1997	$742,502,356
1998	$708,072,574
1999	$722,158,284
2000	$709,003,915

F. Just and Reasonable Rates for 1997, 1998, 1999, and 2000

The Carriers' tariffs provide for three different rates for the transportation of oil on the TAPS, reflecting the three different distances of the off-take points along the pipeline from Pump Station #1. These off-take points are at the Golden Valley Electrical Authority (GVEA) interconnection facility (469.06 miles), the Petro Star interconnection facility (796 miles), and the Valdez marine terminal (800.32 miles).[642]

The parties adopt a rolled-in barrel mile methodology for calculating intrastate rates to these three destinations, given a revenue requirement.[643] Most costs are deemed to be "distance related"; these are apportioned according to a destination's barrel-mile share of total (both intrastate and interstate) barrel-mile deliveries. Total non-distance related costs are apportioned on a per-barrel (both intrastate and interstate) basis. This rate design follows APC's decision in *Re Amerada Hess Pipeline Corporation* as modified by the Quality Bank Agreement accepted by the APUC.[644] The connection costs specific to the GVEA connection facility are apportioned to the GVEA tariff. The parties do not dispute the magnitude of GVEA connection costs, nor of non-distance related costs, nor of deliveries to any given destination.

[642] T-2 (BWF) 13.

[643] *See* RGV-14 Schedule 1; 225-JFB-T, Workpaper 5; BEW-T (W-3) 48.

[644] *Re Amerada Hess,* 1 APUC 606, 611 (1980); 6 APUC 401, 405 (1984).

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We therefore adopt the Carriers' undisputed approach to rate design. Accordingly, we make the necessary calculations and find that the following rates are just and reasonable:

	GVEA	Petro Star	Valdez
1997	$1.02	$1.55	$1.56
1998	$1.03	$1.62	$1.63
1999	$1.19	$1.88	$ N/A[645]
2000	$1.25	$1.96	$ N/A.

On average the Carriers' filed rates for 1997-2000 exceed cost-based rates by 57 percent. *See* Exhibit 1 Schedule 3. Fifty-seven percent above cost-based rates is well outside the zone of reasonableness. This further confirms our finding that the 1997-2000 filed rates are unjust and unreasonable.

We adopt the above rates as satisfying the requirements of AS 42.06.410 (b) for the years 1997-2000. These rates are single rates for all Carriers for each year.[646] Consistent with this order, we allow each Carrier to file individual rates supported by individual actual, historical Carrier costs that justify individual revenue requirements if the sum of the individual annual revenue requirements does not exceed the composite revenue requirement found in this order. If the Carriers do not elect to file separate rates, we will be able to bring our investigation of the capacity settlement

[645] *See* Exhibit 46 for calculation. The tariffs to the Valdez Marine Terminal, for 1999 and 2000, are not calculated because during those years no intrastate shipments were made to Valdez.

[646] Endnote 9 discusses the appropriateness of a single rate for the TAPS.

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agreement and whether there is competition on this pipeline to a close.[647] TSM was structured based on the assumption that there would be competition amongst the TAPS carriers. Until recent years, the tariffs have been uniform.[648] If the Carriers elect to file separate rates, they must do so by January 27, 2003.

These rates are different than the Carriers' filed rates. The Carriers shall refund the difference between their filed rates and our calculated rates by January 13, 2003.[649] If adjustments are necessary because the Carriers file and we approve individual Carrier rates, those will be made within thirty days of our final order approving individual rates.

Carriers have had the use of shippers' money since it was paid, and an award of interest is appropriate. We do not have a record sufficient to determine the interest due, and require the parties to address that issue in Phase II.

[647]Docket P-97-6 is titled *In the Matter of the Cancellation of Allocation of Capacity Rules by AMERADA HESS PIPELINE CORPORATION; ARCO TRANSPORTATION ALASKA, INC.; BP PIPELINES (ALASKA) INC.; EXXON PIPELINE COMPANY; MOBIL ALASKA PIPELINE COMPANY; PHILLIPS ALASKA PIPELINE CORPORATION; and UNOCAL PIPELINE COMPANY and the Matter of the Complaint of the STATE OF ALASKA Concerning Allocation of Trans Alaska Pipeline System Capacity and the Petition of TESORO ALASKA PETROLEUM COMPANY for an Investigation into Capacity Allocation and the Discontinuance of Use of Certain Pump Stations on the Trans Alaska Pipeline System*.

[648]Amerada Hess sold its interest in the pipeline after concluding that existing agreements amongst the carriers made it uneconomic for any carrier who was not also a producer to retain an interest in the TAPS. 33 BWF-E, 51 HIGHLY CONFIDENTIAL Absent separate rates for the Carriers, we will have no cause to investigate these issues further.

[649]*See* Endnote 10.

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G. Post-2000 Intrastate TAPS Rates

Post-2000 intrastate TAPS rates will be determined based on the Carriers' tariff filings and supporting documentation. To determine rates for 2001 and subsequent years we require the Carriers to file tariff revisions including the information required by AS 42.06.350(a) and 3 AAC 48.275(a).[650] We will review those filings for consistency with the depreciated original cost methodology described in Part IV of this order. We require the Carriers to make supporting documentation available for review by Commission staff. Because these filings are likely to be suspended at the end of the 45-day review period, we set a prehearing conference in this order.

H. Rate Case Expense

Tesoro protested allocation of rate case expenses and we ordered the Carriers to file quarterly reports of the costs they have incurred litigating this case. The most recently filed reports show that the Carriers have incurred $14.83 million in legal costs.[651]

Rate case expense is ordinarily a fairly uncontroversial component of revenue requirement. The actual or estimated cost of the rate case is supplied by the regulated entity. The Commission then looks at the entity's rate case history and applies its own judgment to decide how many years it will be before a new rate case. Typically, rate case expense would be amortized over a three to five-year period. Because we are setting rates for a four-year period it would be reasonable, if this were

[650] AS 42.06.440.

[651] *Indicated TAPS Carriers' Eighteenth Litigation Cost Report*, filed August 29, 2002; *Seventh Cost Report of Williams Alaska Pipeline Company, L.L.C*, filed August 30, 2002.

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an ordinary case, to simply take the total rate case expense, divide it by four, and include that amount in the revenue requirement for each of the years 1997-2000.

This case is not an ordinary case. Rate case expense is extremely high. If we assume intrastate shipments over the four-year period of 146,000,000 (100,000 barrels per day) and rate case expense of $15,000,000, each intrastate barrel would pay approximately ten cents in rate case expense.

The very high expenditure in this case may be partially justified by the issues, which reach far beyond those in the usual rate case and include issues of first impression before the Commission. To decide this case we considered evidence that spanned a twenty-five year period. The decision in this case will affect future TAPS rates. We, therefore, may treat the rate case expenses incurred in this case differently.

The Alaska Pipeline Act requires us to exclude all direct and indirect costs of any unreasonable practices from tariffed rates.[652] We have found that TSM did not produce just and reasonable rates for 1997-2000. Carriers' costs incurred in defending TSM are arguably costs associated with an unreasonable practice. However, we have no record to determine what portion of the Carriers' litigation expenses is reasonable. We also lack a record on whether the reported legal expenses have already been collected in rates. If any party still believes that we should open a proceeding to examine the reasonableness of the Carriers' rate case expenses and determine an appropriate schedule for recovery of those expenses, it may file a request within forty-five days of this order and we will address that issue in Phase II of this case.[653]

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[652] "Following such a determination, the commission shall take appropriate action to ensure that neither the direct nor indirect costs of any unreasonable practices or imprudent expenditures are included in any tariff or rate of a pipeline carrier or are borne by the public of the state." AS 42.06.450.

[653] AS 42.06.410(b).

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VII. FURTHER PROCEEDINGS

Tesoro raises two additional issues. Tesoro request that we 1) audit TSM inputs for 1997-2000[654] and 2) determine whether duplicative management of TAPS exists making rates excessive.[655] Tesoro also requested, in the initial filing that began this docket, an opportunity to raise additional issues after it had access to the data supporting TSM rates.

We did not use TSM inputs to set rates for 1997-2000. Therefore, there is no need to audit them. Tesoro may still believe that the operating costs used to set rates are imprudent.[656] The record, however, does not contain sufficient evidence of 1997-2000 operating cost imprudence. Therefore, we do not order an audit.

The Carriers responded to the allegation that their ownership structure produces duplicative management costs by asserting that their ownership structure is common in the pipeline industry and that they have valid business reasons for maintaining such an ownership structure.[657]

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[654]Tr. 5251 (JFB).

[655]JFB-T (E-3) 16-17.

[656]The issue of the reasonableness of TSM inputs and the correct calculation of rates under TSM for 1986-1996 is not resolved by this decision and remains open in Docket P-86-2. *Re Amerada Hess Pipeline Corp.*, 13 APUC 448, 456 (1993); *Re Amerada Hess Pipeline Corp.*, Order P-86-2(56)/P-90-1(26)/P-92-2(23)/P-94-1(28)/P-95-1(7), dated November 30, 1995; *Re Amerada Hess Pipeline Corp.*, Order P-86-2(55)/P-90-1(25)/P-92-2(22)/P-94-1(27)/P-95-1(6), dated June 30, 1996; *Re Amerada Hess Pipeline Corp.*, Order P-86-2(58)/P-90-1(29)/P-92-2(25)/P-94-1(30)/P-95-1(9), dated March 29, 1996; *Re Amerada Hess Pipeline Corp.*, Order P-86-2(57)/P-90-1(27)/P-92-2(24)/P-94-1(29)/P-95-1(8)7, dated January 31, 1996; *Re Amerada Hess Pipeline Corp.*, Order P-86-2(60)/P-90-1(30)/P-92-2(28)/P-94-1(32)/P-95-1(11), dated June 28, 1996; *Re Amerada Hess Pipeline Corp.*, Order P-86-2(62)/P-92-2(31)/P-94-1(37)/P-95-1(17)/P-97-4(2)/P-97-5(2)/P-97-6(2)/P-97-7(2), dated June 30, 1997. Further the issue of public relations expenditures in the 1994 rates remains open in Docket P-94-1. Order P-94-1(1) (Exxon Valdez litigation and settlement costs and post-employment benefits other than pension have been settled. *See Re Exxon Valdez Litigation and Settlement Costs* 1998 WL 1035074 (Alaska P.U.C. Nov. 17, 1998).

[657]T-12 (BWF) 6-10.

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We do not have a record that would enable us to evaluate expenses associated with TAPS ownership structure. This kind of issue is usually addressed by ordering a management audit. The testimony submitted by Tesoro is not sufficient to justify ordering such an audit for 1997-2000. However, the costs of the TAPS management structure will be at issue when we set rates for 2001 and subsequent years. If any party can demonstrate that a further investigation of this issue for 1997-2000 is justified based on evidence gleaned during this phase of the case they may request a further investigation within 60 days of the date of this order.

VIII. ORDER

THE COMMISSION FURTHER ORDERS:

1. The following filed rates for 1997-2000 calculated pursuant to the Intrastate Settlement Agreement are not just and reasonable:

a. Amerada Hess (1997) TL50-300, TL52-300 (changed only to Valdez and Petro Star, not North Pole), TL55-300; (1998) TL58-300; (1999) TL63-300, TL64-300, TL66-300, TL68-300; (2000) TL-70-300, TL71-300.

b. ARCO (1997) TL56-301, TL59-301; (1998) TL61-301; (1999) TL 66-301, TL68-301; (2000) TL71-301.

c. BP (1997) TL56-311, TL60-311; (1998) TL61-311; (1999) TL67-311, TL69-311; (2000) TL73-311, TL75-311.

d. Exxon (1997) TL69-304, TL72-304; (1998) TL74-304; (1999) TL80-304, TL81-304, TL83-304; (2000) TL87-304.

e. Unocal (1997) TL52-312, TL55-312; (1998) TL56-312; (1999) TL60-312; (2000) TL64-312.

f. Mobil (1997) TL52-308, TL55-308; (1998) TL58-308, TL63-308; (1999) TL64-308, TL66-308, TL68-308; (2000) TL70-308.

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g. Phillips (1997) TL53-310, TL55-310, TL58-310, TL59-310; (1998) TL62-310; (1999) TL67-310, TL69-310, TL71-310, TL73-310; (2000) TL77-310, TL78-310, TL79-310.

2. The rates for calendar years 1997, 1998, 1999, and 2000 shown on Exhibit 1, Schedule 3 to this order are the Phase I rates for those years, replacing the 1997, 1998, 1999, and 2000 filed rates found by this order to be unjust and unreasonable.

3. The issue of whether filed 1997-2000 rates are correctly calculated under TSM is moot.

4. The rates calculated above are in all cases different than the Carriers' maximum filed rates; *see* Exhibit 1, Schedule 3. By 4:00 p.m., January 13, 2003, the Carriers shall refund the difference between their filed rates and our calculated rates.

5. Consistent with this order, each Carrier may file individual rates supported by individual Carrier actual, historical costs that justify individual revenue requirements if the sum of the individual revenue requirements does not exceed the composite annual revenue requirements found in this order. If the Carriers elect to file separate rates, they must do so by 4:00 p.m., January 27, 2003.

6. If the Carriers file and we approve individual Carrier rates, we will order appropriate adjustments to the refund amounts within thirty days of our final order approving individual rates.

7. The request made by Tesoro Alaska Company for a Commission audit of 1997-2000 operating expenses is denied.

8. The request made by Tesoro Alaska Company to investigate duplicative management costs incurred in 1997-2000 is denied without prejudice.

9. By 4:00 p.m., January 13, 2003, Tesoro Alaska Company or any other party may request an investigation into duplicative management costs and must provide

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sufficient evidence that those management costs were imprudent to justify an investigation.

10. By 4:00 p.m., January 13, 2003, any part may request investigation into rate case expense.

11. A prehearing conference to set the schedule Phase II of this docket shall convene at 10 a.m. March 4, 2003, in the East Hearing Room of the Regulatory Commission of Alaska, 710 West Eighth Avenue, Suite 300, Anchorage, Alaska. The parties should be prepared to submit a proposed procedural schedule at the prehearing conference.[658] The parties should be prepared to discuss a schedule for resolving the issues identified in Ordering Paragraph Nos. 9 and 10 above and the issue of interest owing on Carriers' refunds.

12. A prehearing conference to set the schedule for the 2001 rate case shall convene immediately following the prehearing conference scheduled in Ordering Paragraph No. 11, in the East Hearing Room of the Regulatory Commission of Alaska, 710 West Eighth Avenue, Suite 300, Anchorage, Alaska. The parties should be prepared to submit a proposed procedural schedule at the prehearing conference.[659]

13. Using the depreciated original cost methodology of Part IV of this order to set rates for 1997, 1998, 1999, and 2000 and the information required by AS 42.06.350(a) and 3 AAC 48.275(a) the Carriers shall either together or individually calculate revenue requirements and rates for 2001 and subsequent years. By 4:00 p.m., January 13, 2003, the Carriers shall either together or individually file tariff

[658] If you are a person with a disability who may need a special accommodation, auxiliary aid, or service or alternative communication format in order to participate in this prehearing conference, please contact Jennifer Guigley at 1-907-276-6222 or TTY 1-907-276-4533 to make the necessary arrangements.

[659] *See* n.658.

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revisions including the information required by AS 42.06.350(a) and 3 AAC 48.275(a). The 2001 test year will be used to set rates for 2001 and subsequent years.

DATED AND EFFECTIVE at Anchorage, Alaska, this 27th day of November, 2002.

BY DIRECTION OF THE COMMISSION
(Commissioners Bernie Smith and
Will Abbott, not participating)

(S E A L)

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X. ENDNOTES

ENDNOTE 1 CITATIONS TO THE RECORD AND ORDER EXHIBITS

Prefiled testimony for the Carriers, the State, and the Public Advocacy Section (PAS) are designated with a one-letter prefix, T for Carriers (TAPS Carriers), S for State, and P for PAS, followed by a hyphen and then a number indicating the position of the testimony in that party's list of prefiled testimony. Those official designations of testimony are followed in this Order by a parenthesis containing the initials of the witness to whose testimony we refer. For example, T-1 is the official designation of the prefiled testimony of Carriers' witness Adam B. Jaffe. We cite to that testimony as T-1 (ABJ).

Prefiled testimony for Tesoro and Williams are designated with a three-letter prefix followed by a hyphen and then the letter T. The three letters are the initials of the witness testifying. The letter T in this context means testimony, not TAPS Carriers. The initials and letter T are followed by a parenthesis which contains the single letter designation of the party sponsoring the testimony, E for Tesoro and W for Williams, followed by a number indicating the position of the testimony in that party's list of prefiled testimony. For example, KAW-T (E-1) is the prefiled testimony of Tesoro witness Kenneth A. Williams. These are the official record designations for Tesoro and Williams prefiled testimony and also the way we cite them in this order.

Prefiled exhibits for all parties begin with a three-letter prefix followed by a number. The three letters are the initials of the witness sponsoring the exhibit. For example, ABJ-1 is the first prefiled exhibit of the witness Adam B. Jaffe. These are the official record designations of the exhibits and the ones we use in this order. It is unnecessary to add a designation of the party sponsoring the exhibit because prefiled exhibits are sponsored by the party for whom the sponsoring witness is testifying.

Hearing exhibits are numbered sequentially 1 through 259, followed by a hyphen and the initials of the witness during whose testimony the exhibit was marked, then followed by another hyphen and the one-letter designation of the party who asked that the exhibit be marked. For example, 1-ABJ-E is a hearing exhibit marked by Tesoro during its examination of Adam B. Jaffe. A hearing exhibit containing the party designation R was marked by Williams Alaska Pipeline Company, L.L.C. Hearing exhibits requested by the Commission at the hearing contain the designation C following the number and initials of the witness testifying at the time.

Both prefiled exhibits and hearing exhibits are cited by their exhibit designation only. The word Exhibit does not appear in front of the exhibit designation. The word Exhibit followed by a number in this order refers to exhibits appended to this order, rather than to exhibits in the underlying record.

The transcript is cited first by the designation Tr. and the page or pages of the transcript being cited. (Transcript volume numbers are not included in the citation and line numbers on a page are not cited.) The transcript cite is followed by a parenthesis containing the initials of the witness testifying. For example, a portion of the examination of Adam B. Jaffe at the hearing would be cited as Tr. 1605 (ABJ). The hearing transcript in this case begins at Tr. 1524 and ends at Tr. 5673.

The letter designation of each witness and the party sponsoring that witness are listed below in alphabetical order of their initials.

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ABJ	Adam B. Jaffe	Carriers
BEW	Bruce E. Warner	Williams
BWF	Billy W. Folmar	Carriers
FJH	Frank J. Hanley	Tesoro
JEH	Jerome E. Haas	State
JFB	John F. Brown	Tesoro
JSG	J. Stephen Gaske	Williams
KAW	Kenneth A. Williams	Tesoro
KBJ	Kenneth B. Johnston	Williams
LPS	Leon P. Smith	Carriers
RAF	Richard A. Fineberg	PAS
RGV	Robert G. Van Hoecke	Carriers
WBT	William B. Tye	Carriers
WDVD	William Van Dyke	State

The record also contains testimony and exhibits of certain witnesses in Phase I of the original TAPS litigation. The Phase I testimony and exhibits which were entered into our record were written and filed in the late 1970s. The witnesses who compiled the testimony and exhibits were cross-examined at the Phase I hearing in 1978-79, but that hearing testimony has not been entered into our record. The Carriers' witness Tye attached the prefiled testimony and exhibits of certain Phase I witnesses for the Carriers to his testimony in this proceeding. During Tye's cross-examination Tesoro and Williams introduced the prefiled testimony and exhibits of other parties from Phase I.

