Investment. The *Decision* adopted NS’s proposed fueling facility costs. See *Decision* at 235. But the Board’s workpapers entirely excluded fueling facility costs for the DRR’s 12 large yards. See STB WP “No.2\_STB - DuPont Decision Tables.xlsx”, tab “Buildings & Facilities”, at cell E6. This results in an understatement of DRR investment costs by \$100.699 million, before additives. The STB’s workpapers also applied DuPont’s proposed costs for direct-to-locomotive fueling facilities despite the *Decision*’s adoption of NS’s evidence. See *Decision* at 235. This error resulted in a further understatement of DRR investment requirements by \$12.645 million, before additives. Correction of these two technical errors would increase investment requirements by \$113.34 million. See Exhibit 1 at C.3.
13. Stripping Costs in Roadbed Preparation. The *Decision* rejected NS’s proposed costs for stripping. See *Decision* at 181. The STB’s workpapers did not exclude NS’s stripping quantities, which resulted in an overstatement of \$10.304 million in roadbed preparation

costs before additives. *See* STB WP “No.2\_STB - DRR Open Grading errata NS Reply.xlsx”, tab “EW Costs”, at cell N380. *See* Exhibit 1 at C.8.

14. Overstatement of Earthwork Unit Costs. The *Decision* rejected several earthwork unit cost adjustments proposed by NS, including a hauling distance adjustment for common adverse earthwork (*Decision* at 162); finish grading (*id.* at 168); and swell adjustment (*id.* at 185). The *Decision* also accepted the parties’ agreed 50/50 split for 22 CY and 42 CY haulers. *See Decision* at 162. The *Decision* further adopted the unit costs proposed by DuPont for loose rock, solid rock, and borrow earthwork. *See id.* at 164, 167-68. However, the Board’s workpapers applied NS’s proposed unit costs for those earthwork tasks. *See* STB WP “No.2\_STB - DRR Open Grading errata NS Reply.xlsx”, tab “EW Costs”, at cells O392:W392. This resulted in an overstatement of roadbed preparation costs. *See* Exhibit 1 at C.13.
15. Understated Yard Drainage Investment. The *Decision* adopted DuPont’s proposed yard drainage costs for six major yards and NS’s proposed yard drainage costs for other DRR yards. *See Decision* at 155. However, the Board’s workpapers included no costs for yard drainage. *See* STB WP “No.2\_STB - DuPont Decision Tables.xlsx”, tab “Buildings & Facilities”, at cell E18. Correction of these technical errors to include the yard drainage costs adopted by the *Decision* would increase DRR investment costs by \$93.27 million, before additives. *See* Exhibit 1 at C.14.
16. Understated Land for Waste Quantities. The *Decision* adopted NS’s land costs, and stated that it would use NS’s average “rural” land costs to calculate DRR investment in land for waste material. *Decision* at 170. The Board apparently used the lowest value of six NS land categories (agricultural land) to calculate average rural land cost. *See* STB

WP “No.2\_STB - DuPont Decision Tables.xlsx”, tab “NS rural land values”, at cell L7.

However, the Board’s average calculations did not include the costs of approximately 20 percent of that agricultural land, resulting in an understatement of average land cost by \$1,312 per acre. *See id.* Correcting this computational error would increase unit costs of land for waste to \$10,448 per acre, and increase DRR investment costs by approximately \$22.87 million (including additives). *See Exhibit 1 at C.11.*

17. Overstated Undercutting Investment. The *Decision* rejected investment for undercutting. *See Decision* at 186. The Board’s workpapers, however, did not adjust earthwork quantity summary formulas to exclude undercutting quantities. *See STB WP “No.2\_STB - DRR Open Grading errata NS Reply.xlsx”, tab “EW Costs”, at cells P389 and Y389.* Correcting this error would reduce DRR road property investment by approximately \$28.42 million (including additives). *See Exhibit 1 at C.9.*
18. Exclusion of Culvert Investment. The *Decision* adopted the culvert costs proposed by NS. *See Decision* at 154. However, the Board’s workpapers did not include culvert costs in its calculation of DRR road property investment. *See STB WP “No.2\_STB - DuPont Decision Tables.xlsx”, tab “Roadbed Preparation Costs”, at cell E22.* Correction of this technical error would increase roadbed preparation investment by \$248 million before additives. *See Exhibit 1 at C.15.*
19. Exclusion of Retaining Wall Investment. The Board’s workpaper calculations erroneously deducted the quantity of gabions (for retaining walls, converted from timber quantities) from the associated unit cost, instead of multiplying gabion unit cost by gabion quantity. *See STB WP “No.2\_STB – DRR Open Grading errata NS Reply.xlsx,”*

tab “Other Items.” at cell P385. Correcting this error would increase DRR retaining wall investment by \$46.478 million. *See* Exhibit 1 at C.10.