When an exhibit containing Phase I prefiled testimony is cited, the exhibit designation will be followed by a parenthesis containing the last name of the Phase I witness. The full names of each Phase I witness whose testimony is contained in this record, alphabetized by last name; the Phase I party for whom the witness testified; and the exhibit in which that witness's testimony appears in this record are:

WITNESS	PHASE I PARTY	P-97-4 EXHIBIT
Arrow, Kenneth J.	Exxon Pipeline	WBT-29
Carter, Jared	BP Pipelines	WBT-18
Cooper, Joe L.	Mobil Alaska Pipeline	WBT-20
Donaldson, Richard M	Standard Oil etc.	WBT-17
Dunn, John C.	State of Alaska	83-WBT-W
Foster, J. Rhodes	ARCO Pipeline	WBT-31
Gary, Raymond B.	Exxon Pipeline etc.	WBT-26, WBT-27
Hall, William J.	Mobil Alaska Pipeline	WBT-21
Moolin, Frank P., Jr.	Mobil Alaska Pipeline	WBT-19
Nathan, Robert R.	BP Pipelines	WBT-28
Olson, Charles E.	Amerada Hess Pipeline	WBT-56
Parcell, David	State of Alaska	67-WBT-E
Patton, Edward L.	Mobil Alaska	WBT-15, WBT-16
Price, Harold C.	Mobil Alaska Pipeline	WBT-22
Roseman, Herman G.	U.S. Dept. of Justice	66-WBT-E
Ryan, John	Exxon Pipeline	WBT-32
Solomon, Ezra	Exxon Pipeline	WBT-33
Spahr, Charles E.	Standard Oil	WBT-23
Stich, Robert S.	Union Alaska Pipeline	WBT-34

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Whitehouse, Alton W., Jr.	Standard Oil	WBT-24
Wilson, John W.	Arctic Slope Regional Corp.	65-WBT-E
Woody, L. Dale	Exxon Pipeline	WBT-25

The Exhibits prepared by this Commission and appended to the order fall into several groupings. They are summarized below.

- Exhibit 1 summarizes and compares just and reasonable rates to the Carriers' filed rates. Exhibits 3 and 4 use other tests to find the Carriers' filed rates unjust and unreasonable.
- Exhibits 4 and 7 confirm that the rate base that we adopt in Part IV Section E is reasonable.
- Exhibit 5 and 6 show that the Carriers' unrecovered investment analysis fails to support their benchmark rates.
- Exhibits 9, 10, 12, and 16 summarize positions by the parties on various inputs necessary to determine a reasonable 1996 year-end rate base.
- Exhibits 2, 8, 11, 13-15, and 17-28 consist of findings that allow us to determine a reasonable year-end 1996 rate base, which we do at Exhibit 29.
- Exhibit 30 summarizes the parties' positions on operating expenses for 1977-1996.
- Exhibit 31 and 32 consist of findings that allow us to determine reasonable revenue requirements for 1977-1996, which we do at Exhibit 33. This allows us to confirm in Exhibit 7 the rate base that we adopt.
- Exhibit 34 shows the Carriers' position on capital structure for 1997-1999.
- Exhibits 35-45 consist of findings that allow us to calculate just and reasonable rates, which we do following the practice of the parties at Exhibit 46.

Exhibits concerned with establishing and testing the year-end 1996 rate base are displayed to the nearest million. However, exhibits make use of the exact figures submitted electronically.

ENDNOTE 2 BRIEF DESCRIPTION OF TAPS RATE LITIGATION

Following is a brief description of the TAPS litigation history in general and the litigation history of these consolidated dockets.

A. TAPS Litigation History

Rates for transportation of oil on TAPS have been the subject of litigation almost without interruption since 1977, when the Carriers filed their initial rates.[660] However, the issues we address here have never been decided. Rates filed under TSM have never been reviewed to determine if they are just and reasonable.

[660]In past litigation the parties have spent millions of dollars and ten years trying to resolve what the appropriate rates should be for shipping oil on TAPS. In this docket alone litigation costs for the Indicated TAPS Carriers have exceeded $14.83 million. *Indicated TAPS Carriers Eighteenth Cost Report,* filed August 29, 2002; *Williams Alaska Pipeline Company, L.L.C.'s Seventh Cost Report,* filed August 30, 2002.

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The original TAPS rate litigation occurred in two phases. Phase I, conducted in 1978 and 1979, examined rate base/rate of return methodology, including treatment of taxes. Phase II, conducted from 1982 through 1985, was divided into two portions: cost of construction and all other costs. The cost of construction portion involved the prudence of certain TAPS construction expenditures. The non-cost of construction portion addressed depreciation charges, AFUDC, DR&R costs, and all other issues not decided in Phase I.[661]

Federal and state regulators conducted the two phases concurrently. The federal agencies were the Interstate Commerce Commission and later the FERC. The state agencies were our predecessor agencies: first, the APC, and later, the APUC.

Administrative Law Judge Max L. Kane, who presided over the Phase I hearings for the FERC, issued his initial decision in February 1980.[662] Parties took exception to that decision and it remained before the FERC until 1982, when the FERC, without opinion, remanded the case for further evidence to determine whether a FERC decision establishing a ratemaking methodology for oil pipelines generally, should be applied to TAPS.[663] The agencies compiled a record in the Phase I remand but the parties settled the federal rate proceeding before the FERC decided the matter.

The APC, however, issued its Phase I decision on September 17, 1980. The decision consisted of two orders, Order 25oth[664] and Order 26.[665] In Order 25, the APC established a ratemaking methodology for TAPS. In Order 26 the APC used the Order 25 methodology to set rates to the GVEA connection for four of the Carriers. The parties appealed Orders 25 and 26 to the Alaska superior and Supreme courts.

While Orders 25 and 26 were on appeal, from 1982 through 1984, the parties continued Phase II proceedings before the FERC and the APUC. In 1982, as a part of Phase II, the parties stipulated to the life of the line for depreciation purposes as well as to a straight-line depreciation schedule.

In July 1984, MAPCO Alaska Petroleum Inc. (the predecessor of Williams Alaska Petroleum Inc. (Williams)), an intrastate shipper, settled the Order 26 issues with the Carriers. As part of the settlement, the parties moved to dismiss the appeal of Order 26. In November 1985, the Supreme Court dismissed the appeal of Order 26. The

[661]The record in Phases I and II is massive. Eighty-two witnesses testified in Phase I. Nine hundred and fifty exhibits were introduced. The Phase I transcript, including pre-filed testimony and cross-examination, is 24,000 pages long. One hundred and thirty six witnesses testified in the cost of construction portion of Phase II. The transcript, which includes cross-examination only, is 26,000 pages long. More than 8,000 Phase II cost of construction exhibits, including the pre-filed testimonies of the witnesses, exist. The Phase II non-cost of construction record includes the testimony of 45 witnesses. There are 5,300 pages of cross-examination transcript and 1125 exhibits, including the pre-filed testimonies of the witnesses.

[662]*Trans-Alaska Pipeline Sys.,* 10 F.E.R.C. ¶ 63,026.

[663]*Trans Alaska Pipeline Sys.*, 21 F.E.R.C. ¶ 61,092.

[664]*Re Exxon Pipeline Co.,* 1 APUC 580 (1980).

[665]*Re Amerada Hess Pipeline Corp.,* 1 APUC 606 (1980).

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Supreme Court also dismissed Order 25 because it no longer contained rates requiring review.

Meanwhile, in June 1985, the State and five of the eight TAPS Carriers agreed to settle the federal TAPS rate litigation. A sixth Carrier later joined the settlement. In October 1985, the FERC accepted the Interstate Settlement Agreement. The Interstate Settlement relied on TSM as the method for calculating interstate maximum ceiling rates for those six carriers. The remaining two carriers joined the settlement in February 1986, and the FERC accepted the final settlement in June 1986.[666]

The State and all eight TAPS Carriers reached a similar settlement of intrastate rates in April 1986.[667] The Settlement purported to resolve all issues then pending including the pre-1985 contested rates. The Settlement agreed to TSM as the method for calculating a maximum intrastate ceiling rate for future years.[668]

On May 30, 1986, the APUC opened Docket P-86-2 to consider the Intrastate TAPS Settlement concerning past and future intrastate TAPS rates. One year later on May 30, 1987, the Commission issued Order P-86-2(14) accepting settlement rates for periods before July 11, 1986, ordering refunds to intrastate shippers based on those accepted rates, and terminating the Commission's investigation into rates for shipments before July 11, 1986.[669] The APUC required as a condition of accepting the Settlement that the Carriers in the future file intrastate rates no higher than those calculated under TSM.[670] The Commission accepted the Settlement because all economically impacted parties had expressly or presumedly consented to the imposition of the settlement rates for the period before July 17, 1986.[671]

However, on July 10, 1986, Petro Star Inc. (Petro Star), an economically impacted party, challenged the filed rates. Because of Petro Star's protest, the APUC found that it must determine whether rates for periods after July 10, 1986, were just and reasonable under the Alaska Pipeline Act, not just whether the Settlement was in the public interest.[672]

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[666] *Trans Alaska Pipeline Sys.,* 33 F.E.R.C. ¶61,064 (1985); *Trans-Alaska Pipeline Sys.,*35 F.E.R.C. ¶61,425 (1986). Arctic Slope Regional Corporation appealed the approval of the Interstate TAPS Settlement Agreement but in October 1987, the United States Court of Appeals for the District of Columbia Circuit affirmed FERC's approval. The United States Supreme Court denied *certiorari* in October 1988. *Arctic Slope Reg'l Corp. v. F.E.R.C.*, 832 F.2d 158 (D.C. Cir., 1987), *cert. denied*, 488 U.S. 868 (1988). The federal portion of the TAPS rate litigation lasted eleven years from beginning to end.

[667] BWF-2.

[668] For a brief explanation of TSM, *see* Endnote 3, *infra.*

[669] *Re Amerada Hess Pipeline Corp.*, 8 APUC 168, 169 (1987).

[670] *Re Amerada Hess Pipeline Corp.,* 8 APUC 168, 171 (1987).

[671] *See Re Amerada Hess Pipeline Corp.,* 8 APUC 168, 169 (1987).

[672] *Re Amerada Hess Pipeline Corp.,* 8 APUC 168, 169 (1987).

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Petro Star later settled with the Carriers.[673] In October 1993, the APUC accepted the Settlement for the calculation of rates after July 11, 1986, but did not vacate the suspension of those rates. The APUC specifically did not find that the 1986 filed rates were just and reasonable. Instead, with two dissenting Commissioners,[674] the APUC accepted the Settlement as in the public interest because no economically interested party protested.[675] The APUC stated that any future challenge to the rates would be evaluated as if the APUC had not accepted the Settlement, i.e., without giving any weight to the finding that the Settlement was in the public interest when it was

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[673] *Re Amerada Hess Pipeline Corp.*, 13 APUC 448, 452 (1993).

[674] In dissenting, Commissioner Foster explained,

> Among the most egregious departures is the violation of the basic principle that rates should be based on actual costs and that the carrier is entitled to earn a reasonable return on its investment. The 35cent/barrel (in 1983 dollars) "incentive" provision which took affect in 1990 has no basis in cost and clearly goes beyond a reasonable return on actual investment. . . . This Settlement provides a windfall return to carriers with its so-called "incentive " return component. Shippers are in essence being asked to pay more than once for an investment. This is not a fair balance of the interests of shippers and carriers.

Re Amerada Hess Pipeline Corp., 13 APUC 448, 462-63 (1993). Commissioner Knowles concurred with Commissioner Foster regarding the allowance per barrel. Both Commissioners also found the approach to DR&R inappropriate. Commissioner Knowles explained,

> Two other objectionable features to TSM concern DR&R. The DR&R amounts to be collected each year are fixed and cannot be changed under TSM. There is no mechanism to adjust collections for DR&R to reflect known and measurable changes which may occur during the remaining life of the pipeline. The result may be overcollection or undercollection, both of which are undesirable. . . I cannot endorse a method which permits the TAPS Carriers knowingly to under collect or over collect their cost of service. The other unacceptable feature of the DR&R provisions of TSM is the fact that there is no mechanism by which excess DR&R funds can be refunded to ratepayers in the event that some or all of the currently anticipated DR&R work is ultimately unnecessary for whatever reason. The pipeline is not scheduled to be shut down for another 18 years. Circumstances could change significantly in that time period. The TAPS Carriers should not be allowed to retain monies collected for DR&R which are not used for that purpose. Those monies belong to the ratepayers.

Re Amerada Hess Pipeline Corp., 13 APUC 448, 460 (1993), Commissioner Foster agreed, "the Settlement proposes a DR&R fund that is not consistent with Commission policy and creates a windfall for carriers at the expense of shippers." *Id.* at 464.

[675] *Re Amerada Hess Pipeline Corp.*, 13 APUC 448, 456 (1993).

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uncontested.[676] The APUC made the entire prior record from Phases I and II available for any future rate challenges.[677]

After accepting the Settlement, the APUC continued to suspend annual rates, pending review of whether the rates were correctly calculated under TSM and contained acceptable input data.[678] The APUC never ruled on the post-1986 rates. Therefore, the correct calculation of TAPS rates using TSM and acceptable input data are issues still before us.[679]

B. History of P-97-4

The Carriers continued to file TAPS rates under Order 41 and the ongoing review described above. The Commission continued to accept those rates until December 23, 1996. On that date Tesoro protested the 1997 filed rates. MAPCO Alaska Petroleum Inc. intervened and the APUC designated Staff (whose successor is Public Advocacy Section of the Regulatory Commission of Alaska (PAS)) as a party. Therefore, the correct calculation under TSM and the acceptability of input data are issues for all intrastate rates filed after the 1985 Settlement and are being investigated in Docket P-86-02. We opened Docket P-97-4 to review post-1996 rates to determine if they are just and reasonable under AS 42.06.370. We opened Docket P-97-7 to address issues of appropriate DR&R collection and allowances.

On January 12, 1998, the Carriers moved to terminate the investigation in Dockets P-97-4 and P-97-7, observing that Tesoro's protest was a direct assault on TSM, DR&R and the Allowance Per Barrel return elements of TSM. They asserted that these issues could not be re-examined without reopening the full array of TAPS rate

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[676] *Id.*

[677] *Re Amerada Hess Pipeline Corp.*, 8 APUC 168, 171 (1987). The parties in Docket P-97-4 have in fact introduced extensive portions of the Phase I record into evidence in this proceeding. Although the entire record for the Phase I and Phase II of the joint federal/state proceedings was available for use in this docket, the record for this docket now consists only of those matters that were specifically introduced into this docket's record during the proceedings held for this docket.

[678] *Re Amerada Hess Pipeline Corp.*, 13 APUC 448, 456 (1993).

[679] In this proceeding, we combined the issue of the correct calculation and use of acceptable input date for the 1997-2000 rates with determining whether the 1997-2000 rates are just and reasonable. *Re Amerada Hess Pipeline Corp.,* Order P-86-2(61)/P-92-2(30)/P-94-1(36)/P-95-1(16)/P-97-4(1)/P-97-5(1)/ P-97-6(1)/P-97-7(1), dated June 27, 1997; *Re Exxon Valdez* Litigation *and Settlement Costs*, Order P-94-1(46)/P-95-1(26)/P-97-4(12)/P-97-6(11)/P-97-7(11)/P97-9(5), dated December 26, 1997; *Re Exxon Valdez Litigation and Settlement Costs*, Order P-94-1(54)/P-95-1(33)/P-97-4(35)/P-97-6(20)/P-97-7(21) dated December 28, 1988; *Re Exxon Valdez Litigation and Settlement Costs* Order P-94-1(75)/P-97-4(64)/P-97-6(41)/P-97-7(46), dated December 20, 1999. We have not determined whether the input data for 1986-1996 is reasonable, although we opened Docket P-86-2 when a protest was filed. We have not closed that docket because until this case was resolved, the significance of adjustments to those years was unknown. The issue is now ripe and we encourage the parties to include an appropriate resolution of those issues in any settlement discussions they may have.

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issues that the Settlement resolved.[680] The Carriers asked the Commission to use its discretion to decline to reopen TAPS rate issues because these burdens outweighed any Tesoro interest in rates. They also asserted that if intrastate rates were lowered, there would be an immediate, off setting increase in interstate rates, resulting in detriment to interstate shippers and State revenues.[681] They further asserted that a disparity between intrastate rates and interstate rates could lead to a FERC proceeding under Section 13(4) of the Interstate Commerce Act wherein FERC could invalidate RCA rates and set its own intrastate rates.[682]

In response, the APUC explained that "where no economically impacted party contests the rates, the public interest may tilt toward allowing unproven rates to be charged in lieu of conducting costly proceedings . . . ."[683] However, when a rate payer challenges unproven rates that it is paying, the Commission should not refuse to investigate those rates unless the party challenging rates is somehow precluded from challenging them.[684] Although the Settlement precludes the State from challenging rates filed in accordance with the Settlement, Tesoro is not similarly restricted.[685] The APUC concluded that to terminate the investigation and require an economically impacted party to pay, over its objection, rates that have not been fully justified as required by AS 42.06 would constitute de facto deregulation of TAPS.[686] The APUC, therefore, denied the Carriers' motion to terminate.[687] This history explains why this is the first time that the rates filed pursuant to TSM have been reviewed to determine if they are just and reasonable.

The Carriers filed their case-in-chief with the APUC on October 8, 1998, stating that "the principal question presented is whether the TAPS Settlement Methodology will continue to govern the TAPS Carriers' maximum intrastate rates."[688] On March 15,

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[680] *TAPS Carriers' Motion to Terminate Investigation* at 22.

[681] *Id.* at 20.

[682] *Id.,* at 20-21; *TAPS Carriers' Reply in Support of Motion to Terminate Investigation* at 24. We disagree. *See* Endnote 7 for a discussion of the Carrier assertion that Section13(4) of the Interstate Commerce Act gives the FERC the authority to order an increase in intrastate rates to avoid an undue burden on interstate shippers.

[683] *Re Amerada Hess Pipeline Corp.*, P-97-4(21)/P-97-7(16) at 14 (May 5, 1998).

[684] *Id.* at 14-17.

[685] *Id.* at 14. The Settlement does not limit the rights of future shippers to protest future rates. However, it limits the State of Alaska's protest right to only those tariffs which are inconsistent with the terms of the Settlement. BWF-2. Therefore, the State of Alaska is precluded from challenging the rates at issue in this docket. The Intrastate TAPS Settlement Agreement is only binding upon signatory parties and not upon third parties. *Id.* at 17, 19.

[686] *Id.* at 15.

[687] Further, failing to investigate rates places a chilling effect on non-Carrier shippers desire to ship. It also arguably reduces the incentive for non-pipeline owners to explore for additional oil on the North Slope.

[688] *TAPS Carriers' Covering Brief* at 2.

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1999, Tesoro moved for summary disposition because it contended that the Carriers failed to prove that the filed rates were just and reasonable.

The Carriers' described their initial filing as showing that:

> (a) TSM must be evaluated as an integrated whole and from the perspective of the 1985-86 time period in which the TAPS Settlement Agreement came into being;
>
> (b) from that perspective, TSM was expected to produce reasonable rates and returns and has performed as the parties intended;
>
> (c) TSM is a reasonable, cost-based ratemaking methodology that was designed to serve, and has served, important public policy goals benefiting the State of Alaska ("State") and TAPS shippers;
>
> (d) if TSM had not been adopted, rates derived under more traditional ratemaking methodologies would have been significantly higher during 1997 and 1998 than the TSM derived rates actually being charged; and
>
> (e) the public interest benefits that strongly supported the Commission's approval *(sic-acceptance)* of TSM have been realized and continue to justify its retention.[689]

After reviewing extensive briefing, we granted Tesoro's motion, finding that

> despite the inordinate amount of briefing and expert testimony on TSM, the Commission is not determining whether TSM is a just and reasonable methodology over the life of the pipeline. Rather, the Commission must address whether the resulting rates in 1997 and 1998 are just and reasonable.[690]

Further, we found that to the extent that non-cost based factors of TSM were included in the filed rates, the Carriers failed to provide a reasoned explanation. We instructed that once rates are challenged, at issue is whether the filed rates are just and reasonable under AS 42.06, not whether a settlement methodology will continue to be used to set the maximum rate level. We reiterated the direction of the APUC in originally allowing TSM rates. The APUC clearly stated TSM rates "would be subject to the same *standards* and *procedures* to which [they] would have been subject if the

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[689] *Id.,* at 2.

[690] *Re Amerada Hess Pipeline Corp.*, P-97-4(79) at 8-9 (April 10, 2000). We also suspended and address in these dockets whether the 1999 and 2000 rates are just and reasonable. Even if the reasonableness of a methodology over the life of the line could be a sole test for meeting the requirements of AS 42.06, our analysis in Section V demonstrates that in this case the filed rates produced by TSM over the life of the line produce an excessive opportunity to recover costs. *See* Part V, B. *supra.*

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Intrastate Settlement Agreement had not been accepted."[691] We explained that determining whether rates are just and reasonable begins with costs.[692] Non-cost factors may be considered if specifically justified.[693]

Although we granted Tesoro's motion for summary judgment, we did not decide whether the filed rates were just and reasonable. Instead, we provided the Carriers a second opportunity either to file a case supporting their 1997-2000 filed rates as just and reasonable under the AS 42.06 or to file different rates with support showing that the new rates were just and reasonable. We established a procedural schedule allowing the Carriers to file a new case-in-chief, the protestants to file answering testimony and the Carriers to file rebuttal testimony. We also scheduled a hearing and ordered pre- and post-hearing briefing.[694]

On January 26, 2001, the Carriers moved to strike portions of the protestants' testimony that addressed the issue of DR&R. They asserted that they were unaware that DR&R issues were a part of Docket P-97-4 and had presumed DR&R issues would be addressed only in Docket P-97-7.[695]

In 1985, as a part of the Settlement, the parties stipulated to the size of the ultimate DR&R obligation, the method for calculating the funds necessary to meet those obligations, and the role that DR&R obligations play in the overall settlement methodology established to calculate TAPS rates.[696] Once Tesoro challenged the 1997 rates, however, the Carriers were on notice that they would need to support the DR&R element of their rate calculation along with all other elements involved in a rate calculation.[697]

We therefore denied the Carrier motion to strike, consolidated the two dockets, and granted the Carriers an extension of time to file rebuttal testimony in the consolidated P-97-4 and P-97-7 proceeding.[698] We explained,

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[691] *Re Amerada Hess Pipeline Corp.,* 13 APUC 448, 456 (1993) *(emphasis added)* and n.28,*supra*.

[692] *Re Amerada Hess Pipeline Corp*., Order P-97-4(79) at 9, 11 (April 10, 2000.

[693] *Id.*, at 10.

[694] *Re Amerada Hess Pipeline Corp*., P-97-4(79) at 15 (April 10, 2000).

[695] *Indicated TAPS Carriers' Motion to Strike Testimony Relating to Dismantling, Removal and Restoration, or, In the Alternative, For an Extension of Time to File Rebuttal Testimony*, filed January 26, 2001.

[696] 29-ABJ-W at 11-13.

[697] The Carriers were on notice as early as February 28, 1998. *Tesoro's Opposition to Motion to Terminate* at 30 n.5.

[698] *Re Amerada Hess Pipeline Corp*., Order P-97-4(118)/P-97-7(78), dated February 16, 2001.

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issues of whether the appropriate amount and management of DR&R can be separated from the issues of whether, as part of a filed rate, DR&R amounts collected in 1997-2000 produce just and reasonable rates.[699]

We further explained that we would rule on whether the 1997 filed TAPS rates are just and reasonable after the April 2001 hearing if we could.[700]

Based on the record before us, we can determine whether the 1997 filed rates are just and reasonable but without reference to DR&R costs and revenue. We determine rates and refunds for 1997-2000 and address the DR&R issues in Phase II of this proceeding, after a full opportunity for discovery, pre-filed testimony and hearing. In that proceeding we will decide whether additional DR&R funds need to be collected or refunds issued post-1996.

After we consolidated P-97-4 and P-97-7, the parties filed cross motions for summary disposition, which we denied.[701] Based on the extensive record in these consolidated dockets, we determine whether the 1997-2000 filed rates absent consideration of DR&R expenses and revenues are just and reasonable under the Alaska Pipeline Act.

ENDNOTE 3 THE TAPS SETTLEMENT METHODOLOGY

Re Amerada *Hess Corporation*[702] contains a brief description of the TAPS Settlement Methodology (TSM).

> TSM is a formula for calculating tariffs of the seven TAPS Carriers beginning in the year 1977 and continuing through the year 2011. Although development of rates under TSM is complicated by several elements such as net carryover, calculation of rates for different types of petroleum (Sadlerochit, Kuparuk, etc.), calculation of rates to the intermediate points, and separation of rate base into 'original' and 'new' for purposes of providing a different basis for calculating rate of return after 1990, the underlying methodology itself is relatively straightforward.
>
> The methodology embodied in TSM is basically a trended original cost methodology (TOC or TOC methodology). TOC differs from the depreciated original cost methodology (DOC or DOC methodology), the method normally used by the Commission, in the manner in which investors are compensated for inflation. Under DOC, investors receive a nominal rate of return on the original cost of plant net of accrued depreciation. The nominal rate of return includes a premium to compensate investors for expected inflation. Under TOC, investors are compensated for inflation through rate base write-ups equal to expected inflation.

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[699] *Id.,* at 12.

[700] *Id.*

[701] Order P-97-4(130)/P-97-7(89), dated April 3, 2002.

[702] *Re Amerada Hess Pipeline Corp.,* 13 APUC 448, 458-59 (1993).

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Under TSM a real return on total rate base of 6.4 percent is included in the revenue requirement each year (until 1990), and the rate base (except for land and working capital) is written up each year for inflation as measured by the Consumer Price Index for All Urban Consumers. That writeup is included in an account called Deferred Return which is added to carrier property to arrive at total rate base which is then used to compute returns in succeeding years.

Although application of a TOC methodology usually results in fairly level rates over time, TSM results in declining rates over time because of its depreciation profile. Under TSM, property is depreciated and Deferred Return is recovered under a schedule which is more accelerated than straight-line and which apparently has no particular rationale other than that the parties agreed to it. Rate base declines very rapidly under this depreciation schedule as does return on rate base.

In order to give the TAPS Carriers an incentive to continue to operate the line, TSM provides for a profit element of 35 cents per barrel (adjusted for inflation since 1983) to be collected in lieu of a return on rate base after 1990 (35-cent provision). In order to give the TAPS Carriers an incentive to make appropriate investments after 1990, the rate base is divided into 'original' and 'new' portions. In addition to the 35 cents per barrel adjusted for inflation, the TAPS Carriers continue to earn the 6.4 percent return on 'new' rate base in 1990 and thereafter.

Under the provisions of the settlement each Carrier calculates its own tariff but that tariff is based on a common revenue requirement for the entire TAPS operation. The revenue requirement consists of the sum of the following elements: operating expenses; dismantling, removal, and restoration (DR&R) allowance; depreciation; recovery of deferred return; after-tax margin (6.4 percent return on total rate base prior to 1990 and 35 cents per barrel plus 6.4 percent return on new rate base in 1990 and thereafter); and income tax allowance. Any nontransportation revenues collected by the Carriers are subtracted from the revenue requirement.

Under TSM, the TAPS Carriers collect a fixed dollar amount for DR&R each year. These amounts do not change based on any change in either the obligation to perform DR&R or the cost of performing it. If the Carriers are not required to perform DR&R or it costs them less to perform it than the amount collected under TSM, the Carriers presumably retain the leftover DR&R amounts. Conversely, if DR&R is more expensive than originally contemplated, the Carriers and their parent companies are responsible for making up the difference and performing the DR&R.

Income tax allowance is calculated under the assumption that the entire amounts of those TSM elements entitled Recovery of Deferred Return and After- Tax Margin are fully taxable. Thus, the tax allowance is calculated as though the TAPS Carriers had a 100 percent equity capital structure. The difference between book and tax depreciation is calculated under TSM and results in an amount of deferred taxes. Deferred taxes are deducted from the rate base under TSM.

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> An allowance for funds used during construction (AFUDC) is included in TSM based on the yearly balance of construction work in progress (CWIP). When a portion of CWIP is transferred to carrier property, the AFUDC attributable to that portion of CWIP is transferred to the Deferred Return account and recovered on the same accelerated basis as the other element of Deferred Return, the annual rate base writeup. Consistent with the rest of TSM, AFUDC is assumed to be composed of all equity funds.
>
> Rates under TSM are calculated based on estimates of the various components of revenue requirement. If those estimates are incorrect and more or less than the actual revenue needed is collected during the year, that over or under collection is carried over to the next year and reduces or increases the following year's rates. This mechanism assures both shippers and carriers that the carriers collect neither more nor less than the exact amount needed to operate TAPS and to provide the TAPS Carriers with the return specified in TSM.

(Footnotes omitted.)

ENDNOTE 4 WILLIAMS' PROPOSED MANAGEMENT FEE

Williams' testimony is confusing. On the one hand, Williams asserts that the appropriate rate base for determining rates is the TSM rate base,[703] which consists of "original" rate base plus "new" rate base, including deferred return.[704] The TSM rate base on which TSM return may be earned was $284 million at year-end 1996. In 1997 that rate base consists of over $284 million.[705] Williams provides little rationale beyond that of the Carriers for why TSM produces just and reasonable rates and should therefore be retained.

On the other hand, Williams also asserts that by 2000 the original rate base is 99 percent depreciated and that we should therefore award a management fee.[706] Williams urges that as much of TSM's framework as possible should be retained but that a management fee should be substituted for the current TSM allowance per barrel provision.[707] Williams' proposal is based on a series of FERC decisions regarding project financed gas pipelines.[708]

The purpose behind a management fee according to Williams is to compensate pipeline owners after their original investment is fully depreciated.[709] Based on the FERC line of cases cited above, Williams urges that a management fee of 10 percent of

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[703] *Williams Alaska Petroleum Inc.'s Post-hearing Initial Brief* at 43-44.

[704] *See* T-2 (BWF) A-3 to A-6.

[705] 31-BWF-E.

[706] KBJ-T (W-1) 28-29.

[707] Tr. 4159-60 (KBJ); KBJ-T (W-1) 30; Tr. 4091-92 (KBJ).

[708] KBJ-T (W-1) 30; Tr. 4091 (KBJ).

[709] Tr. 4092 (KBJ).

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the average pre-tax return, i.e. operating income of the pipeline over its proceeding life, should be awarded for TAPS beginning 1997.[710]

In response to Williams' argument, we note first that the analysis concluded in Part IV demonstrates that the TAPS is far from being fully depreciated; the year-end 1996 rate base on which return may be earned consists of $669 million.[711] Furthermore, new rate base is continually being added to TAPS.[712]

Even if rate base were fully depreciated, a parallel line of FERC cases calls into question the logic of providing a management fee once rate base is fully depreciated. In *High Island Offshore System,* the FERC explained, "although the Commission has accepted proposals to impose a management fee, HIOS's proposal results in a substantial rate of return level that must be explored at the hearing to determine appropriateness."[713] Further, Commissioner Langdon dissented, stating

> I would vote to reject HIOS' management fee proposal as being contrary to established Commission policy. When a pipeline is fully depreciated, it has been paid for, and there is no logical reason for a company to receive "in lieu" payments for its fully recovered return on equity. Shareholders who provided the equity for the pipeline have been fully repaid for their investment. Period.
>
> Adoption of a management fee would require the Commission to depart significantly from its historic view of depreciation. While, on the surface, the fee is derived from a formula based on the cost of the pipeline, down deep, its adoption is a recognition that we have to pay companies to stay in business. Until the Commission formally eliminates its cost-based form of regulation over monopoly pipelines, I view such hybrids as the management fee proposed here to be unjust and unreasonable.[714]

AS 42.06 requires that Alaska's intrastate rates be just and reasonable. To be just and reasonable, rates should be cost based and, if not, a specific public policy rational should be provided. Commissioner Langdon's dissent raises serious question as to whether the management fee as proposed by Williams would be cost based and, if it is not, whether a policy rationale could exist that would support it.

In *Stingray*, the FERC explained that although it had provided Stingray the opportunity to argue for the inclusion of a management fee, the burden of proving the need for a management fee was upon Stingray.[715] Further, the FERC explained,

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[710]Tr. 4092-93 (KBJ).

[711]Exhibit 29.

[712]*See* Part IV, B.1, *supra.*

[713]*High Island Offshore Sys.*, 57 F.E.R.C. ¶ 61,420, 62,372 (1991).

[714]*Id.* at 62, 374.

[715]*Stingray Pipeline Co.,* 98 F.E.R.C. ¶ 63,004, 65,023 (2002).

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> . . . in order to demonstrate a need for the management fee over and above the substantial allotments for depreciation, return and associated taxes, a company (especially one not fully depreciated) would need to show significant detrimental financial circumstances, through no fault of its own, inhibiting the company's ability to manage its operations.[716]

Williams has made no such showing. Further, the rate base for TAPS is not fully depreciated and new rate base is being added.[717] Therefore, we do not adopt Williams' proposed management fee for TAPS.

ENDNOTE 5 BURDEN OF PROOF

The Carriers have repeatedly suggested that they do not carry the burden of proof.[718] We have therefore repeatedly instructed the Carriers that they carry the burden of proving that 1997-2000 rates are just and reasonable.[719] In *Cook Inlet Pipe Line*, the Alaska Supreme Court held that an uncontested settlement does not establish the rates are reasonable.[720] The Alaska Supreme Court relied on the United States Court of Appeals for the District of Columbia decision that involved TAPS[721] and a FERC decision involving TAPS,[722] noting that the "justness of rates cannot be implied from an approved settlement" because the settlement rates were never adjudicated to be just and reasonable.[723] In Order 50 in this docket, the APUC carefully acknowledged the Carrier position regarding the standard for determining if rates just and reasonable and rejected it.

> The TAPS Carriers stated that the Commission has determined that in the absence of a protest by an interested party, rates calculated consistently with TSM should be accepted and allowed to become final rates, citing 3 AAC 48.090(d), Order P-86-2(41) at pp. 20-21, Order P-86-2(14) at pp. 3-4. The provisions of 3 AAC 48.090(d) addresses the withdrawal of applications/petitions, the termination of Commission proceedings prior to full

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[716] *Id.*

[717] Exhibit 42, line 2.

[718] *Initial Post-hearing Brief of the Indicated TAPS Carriers* at 54; and *see Indicated TAPS Carriers Notice of Pertinent Additional Authority*.

[719] *Re* Amerada *Hess Pipeline Corp.*, Order P-97-4(79) at 3-4 (April 10, 2000); Prehearing Conference Transcript at 66 (May 5, 1998).

[720] *Cook Inlet Pipe Line Co. v. Alaska Pub. Util. Comm'n*, 836 P.2d 343, 353 (Alaska, 1992).

[721] *Arctic* Slope *Reg'l Corp. v. F.E.R.C.*, 832 F.2d 158, 164 n.12 (D.C. Cir., 1987), *cert. denied*, 488 U.S. 868 (1988).

[722] *Trans*-Alaska *Pipeline Sys.,* 35 F.E.R.C. P 61,425, 61,983 n.17 (1986).

[723] *Cook Inlet Pipe Line Co. v. Alaska Pub. Util. Comm'n*, 836 P.2d 343, 353 (Alaska, 1992).

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adjudication, and the amendment of pleadings in the event of changed circumstances. That regulation does not provide any justification for the TAPS Carriers' assertion that TSM should be assumed to produce just and reasonable rates in the absence of a protest.[724]

The APUC further explained,

> As previously noted, Order P-86-2(14) addressed the TAPS Settlement and the protest filed by an intrastate TAPS shipper (Petro Star) on July 11, 1986. The Commission was required to determine just and reasonable rates for periods after the date of Petro Star's protest. *See* P-86-2(14) at pp.4-5, *Amerada Hess,* 8 APUC at 169. In that Order the Commission stated:
>
> > The Commission will first complete its investigation of the acceptability of using TSM to derive present and future rates. . . . If the Commission determines that TSM does not produce just and reasonable results or is otherwise an appropriate methodology to be used in calculation of intrastate TAPS rates, the Commission will proceed to fully adjudicate rates from July 11, 1986, forward. With respect to that adjudication, the Commission is free to set just and reasonable rates according to whatever methodology the Commission finds to be appropriate for the regulation of TAPS.
>
> Order P-86-2(14), p. 5. That proceeding was subsequently terminated prior to adjudication as to whether TSM produced just and reasonable rates by Petro Star's withdrawal of its protest pursuant to a settlement with the TAPS Carriers (Petro Star Settlement).
>
> Order P-86-2(41) accepted the Petro Star and TAPS Settlement and terminated the rate proceeding. Contrary to the TAPS Carriers' assertion, that Order did not state that rates calculated in accordance with TSM would be accepted as final rates in the absence of a protest. Instead the Commission reserved the right to review TSM rates for justness and reasonableness, stating:
>
> > Each new rate filed by the TAPS Carriers under the [TAPS Settlement] is considered to be a revised tariff filing under AS 42.06.400. The filing is subject to the same standards and procedures to which it would have been subject if the [TAPS Settlement] had not been accepted. However, in the absence of a protest, the TAPS Carriers need not file the supporting material required by 3 AAC 48.275(a). Instead, the TAPS Carriers should file the TSM computer disk used in calculating the rate filed and a hard-copy printout of the rate calculation.

[724] *Re Exxon Valdez Litigation and Settlement Costs*, Order P-94-1(63)/P-95-1(43)/P-97-4(50)/P-97-6(29)/P-97-7(30) at 18 (May 27, 1999).

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Order P-86-2(41), p. 21.