20. Miscalculated Mobile Bridge Investment. The *Decision* states that it accepts the movable bridge unit costs proposed by DuPont and the parties’ agreement on movable bridge inventory. *See Decision* at 222-23. However, the Board’s workpapers include two bridges excluded by the parties and include both the movable span costs proposed by DuPont and the movable span costs proposed by NS. *See* STB WP No.2\_STB - Bridge Construction Costs errata Reply.xlsx”, tab “NS Cost Summary”, at cell K3 and tab “Moveable Bridges”, at lines 14 and 15. Correcting these computational errors to conform to the text of the *Decision* would reduce DRR movable bridge costs by \$783.14 million. *See* Exhibit 1 at C.2.
21. Understated MOW Building Costs. The *Decision* states that the Board adopted the MOW building sizes and costs proposed by NS. *Decision* at 240. However, the Board’s workpapers used the costs proposed by DuPont for the MOW yard buildings. *See* STB WP “No.2\_STB - DRR Facilities Cost Rebuttal.xlsx”, tab “MOW”, at cell F17. Correction of this error would increase DRR buildings and facilities investment by \$2.76 million, before additives. *See* Exhibit 1 at C.4.
22. Overstated Guard Booth Investment Costs. The *Decision* accepted DuPont’s proposed guard booth quantities for auto yards. *Decision* at 244. The Board’s workpapers added guard booth costs to DuPont’s proposed costs, which already included guard booth costs. *See* STB WP “No.2\_STB - DRR Facilities Cost Rebuttal.xlsx”, tabs “Auto Yards Small” and “Auto Yards Medium”, at cell J48 and “Auto Yards Large” at cell J45. Correction of

this error would reduce DRR facilities investment by \$198,000, before additives. *See* Exhibit 1 at C.5.

23. Intermodal Yard Paving Costs. The Board's workpapers made an error in adjusting paving costs for medium-sized intermodal yards, which resulted in an overstatement of DRR buildings and facilities investment by \$17.1 million. *See* STB WP "No.2\_STB - DRR Facilities Cost Rebuttal.xlsx", tab "Medium Intermodal Yard", at cells J27 and J29. *See* Exhibit 1 at C.6.
24. Overstated Slide Fence Investment Costs. The *Decision* adopted the slide fence costs advocated by DuPont in rebuttal, but the Board's workpapers applied the slide fence costs proposed by NS. *Compare Decision* at 227 with STB WP "No.2\_STB - DuPont C&S Estimate errata Reply.xlsx", tab "Reply Components & Tabulation", at line 87. Correction of this error would reduce DRR slide fence investment by \$121,000. *See* Exhibit 1 at C.1.
25. Understated Yard Light and Paving Investment. The *Decision* accepts DuPont's rebuttal unit costs and quantities for DRR yards, NS's quantities for paving at yards other than intermodal yards, and DuPont's paving unit costs. *See Decision* at 240-42. However, the STB's workpapers did not calculate lighting costs for DRR small, medium, and large flat yards. *See* STB WP "No.2\_STB - DuPont Decision Tables.xlsx", tab "Buildings & Facilities", at cell E18. In addition, the Board's workpapers included the paving costs for just one (1) yard in each category of small flat, medium flat, large flat and hump yards instead of multiplying the per-yard cost by the number of yards in each category. *See* STB WP "No.2\_STB - DuPont Decision Tables.xlsx", tab "Buildings & Facilities."

Correction of these errors would increase DRR facilities investment by \$106.11 million, before additives. *See* Exhibit 1 at C.7.

26. Loose and Solid Rock Quantities in Roadbed Preparation. Although the *Decision* does not discuss this issue, review of the Board’s workpapers indicates it attempted to make adjustments to earthwork quantities. However, the Board’s workpaper calculations are internally inconsistent and do not produce a coherent result. *See* STB WP “No.2\_STB – DRR Open Grading errata NS Reply.xlsx.” Tab “Response to NS ICC errors,” Line 28 e (“STB accepted values.”). That line shows zero for common (cell G28), loose rock (cell J28) and solid rock (cell M28). The same STB workpaper, on tab “EW Cost,” subtracted the common amount (see cells N374 and N375) but did not subtract the amounts for loose rock and solid rock in cells R374 and V374, respectively. *See id.* These calculations excluded common earthwork quantities but did not exclude corresponding loose rock and solid rock quantities. Correction of this technical error would reduce earthwork costs by \$8.63 million. *See* Exhibit 1 at C.12.

27. Incorrect Ballast Unit Costs. The *Decision* accepted DuPont’s Rebuttal ballast costs. *See Decision* at 192. However, the Board’s workpapers used DuPont’s Opening Ballast unit cost rather than the revised unit cost used by DuPont on Rebuttal. The use of DuPont’s Opening unit cost rather than its Rebuttal unit cost resulted in overstatement of ballast investment by approximately \$36.62 million, before additives. *See* Exhibit 1 at C.16.

#### **TRAFFIC AND REVENUE ERROR**

28. Traffic and Revenue – Shifting Tonnage From Capped Plants. The *Decision* states that it accepts DuPont’s proposal to reallocate coal shipment volumes from coal-fired power plants that would exceed the 85% capacity limit to other plants that are below 85%

capacity. *See Decision* at 258-29. The STB's workpapers do not make this adjustment. *See* STB WP "2010 Coal 80-Chem 40-Auto 60 Reply STB No2.xlsx", tabs "Growth Factors" and "Capacity Factors". *See* Exhibit 1 at A.1.