> The TAPS Carriers' misconception regarding the Commission's ability to investigate TAPS rates may be based on the statement that the TAPS Carriers would not have to file supporting documentation typically required for rate revisions in the absence of a protest. The waiver of a revenue requirement filing indicates the Commission's willingness to waive the burdensome requirement of an annual showing of just and reasonable rates, but is not indicative of Commission intent to render itself unable to investigate TAPS rates in the absence of a protest. Such an interpretation of the Commission's language in Order P-86-2(41) is irrational and would require the Commission to abdicate its statutory mandate to ensure that rates charged by the TAPS Carriers are just and reasonable.
>
> Tesoro and MAPCO contended that AS 42.06.400(a) authorizes the Commission to investigate the 1999 TAPS rates under its own motion. The pertinent provision of AS 42.06.400 states "[w]hen a tariff filing is made containing an initial or revised rate . . . the commission may, either upon written complaint or upon its own motion, after reasonable notice, conduct a hearing to determine the reasonableness and propriety of the filing." The Commission believes that statute clearly establishes its authority to institute an investigation into the TAPS rates regardless of whether a protest has been filed. The Commission concludes it can and should, under the authority provided by AS 42.06.400, institute an investigation into the 1999 TAPS rates to determine if TSM produces just and reasonable rates.

P-94-1(63)/P-95-1(43)/P-97-4(50)/P-97-6(29)/P-97-7(30), dated May 27, 1999, at 18-21. (*Footnotes omitted.*)

The record in this docket clearly reflects that the 1997-2000 rates were suspended before they came into effect. The APUC suspended the 1997 and 1999 rates based on Tesoro's protest and suspended the 1998 and 2000 rates on its own motion.[725] Because the 1997-2000 rates are suspended and have never been final rates, the burden lies with the Carriers to prove that each annual rate is just and reasonable.

ENDNOTE 6 THE RULE AGAINST RETROACTIVE RATEMAKING

The general statement of the rule against retroactive ratemaking is "that when determining each of the terms of the revenue requirement formula, when calculating the amount of the revenue to be collected under proposed rates, or when allocating rates between or within a class, the commission cannot adjust for past losses or gains to

[725] *Re Amerada Hess Pipeline Corp.,* Order P-86-2(61)/P-92-2(30)/P-94-1(36)/P-95-1(16)/P-97-4(1)/P-97-5(1)/ P-97-6(1)/P-97-7(1), dated June 27, 1997; *Re Exxon Valdez* Litigation *and Settlement Costs*, Order P-94-1(46)/P-95-1(26)/P-97-4(12)/P-97-6(11)/P-97-7(11)/P97-9(5), dated December 26, 1997; *Re Exxon Valdez Litigation and Settlement Costs*, Order P-94-1(54)/P-95-1(33)/P-97-4(35)/P-97-6(20)/P-97-7(21) dated December 28, 1988; *Re Exxon Valdez Litigation and Settlement Costs* Order P-94-1(75)/P-97-4(64)/P-97-6(41)/P-97-7(46), dated December 20, 1999.

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either the utility, consumers, or particular classes of consumers."[726] The rule against retroactive ratemaking thus precludes adjusting future rates based on commission review of past recovery.

Because of this doctrine we do not conduct an unrecovered investment analysis which requires looking at past collections to judge current rates. Instead, we follow the instructions of *Kenai*[727] and look to the past *opportunity* of the Carriers to collect. Doing so does not violate the rule against retroactive ratemaking because we rely on past opportunity to recover. We do not run afoul of the doctrine of retroactive rate making because the rates that we set in this order do not reflect past gains or losses.

Looking backward at past opportunity to recover is not prohibited. The rule against retroactive ratemaking was not intended to prevent commissions from looking backward. The use of a historical test year by its very nature requires examination of the past experience of the company. Even the use of a future test year generally involves consideration of historical data adjusted for a future period. Accordingly, the rule against retroactive ratemaking does not bar examination of the past experience of a company.

The rule against retroactive ratemaking is often not strictly applied.[728] It can also be overcome by notice to the parties that approved rates are subject to retroactive alteration. The U.S. Supreme Court has upheld such a notice procedure.[729] The APUC gave notice to the Carriers when it accepted the Intrastate Settlement Agreement subject to the caveat that the rights of future shippers would not be infringed and that any determination of just and reasonable rates in the future would be subject to the same standards and procedures as if TSM had not been accepted.[730] In light of this

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[726] Stefan H. Kreiger, *The Ghost of Regulation Past: Current Application of the Rule Against* Retroactive *Ratemaking in Public Utility Proceedings,* 4 ILL. L.REV. 983, 997 (1991) cited by the Alaska Supreme Court in *Matanuska Electric Association, Inc. v. Chugach Electric Association*, Inc., S-9839, No. 5611, August 23, 2002.

[727] *Re Kenai* Pipe *Line Co.,* 12 APUC 425, 1992 WL 696192 (Alaska P.U.C., 1992).

[728] *See* Kreiger, *supra* note 718, at 999-1002, 1030-31. For example, the Florida Public Service Commission approved an equipment depreciation increase for a utility that adversely affected the amount of refunds. *Citizens of the State v. Florida Pub. Serv. Comm'n*, 415 So.2d 1268 (Fla. 1982) On appeal, the Public Counsel argued that the depreciation represcription was not merely a bookkeeping entry but a retroactive change in rate base. The court rejected the argument, holding that the commission "was not (engaged in) rate-making but, rather considering depreciation represcription. We acknowledge, as did the commission, that new depreciation allowance does have an effect on the stipulation and refund." The commission determined, however, that a depreciation represcription was a factor that all parties should have known would affect the refund.

[729] *See Great N. Ry. v. Sunburst Oil & Ref. Co.,* 287 U.S. 358, 361-63 (1932). The state supreme court in a previous decision had held that shipper could challenge previously approved rates and recover retroactively excess charges because a notice of the possibility of recalculation was in the tariff.

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notice, the Carriers do not now have a legitimate reliance on Settlement rates. A reliance rationale is relevant only when the party invoking it has rational and legitimate expectations that the past rates will remain in effect for purposes of determining future rates.[731] The APUC decision accepting TSM subject to the possibility of future challenges[732] combined with our suspension of 1997-2000 rates[733] clearly precludes the Carriers from such a reliance.

Therefore, although a strict interpretation of the rule against retroactive ratemaking might preclude adjusting future rates based on past revenues, the facts of this case, i.e., prior notice, rate suspension, and use of recovery opportunity rather than post collections to determine whether filed rates are just and reasonable insure that our findings do not violate the rule against retroactive ratemaking.

ENDNOTE 7 CARRIER ALLEGATION THAT AN INTERSTATE SHIPPER MAY FILE AN INTERSTATE COMMERCE ACT SECTION 13(4) CLAIM WITH THE FEDERAL ENERGY REGULATORY COMMISSION

Carriers' assert that "if Tesoro were successful in the short run in lowering intrastate rates, the net result [under TSM] would be immediate, offsetting increase in interstate rates."[734] This is based on the provision of the TAPS Settlement that provides "if the Intrastate revenues are reduced, the interstate rates will be based on a larger Total Revenue Requirement and will therefore be higher than they otherwise would be."[735]

(. . . continued)

[730]*Re Amerada Hess Pipeline Corp.,* 13 APUC 448 (1993). The APUC stated in its October 29, 1993, order accepting the Settlement "Each new rate . . . is subject to the same standards and procedures to which it would have been subject if the Intrastate Settlement Agreement had not been accepted." *Id.,* at 456. This finding has been reiterated often during the history of this case. The APUC was quite clear at a May 5, 1995, prehearing conference when it stated "The Commission wishes to make it clear that the TAPS Carriers are the ones who need to justify their rates as though TSM had not been approved." Prehearing Conference Transcript at 66 (May 5, 1998)].

[731]Kreiger, *supra* note 718, at 1041.

[732]*Re Amerada Hess Pipeline Corp.*, 13 APUC 448, 456 (1993).

[733]724A *Re Amerada Hess Pipeline Corp.,* Order P-86-2(61)/P-92-2(30)/P-94-1(36)/P-95-1(16)/P-97-4(1)/P-97-5(1)/P-97-6(1)/P-97-7(1), dated June 27, 1997; *Re Exxon Valdez* Litigation *and Settlement Costs*, Order P-94-1(46)/P-95-1(26)/P-97-4(12)/P-97-6(11)/P-97-7(11)/P97-9(5), dated December 26, 1997; *Re Exxon Valdez Litigation and Settlement Costs*, Order P-94-1(54)/P-95-1(33)/P-97-4(35)/P-97-6(20)/P-97-7(21) dated December 28, 1988; *Re Exxon Valdez Litigation and Settlement Costs* Order P-94-1(75)/P-97-4(64)/P-97-6(41)/P-97-7(46), dated December 20, 1999; *Re Amerada Hess Pipeline Corp.*, Order P-94-1(101)/P-97-4(105)/P-97-6(66)/P-97-7(72), dated December 29, 2000; *Re Amerada Hess Pipeline Corp.*, Order P-94-1(111)/P-97-4(144)/P-97-6(78)/P-97-7(103), dated December 20, 2001.

[734]*TAPS Carriers' Motion to Terminate Investigation* at 20.

[735]*Id.* at 5 n.8.

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We note first that the cited provision is to an uncontested settlement agreement that sets maximum interstate rates. The Carriers are free to set interstate rates anywhere below that maximum.[736] Therefore, it is a voluntary choice of the Carriers whether interstate rates will increase as a result of our ruling.

Second, the Carriers assert that the higher interstate rates (allowed pursuant to the TAPS Interstate Settlement Agreement and voluntary adoption of higher rates) will result in "detriment to the interstate shippers . . . . In such a case it is virtually certain that the interstate shippers would respond with a challenge under Section 13(4) of the ICA, which provides for remedies when intrastate rates impose an undue burden on interstate commerce"[737]

The Alaska Supreme Court has already rejected this contention.[738] The Court held that federal law does not preempt the state's authority over intrastate rates citing *Simpson v. Shepard*, 230 U.S. 352, 33 S.Ct. 729 (U.S.Minn., 1913). The Alaska Supreme Court also rejected the contention that the commerce clause or the Intrastate Commerce Act prohibits a differential between inter- and intrastate rates.

Before the FERC "can nullify a state rate, justification for the 'exercise of the federal power must clearly appear.'"[739] Congress granted the ICC power to fix intrastate rates "after a full hearing" which demonstrates that the intrastate rates result in "unjust discrimination against, or undue burden on, interstate or foreign commerce."[740] As the U.S. Supreme Court explained

> [U]nder section 13(4) the Interstate Commerce Commission is given plenary power to remove the discrimination created by intrastate rates against interstate commerce, by raising intrastate rates so that intrastate traffic may produce its fair share of the *revenue required to meet maintenance and operating costs and to yield a fair return on the value of property devoted to the transportation service.*[741]

The FERC thus must determine the revenue required to meet maintenance and operating costs and to yield a fair return on the property devoted to the transportation service provided by TAPS before it can determine whether intrastate traffic is producing its fair share of revenues. In *Cook Inlet, supra*, the Alaska Supreme Court explained

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[736]See Tr. 4845-46 (KAW).

[737]*TAPS Carriers' Motion to Terminate Investigation* at 20.

[738]*Cook Inlet Pipe Line Co. v. Alaska Pub. Util. Comm'n,* 836 P.2d 343, 353 (Alaska, 1992).

[739]*State of North Carolina v. United States,* 325 U.S. 507, 511 (1945) *citing* Florida v. United States, 282 U.S. 194, 211-212 (1931).

[740]Pub.L. 95-473, 92 Stat. 1466 and 1470 (1978); 49 U.S.C. App. 13(4) (1988); *cf.* 49 U.S.C. 13(4) (1996).

[741]*Illinois Commerce Comm'n v. United States*, 292 U.S. 474, 479 (1934)(*emphasis added); see State of North Carolina v. United States*, 325 U.S. 507, 520 (1945).

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that in *North Carolina v. United States*[742] the United States Supreme Court emphasized "that the ICC was powerless to interfere with a state-prescribed rate 'unless there are clear findings, supported by evidence, of each element essential to the exercise of that power by the Commission.'"[743]

The Carriers' argument that we should abandon our statutory obligation under AS 42.06.370(a) to determine just and reasonable rates because an interstate shipper might file a Section 13(4) claim with the FERC thus rests on the unproven assumption that the interstate rates are reasonable. Like the TAPS Intrastate Settlement, the TAPS Interstate Settlement was approved without a reasonableness determination in an uncontested settlement. An uncontested settlement of interstate rates does not establish that rates are reasonable.[744] Thus, we agree with Tesoro's logic as quoted by the Alaska Supreme Court in *Cook Inlet, supra*.

> It simply cannot be that *intrastate* tariff rates may be set by an *uncontested* settlement of *unreviewed interstate* tariff rates *before the FERC*. If the uncontested settlement of interstate tariff rates controls similar intrastate tariff rates, then procedurally the FERC could mandate *intrastate* tariff rates in every state without even a review as to the reasonableness of either the interstate or the intrastate tariff rates.[745]

We agree. We therefore see no reason to abandon our statutory obligation to determine just and reasonable intrastate rates based on the Carriers' assertion that an interstate shipper might file a Section 13(4) claim particularly when interstate state rates are based on an uncontested settlement and the FERC has not yet determined that TAPS interstate rates are just and reasonable.[746]

ENDNOTE 8 ASSESSMENT OF EXTRAORDINARY TAPS RISKS

Investors in the TAPS faced various types of risks: non-completion, economic, regulatory and litigation. We discuss each in turn.

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[742] *State of North Carolina v. United States,* 325 U.S. 507, 510-511 (1945).

[743] *Cook Inlet Pipe Line Co. v. Alaska Pub. Util. Comm'n,* 836 P.2d 343, 352 (Alaska, 1992).

[744] *Arctic Slope Reg'l Corp. v. F.E.R.C.*, 832 F.2d 158, 164 n.12 (D.C. Cir., 1987) *cert. denied* 488 U.S. 868(1988)(holding that a FERC approved settlement need not assume just and reasonable rates); *see also Trans-Alaska Pipeline Sys.,* 35 F.E.R.C. ¶ 61,425, 61,983 n.17(1986)(noting that justness of rates cannot be implied from an approved settlement "since the settlement rates were never adjudicated to be just and reasonable."); *Cook Inlet Pipe Line Co. v. Alaska Pub. Util. Comm'n,* 836 P.2d 343, 353 (Alaska, 1992).

[745] *Cook Inlet Pipe Line Co. v. Alaska Pub. Util. Comm'n,* 836 P.2d 343, 353 (Alaska, 1992).

[746] Tr. 4845 (KAW); *see also Re Kenai Pipe Line Co.*, 12 APUC 425, 437, 1992 WL 696192 (Alaska P.U.C., 1992).

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A. Risk of Non-completion

If the TAPS project was abandoned before completion, investors would lose the opportunity to recover their investment. Both legal and institutional factors created risks that the project would not be completed.[747] Before construction began, TAPS investors could not be certain that the project would be awarded all necessary permits. Such non-completion challenges were generally greater than those faced by the average pipeline. After Carriers secured the Federal and State Rights of Way Agreements, however, completion risk no longer threatened the project.

The TAPS owners filed a formal application to begin construction in June 1969.[748] The application immediately faced a set of unanticipated hurdles. On January 1, 1970, the National Environmental Policy Act (NEPA) became effective. By March environmental groups filed a complaint for declaratory and injunctive relief to prevent the Secretary of the Interior from issuing right-of-way and special use permits; they alleged that doing so would violate NEPA and the Mineral Leasing Act of 1920.[749] An injunction was granted a month later. A second injunction was granted to a group of Alaskan Natives that prevented the Secretary from issuing a right-of-way through land claimed by them without first obtaining approval from tribal officials.[750]

The Carriers characterized prognosis for pipeline construction by August 1970, as "grim, at best."[751] There were two injunctions restraining the Secretary from issuing the necessary right-of-way permits; the Department of the Interior (DOI) was beginning to prepare an environmental impact statement pursuant to a new law; and DOI had not yet developed technical stipulations. It was not clear when, in what form, or even whether the rights-of-way and other permits would be issued.[752]

Two years later prospects for the pipeline improved. After years of study and public hearings, a Final Environmental Impact Statement (EIS) was issued in March 1972.[753] In May, the Secretary of the Interior announced that he would issue permits for the pipeline. In August, the preliminary injunction concerning NEPA and the Mineral Leasing Act compliance was dissolved. In October, the injunction concerning Alaska Natives was dissolved as a result of the Alaska Native Claims Settlement Act on December 18, 1971.

Another barrier emerged in February 1973, when the Court of Appeals for the District of Columbia ruled that the proposed action of the Secretary of the Interior would violate the width limitations of the Mineral Leasing Act.[754] It declined to rule on the

[747] In subsection B of this endnote, we analyze the risks associated with whether the supply of and demand for North Slope crude oil was adequate to permit the investor to recover costs and generate a return on investment.

[748] WBT-15 (Patton) 5-6.

[749] WBT-15 (Patton) 13-14.

[750] WBT-15 (Patton) 14.

[751] WBT-15 (Patton) 15-16.

[752] WBT-15 (Patton) 16.

[753] WBT-15 (Patton) 24.

[754] WBT-15 (Patton) 28.

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question of whether the Secretary of the Interior had complied with NEPA. This meant that inadequacies, if any, in the EIS could not be proactively remedied while Congress was amending the Mineral Leasing Act.[755]

As it had done with the Alaska Native Claims Settlement Act, Congress stepped in to advance project approval. The Trans-Alaskan Pipeline Authorization Act was eventually passed by a slim margin.[756] The Act declared that NEPA had been previously satisfied; granted and directed issuance of all necessary rights-of-way; and restricted judicial review of authorization issued by any Federal agency with respect to construction.[757] The Act was signed into law on November 16, 1973. On March 8, 1974, the DC District Court rejected a challenge to the Act's constitutionality. Nearly five years after the original application was filed, the last major legal hurdle to pipeline construction was removed.

By May 1974 the significant institutional and legal barriers to the completion of the pipeline system had been removed.[758]

- The Alaska Native Claims Settlement Act, which resolved outstanding Alaskan Native claims to land traversed by the proposed pipeline right-of-way, was passed by Congress in December 1971;[759]
- The Trans-Alaskan Pipeline Authorization Act, which declared that NEPA was satisfied by previous actions of the Secretary of the Interior, was passed by Congress and signed into law on November 16, 1973;[760]
- The Secretary of the Interior executed the Agreement and Grant of Right of Way for the Trans-Alaska Pipeline on January 23, 1974;[761]
- The District Court for the District of Columbia held that section 203(d) of the Trans Alaska Pipeline Authorization Act, which waived the requirements of NEPA, was constitutional on March 8, 1974;[762]
- The Carriers obtained a Project Labor Agreement in late April 1974 which significantly reduced the threat of a work stoppage;[763]
- Construction of the Haul Road began April 29, 1974;[764]
- The State Right of Way lease was issued on May 3, 1974.[765]

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[755] *Id.*.

[756] A tie-breaking vote was needed from the Vice President to secure passage in the Senate. WBT-15 (Patton) 32.

[757] Trans-Alaska Pipeline Authorization Act, Pub.L. 93-153, 87 Stat. 576 (1973).

[758] *Re Exxon Pipeline Co.,* 1 APUC 580, 598 (1980).

[759] Alaska Native Claims Settlement Act, Pub.L. 92-203, 85 Stat. 688 (1971).

[760] Trans-Alaska Pipeline Authorization Act, Pub.L. 93-153, 87 Stat. 576 (1973).

[761] WBT-15 (Patton) 45.

[762] *See* WBT-15 (Patton) 39 (referring to *Bud Brown Enterprises v Morton).*

[763] WBT-16 (Patton) 78.

[764] WBT-15 (Patton) 46.

[765] WBT-15 (Patton) 45.

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The Carriers assert that the TAPS continued to face enormous physical and technical challenges. The TAPS is subject to harsh climate, permafrost, and earthquakes. The temperature extremes under which the pipeline was constructed and operated were extraordinary.[766] Witnesses asserted that they were twice as great as any previously encountered in pipeline construction.[767] New designs and construction techniques to accommodate the temperature extremes increased project costs. Significant technological problems were associated with putting a hot oil pipeline through discontinuous permafrost, multiple streams, rivers, many steep slopes, and earthquake zones. The engineering problems were formidable.[768] None of these engineering challenges were sufficient, however, to put the completion of the pipeline at risk.

By April 1974, the TAPS owners had no serious doubts that the pipeline could be built according to specifications requirement by governmental bodies.[769] The considerable technical challenges did not, by themselves, threaten the project.[770] At issue is whether the cost of meeting those challenges, especially in the face of considerable government oversight and scrutiny,[771] would have been prohibitive. We find that reasonable investors would not have seen these costs as so large as to affect the viability of the project.[772]

Two items directly affect the viability of a pipeline: first, whether sufficient reserves are available to support the pipeline, and second, whether the value of those reserves is sufficient to support the cost of the pipeline system. The Carriers urge that the cost of various economic and/or legal factors[773] could have seriously threatened the project by reducing the value of North Slope reserves. Economic risks include the possibility of rapidly escalating construction and operating costs, lower than expected world oil prices, and rate competition among the TAPS Carriers.[774]

We agree that there were economic risks to investor capital, and that legal or permitting risks[775] continued to exist after May 1974. However, none of these remaining risks threatened project completion. We concur with the APC that the risk of non-

[766]T-3 (WBT) 19.

[767]WBT-16 (Patton) 67-68.

[768]*See* WBT-16 (Patton) for a general description of these challenges.

[769]*Re Exxon Pipeline Co.*, 1 APUC 580, 599 (1980); 66-WBT-E (Roseman) 63.

[770]*Re Exxon Pipeline Co.*, 1 APUC 580, 598 (1980).

[771]*See, e.g.,* WBT-16 (Patton) 46.

[772]The APC after reviewing a similar record came to the same conclusion. *Re Exxon Pipeline Co.*, 1 APUC 580, 599 (1980) (remanded for other reasons by *State of Alaska v. Alaska Pub. Util. Comm'n*, 3AN 80-7163 CI (Alaska Super.) Nov. 28, 1983).

[773]T-10 (WBT) 32-33.

[774]T-10 (WBT) 33.

[775]Carrier witness Tye suggests that investors would have perceived that cost overruns could have risked the viability of the pipeline. T-3 (WBT) 17.

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completion decreased over time because the cost of TAPS was overshadowed by the then high price of oil, the large amount of North Slope reserves, and demand.[776]

The TAPS project had significantly greater risks from legal barriers at the pre-construction stage compared to the average pipeline. Investors could not be certain that required permits would be obtained. Therefore, very early investors in the TAPS were uncertain whether they would receive either a recovery of or return on their investment. This pre-construction risk was significant and an appropriate risk premium should be awarded.

However, once construction began investors would have perceived TAPS as feasible.[777] The owners expressed confidence in the successful completion of the project both publicly and privately.[778] Therefore, rational investors would not then have perceived a risk of non-completion as higher than that of an average pipeline. We therefore award no risk premium for non-completion after May 1, 1974.

B. Economic Risks

Whether the supply of and demand for North Slope crude oil was adequate to permit the investor to recover costs and generate a return on investment determines whether the economic risk of the TAPS project was greater or less than the economic risk of an average pipeline. To assign an appropriate risk premium for this risk, we determine whether TAPS investors would be more or less likely than investors in an average pipeline to recover their investment and return on that investment.

TAPS is capital intensive and throughput dependent. Fixed costs are a large portion of its costs and TAPS can only generate income with throughput. For a pipeline investor, risk stems from the threat that carriage will be insufficient to generate adequate cash flow to provide a return of and on investment. That risk turns on whether: (i) physical supplies are adequate; (ii) competition for carriage does not threaten or overly reduce carriage; (iii) natural disaster or sabotage do not interrupt oil deliveries; or (iv) the cost of shipping is so high as to make the price of North Slope oil noncompetitive.

(1) Risk of Inadequate Physical Supply

Carrier witness Nathan contended that "projections of proven reserves, . . . have often proved to fall far short in actual production."[779] The implication is that investors would perceive a risk that throughput would turn out to be inadequate.[780]

In contrast, State witness Parcell urged that no risk of inadequate supply existed. He states:

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[776] *Re Exxon Pipeline Co.*, 1 APUC 580, 599-600 (1980).

[777] *See id.* at 598.

[778] *Id.* 599.

[779] WBT-28 (Nathan) 24.

[780] WBT-20 (Cooper) 25.

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> [T]he proven reserves at Prudhoe Bay were estimated at 9.6 billion barrels in 1970, according to Dr. Netschert.[781]

Parcell concludes that "the supply risk in early 1974 was small and was recognized by the owners as such."[782] Department of Justice witness Roseman testified that even with a one-third reduction in throughput, the pipeline would be able to meet *all* of its capital costs (including adequate return on and of equity).[783] It would take a 50 percent reduction in North Slope production (relative to estimated reserves) to pose a significant risk to equity investors in the pipeline; debt investors would be kept whole.[784] Given this understanding of the field's size, risk of inadequate throughput was small.

We agree with the APC, which found that when the maximum investments were irrevocably committed, the ultimate oil recovery of the North Slope was more than sufficient to insure that construction of the pipeline would be completed.[785] There is no persuasive evidence that investors believed that throughput would be insufficient. Indeed, the decision during the planning stages to double pipeline capacity indicates the opposite.[786] We therefore find less additional risk to the TAPS for risk of inadequate supply than compared to an average pipeline.

(2) Risk of Inadequate Throughput Due to Competition

Although investors would have understood that the physical pool of oil on the North Slope was more than adequate, competition might have reduced the throughput needed to generate cash flow. Investors might have perceived two forms of competitive risk.

First, the Carriers contend that an alternative transportation system might have competed with TAPS. By 1974, however, the owners' substantial commitment of resources to TAPS construction suggests that other possible forms of transportation

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[781] 67-WBT-E (Parcell) 49.

[782] 67-WBT-E (Parcell) 49.

[783] 66-WBT-E (Roseman) 66.

[784] 66-WBT-E (Roseman) 65. Carriers' witness Arrow disputed this calculation, on the grounds that the margin between revenues and costs posited by protestant witness Roseman was "(1) almost surely too large, and (2) is itself subject to considerable uncertainty which will only be resolved by future events." WBT-29 (Arrow) 32-33. However, Arrow does not supply his own estimate of an appropriate margin, nor does he conduct any similar quantitative assessment. Further, the uncertainty regarding the appropriate size of the margin could be resolved both upward as well as downward. We find Roseman's testimony credible.

[785] *Re Exxon Pipeline Co.,* 1 APUC 580, 599 (1980).

[786] *See* WBT-15 (Patton) 4; WBT-16 (Patton) 13.

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had been considered and rejected.[787] There is no compelling evidence in the record that alternative modes of transportation were being seriously considered.[788]

Second, the Carriers contend that the different owners -- each with their own space on TAPS -- could engage in a price war when TAPS capacity is less than full.[789] The threat of within-TAPS competition depends on the existence of excess capacity.[790] However, at the time of investment, TAPS effectively faced no competition.[791] The Carriers' own witness suggested that the pipeline would run at full capacity for the first eight to nine years.[792] In 1980, the APC found that no excess capacity would exist for ten to twelve years.[793] Investors appeared to have significant assurance that any threat from within-TAPS competition was a long way off, with the day of reckoning further delayed by the reasonable presumption that additional fields would be discovered.[794]

Moreover, the record suggests that capacity on the pipeline was substantially under the pipeline owners' control. In 1969, TAPS was designed to be a 48-inch hot oil pipeline, with a capacity of 500,000 barrels per day.[795] In 1973, a somewhat redesigned project that used the same pipe was expected to have a capacity of 1.2 million barrels per day, with provisions made for subsequent expansions.[796] The use of drag reducing agents further increased the capacity of the line.[797]

Oil pipelines in the lower 48 can face intermodal competition and competition from other pipelines. In contrast, as the single source of transportation from the North Slope, TAPS investors faced much less risk of competition from alternative pipelines. We thus find that investors in the TAPS enjoyed significantly reduced threat of competition compared with the average pipeline.

(3) Risk of Throughput Interruption

Sources of throughput interruption risk include sabotage, technical failure, earthquakes,[798] or more ordinary accidents. The Carriers acknowledge these risks as "ongoing operation-phase risks" for which no additional TAPS risk premium need be

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[787] The APC came to a similar conclusion; *see Re Exxon Pipeline Co.,* 1 APUC 580, 600 (1980).

[788] 66-WBT-E (Roseman) 59.

[789] WBT-26 (Gary) 32.

[790] T-3 (WBT) 37-38.

[791] *Re Exxon Pipeline Co.,* 1 APUC 580, 600 (1980).

[792] WBT-26 (Gary) 31.

[793] *Re Exxon Pipeline Co.,* 1 APUC 580, 599-600 (1980).

[794] 66-WBT-E (Roseman) 60.

[795] WBT-15 (Patton) 4.

[796] WBT-26 (Gary) 8.

[797] 33-BWF-E at 51.

[798] *See* WBT-21 (Hall).

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awarded.[799] The probability of these types of events is uniform through time, but the *risk* associated with these probabilities declines over time because the costs to Carriers of an outage continues to fall as rate base declines.[800]

Roseman testified that while explosions or temporary outages were indeed risks, they were unlikely to pose much of a risk to debt service so long as the Carriers maintained a reasonable operating reserve. Roseman suggests that, although the risk of short-term outages is real, these are risks against which the pipeline could effectively self-insure with a cash reserve. For every $100 million of cash reserves, the pipeline could meet operating expenses and interest obligations for 45 days.[801] Roseman argued that the TAPS would have to be out of operation for more than 250 days per year and not have access to cash reserves or short-term loans before the risk of a short-term outage would affect the ability to meet interest obligations. Therefore, we find that the risk of throughput interruption on TAPS is not significantly greater than that of the average pipeline and we do not award a risk premium for it.

(4) Risk That Cost of Shipping Oil Makes North Slope Oil Noncompetitive

Transportation costs for moving oil from the North Slope to market are significant. Pipeline investors faced the possibility that producers would find shipping oil at fully compensatory rates uneconomic. If producers found themselves in this situation, throughput on the pipeline would be curtailed or pipeline owners would be forced to reduce tariffs below fully compensatory levels.

Pipeline investors in a stand-alone TAPS would have seen risks to their investment as greater than for an average pipeline if they believed that producer margins for North Slope oil were more at risk than in the average field served by the average pipeline. The cost of transportation affects margins as do wellhead production costs and delivery prices. A full assessment of investor perceptions of comparative risk between TAPS and average pipelines in the United States would require evidence of comparative margins. The parties failed to provide this evidence.

We find based on the existing record that from the perspective of an investor at that time, this risk was modest. It stemmed primarily from the threat of construction cost escalation. It, however, was a credible threat to equity investors and we award a risk premium for it.

The Carriers note that investors were concerned about oil price volatility.[802] The Carriers note further that "world oil prices had quadrupled to $11.65 per barrel in the year prior to the start of the construction phase,"[803] but that "many experts at the time expected the price to fall to the $8 range."[804] Had the price fallen sufficiently far, it is possible that producers would not find it worthwhile to bring their oil to market. This

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[799] *See* T-3 (WBT) 33-37.

[800] 66-WBT-E (Roseman) 60-61.

[801] 66-WBT-E (Roseman) 76.

[802] T-3 (WBT) 31.

[803] *Id.*

[804] *Id.*

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would result in the TAPS failing to receive throughput adequate to generate revenues required by pipeline investors.

We find that in the years during construction and early operation, though they could not be *certain* that world oil prices would be high, investors faced a significantly better climate in terms of world oil prices than ever before. Roseman points out that:

> not long after this evaluation was made, the world price of oil quadrupled, and this made the evaluation of the viability of the TAPS completely obsolete. Second, it was not until after the quadrupling of the world price of oil that TAPS received final approval of construction and actually began construction. Thus, the overwhelming bulk--about 95 percent--of the capital actually invested in TAPS was not put at risk until after this change in the price of oil had substantially removed the previously perceived threats to the financial viability of the pipeline.[805]

Mobil's investment decisions in the TAPS bear out Roseman's account. In late 1973, Mobil's economic analysis demonstrated that rising costs had made the line uneconomic at its initial capacity of 600 Tb/d, and that even at 1.2 Mb/d its viability was uncertain.[806] However, "the most important reason" behind Mobil's decision not to withdraw from the project was the sudden, drastic rise in world oil prices following the oil embargo of 1973.[807] Mobil's decision suggests that it believed that it was considerably more likely than not that oil prices would remain more than adequate. Roseman reported that Netschert testified that it was more likely that the world price of oil would rise than decline.[808]

While world petroleum prices remained volatile, this volatility was not a greater risk than an average pipeline's once TAPS began operation. By then the total cost of construction was known; margins between lifting costs and delivered refinery prices were sufficiently large that investors knew that a threat of price drops was less likely to affect pipeline revenue. Thus, rising and historically high prices during construction should have offered investors assurances that throughput would offer a return on their investment. Therefore, the uncertainty of oil prices decreased over time and reduced the risk associated with investing in TAPS. In this, we concur with the APC, which found that the price increases in late 1973 and 1974, caused by OPEC and a world oil shortage, increased investor confidence in the economic viability of TAPS.[809]

In addition to the world market oil price, Carriers also assert that there was and to some extent continues to be a risk that market demand for North Slope oil on the West Coast may be insufficient.[810] The concern for an investor is that West Coast demand for North Slope crude would be "soft", with the result that crude oil would need to be shipped by tanker and additional pipelines to points further East at additional

[805] 66-WBT-E (Roseman) 99.

[806] WBT-20 (Cooper) 29.

[807] *Id.*

[808] 66-WBT-E (Roseman) 60.

[809] *Re Exxon Pipeline Co.,* 1 APUC 580, 599 (1980).

[810] T-3 (WBT) 32-33.

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transportation expense.[811] Such incremental expense, made necessary by otherwise low West Coast prices, might increase the possibility that producers would face inadequate margins to keep the TAPS adequately full.[812]

In contrast, Roseman argued that this risk by itself does not represent a major threat to the economic viability of the pipeline. He urged that these additional transportation costs are simply not great enough to make a critical difference to the pipeline's economics.[813] We agree, and find no compelling evidence in the record to support the contention that investors believed that the risks of soft prices on the West Coast threatened the viability of TAPS.

Investors also evaluate whether the risk that the cost of transportation on TAPS would eliminate the opportunity to receive the same return as the average pipeline. Multiple factors may increase ultimate pipeline costs above originally forecasted levels. Higher costs (if prudently incurred) would be included in tariffs. Cost overruns thus might make the pipeline tariff so high that it would be uneconomic to transport oil. This risk changed over time as TAPS was permitted, constructed and put into operation. We analyze below the risk of various excessive costs over time.

The risk of unknown labor costs is an important element of economic risk. Investors knew that once construction began, a labor strike could have seriously increased the cost of construction. Given the narrow window in which construction could occur, even a relatively short strike might delay the construction for a full season at enormous cost.[814] To reduce this risk, the Carriers sought a project labor agreement ("PLA") with the relevant unions. The PLA was executed in late April 1974.[815] After this agreement was signed, the risk of a strike became nominal. No risk premium should be awarded for capital invested after late April 1974. However, a labor risk before late April 1974 existed and the cost of capital invested before late April 1974 should be adjusted.

Above we discussed the considerable technical challenges facing construction of the TAPS. The design challenges faced during TAPS construction threatened to increase costs. Exxon Pipeline viewed the TAPS construction cost estimate as having at least a one-third chance of a cost overrun of 10 percent.[816] Investors would have considered risks of unproven technology.[817] We also recognize these risks in estimating the required return on equity and we award a risk premium for them.

The TAPS project needed numerous permits, requiring resolution of legal and technical issues. Hence, even after the right-of-way stipulations were granted, the

[811] 66-WBT-E (Roseman) 79; WBT-26 (Gary) 32-34.

[812] 66-WBT-E (Roseman) 79.

[813] 66-WBT-E (Roseman) 79-81.

[814] WBT-16 (Patton) 77.

[815] WBT-16 (Patton) 78.

[816] WBT-25 (Woody) 11.

[817] *See* WBT-16 (Patton) 5.

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project faced risk of cost over-runs[818] because of permitting delays. The likelihood of such delays, the Carriers argue, was greater on TAPS because as a large project it attracted the attention of many special interests.[819] Further, under the Right of Way Agreement, the Secretary of the Interior retained authority during the construction period to make changes in the Agreement or any Stipulation.[820] The owner companies began the project knowing that the permit terms could be changed in ways that could dramatically increase costs midstream.[821] In fact, construction began with design of the vertical support members still not approved by the Federal Alaska Pipeline Office (APO).[822]

> [T]here was always a risk that government authorities might demand technical solutions that would be impossible to implement. . . . At one point in 1974, for example, the State of Alaska threatened to require a welding procedure that would have been virtually impossible to implement. . . . If the State had persisted in that requirement, the pipeline could not have been built.[823]

Roseman, however, suggests that it was politically impossible for the APO not to approve a critical design component.[824] Witness Roseman characterizes the risk of these regulatory barriers to completion as quite small by the fall of 1974. He cites Federal statutory authorization of the project in 1973, and the political climate in the wake of the oil embargo[825] as powerful indicators that the real legal hurdles had been overcome.[826] We agree. Nevertheless, reasonable investors would have known that compliance costs due to such regulatory scrutiny could have put producer margins for shipping oil on the TAPS at somewhat greater risk than those of an average pipeline. We therefore add an appropriate risk premium.

Other factors, besides government scrutiny, created significant risk of cost overruns. The sheer size of TAPS made the threat of cost overruns significant because there were so many more things that could have gone wrong. Carrier witness Nathan explained that high inflation and design changes led to regularly increasing cost estimates between 1968 and 1974. During the preconstruction phase cost estimates climbed from $.9 billion (based on 500,000 bpd) to $6 billion by October 1974

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[818]Some of the threat of cost over-runs stemmed from the threat of government imposed design criteria during construction that would have inflated project costs. *See* WBT-16 (Patton) 42-44.

[819]T-3 (WBT) 17.

[820]WBT-25 (Woody) 7-8; *See* WBT-16 (Patton) 5.