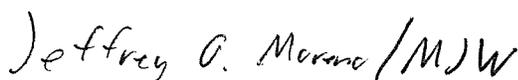
## **II. TECHNICAL ERRORS AS TO WHICH THE PARTIES DISAGREE ON THE APPROPRIATE CORRECTION.**

29. Terminal Value Calculation. The *Decision* states that the Board accepted DuPont's terminal value argument and evidence. *See Decision* at 283-84. The parties agree that the Board's calculations and workpapers did not make the adjustment to the terminal value in the DCF model accepted by the text of the *Decision*. *See* STB WP "D42125 Exhibit III-H-1 STB No3.xlsm", tab "Investment SAC", at cell H86. However, DuPont and NS do not agree on the appropriate method to correct this omission or the quantification of the resulting adjustment. DuPont contends that correction of this error should result in a reduction of the cumulative present value of DRR underpayments by approximately \$350 million. NS contends that correction of the error should result in a reduction of the cumulative present value of DRR underpayments by approximately \$117 million. The separate positions of each of the parties regarding the appropriate correction are set forth in Exhibit 2 at 1-2 and Exhibit 3 at 1.
30. Fuel Expense Indexing. The *Decision* states the Board would use EIA forecasts of WTI fuel costs "to forecast the fuel portion of [DRR] operating expenses." *See Decision* at 266. However, the Board's workpapers did not make a corresponding adjustment to the operating expense index in its DCF model. *See* STB WP "D42125 Exhibit III-H-1 STB No3.xlsm", tab "Operating SAC", at cells U15:U40. NS and DuPont do not agree on the appropriate method to correct this error or the resulting quantitative adjustments to DRR

fuel expenses. The positions of each party regarding the appropriate computational correction are described in the attached exhibits. See Exhibit 2 at 3; Exhibit 3 at 2.

31. Phased PTC Investment. The *Decision* assumed that the DRR could implement “an initial PTC system” in 2009, and that subsequently the DRR would upgrade that initial system “to [comply with] RSIA requirements” between 2010 and 2015. *Decision* at 229-30. However, the Board’s DCF model and workpaper calculations did not phase in costs that the DRR would incur to upgrade its PTC system to comply with the RSIA 2015 standard (including interoperability) over the 2010 to 2015 time period. While DuPont and NS agree that the Board’s workpapers did not phase in the required PTC investment, they do not agree on the appropriate correction or its quantification. The position of each party regarding the proper technical correction is set forth in the Exhibits. See Exhibit 2 at 4-5; Exhibit 3 at 2-3.

Respectfully submitted,



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*Counsel to Norfolk Southern Railway  
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Dated: April 14, 2014

**CERTIFICATE OF SERVICE**

I hereby certify that on this 14th day of April 2014, I caused a copy of the foregoing Joint Technical Corrections Petition of E.I. DuPont de Nemours & Company and Norfolk Southern Railway Company to be served by email and U.S. Mail upon:

Jeffrey O. Moreno  
Jason D. Tutrone  
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1919 M Street, N.W., Suite 700  
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Matthew J. Warren

# EXHIBIT 1

**Exhibit 1: DuPont and NS Joint Description of Steps to Correct Technical Errors in STB Decision, *DuPont v. Norfolk Southern*, STB No. NOR 42125 (served March 24, 2014).**

The following explanations, listed in the order in which the parties present SAC evidence, describe steps to implement the technical corrections discussed in Section I of the parties Joint Technical Corrections Petition. Separately, workpapers showing the affected cells, lines, formulas, and calculations are also included in this filing.

**A. III-A: Traffic and Revenues**

1. Shifting Tonnage from Capped Plants (Petition No. 28) – In file “”2010 Coal 80-Chem 40-Auto 60 Reply No2.xlsx” “Capacity Factors” level, uncapped tons were developed by applying the EIA regional volume forecasts to the “capped” plants. The residual carloads by EIA region were considered the additional regional carloads excluded by the STB. Additional Regional Revenues, Car-Miles and Tons were developed by applying to the additional regional shipments the average revenue per unit after ATC%, average tons per car, and average car-miles representative of the region.
  - a. “Traffic and Revenue Summary Reply No2\_ Cap Tech Error.xlsx”, “Coal Tech Err Adj” level has the additional Revenues, Tons, and Car-Miles required for the DCF.

**B. III-D: Operating Expenses**

1. Overstated locomotive counts (Petition No. 7) – In file “DRR Operating Statistics Reply” change formula in cell K37 to  $\text{ROUNDUP}((K34+(L34*0.96))*F6,0)$ . In file “DRR Operating Expenses – STB”, tab “Summary” replace values in D41 with 921 and D45 with 283.
2. Overstated peaking factor (Petition No. 8) – In file “DRR Car Costs\_Reply”, tab “Coal Cars” change the value in cell B43, tab “General Freight” the value in C41 and tab “Intermodal Cars” the value in cell C47 to 1.054. In file “DRR Operating Expenses – STB”, tab “Summary” change the link in cells D117, D121, D125 and D136 to corrected “DRR Car Costs\_Reply”
3. Overstatement of Bridge Inspector Salary (Petition No. 11) – In file “STB Copy of Exhibit III-D-3 NS DRR MOW”, tab “STB – MOW Staff” correct the salary for Bridge Inspectors (Line 137) to \$127,292 per person.
4. Understatement of MOW fringe benefit ratio (Petition No. 10) – In file “STB Copy of Exhibit III-D-3 NS DRR MOW”, tab “STB – MOW Staff” correct fringe ratio from 37.5 to 49.2 for salaries accepted from DuPont (Lines 4-15, 18, 20-22, 33-36, 40-43, 47-50, 53, 54 and 63). Remove the 6 Water Plant Fueling Technicians (Line 44) from

count. In file “DRR Operating Expenses – STB”, tab “DCF Transfer” change the link in cell D32 to corrected MOW spreadsheet