[821]WBT-16 (Patton) 12; WBT-25 (Woody) 7-8.

[822]WBT-16 (Patton) 12.

[823]WBT-16 (Patton) 5-6.

[824]Roseman contended that the national priority placed on making the project happen substantially reduced this sort of risk. 66-WBT-E (Roseman) 63.

[825]66-WBT-E (Roseman) 62-63.

[826]66-WBT-E (Roseman) 62.

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(1,200,000 bpd).[827] Investors, therefore, would have reason to believe that cost estimates might continue to climb.[828]

Roseman asserted that TAPS would need to cost $20 billion before the project would have been nonviable.[829] Arrow, however, questioned this estimate, asserting that "the margin suggested by Mr. Roseman is (1) almost surely too large, and (2) is itself subject to considerable uncertainty which will only be resolved by future events."[830] Arrow does not supply his own estimate of the risks. Indeed, he does not conduct any numerical assessment.

On balance, we find that the risk presented by the possibility of cost-overruns were greater than that of an average pipeline but modest. We add a premium for the risk that cost overruns could threaten producer margins and, thus, pipeline throughput. We already awarded a premium pre-1974 for the risk that during that time frame investors perceived that TAPS might not be completed. We now also award a risk premium for risk of excessive costs post-1974 being greater than those associated with the average pipeline.

C. Post-construction Regulatory Risk

We next turn to post-construction regulatory risk. The post-construction regulatory risk results from uncertainty about the method to be used to calculate pipeline tariffs. Carrier witness Gary suggests that such a risk is particularly important:

> While all of the above-mentioned risks are substantial, one of the greatest risks associated with TAPS, in the opinion of institutional investors with whom I have discussed the project, was and continues to be the risk of Government regulation and political pressure. Many investors feared that the Federal and State Governments would not allow the oil companies and their pipeline subsidiaries to earn the returns on their investments in TAPS and the Prudhoe Bay field which were necessary to service the large amount of debt borrowed for the North Slope Project.[831]

He cites the "regulatory risk" of the possibility that the ICC valuation methodology would be abandoned.[832] Gary states:

> [w]hen investors, whether they are energy company equity participants or institutional lenders, are confronted with perceived regulatory risks of this magnitude, the result is that a higher rate of return is required and, if such

[827]WBT-28 (Nathan) 28.

[828]The final construction cost aggregated to roughly $7.7 billion, not including AFUDC. *See* 143-RGV-C, RGV-14 WP 3, TAPS-RGV WP3.xls, Schedule 3.

[829]66-WBT-E (Roseman) 71-72.

[830]WBT-29 (Arrow) 32-33.

[831]WBT-26 (Gary) 36. Gary's own reporting of the ICC's initial suspension of the TAPS tariffs shows that the ICC did not reduce the return to a level that was insufficient to cover debt service. *See* WBT-26 (Gary) 39, Table 2.

[832]WBT-26 (Gary) 38-39.

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higher returns are not allowed, there will be a reduction in investment in crucial energy-related projects.[833]

We disagree with this logic. There was regulatory uncertainty regarding the appropriate methodology that might be applied to TAPS. However, the long-established examples of pipeline regulation determines that regulation affords the owners of the pipeline a fair opportunity to earn a return commensurate with the risk of their capital investment under tariffs that are fair and nondiscriminatory toward shippers and other members of the public.[834] Regulators strive to ensure that the rate of return on investor capital is sufficient to attract investment.[835] Methodological uncertainty may reduce investor confidence in the precision of the investors' predictions as to the particular measures that regulators will take, but the record provides no convincing evidence that this regulatory uncertainty poses a threat to investor principle, nor that investors perceived such a threat. Moreover, the record contains no compelling evidence that methodological uncertainty for TAPS was significantly greater than the uncertainty that applies to the average pipeline. Thus, regulatory uncertainty is not a basis for awarding a risk premium and we do not award one.

D. Post-construction Litigation Risk

Litigation risk is likewise not the basis for a risk premium. With respect to the risk of a challenge to prudent expenditures, Carrier witness Tye notes that witnesses for the TAPS Carriers' opponents, in the 1986 Phase II litigation, "set out to demonstrate that alleged mismanagement in the planning and construction of TAPS caused at least $1.6 billion? about 18 percent of the original rate base? in imprudent construction costs."[836] The Phase II litigation thus posed a regulatory risk of roughly $1.6 billion.

The risk of disallowance, however, is a normal part of utility business. Prudence is within control of the utility and imprudence can always be alleged. Furthermore, such a risk is uniform between TAPS and the average pipeline.

To the extent that the litigation over prudence is caused by lax management, then good policy reasons exist for *not* awarding a risk premium. A risk premium that fully protects investors from alleged imprudence fails to encourage prudent expenditures. If a risk premium for the risk of litigation over imprudent expenditures is awarded, then shippers nonetheless pay for the imprudent expenditures but in the form of a risk premium rather than in rate base. We therefore do not award a premium for post-construction litigation risk.

[833]WBT-26 (Gary) 40.

[834]*See Federal Power Comm'n v. Hope Natural Gas Co.,* 320 U.S. 591, 603 (1944).

[835]*Id.* at 603; *Bluefield Water Works and Improvement Co. v. Pub. Serv. Comm'n,* 262 U.S. 679, 693 (1923).

[836]T-3 (WBT) 29.

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ENDNOTE 9: SINGLE RATE

We asked the parties to brief what legal authority, precedent, or rationale exits for establishing a single intrastate rate for TAPS.[837] The Carriers and the State maintain that requiring a single intrastate rate for TAPS would violate each Carrier's right to be regulated as an independent entity.[838] PAS asserts that the record is not sufficient "to define or support" a single rate system.[839] Tesoro and Williams disagree.[840]

The Carriers and the State present multiple reasons for why a single intrastate rate for TAPS is not proper. First, the Carriers and the State assert that because each Carrier holds its own certificate of public convenience and necessity it is entitled to a separate rate. We disagree. AS 42.06.630(17) defines "tariff" to mean a "rate" for a "pipeline facility" for services "furnished by the facility" and not a "rate" for each owner or the pipeline facility. Just and reasonable rates are measured against cost for services. Costs must be prudent, and prudence is measured from a standard of the reasonableness of the cost of running a facility. We certainly do not grant an inefficient or unreasonable owner the right to recover all of its costs in rates. Finally, AS 42.06.370(a) states, "All rates demanded or received by a pipeline carrier, or by any two or more pipeline carriers jointly . . . shall be just and reasonable." The legislature clearly intended for the possibility of joint ownership with a single rate for service.

Second, the Carriers and the State assert that to change from a multiple to single interstate rate this late in the history of TAPS would violate the Carriers' due process rights.[841] In support of this proposition they cite *Atchison, Topeka & Santa Fe Railway Company v. Wichita Board of Trade*, 412 U.S. 800, 808, 93 S.Ct. 2367 (1973). We have not precluded the Carriers from filing multiple rates for 1997-2000; we allow them to file multiple rates so long as they satisfy the common annual revenue requirement established in Part V, Section I. To the extent that any due process right to multiple rates might exist, it is therefore protected.

Third, the Carriers assert that requiring a single rate would put them "in a difficult position from an antitrust perspective."[842] However, if we, as opposed to the Carriers,

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[837] *Re Amerada Hess Pipeline Corp.*, Order P-97-4(136)/P-97-7(95), dated June 1, 2001. Although this issue is to some degree intertwined with Tesoro's allegation that the multiple ownership structure of TAPS results in duplicative costs that shippers should not have to pay, we address only the issue of whether a single rate is permissible for 1997-2000. The broader question of whether the multiple ownership structure results in impermissible duplicative costs is addressed in Part VI, Section D, *supra*.

[838] *Initial Post-hearing Brief of the Indicated TAPS Carriers* at 36; *State of Alaska's Initial Post-hearing Brief* at 38-39.

[839] Public Advocacy Section's *Supplemental Brief* at 5.

[840] *Tesoro Alaska Company's Initial Posthearing Brief* at 50-51; *Williams Alaska Petroleum Inc.'s Post-hearing Initial Brief* at 57.

[841] *Initial Post-hearing Brief of the Indicated TAPS Carriers* at 36-37.

[842] *Id.* at 37.

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establish a single rate no antitrust violation occurs because an antitrust violation requires collusion between parties setting rates.

Fourth, the Carriers and the State assert that by setting a single rate the benefits of rate competition between Carriers are forfeited.[843] The assertion that rate competition on TAPS exists and should be protected is a theme that runs through the Carriers' and the State's case. The record in this docket, however, is not sufficient to rule on whether rate competition exists on TAPS. However, by setting rates for the years 1997-2000, we do not affect past competition. The amounts shipped intrastate on the various interests in TAPS have already occurred; competitive decisions, if any, have already been made. Thus, our ruling in this docket preserves past competition, if any existed.[844] Whether intrastate rate competition exists on TAPS may be fully addressed in our 2001 rate case if the Carriers chose to file individual rates for the 2001 test year.

Fifth, the Carriers assert that establishing a single rate results in the shippers losing the benefit of TSM's Net Carryover provision.[845] They assert that the Net Carryover provision of TSM may be advantageous to shippers because actual costs and the projected revenue requirement may not accurately match in any given year. It allows shippers to ship on rates that are lower than costs and Carriers to recover costs later. If we as regulators were to design such a mechanism it would be deemed retroactive ratemaking. Our goal is to ensure that rates are just and reasonable. That requires finding that rates reflect costs, not over and under projections of costs. Because 1997-2000 costs and revenue requirement can now be exactly matched we can insure that each shipper will pay rates that match the costs for the year in question.

Sixth, the State asserts that the principle of cost responsibility supports that a single tariff cannot be imposed on TAPS absent a change in ownership structure.[846] We disagree. The ownership structure, whether reasonable or efficient, is not necessarily relevant to just and reasonable rates. We determine whether filed rates are based on just and reasonable costs, not actual costs. The Carriers may continue in the ownership structure of their choice; rates, however, must meet the AS 42.06 requirement of being just and reasonable.

Seventh, the Carriers and the State also assert that the regulatory simplicity that might be gained by single intrastate rates is far outweighed by the benefit of the multiple TSM inter- and intrastate rates set by the Carriers. The Carriers and the State failed to support this allegation. They allude to the resulting administrative burden of having to set multiple interstate rates separate from a single intrastate rate. However, with respect to 1997-2000 rates, no extra burden exists because we, not the Carriers, have set the 1997-2000 intrastate rates. What the Carriers chose to do with respect to interstate rates is voluntary.

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[843] *Id.*; *State of Alaska's Initial Post-hearing Brief* at 39.

[844] The issue of intrastate rate competition on TAPS may be before us should the Carriers decide to file individual 2001 test year cases.

[845] *Initial Post-hearing Brief of the Indicated TAPS Carriers* at 38. The loss of the benefits of TSM's Net Carryover provision is not relevant to whether a single rate is proper.

[846] *State of Alaska's Initial Post-hearing Brief* at 39.

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Further, Alaska case law suggests that a single rate is appropriate. Although *State of Alaska v.* Alaska *Public Utilities Commission*, No. 3AN 80-7163 (Nov. 28, 1983) has little precedential value because it was ordered vacated by the Alaska Supreme Court at the request of the settling parties,[847] it squarely addresses the issue of single rate and finds that a single rate is appropriate for intrastate shipment on TAPS. The Alaska Superior Court found on appeal from the APC that there was "no substantial evidence . . . to treat each owner of TAPS independently for the setting of a tariff" because TAPS was "in fact, a single pipeline and not eight individual pipelines of varying capacities."[848]

The record in this docket thus supports establishing a single rate. AS 42.06.410(a) authorizes us to set rates when filed rates are found unjust and unreasonable; it does not preclude us from setting a single rate. For example, Carrier witness Tye calculated overall rather than individual rates of return because the Carriers are all in the same line of business, facing the same business risks, and the risks are attached to the asset, not who owns it.[849] This is the same logic adopted by the Alaska superior court in *State of Alaska v. Alaska Public Utilities Commission*, No. 3AN 80-7163 (Nov. 28, 1983).

In these consolidated dockets, despite the PAS assertion that the record is insufficient, we have been able to calculate a single annual intrastate TAPS rate based on the appropriate and allowable costs contained in the record. If individual Carriers have different rates for intrastate shipment on TAPS, each Carrier must demonstrate that it has incurred different yet prudent costs. We have already ruled that for TAPS, capital structure, cost of debt and equity are invariant to ownership.[850] Therefore, if costs differ, they do so because of differences in operating expenses and property balances. For this reason, we allow the Carriers the opportunity to supplement the record[851] and file individual Carrier rates so long as the sum of the individual annual revenue requirements do not exceed the composite annual revenue requirements we calculated in Part VI, Section F. Should individual Carriers not be able to demonstrate differing individual prudent costs, then a single annual rate for intrastate shipment is appropriate.

Therefore, no case law prevents setting a single rate, persuasive authority exists for doing so, and the record supports it. AS 42.06.410(a) authorizes us to set rates when we find that filed rates are unjust and unreasonable; it does not preclude setting a single rate despite multiple ownership. Therefore, we order a single rate for 1997-2000. We allow multiple annual rates should the Carriers chose to file them so long as the

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[847] *Amerada Hess Pipeline Corp. v. Alaska Pub. Util. Comm'n,* No. S-195, slip op. (Alaska Nov. 20, 1985).

[848] *State of Alaska v. Alaska Pub. Util. Comm'n,* 3AN 80-7163 CI (Alaska Super.) Nov. 28, 1983.

[849] Tr. 2742-43 (WBT).

[850] Part IV Section B.

[851] The record suggests that the operating costs and property balances should be proportional to ownership interests in TAPS. With respect to operating costs, this is particularly true because one entity, Alyeska Pipeline operates TAPS for all Carriers.

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multiple annual rates cumulatively satisfy the annual revenue requirements established in Part VI Section E and properly reflect prudent individual Carrier costs of service.

ENDNOTE 10 CARRIER CONTENTION THAT REFUNDS SHOULD BE LIMITED

The Carriers contend that refunds should be limited. The APUC, however, addressed that contention in *Re Exxon Valdez Litigation and Settlement Costs*, Order P-94-1(63)/P-95-1(43)/P-97-4(50)/P-97-6(29)/P-97-7(30) at 18 (May 27, 1999).

> To support their contention that 1997, 1998, and 1999 TAPS rates are refundable only to the extent that they do not comply with TSM, the TAPS Carriers cite *Sea Robin Pipeline Co. v. FERC*, 795 F.2d 182 (D.C. Cir., 1986); *Far North Sanitation, Inc. v. Alaska Public Utilities Commission*, 825 P.2d 867 (Alaska, 1992); and AS 42.06.410(a).
>
> In the *Sea Robin* case the Federal Energy Regulatory Commission (FERC) required a pipeline company (Sea Robin) to change its method of calculating transportation rates for Gulf Oil Company. The pivotal issue in that case was whether the pipeline company had the burden of proving just and reasonable rates or FERC had the burden of proving unjust and unreasonable rates. The *Sea Robin* court interpreted the Natural Gas Act (Gas Act)[852] to ascertain whether § 4 or § 5 of the Gas Act applied. The *Sea Robin* court focused on whether the change in rates was proposed by the pipeline company (governed by § 4 with the burden of proof on the pipeline company) or the regulatory agency (governed by § 5 with the burden of proof on the agency). Since FERC imposed the new rate methodology on Sea Robin, the *Sea Robin* court concluded that FERC had the burden of proving unjust and unreasonable rates and failed to satisfy that burden.
>
> The TAPS Carriers argued that the TSM methodology can only be changed prospectively and that full rate refund obligations only apply subsequent to the change in rate methodology, citing a footnote in *Sea Robin* to support that proposition. (Reconsideration Petition, p. 10.) That footnote provides:
>
> > The first order also exceeds the Commission's authority under section 5 because it mandates retroactive relief. FERC ordered Sea Robin to refund to its customers ... any fees paid since June 1, 1980 in excess of the fees they would have paid under the new, Commission-directed methodology. . . Sea Robin had a right to rely on the legality of a filed rate once the Commission allowed it to become effective. FERC may not order a retroactive refund based on a post hoc determination of the illegality of a filed rate's prescription.
>
> The above language reveals that the TAPS Carrier's analysis ignores an important difference between the *Sea Robin* case and this proceeding - the rates in *Sea Robin* were allowed to become legally effective by FERC,

[852] 15 U.S.C. § 717 *et seq.*

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while this Commission suspended the 1997, 1998, and 1999 TAPS rates for investigation. The *Sea Robin* court's short discussion of the refundability issue focused on whether the rates subject to refund were allowed to become legally effective - since the rates were already effective, any refund of those previously effective rates would be retroactive. In this proceeding the Commission suspended permanent operation of the 1997, 1998, and 1999 TAPS rates pursuant to AS 42.06.400(a) and set temporary rates subject to refund. Since the refund obligation only accrues from the date on which the Commission suspended permanent operation of the rate, any refund of temporary rates is prospective in nature.[853]

The TAPS Carriers cite the *Far North* case to support their contention that TSM cannot be replaced by another methodology until after a hearing and investigation, and accordingly refunds are limited to noncompliance with the TSM methodology because rates determined by some other methodology can only be implemented prospectively. The *Far North* case involved the issue of the permanent rates of a previously unregulated exempt utility being made interim and refundable when that utility became regulated by the Commission. The Commission revoked the utility's regulation exemption, required a revenue requirement filing, and declared the utility's existing rates interim and refundable. The Court found that the Commission's decision to designate existing rates interim and refundable represented a change of rate proposed by the Commission (governed by AS

---

[853] In reaching its decision, the *Sea Robin* court stated:

> Thus, the Commission's action in this case is an exercise of its authority under section 5 and can be upheld only if its is consistent with the constraints imposed by that section. The Commission staff must bear the burden of proving both that the existing provision is unjust or unreasonable and that the proposed replacement is just and reasonable. In addition, FERC may order only prospective relief if it finds *a previously accepted provision* unlawful. Because the Commission has not satisfied these section 5 requirements, we reverse its decision.

Sea Robin, 795 F.2d at 187.

This quotation highlights an important distinction between the *Sea Robin* case and this proceeding: in this proceeding TSM has not previously been accepted by this Commission as producing just and reasonable rates. Instead the Commission accepted a settlement which allowed the implementation of TSM as a method of determining ceiling TAPS rates and provided that each TSM filing would be treated as a new rate filing. (Order P-86-2(41), p. 21.) Consequently the annual TAPS rates calculated under TSM are not considered accepted and permanently effective until they are approved by this Commission. Since suspended TAPS rates are neither permanently effective nor accepted rates, any refund resulting from the suspension of a TAPS rate (such as the 1997, 1998, and 1999 TAPS rate filings) is prospective under the *Sea Robin* analysis because no refund of previously accepted rates is required.

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42.05.431(a)) and a hearing was required under AS 42.05.371[854] before the adoption of the interim, refundable rate. *Far North, 825 P.2d* at 873.[855]

This proceeding is distinguishable from the *Far North* and *Sea Robin* cases: in *Far* North and *Sea Robin*, the utility's rates were permanent and effective prior to the Commission's suspension and investigation of those rates. The 1997, 1998, and 1999 rates at issue in this proceeding were proposed by the TAPS Carriers and were not permanent effective rates at the time their permanent operation was suspended for investigation.

AS 42.05.431 and § 5 of the Natural Gas Act are analogous to AS 42.06.410(a). Each statute addresses a regulatory agency's authority to change existing permanent rates, and each statute has companion legislation which addresses rate changes proposed by the utility/pipeline. (*See* AS 42.05.421, AS 42.06.400, and § 4 of the Natural Gas Act.)

The TAPS Carriers' argument regarding limited refund obligations indicates an assumption that a challenge to TSM represents a Commission-proposed change to existing TAPS rates. That assumption, as evidenced by the TAPS Carriers repeated description of TSM as the "accepted and required" TAPS rate methodology, ignores previous Orders in this proceeding, statutory provisions regarding temporary rates, and the fact that the TAPS Carriers' own filings initiated the investigation in this proceeding under AS 42.06.400.

The Commission allowed the implementation of the TSM methodology with the proviso that each TAPS rate filing would be treated as a new rate filing - thus reflecting a rate proposed by the TAPS Carriers - subject to the same standards and procedures which would apply if the TAPS Settlement was never accepted. (Order P-86-2(41), p. 21); *see also* Discussion, Section II.B., pp. 19-20.) Such language was clear notice to the TAPS Carriers that each TAPS rate filing would be viewed as a rate change proposed by the TAPS Carriers and could be suspended (and refundable to the extent interim rates exceeded permanent rates) to determine if TSM produced just and reasonable rates. The Commission has allowed the implementation of the TSM methodology as a means of determining ceiling TAPS rates while reserving the right to review TSM rates for justness and reasonableness. Once a protest of the TSM rate methodology was filed, the Commission exercised its authority under AS 42.06.400 to suspend 1997, 1998, and 1999 TAPS rates for an investigation to determine whether TSM produces just and reasonable rates.

---

[854]The pertinent provisions of AS 42.05.371 provide that "a legally filed and effective tariff rate . . . may not be changed except in the manner provided in this chapter."

[855]The *Far North* court also found that the Commission has the authority to declare a rate interim and refundable so long as the Commission provides protection for the interests of both the utility and the public. *Far North*, 825 P.2d at 874.

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. . . .

Based on the history in this proceeding, the Commission believes that the 1997, 1998, and 1999 TAPS rates are rate changes proposed by the TAPS Carriers and consequently governed by AS 42.06.400. Accordingly, TAPS rates for those years are refundable to the extent the filed and suspended rate exceeds the permanent rate approved by this Commission. The Commission further finds that the 1997, 1998, and 1999 TAPS rates are not and have never been permanently effective rates. Those rates have been suspended for investigation, and the rates proposed by the TAPS Carriers for those years have been set as temporary rates. Accordingly, the Commission concludes that the 1997, 1998, and 1999 TAPS rates are temporary in nature and that any refund attributable to those temporary rates is prospective in nature. In conclusion, the Commission specifically rejects the argument that any refund in this case is limited to noncompliance with TSM.[856]

[856] *Re Exxon Valdez Litigation and Settlement Costs, Order P-94-1(63)/P-95-1(43)/P-97-4(50)/P-97-6(29)/P-97-7(30)* at 23-29 (May 27, 1999) (*footnotes omitted).*

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1997-2000 Just and Reasonable Intrastate TAPS Rates, by Destination and Year

	GVEA Tariff ($/BBL)	Valdez Marine Terminal Intrastate Tariff ($/BBL)	Petro Star Tariff ($/BBL)
1997	$1.02	$1.56	$1.55
1998	$1.03	$1.63	$1.62
1999	$1.19	N/A	$1.88
2000	$1.25	N/A	$1.96

Source: Exhibit 46, lines 24-26; see Part VI.F

The lack of a tariff to Valdez reflects the absence of intrastate shipments to that location during 1999 and 2000. It should not misunderstood as an indication that the intrastate cost of service to Valdez would have been zero had shipments occurred.

Illustrative Average Yearly Tariffs, By Carrier and Destination

		1997				1998				1999			
	Certificate	North Pole	VMT	Petro Star	TL #	North Pole	VMT	Petro Star	TL #	North Pole	VMT	Petro Star	TL #
Amerada Hess	300	1.75	2.74	2.73	55	1.66	2.69	2.68	58	1.42	2.34	2.33	63, 64, 66, 68
ARCO	301	1.67	2.61	2.60	59	1.68	2.73	2.72	61	1.52	2.46	2.44	68
BP	311	1.76	2.76	2.74	60	1.73	2.80	2.79	61	1.62	2.85	2.83	67, 69
Exxon	304	1.66	2.64	2.62	72	1.71	2.77	2.76	74	1.49	2.66	2.65	80, 81, 83, 85
Unocal	312	1.69	2.65	2.64	55	1.67	2.72	2.7	56	1.56	2.55	2.53	60
Mobil	308	1.87	2.94	2.92	55	1.79	2.84	2.82	58, 63	1.56	2.56	2.42	64, 66, 68
Phillips	310	1.75	2.75	2.73	58, 59	1.72	2.79	2.78	62	1.49	2.47	2.46	68, 69, 71, 73

* For multiple tariffs filed in a given year, tariff is a weighted average, with weights determined by the number of months that the tariff was in effect.
* Gravity differential rates effective in the first half of 1997 not included.
* Incentive rate tariffs not included.

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Illustrative Average Yearly Tariffs, By Carrier and Destination

		2000			
	Certificate	North Pole	VMT	Petro Star	TL #
Amerada Hess	300	1.52	2.56	2.54	70, 71
ARCO	301	1.97	3.20	3.18	61
BP	311	1.61	2.61	2.59	73, 75
Exxon	304	1.98	3.22	3.20	74
Unocal	312	1.84	2.98	2.97	64
Mobil	308	1.86	3.02	3.01	70
Phillips	310	1.67	2.69	2.68	77, 78, 79

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Relative excess of filed tariffs above just and reasonable rates, 1997-2000
(percentage)

	1997			1998			1999			2000		
	North Pole	VMT	Petro Star	North Pole	VMT	Petro Star	North Pole	VMT	Petro Star	North Pole	VMT	Petro Star
Amerada Hess	70.79%	75.63%	75.84%	60.93%	64.79%	64.97%	19.43%	N/A	23.84%	22.26%	N/A	29.25%
ARCO	62.98%	67.30%	67.47%	62.86%	67.24%	67.43%	27.62%	N/A	29.92%	58.11%	N/A	62.03%
BP	71.77%	76.92%	76.49%	67.71%	71.53%	71.74%	35.73%	N/A	50.69%	28.82%	N/A	31.97%
Exxon	62.01%	69.22%	68.76%	65.77%	69.69%	69.89%	24.75%	N/A	41.10%	58.92%	N/A	63.05%
Unocal	64.93%	69.86%	70.05%	61.89%	66.63%	66.20%	30.98%	N/A	34.71%	47.68%	N/A	51.33%
Mobil	82.50%	88.45%	88.08%	73.20%	73.98%	73.59%	30.84%	N/A	28.95%	49.29%	N/A	53.37%
Phillips	70.63%	76.06%	75.74%	66.74%	70.92%	71.13%	25.03%	N/A	30.90%	33.90%	N/A	36.39%
Average	69.37%	74.78%	74.63%	65.59%	69.25%	69.28%	27.77%	N/A	34.30%	42.71%	N/A	46.77%

Average of Averages 57.45%

* Percentages calculated as [Schedule 2 - Schedule 1]/Schedule 1

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Appropriate Total Annual Rate of Return for TAPS, 1968-1996
(Percentage Rates)

	Cost of Debt	Percentage of Debt	Weighted Cost of Debt	Return on Equity	Percentage of Equity	Weighted Return on Equity	Rate of Return
	(a)	(b)	(c)	(d)	(e)	(f)	(g)
	Exhibit 15, Schedule 3, col i	Exhibit 11, col d	a * b	Exhibit 20, col b	1 - b	d * e	c + f
1968	0.00	0.00%	0.00%	12.28	100.00%	12.28%	12.28%
1969	0.00	0.00%	0.00%	13.14	100.00%	13.14%	13.14%
1970	0.00	0.00%	0.00%	13.60	100.00%	13.60%	13.60%
1971	0.00	0.00%	0.00%	12.72	100.00%	12.72%	12.72%
1972	0.00	0.00%	0.00%	12.56	100.00%	12.56%	12.56%
1973	0.00	0.00%	0.00%	13.23	100.00%	13.23%	13.23%
1974.1	0.00	0.00%	0.00%	13.90	100.00%	13.90%	13.90%
1974.2	8.74	32.96%	2.88%	13.90	67.04%	9.32%	12.20%
1975	8.80	46.63%	4.10%	13.98	53.37%	7.46%	11.56%
1976	8.74	49.07%	4.29%	13.81	50.93%	7.03%	11.32%
1977.1	8.82	49.50%	4.37%	14.55	50.50%	7.35%	11.72%
1977.2	8.86	49.50%	4.39%	14.55	50.50%	7.35%	11.74%
1978	8.88	49.50%	4.40%	15.42	50.50%	7.79%	12.19%
1979	8.90	49.50%	4.41%	16.28	50.50%	8.22%	12.63%
1980	8.98	49.50%	4.45%	18.25	50.50%	9.22%	13.67%
1981	9.01	49.50%	4.46%	21.16	50.50%	10.69%	15.15%
1982	9.03	49.50%	4.47%	20.81	50.50%	10.51%	14.98%
1983	9.08	49.50%	4.49%	17.46	50.50%	8.82%	13.31%
1984	9.13	49.50%	4.52%	18.66	50.50%	9.42%	13.94%
1985	9.16	49.50%	4.53%	17.35	50.50%	8.76%	13.29%
1986	9.17	49.50%	4.54%	16.04	50.50%	8.10%	12.64%
1987	9.19	49.50%	4.55%	16.00	50.50%	8.08%	12.63%
1988	9.20	49.50%	4.55%	16.42	50.50%	8.29%	12.84%
1989	9.23	49.50%	4.57%	16.18	50.50%	8.17%	12.74%
1990	9.35	49.50%	4.63%	16.35	50.50%	8.25%	12.88%
1991	9.37	49.50%	4.64%	16.06	50.50%	8.11%	12.75%
1992	9.37	49.50%	4.64%	15.61	50.50%	7.88%	12.52%
1993	9.30	49.50%	4.60%	14.02	50.50%	7.08%	11.68%
1994	9.41	49.50%	4.66%	14.67	50.50%	7.41%	12.07%
1995	9.38	49.50%	4.64%	14.74	50.50%	7.44%	12.08%
1996	9.24	49.50%	4.57%	14.28	50.50%	7.21%	11.78%

1974.1 = January through April 1974
1974.2 = May through December 1974
1977.1 = January through June 1977
1977.2 = July through December 1977

Explanatory Note to Exhibit 3

The rates shown on Schedule 2 are calculated using the rate design used by all of the parties, and discussed at Part VI.F. Rates reflect a revenue requirement, shown on Schedule 3, that includes TSM's allowances for DR&R -- as do the 1997-2000 filed rates. This permits an "apples to apples" assessment of filed rates. The depreciation amounts are derived from Schedule 6, and assume TSM depreciation as sponsored by Tesoro.[1] Accumulated depreciation reflects adjustments that account for property retirements. These adjustments are shown in Schedule 7, and are calculated in Exhibit 23; the rationale for making these adjustments is provided at Part IV Section C.2. AFUDC is calculated in Schedule 8, as per the discussion in Part IV Section B.5, and is amortized according to Schedule 9, as per the discussion in Part IV Section C.3. Return on rate base is calculated in Schedule 4, where the rate base is developed in Schedule 14. Rate base reflects adjustments for ADIT, calculated in Schedule 12 as per the discussion in Part IV Section D. Income taxes are calculated (see Schedule 54) according to maximum statutory rates; see Part V Section A.3 for discussion.

[1] Exhibit 225-JFB-T, Workpaper 1, Line 4.

Filed Tariff Excess Compared with Illustrative DOC Rates
(percentages)

All Carrier Inputs Except Depreciation

	1997			1998			1999			2000		
	North Pole	VMT	Petro Star	North Pole	VMT	Petro Star	North Pole	VMT	Petro Star	North Pole	VMT	Petro Star
Amerada Hess	45.70%	47.22%	47.41%	42.89%	45.06%	45.22%	5.96%	N/A	8.94%	22.86%	N/A	29.93%
ARCO	39.04%	40.23%	40.39%	44.62%	47.21%	47.39%	13.23%	N/A	14.29%	58.89%	N/A	62.89%
BP	46.53%	48.29%	47.95%	48.92%	50.99%	51.18%	20.43%	N/A	32.56%	29.45%	N/A	32.67%
Exxon	38.20%	41.85%	41.47%	47.20%	49.37%	49.56%	10.68%	N/A	24.12%	59.70%	N/A	63.91%
Unocal	40.70%	42.38%	42.55%	43.75%	46.67%	46.31%	16.21%	N/A	18.50%	48.40%	N/A	52.13%
Mobil	55.69%	57.97%	57.67%	53.80%	53.14%	52.81%	16.08%	N/A	13.43%	50.02%	N/A	54.18%
Phillips	45.56%	47.58%	47.32%	48.06%	50.45%	50.64%	10.93%	N/A	15.15%	34.56%	N/A	37.11%
Average	44.49%	46.50%	46.39%	47.03%	48.98%	49.02%	13.36%	N/A	18.14%	43.41%	N/A	47.55%

Average of Averages 40.49%

* Percentages calculated as [Exhibit 1, Schedule 2 - Schedule 2]/Schedule 2

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Illustrative DOC Tariffs All Carrier Inputs Except Depreciation

Line No.	Description	Source	1997	1998	1999	2000
1	GVEA Deliveries (millions bbl)	Exhibit RGV-6, Schedule 1	17.53	18.54	21.98	22.73
2	Petro Star Valdez Deliveries (millions bbl)	Exhibit RGV-6, Schedule 1	3.41	3.58	3.73	3.78
3	Valdez Marine Terminal Intrastate Deliveries (millions bbl)	Exhibit RGV-6, Schedule 1	16.06	15.68	0.00	0.00
4	Valdez Marine Terminal Interstate Deliveries (millions bbl)	Exhibit RGV-6, Schedule 1	444.98	402.82	365.10	341.41
5	Total Barrels (millions)	Lns (1 + 2 + 3 + 4)	481.97	440.61	390.80	367.92
6	GVEA Distance	Exhibit RGV-6, Schedule 1	469.06	469.06	469.06	469.06
7	Petro Star Valdez Distance	Exhibit RGV-6, Schedule 1	796.00	796.00	796.00	796.00
8	Valdez Marine Terminal Distance	Exhibit RGV-6, Schedule 1	800.32	800.32	800.32	800.32
9	GVEA Barrel Miles	Line (1 * 6)	8,221	8,694	10,309	10,662
10	Petro Star Valdez Barrel Miles	Line (2 * 7)	2,717	2,850	2,967	3,005
11	Valdez Marine Terminal Intrastate Barrel Miles	Line (3 * 8)	12,851	12,547	0	0
12	Valdez Marine Terminal Interstate Barrel Miles	Line (4 * 8)	356,124	322,382	292,194	273,239
13	Total Barrel Miles	Lns (9 + 10 + 11 + 12)	379,912	346,472	305,470	286,905
14	GVEA Connection Costs (millions $)	Exhibit RGV-6, Schedule 1	$0.77	$0.00	$0.00	$0.00
15	GVEA Connection Costs Per GVEA Barrel	Line (14 / 1)	$0.04	$0.00	$0.00	$0.00
16	Non-Distance Related Costs (millions $)	Exhibit RGV-6, Schedule 1	$77.49	$79.64	$80.29	$80.13
17	Non-Distance Related Costs Per Barrel	Lns (16 / 5)	$0.16	$0.18	$0.21	$0.22
18	Total DOC Cost of Service (millions $)	Schedule 2, Ln. 7	$885.43	$804.22	$820.75	$705.29
19	Remaining Cost of Service (millions $)	Line (18 - 14 - 16)	$807.17	$724.58	$740.46	$625.16
20	GVEA Portion of Cost of Service (millions)	Lns (((15 + 17) * 1) + (19 * (9 / 13)))	$21.05	$21.53	$29.50	$28.18
21	Petro Star Valdez Portion of Cost of Service (millions $)	Lns ((17 * 2) + (19 * (10 / 13)))	$6.32	$6.61	$7.96	$7.37
22	Valdez Marine Terminal Intrastate Portion of Cost of Service	Lns ((17 * 3) + (19 * (11 / 13)))	$29.88	$29.07	$0.00	$0.00
23	Valdez Marine Terminal Interstate Portion of Cost of Service	Lns ((17 * 4) + (19 * (12 / 13)))	$828.18	$747.01	$783.29	$669.74
24	GVEA Tariff ($/BBL)	Lns (20 / 1)	$1.20	$1.16	$1.34	$1.24
25	Petro Star Valdez Tariff ($/BBL)	Lns (21 / 2)	$1.85	$1.85	$2.13	$1.95
26	Valdez Marine Terminal Intrastate Tariff ($/BBL)	Lns (22 / 3)	$1.86	$1.85	$0.00	$0.00

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Illustrative DOC Revenue Requirement
(millions $)

All Carrier Inputs Except Depreciation

Line No.	Description	Source	1997	1998	1999	2000
1	Operating Expenses	Schedule 16, Ln. 12	$604	$566	$568	$444
2	Depreciation Expense	Schedule 6 Ln. 3	$82	$50	$49	$56
3	Amortization of AFUDC	Schedule 9, Ln. 14	$17	$10	$10	$11
4	Return on Rate Base	Schedule 4 Ln 3	$104	$105	$115	$113
5	Income Tax Allowance	Schedule 5 Ln. 14	$71	$70	$76	$77
6	DR&R Expense	30-BEW-T	$8	$4	$4	$4
7	Total Cost of Service	Sum Lines 1 to 6	$885	$804	$821	$705

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Illustrative DOC Return on Rate Base
(millions $)

All Carrier Inputs, Except Depreciation

Line No.	Description	Source	1997	1998	1999	2000
1	Weighted Rate of Return	Exhibit WBT-40	14.40%	14.40%	16.00%	16.00%
2	Average Rate Base	Schedule 14, Ln 19	$724	$732	$716	$709
3	Total Return on Rate Base	Ln.1 * Ln.2	$104	$105	$115	$113
4	Debt Capital Structure	Exhibit WBT-38	22.67%	24.39%	24.68%	24.68%
5	Cost of Debt	Exhibit WBT-39	7.85%	6.63%	6.38%	6.38%
6	Debt Portion of Weighted Rate of Return	Ln.4 * Ln.5	1.78%	1.62%	1.57%	1.57%
7	Interest Expense	Ln.2 * Ln.6	$13	$12	$11	$11
8	Equity Portion of Weighted Rate of Return	Ln.1 - Ln.6	12.62%	12.78%	14.43%	14.43%
9	Return on Equity	Ln.2 * Ln.8	$91	$94	$103	$102
10	Equity Capital Structure	100% - Line 4	77.33%	75.61%	75.32%	75.32%
11	Cost of Equity (Return on Equity)	Ln. 23/Ln.27	16.32%	16.91%	19.15%	19.15%