5. Overstated Training Costs (Petition No. 9) – In file “DRR Operating Expenses – STB”, tab “Training” replace data in cells A27 – G136 with corrected positions from file “STB Copy of Exhibit III-D-3 NS DRR MOW”, tab “STB – MOW Staff”

**C. III-F: Road Property Investment**

1. Overstated Slide Fence Investment Costs (Petition No. 24) – In file “No.2\_STB – DuPont C&S Estimate errata Reply”, tab “Reply Components & Tabulation,” replace contents of cells D87, H87 and I87 with the contents of the same cells from DuPont Rebuttal file “DuPont C&S Estimate Rebuttal.xlsx.”
2. Overstated Movable Bridge Investment (Petition No. 20) – In file “No.2\_STB – Bridge Construction Costs errata Reply.xlsx,” tab “NS Cost Summary”, change reference in cell K2 to ‘Special Bridges.DupRebuttal’!D10. Also replace value in cell K3 with value from DuPont Rebuttal file “Bridge Construction Costs Rebuttal.xlsx,” tab “Movable Bridges Fixed Spans,” cell C10.
3. Understated Fueling Facilities Investment (Petition No. 12) – In file “No.2\_STB – DRR Facilities Cost Rebuttal.xlsx,” tab “Summary,” add to cell D24 the value in NS Reply file “DRR Facilities List Reply.xlsx,” tab “Facilities Costs,” cell W49. Also replace value in cell D25 with the value in NS Reply file ““DRR Facilities List Reply.xlsx,” tab “Facilities Costs,” cell X49.
4. Understated Maintenance of Way Building Costs (Petition No. 21) – In file “No.2\_STB – DRR Facilities Cost Rebuttal.xlsx,” tab “MOW,” replace value in cell F17 with the value in NS Reply file ““DRR Facilities List Reply.xlsx,” tab “Facilities Costs,” cell L48.
5. Overstated Guard Booth Investment Costs (Petition No. 22) - In file “No.2\_STB – DRR Facilities Cost Rebuttal.xlsx,” tab “Auto Yards Small,” zeroed out cell J42. Also zeroed out tab “Auto Yards Medium,” cell J42 and tab “Auto Yards Large,” cell J39.
6. Overstated Intermodal Yard Paving Costs (Petition No. 23) – In file “No.2\_STB – DRR Facilities Cost Rebuttal.xlsx,” tab “Medium Intermodal,” change the reference in cell J27 from J8 to J4 and change the reference in cell J29 from J10 to J6.
7. Understated Yard Lighting and Paving Investment (Petition No. 25) – The STB did not calculate lighting costs for the small, medium and large flat yards and did not

multiply the paving costs for the small, medium and large flat yards times the number of yards in each category. As there were no STB calculations to correct, a new table calculating these costs is included in Joint Technical Corrections WP file “No.2\_STB – DRR Facilities Cost Rebuttal.xlsx,” tab “STB restate NS pav Summary.”

8. Overstated Stripping Costs in Roadbed Preparation Costs (Petition No. 13) – In file “No.2\_STB – DRR Open Grading errata NS Reply.xlsx,” tab “EW Cost,” inserted a line after Line 380 and subtract the figures in cells N380 and P380.
9. Overstated Undercutting Investment (Petition No. 17) - In file “No.2\_STB – DRR Open Grading errata NS Reply.xlsx,” tab “EW Cost,” adjust the summary formulas in cells P390, R390, T390, V390, X390 and Y390 to sum through Line 387.
10. Understatement of Retaining Wall Investment (Petition No. 19) - In file “No.2\_STB – DRR Open Grading errata NS Reply.xlsx,” tab “Other Items,” correct formula in cell P385 to multiply cell P379 times cell P382.
11. Understated Land for Waste Quantities (Petition No. 16) – In file “No.2\_STB – DuPont Decision Tables.xlsx,” tab “NS rural land values,” delete the contents of cells K30 and L30 and correct the formula in cell L7 to sum cells L11 through L109.
12. Overstated Loose and Solid Rock Quantities in Roadbed Preparation (Petition No. 26) - In file “No.2\_STB – DRR Open Grading errata NS Reply.xlsx,” tab “EW Cost,” add formulas in cells R375 and V375 to subtract quantities in cells R374 and V374.
13. Overstatement in Unit Costs for Earthwork (Petition No. 14) - In file “No.2\_STB – DRR Open Grading errata NS Reply.xlsx,” tab “EW Cost,” replace the NS unit costs on Line 393 with the DuPont Rebuttal unit costs for all items except common excavation. Specifically:
  - a. Replace the value in cell O393 with the value from file “No.2\_STB – DRR Rebuttal Grading,” tab “Unit Costs,” cell M27;
  - b. Replace the value in cell Q393 with the value from file “No.2\_STB – DRR Rebuttal Grading,” tab “Unit Costs,” cell M51;
  - c. Replace the value in cell S393 with the value from file “No.2\_STB – DRR Rebuttal Grading,” tab “Unit Costs,” cell M65;
  - d. Replace the value in cell U393 with the value from file “No.2\_STB – DRR Rebuttal Grading,” tab “Unit Costs,” cell M83;
  - e. Replace the value in cell W393 with the value from file “No.2\_STB – DRR Rebuttal Grading,” tab “Unit Costs,” cell M84; and
  - f. Replace the value in cell Y393 with the value from file “No.2\_STB – DRR Rebuttal Grading,” tab “Unit Costs,” cell M94.

14. Understated Yard Drainage Investment (Petition No. 15) – The STB did not calculate yard drainage costs based on its acceptance of DuPont’s costs for the six major yards and NS’s costs for the other yards as stated on page 155 of the Decision. As there were no STB calculations to correct, a new table calculating these costs is included in Joint T.C. WP file “No.2\_STB – DRR Open Grading errata NS Reply.xlsx,” tab “Reply Yards.”
15. Exclusion of Culvert Investment (Petition No. 18) – The STB did not include culvert costs in its summary of the DRR roadbed costs. To correct this, the following modifications should be made to the STB’s workpapers:
  - a. File “No.2\_STB – DuPont *Decision* Tables.xlsx,” tab “Roadbed Preparation Costs,” cell E22 modify to sum cells E5 through E21;
  - b. File “DCF Transfer III-F Total No2.xlsx,” tab “Sheet1,” cell F12 modify to exclude culvert costs; and,
  - c. File “DCF Transfer III-F Total No2.xlsx,” tab “Sheet1,” cell F14 modify to include culvert costs.
16. Incorrect Ballast Unit Costs (Petition No. 27) – In file “No.2\_STB – Track Construction Errata Reply.xlsx,” tab “Ballast ML Tangent,” change cell C15 from \$9.06 to \$8.54. Also in the same file, tab “Ballast ML Curves 0 to 3 Deg,” change cell C15 from \$9.06 to \$8.54. (See file “No.2\_STB – Track Construction Costs Rebuttal.xlsx,” tab “Ballast ML Tangent,” cell C15 for DuPont’s Rebuttal ballast unit cost of \$8.54 per ton).

**D. III-H: DCF and SAC RESULTS**

1. Incorrect Operating Expense Volume Index (Petition No. 1) – The car-miles index used to project operating expenses throughout the model is calibrated incorrectly for the 09-10 adjustment, resulting in vastly understated operating expenses for 2010 and all subsequent years. To correct this error, remove the “\*12/7” from the formula in cell D53 from the “Operating SAC” worksheet of the DCF model.
2. Allocation of Contingency and Mobilization (Petition No. 2) – In adopting the NS’s Reply DCF model and NS’s real estate acquisition costs, the STB did not update the model to properly allocate NS’s contingency and mobilization figures. To correct this error, make the following adjustments to the DCF model’s “Construction \$” worksheet:
  - a. Remove the “+J49” from the formula in cell L14 and remove the “+J54” from the formula in cell M14.
  - b. Change the formulae in cells L15 to L29 to reference “\*K\$31” instead of referencing “J\$50.”

- c. Change the formulae in cells M13 and M15 to M29 to reference “\*L\$30” instead of referencing “J\$55.”
3. Understated Investment Contingency (Petition No. 3) – Page 138 of the Decision indicates investment contingency should equal \$2,863,660,195, but the STB only included \$2,609,564,348 of contingency in the DCF model. This shortfall is due to the Board’s workpapers not applying the contingency additive to engineering costs. This may be corrected by adding “+F10” within the parenthesis in the formula in cell F27 in the file “DCF Transfer III-F Total No2.xlsx”, tab “Sheet1”. The dollar amount of this correction will change with corrections to investment categories.
4. Bonus Depreciation (Petition No. 4) – The Decision accepted DuPont’s application of bonus depreciation, but continued to rely upon NS’s bonus depreciation approach in its DCF model. To correct this error, make the following adjustments to the DCF model’s “Tax Depreciation” worksheet:
  - a. Remove the hardcoded reference “\$403,800,000” in cell M55 and replace it with the following formula “=Investment!S26/2.”
  - b. Remove the hardcoded reference “N/A” in cell M56 and replace it with the following formula “=Investment!S27/2.”
  - c. Add “-M56” to the existing formula in cell AG120.
  - d. Add “+M56” to the existing formula in cell AS120.
5. Incorrect Miles Used to Develop State Income Tax Rates (Petition No. 5) – The Decision stated it accepted NS’s route miles, but the Board’s workpapers did not adjust the DRR operating miles in the DCF model, which are used to develop the DRR’s weighted average state income tax rate. To correct this error, make the following adjustments to the STB DCF model’s “Investment SAC” worksheet:
  - a. Change cell H218 from “715.19” to “716.57.”
  - b. Change cell H219 from “731.65” to “738.92.”
  - c. Change cell H220 from “593.89” to “587.99.”
  - d. Change cell H221 from “285.18” to “287.14.”
  - e. Change cell H223 from “92.83” to “53.69.”
  - f. Change cell H224 from “58.01” to “59.63.”
  - g. Change cell H226 from “201.57” to “201.71.”
  - h. Change cell H228 from “554.08” to “551.58.”
  - i. Change cell H229 from “278.43” to “281.43.”
  - j. Change cell H233 from “544.67” to “549.87.”
6. Real Estate Acquisition Costs (Petition No. 6) – The Decision accepted \$111.96 million in real estate acquisition costs, but the Board’s workpapers did not include this value in its land investment values. To make this correction, add the “+J49” to the formula in cell K14 from the “Construction \$” worksheet.

# EXHIBIT 2

**EXHIBIT 2: NS Proposed Technical Corrections for Items 29-31**

**Petition No. 29 - Incorrect Terminal Value Calculation**

NS agrees with DuPont that the Board failed to implement the change to the terminal value calculation discussed at pages 282 – 284 of the *Decision*. NS does not agree with the approach DuPont advocates for correcting that error. The difference between the parties arises because the *Decision* rejected DuPont’s proposed change to the DCF’s 20-year debt amortization period and reaffirmed that the SARR’s debt payments contain an interest component and a debt component that will continue to be amortized over 20 years. *See Decision* at 279-82. In addressing the terminal value calculation the *Decision* accepted DuPont’s terminal value adjustment to correct a mismatch between the SARR interest tax shield and the SARR capital structure. As the *Decision* explains:

DuPont states that the Board’s DCF model assumes that the SARR’s capital structure remains constant in perpetuity, so there will always be debt, with associated interest payments, as well as equity. But for tax purposes, according to DuPont, the Board’s DCF model assumes that the SARR is 100% equity financed during the period after year 20 and before the first assets are replaced in the replacement level of the model. Therefore, DuPont argues, during this period, the cost of capital assumes that the SARR makes interest payments, but the model does not allow the SARR to receive the tax shielding effect of those interest payments.

*Decision* at 282.

Consistent with the mismatch that the terminal value calculation change is intended to address, the terminal value calculation should be adjusted to make the interest tax shield consistent with the SARR’s capital structure into perpetuity, beginning *after* the 20 year debt amortization period.

The Board can make the adjustment described above using the following steps. *First*, calculate the quarterly interest payment on the debt-financed DRR investment. *See* NS Exhibit 2

WP “D42125 Exhibit III-H-1 STB No3 (NS Exhibit 2 Terminal Value).xslm,” “Interest” tab, cells J135, Z135, AQ135, and BH135. *Second*, calculate the net present value of the perpetuity of this quarterly interest payment commencing at the end of the 20-year debt amortization period. *See* cells BJ133:BJ136 on the “Interest” tab of NS Exhibit 2 WP “D42125 Exhibit III-H-1 STB No3 (NS Exhibit 2 Terminal Value).xslm.” *Third*, apply this amount as the terminal value of future interest payments to be incorporated when calculating future tax payments. *See* cell H86 on the “Investment SAC” tab of NS Exhibit 2 WP D42125 Exhibit III-H-1 STB No3 (NS Exhibit 2 Terminal Value).xslm.” *Fourth*, remove the deduction for present value of interest on debt from the calculation of future replacement costs. *See* cells E18 and T24:X43 of “Replacement” tab of NS Exhibit 2 WP D42125 Exhibit III-H-1 STB No3 (NS Exhibit 2 Terminal Value).xslm.”

**Petition Item No. 30 - Replace RCAF Fuel Component Index with WTI Price Index**

NS and DuPont agree that the Board failed to apply the EIA WTI forecast of fuel prices to forecast the fuel portion of operating expenses in the DCF. NS disagrees with DuPont's proposed approach to correct that error. In rejecting DuPont's proposed use of different forecasts to forecast future fuel surcharges and operating expenses, the Board explains:

We are not persuaded by DuPont's rebuttal evidence, which attempts to justify the inconsistency of using two divergent price forecasts for revenues and costs. The two forecasts used by DuPont are not reconcilable. If the Global Insight forecast is correct, fuel prices will initially decline through 2015 and only increase thereafter, and both fuel surcharge revenues and fuel expenses will follow that pattern. On the other hand, if the EIA forecast is correct, fuel prices will increase immediately and continue to rise, and both fuel surcharge revenues and fuel expenses will follow that pattern.

*Decision* at 264-65.

Because the issue raised by NS in its reply evidence and addressed by the Board in the *Decision* focuses only on the illogical results of using two different *forecasts* of fuel prices, NS has applied the Board's proposed substitution of the EIA WTI fuel price forecast in place of the December 2012 Global Insights RCAF fuel component forecast only to the 2013 through 2019 DCF operating expense forecast period.

NS makes this adjustment by calculating a restated 2013 to 2019 RCAF-U index where the fuel component equals the 2012 index value multiplied by the change in the WTI fuel price index. *See* cells J5:P5 on "Restated RCAF" tab of NS's Exhibit 2 WP "Hybrid RCAF Reply (NS Exhibit 2 Fuel Indexing).xls." This restated index is applied to the calculation of the Hybrid RCAF which is used in the DCF model. *See* cells F20:F60 of the "Inflation Index" tab of NS's Exhibit 2 WP "D42125 Exhibit III-H-1 STB No3 (NS Exhibit 2 Fuel Indexing).xlsm."

**Petition Item 31 - Phased PTC Investment**

NS and DuPont agree that the Board did not provide in its DCF the costs that the DRR would incur to upgrade its PTC system to meet RSIA standards over the 2010 to 2015 time period. NS and DuPont do not agree on the appropriate correction. NS believes that the Board's: (1) acceptance of DuPont's position that a functioning PTC system could be deployed in 2009; and (2) acceptance of NS's position that any system installed in 2009 could not meet RSIA's 2015 standards (including RSIA interoperability requirements) means that the DRR would incur two separate investments for PTC. The first investment would include all of the PTC start-up, development and hardware costs that the DRR would incur in its unilateral effort to install a functional PTC system in 2009. The second investment would include all of the start-up and development costs that the DRR would incur in conjunction with other Class I carriers to meet the RSIA 2015 PTC standards and requirements.

Accordingly, NS provides for the full cost of a fully operational PTC system, including development, testing, spectrum and other related costs in 2009. NS also provides for the costs of upgrading the 2009 PTC system to become fully compliant with RSIA's standards, including interoperability, over the 2010 to 2015 period. Because neither party provided costs for an independent PTC system and a fully RSIA-compliant system, NS assumes that the PTC wayside interface units and antennas initially installed will not need to be replaced, but that costs for PTC development, testing, spectrum, back office functionality, design and locomotive radios would have to be incurred a second time to make the 2009-vintage PTC system RSIA 2015 compliant.

NS makes this adjustment in several steps. *First*, add future PTC development, locomotive equipment, and deployment costs equal to the initial 2009 investment amount spread

evenly between 2010 to 2015, but indexed to present cost levels using the AAR's Materials, Wages, and Supplies Excluding Fuel index in the DCF model, and with mobilization, engineering, and contingency additives applied in the same manner applied to the initial investment. *See* cells O6:R17 of the "Construction \$" tab of NS Exhibit 2 WP "D42125 Exhibit III-H-1 STB No3 (NS Exhibit 2 Phased PTC).xslm." *Second*, create a "PTC" tab on the DCF model that calculates the present value of 2010 to 2015 PTC investments less the effects of depreciation and interest, similar to the calculation of future replacement costs. *See* "PTC" tab of NS Exhibit 2 WP "D42125 Exhibit III-H-1 STB No3 (NS Exhibit 2 Phased PTC).xslm." *Third*, calculate the cumulative PTC investment for each year between 2010 and 2015, iteratively add this to the total cost recovered by year, and solve for the resulting capital carrying charge amount that accounts for all years. *See* NS Exhibit 2 WP "D42125 Exhibit III-H-1 STB No3 (NS Exhibit 2 Phased PTC).xslm," "Investment SAC" tab, cells W1:AD85 and F30:F85, and the corresponding "PTC\_DCF()" macro script.

# EXHIBIT 3

**STB Docket No. 42125 – DuPont v. NS**  
**DuPont/NS Agreed Upon Technical Errors But Different Quantifications of Errors**

**1. Terminal Value Calculation**

Because the STB accepted DuPont's position that the Board's DCF model assumes that the SARR's capital structure remains constant in perpetuity, there will always be debt, with associated interest payments, as well as equity in the capital structure. Decision at page 283. To reflect this position, the STB accepted DuPont's terminal value adjustment, which calculated a perpetuity based upon expected future interest payments made by the SARR. The STB notes that this adjustment aligns interest payments, and their tax shielding impacts, with the model's assumption that "a SARR's capital structure includes a debt component (including the cost of the associated interest payments) in perpetuity, not for 20 years." Decision at page 283.

While the STB accepted DuPont's terminal value adjustment, it did not accept its calculation of interest payments based on quarterly coupon rates instead of a home-style mortgage structure. This means that, in DuPont's Opening and Rebuttal DCF model, the quarterly interest payments were the same over the 10-year model, while under the STB's mortgage style amortization, the interest payments change every quarter. The logical way to make the terminal value adjustment using the STB's mortgage style interest amortization is to use the average interest payment over the 20-year debt amortization period in the perpetuity calculation. This is consistent with Board precedent for using averages to estimate future values. It is also consistent with the idea that, if the SARR's capital structure will remain the same forever, its interest payments will be the average of all future interest payments.

To effect this change, DuPont has adjusted the Board's DCF model to develop the terminal value adjustment consistent with the Board's decision. This was done by first calculating in the DCF model's "Interest" worksheet, the average quarterly interest payment made by the SARR. DuPont performed this calculation by summing the quarterly interest payments for quarters 1 to 80 from Columns (J), (Z), (AQ) and (BH) in Column (BL), and then calculating the simple average of the quarterly payments over the 80 quarters in cell BL138.

Second, to remove a potential double count of investment tax shields on future investments, DuPont removed the Present Value of Tax Deductions on Interest Payments in the "Replacement" worksheet by deleting the existing formulas in cells G37 to G57.

Third, DuPont adjusted the formula in cell H86 of the "Investment SAC" worksheet to develop a perpetuity of future interest payments using the real cost of interest calculated in the model's "Replacement" worksheet. The revised formula is as follows  
"=(Interest!BL138)/((Replacement!\$AO\$37^(1/4))-1)." This perpetuity formula follows the same logic as the perpetuity formula used to calculate terminal Quarterly Levelized Capital Carrying Charge Requirements in the Board's DCF model.

**STB Docket No. 42125 – DuPont v. NS**  
**DuPont/NS Agreed Upon Technical Errors But Different Quantifications of Errors**

**2. Fuel Expense Indexing**

The *Decision* states that the Board would use EIA forecasts of WTI fuel costs “to forecast the fuel portion of [DRR] operating expenses.” See *Decision* at 266. However, the Board’s workpapers did not make a corresponding adjustment to the operating expense index in its DCF model. See STB WP STB WP “D42125 Exhibit III-H-1 STB No3.xlsm”, tab “Operating SAC”, at cells U15:U40.

In order to implement the Board’s stated RCAF index adjustment consistent with the Board’s application of a single methodology for the entire revenue forecast period, DuPont has applied the EIA WTI index over the entire revenue forecast period, which is from 2011-2019.

DuPont has adjusted the NS Reply workpaper that develops the Hybrid RCAF-U/A to incorporate the WTI fuel price index the Board stated it would use in lieu of the RCAF fuel index over the forecast period. Specifically, at file “Hybrid RCAF Reply (Item 16 Technical Correction) DuPont.xls”: range Q22:S55 of level “Hybrid DCF” has been updated to reflect the new calculations contained in level “Restated RCAF.” This update flows to range L22:L55 of the same worksheet level.

The data at file “Hybrid RCAF Reply (Item 16 Technical Correction) DuPont.xls”, level “Hybrid DCF”, range L15:L55 should be paste-value copied or linked to file “D42125 Exhibit III-H-1 STB No3.xlsm”, level “Inflation Index”, range F20:F60 before the DCF model macros are run.

**3. Phased PTC Investment**

The STB accepted DuPont’s position that the SARR would initially install a PTC system, but stated that the DRR will be required to spread the costs of upgrading this PTC system for compliance with the Rail Safety Improvement Act through the 2010 to 2015 period, rather than incurring all such costs together with the initial costs of installing the system in 2009 or before. *Decision* at 285. While the Board stated the upgraded investment costs should be spread over the 2010-2015 time period, the Board’s DCF model did not make this adjustment, but instead included these investments in its base year costs. The Board’s Communication and Signals (“C&S”) investment workpapers show that it included investment costs to upgrade the PTC system over the 2010 to 2015 time period. The STB workpaper “No.2\_STB - DuPont C&S Estimate errata Reply.xlsx” shows in the “Summary” worksheet at cell I5 that the DRR’s C&S investment includes \$90.3 million to phase in PTC development between 2010 and 2015. The other \$1.96 billion in C&S investment, including all other PTC related expenses, were included in the base year 2009 SARR investment.

**STB Docket No. 42125 – DuPont v. NS**  
**DuPont/NS Agreed Upon Technical Errors But Different Quantifications of Errors**

To implement this adjustment, the first step is to remove the \$90.3 million in future PTC from the 2009 base year investment. This can be most easily accomplished by adjusting the STB's "DCF Transfer III-F Total No2.xlsx" worksheet at cell F25 to subtract the \$90,309,321 in future PTC investment. This also automatically adjusts the contingency and mobilization factors included in the base year investment.

Next, models must be developed to calculate the future quarterly capitalized carrying charges for the 2010 to 2015 PTC investments. The most straight forward and transparent approach for developing future investment values is through separate DCF investment models for each year, which is also consistent with Board precedent. For example, the Board used a separate DCF approach in its decision in Docket No. NOR 42113, *Arizona Electric Power Cooperative, Inc. vs. BNSF Railway Company and Union Pacific Railroad Company*, served November 22, 2011 to add PTC investment incurred after the base year. In addition, the use of separate annual DCF models takes into consideration changes in bonus tax depreciation laws that occurred during the 2010 to 2015 time period. Specifically, the Small Business Jobs Act of 2010 allowed for 50 percent bonus depreciation for assets placed in service between January 1, 2010 and September 7, 2010. This act was then superseded by the 2010 Tax Relief Act that allowed 100 percent bonus depreciation for assets placed in service September 8, 2010 to December 31, 2011 and 50 percent bonus depreciation for assets placed in service January 1, 2012 to December 31, 2012. The subsequent American Taxpayer Relief Act extended the 50 percent bonus depreciation through December 31, 2013. DuPont has developed separate DCF models for each year, 2010 through 2015, that take into consideration the phased PTC investment and the changes in the bonus depreciation laws. The quarterly levelized capital carrying charges were then summarized in the file "PTC Phased In Capital Recovery.xlsx," and subsequently added to the Board's DCF model "Netting" worksheet by adding the future investment capital charges to the base year capital charges included in cells H24 to H61.