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Illustrative DOC Income Tax Allowance
(millions $)

All Carrier Inputs, Except Depreciation

Line No.	Description	Source	1997	1998	1999	2000
1	Total Return on Rate Base	Schedule 4 Ln. 3	$104	$105	$115	$113
2	Interest Expense	Schedule 4 Ln. 7	$13	$12	$11	$11
3	Equity Portion of Return on Rate Base	Ln. 1 - Ln. 2	$91	$94	$103	$102
	Permanent Differences - Federal Income Tax:					
4	Amortization of Equity AFUDC	Schedule 9 Ln. 4	$14	$8	$8	$9
5	Amortization of TEFRA Adjustment	Schedule 13 Ln. 6	$0.07	$0.04	$0.04	$0
6	Amortization of Deferred Tax Adjustments	Schedule 12 Ln. 18	$2	$1	$1	$1
7	Subtotal for Federal Income Tax Allowance	Lns (3 + 4 + 5 - 6)	$104	$101	$111	$111
8	Net-to-Tax Multiplier - Federal Income Tax	IRC	53.85%	53.85%	53.85%	53.85%
9	Federal Income Tax Allowance	Ln. 7 * Ln. 8 - Ln. 6	$54	$54	$59	$59
	Permanent Differences - State Income Tax:					
10	Amortization of Equity AFUDC	Schedule 9 Ln. 4	$14	$8	$8	$9
11	Subtotal for State Income Tax Allowance	Lns (3 + 9 + 10)	$160	$156	$170	$171
12	Net-to-Tax Multiplier - State Income Tax	AK Stat.	10.38%	10.38%	10.38%	10.38%
13	State Income Tax Allowance	Ln. 11 * Ln. 12	$17	$16	$18	$18
14	Total Income Tax Allowance	Ln. 9 + Ln. 13	$71	$70	$76	$77

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Illustrative DOC Depreciation
(millions $)

All Carrier Inputs, Except Depreciation

Line No.	Description	Source	1977	1978	1979	1980	1981	1982
1	TSM-6/Baden Depreciation 77-83; TSM Depreciation 84-00	(30-BWF-E, 235-JFB-T); (31-BWF-E)	108.493	453.437	549.208	626.832	602.059	611.310
2	Amortization of Excluded Costs	31-BWF-E, Ln. 119	0	47.407	55.891	66.134	65.989	70.407
3	Appropriate Annual Depreciation - TSM & TSM-6	Line 1 + Line 2	108.493	500.844	605.099	692.966	668.048	681.717
4	Adjustments to Accumulated Depreciation	FERC Form 6, from 143 RGV-C	0.00	0.000	0.557	0.071	1.010	0.000
5	Adjusted Retirements from Accumulated Depreciation	Schedule 7, Ln. 9	0.00	(6.98)	(10.93)	(51.83)	(2.50)	(13.61)
6	Accumulated Depreciation	Lns (3 + 4 + 5) + Prior Ln. 6	108.493	602.352	1,197.077	1,838.285	2,504.847	3,172.958

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Illustrative DOC Depreciation
(millions $)

All Carrier Inputs, Except Depreciation

Line No.	Description	Source	1983	1984	1985	1986	1987	1988
1	TSM-6/Baden Depreciation 77-83; TSM Depreciation 84-00	(30-BWF-E, 235-JFB-T); (31-BWF-E)	589.012	569.053	542.938	514.506	503.605	458.916
2	Amortization of Excluded Costs	31-BWF-E, Ln. 119	71.471	72.701	0.000	0.000	0.000	0.000
3	Appropriate Annual Depreciation - TSM & TSM-6	Line 1 + Line 2	660.483	641.754	542.938	514.506	503.605	458.916
4	Adjustments to Accumulated Depreciation	FERC Form 6, from 143 RGV-C	0.000	0.075	0.000	0.000	0.000	0.000
5	Adjusted Retirements from Accumulated Depreciation	Schedule 7, Ln. 9	(22.44)	(11.51)	(13.78)	(2.97)	(16.65)	(12.97)
6	Accumulated Depreciation	Lns (3 + 4 + 5) + Prior Ln. 6	3,810.997	4,441.318	4,970.473	5,482.011	5,968.970	6,414.913

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Illustrative DOC Depreciation
(millions $)

All Carrier Inputs, Except Depreciation

Line No.	Description	Source	1989	1990	1991	1992	1993	1994
1	TSM-6/Baden Depreciation 77-83; TSM Depreciation 84-00	(30-BWF-E, 235-JFB-T); (31-BWF-E)	395.419	335.514	295.711	285.871	237.084	195.984
2	Amortization of Excluded Costs	31-BWF-E, Ln. 119	0.000	0.000	0.000	0.000	0.000	0.000
3	Appropriate Annual Depreciation - TSM & TSM-6	Line 1 + Line 2	395.419	335.514	295.711	285.871	237.084	195.984
4	Adjustments to Accumulated Depreciation	FERC Form 6, from 143 RGV-C	0.000	(0.004)	0.000	0.000	0.000	0.000
5	Adjusted Retirements from Accumulated Depreciation	Schedule 7, Ln. 9	(4.72)	(3.52)	(57.92)	(15.52)	(10.77)	(10.10)
6	Accumulated Depreciation	Lns (3 + 4 + 5) + Prior Ln. 6	6,805.609	7,137.602	7,375.393	7,645.744	7,872.061	8,057.945

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Illustrative DOC Retirements from Accumulated Depreciation All Carrier Inputs, Except Depreciation
(millions $)

Line No.	Description	Source	1977	1978	1979	1980	1981	1982	1983
1	Depreciation Account - Adjusted Retirements	Exhibit 23, Ln. 8; Exhibit 38, Ln. 3	0.00	(6.98462)	(10.93161)	(51.82893)	(2.49600)	(13.60600)	(22.44405)

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Illustrative DOC Retirements from Accumulated Depreciation All Carrier Inputs, Except Depreciation
(millions $)

Line No.	Description	Source	1984	1985	1986	1987	1988	1989	1990
1	Depreciation Account - Adjusted Retirements	Exhibit 23, Ln. 8; Exhibit 38, Ln. 3	(11.50783)	(13.78235)	(2.96887)	(16.64551)	(12.97325)	(4.72305)	(3.51721)

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Illustrative DOC Retirements from Accumulated Depreciation All Carrier Inputs, Except Depreciation
(millions $)

Line No.	Description	Source	1991	1992	1993	1994	1995	1996	1997
1	Depreciation Account - Adjusted Retirements	Exhibit 23, Ln. 8; Exhibit 38, Ln. 3	(57.91923)	(15.52027)	(10.76684)	(10.10028)	(2.64213)	(114.10734)	(3.11460)

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Illustrative DOC Retirements from Accumulated Depreciation All Carrier Inputs, Except Depreciation
(millions $)

Line No.	Description	Source	1998	1999	2000
1	Depreciation Account - Adjusted Retirements	Exhibit 23, Ln. 8; Exhibit 38, Ln. 3	(6.44456)	(2.63010)	(6.55073)

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Illustrative DOC AFUDC
(millions $)

All Carrier Inputs, Except Depreciation

Ln. No.	Date	Construction Work in Progress			In-service Ratio	Compounding Additions Equity AFUDC	Equity %	Equity Additions	Equity Transfers	Equity Base	ROE	Incremental Equity AFUDC	Transfers Equity AFUDC	Equity AFUDC Balance	Compounding Additions Debt AFUDC	Debt %	Debt Additions	Debt Transfers	Debt Base	COD	Incremental Debt AFUDC	Transfers Debt AFUDC	Debt AFUDC Balance
		Property Additions	Transfers to Property	Property Balance																			
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	Sep-68	$0.978	$0	$1	0.0%	$0	75.5%	$1	$0	$0	15.64%	$0	$0	$0	$0	24.5%	$0	$0	$0	5.66%	$0	$0	$0
2	Oct-68	$0.000	$0	$1	0.0%	$0	75.5%	$0	$0	$1	15.64%	$0	$0	$0	$0	24.5%	$0	$0	$0	5.66%	$0	$0	$0
3	Nov-68	$0.000	$0	$1	0.0%	$0	75.5%	$0	$0	$1	15.64%	$0	$0	$0	$0	24.5%	$0	$0	$0	5.66%	$0	$0	$0
4	Dec-68	$0.000	$0	$1	0.0%	$0	75.5%	$0	$0	$1	15.64%	$0	$0	$0	$0	24.5%	$0	$0	$0	5.66%	$0	$0	$0
5	Jan-69	$0.244	$0	$1	0.0%	$0	78.1%	$0	$0	$1	16.36%	$0	$0	$0	$0	21.9%	$0	$0	$0	5.61%	$0	$0	$0
6	Feb-69	$0.000	$0	$1	0.0%	$0	78.1%	$0	$0	$1	16.36%	$0	$0	$0	$0	21.9%	$0	$0	$0	5.61%	$0	$0	$0
7	Mar-69	$0.000	$0	$1	0.0%	$0	78.1%	$0	$0	$1	16.36%	$0	$0	$0	$0	21.9%	$0	$0	$0	5.61%	$0	$0	$0
8	Apr-69	$0.242	$0	$1	0.0%	$0	78.1%	$0	$0	$1	16.36%	$0	$0	$0	$0	21.9%	$0	$0	$0	5.61%	$0	$0	$0
9	May-69	$0.854	$0	$2	0.0%	$0	78.1%	$1	$0	$1	16.36%	$0	$0	$0	$0	21.9%	$0	$0	$0	5.61%	$0	$0	$0
10	Jun-69	$1.234	$0	$4	0.0%	$0	78.1%	$1	$0	$2	16.36%	$0	$0	$0	$0	21.9%	$0	$0	$1	5.61%	$0	$0	$0
11	Jul-69	$0.712	$0	$4	0.0%	$0	78.1%	$1	$0	$3	16.36%	$0	$0	$0	$0	21.9%	$0	$0	$1	5.61%	$0	$0	$0
12	Aug-69	$1.124	$0	$5	0.0%	$0	78.1%	$1	$0	$3	16.36%	$0	$0	$0	$0	21.9%	$0	$0	$1	5.61%	$0	$0	$0
13	Sep-69	$2.164	$0	$8	0.0%	$0	78.1%	$2	$0	$4	16.36%	$0	$0	$0	$0	21.9%	$0	$0	$1	5.61%	$0	$0	$0
14	Oct-69	$5.192	$0	$13	0.0%	$0	78.1%	$4	$0	$6	16.36%	$0	$0	$0	$0	21.9%	$1	$0	$2	5.61%	$0	$0	$0
15	Nov-69	$6.530	$0	$19	0.0%	$0	78.1%	$5	$0	$10	16.36%	$0	$0	$0	$0	21.9%	$1	$0	$3	5.61%	$0	$0	$0
16	Dec-69	$17.161	$0	$36	0.0%	$0	78.1%	$13	$0	$15	16.36%	$0	$0	$1	$0	21.9%	$4	$0	$4	5.61%	$0	$0	$0
17	Jan-70	($0.886)	$0	$36	0.0%	$1	72.9%	($1)	$0	$29	17.56%	$0	$0	$1	$0	27.2%	($0)	$0	$8	6.28%	$0	$0	$0
18	Feb-70	$8.996	$0	$45	0.0%	$0	72.9%	$7	$0	$28	17.56%	$0	$0	$2	$0	27.2%	$2	$0	$8	6.28%	$0	$0	$0
19	Mar-70	$11.607	$0	$56	0.0%	$0	72.9%	$8	$0	$35	17.56%	$1	$0	$2	$0	27.2%	$3	$0	$10	6.28%	$0	$0	$0
20	Apr-70	$18.351	$0	$75	0.0%	$0	72.9%	$13	$0	$43	17.56%	$1	$0	$3	$0	27.2%	$5	$0	$13	6.28%	$0	$0	$0
21	May-70	$16.501	$0	$91	0.0%	$0	72.9%	$12	$0	$57	17.56%	$1	$0	$4	$0	27.2%	$4	$0	$18	6.28%	$0	$0	$0
22	Jun-70	$19.677	$0	$111	0.0%	$0	72.9%	$14	$0	$69	17.56%	$1	$0	$5	$0	27.2%	$5	$0	$23	6.28%	$0	$0	$0
23	Jul-70	$28.292	$0	$139	0.0%	$4	72.9%	$21	$0	$87	17.56%	$1	$0	$6	$0	27.2%	$8	$0	$29	6.28%	$0	$0	$1
24	Aug-70	$17.456	$0	$156	0.0%	$0	72.9%	$13	$0	$108	17.56%	$2	$0	$7	$0	27.2%	$5	$0	$36	6.28%	$0	$0	$1
25	Sep-70	$24.416	$0	$181	0.0%	$0	72.9%	$18	$0	$120	17.56%	$2	$0	$9	$0	27.2%	$7	$0	$41	6.28%	$0	$0	$1
26	Oct-70	$15.631	$0	$196	0.0%	$0	72.9%	$11	$0	$138	17.56%	$2	$0	$11	$0	27.2%	$4	$0	$48	6.28%	$0	$0	$1
27	Nov-70	$8.254	$0	$205	0.0%	$0	72.9%	$6	$0	$150	17.56%	$2	$0	$13	$0	27.2%	$2	$0	$52	6.28%	$0	$0	$2
28	Dec-70	$13.301	$0	$218	0.0%	$0	72.9%	$10	$0	$156	17.56%	$2	$0	$16	$0	27.2%	$4	$0	$54	6.28%	$0	$0	$2
29	Jan-71	$0.630	$0	$219	0.0%	$11	73.3%	$0	$0	$176	16.26%	$2	$0	$18	$1	26.8%	$0	$0	$59	6.31%	$0	$0	$2
30	Feb-71	$3.625	$0	$222	0.0%	$0	73.3%	$3	$0	$177	16.26%	$2	$0	$20	$0	26.8%	$1	$0	$59	6.31%	$0	$0	$2
31	Mar-71	$4.975	$0	$227	0.0%	$0	73.3%	$4	$0	$179	16.26%	$2	$0	$23	$0	26.8%	$1	$0	$60	6.31%	$0	$0	$3
32	Apr-71	$4.708	$0	$232	0.0%	$0	73.3%	$3	$0	$183	16.26%	$2	$0	$25	$0	26.8%	$1	$0	$62	6.31%	$0	$0	$3
33	May-71	$6.100	$0	$238	0.0%	$0	73.3%	$4	$0	$187	16.26%	$3	$0	$28	$0	26.8%	$2	$0	$63	6.31%	$0	$0	$3
34	Jun-71	$6.142	$0	$244	0.0%	$0	73.3%	$4	$0	$191	16.26%	$3	$0	$30	$0	26.8%	$2	$0	$65	6.31%	$0	$0	$4
35	Jul-71	$9.385	$0	$254	0.0%	$15	73.3%	$7	$0	$210	16.26%	$3	$0	$33	$2	26.8%	$3	$0	$68	6.31%	$0	$0	$4
36	Aug-71	$14.829	$0	$268	0.0%	$0	73.3%	$11	$0	$217	16.26%	$3	$0	$36	$0	26.8%	$4	$0	$71	6.31%	$0	$0	$5
37	Sep-71	$10.408	$0	$279	0.0%	$0	73.3%	$8	$0	$228	16.26%	$3	$0	$39	$0	26.8%	$3	$0	$75	6.31%	$0	$0	$5
38	Oct-71	$12.104	$0	$291	0.0%	$0	73.3%	$9	$0	$236	16.26%	$3	$0	$42	$0	26.8%	$3	$0	$77	6.31%	$0	$0	$5
39	Nov-71	$16.481	$0	$307	0.0%	$0	73.3%	$12	$0	$245	16.26%	$3	$0	$46	$0	26.8%	$4	$0	$81	6.31%	$0	$0	$6
40	Dec-71	$18.967	$0	$326	0.0%	$0	73.3%	$14	$0	$257	16.26%	$3	$0	$49	$0	26.8%	$5	$0	$85	6.31%	$0	$0	$6
41	Jan-72	($1.212)	$0	$325	0.0%	$19	75.7%	($1)	$0	$289	15.64%	$4	$0	$53	$2	24.3%	($0)	$0	$92	6.44%	$0	$0	$7
42	Feb-72	$4.997	$0	$330	0.0%	$0	75.7%	$4	$0	$288	15.64%	$4	$0	$57	$0	24.3%	$1	$0	$92	6.44%	$0	$0	$7
43	Mar-72	$4.452	$0	$335	0.0%	$0	75.7%	$3	$0	$292	15.64%	$4	$0	$61	$0	24.3%	$1	$0	$93	6.44%	$1	$0	$8
44	Apr-72	$4.215	$0	$339	0.0%	$0	75.7%	$3	$0	$296	15.64%	$4	$0	$64	$0	24.3%	$1	$0	$94	6.44%	$1	$0	$8
45	May-72	$5.853	$0	$345	0.0%	$0	75.7%	$4	$0	$299	15.64%	$4	$0	$68	$0	24.3%	$1	$0	$96	6.44%	$1	$0	$9
46	Jun-72	$7.497	$0	$352	0.0%	$0	75.7%	$6	$0	$303	15.64%	$4	$0	$72	$0	24.3%	$2	$0	$97	6.44%	$1	$0	$9
47	Jul-72	$4.158	$0	$356	0.0%	$23	75.7%	$3	$0	$332	15.64%	$4	$0	$77	$3	24.3%	$1	$0	$102	6.44%	$1	$0	$10
48	Aug-72	$3.660	$0	$360	0.0%	$0	75.7%	$3	$0	$335	15.64%	$4	$0	$81	$0	24.3%	$1	$0	$103	6.44%	$1	$0	$10
49	Sep-72	$2.846	$0	$363	0.0%	$0	75.7%	$2	$0	$338	15.64%	$4	$0	$85	$0	24.3%	$1	$0	$104	6.44%	$1	$0	$11
50	Oct-72	$3.711	$0	$367	0.0%	$0	75.7%	$3	$0	$340	15.64%	$4	$0	$90	$0	24.3%	$1	$0	$104	6.44%	$1	$0	$11
51	Nov-72	$3.201	$0	$370	0.0%	$0	75.7%	$2	$0	$343	15.64%	$4	$0	$94	$0	24.3%	$1	$0	$105	6.44%	$1	$0	$12
52	Dec-72	$6.653	$0	$376	0.0%	$0	75.7%	$5	$0	$345	15.64%	$4	$0	$99	$0	24.3%	$2	$0	$106	6.44%	$1	$0	$13
53	Jan-73	($1.040)	$0	$375	0.0%	$26	75.9%	($1)	$0	$377	16.35%	$5	$0	$104	$3	24.1%	($0)	$0	$111	7.02%	$1	$0	$13
54	Feb-73	$2.485	$0	$378	0.0%	$0	75.9%	$2	$0	$376	16.35%	$5	$0	$109	$0	24.1%	$1	$0	$111	7.02%	$1	$0	$14
55	Mar-73	$3.837	$0	$382	0.0%	$0	75.9%	$3	$0	$378	16.35%	$5	$0	$114	$0	24.1%	$1	$0	$111	7.02%	$1	$0	$15
56	Apr-73	$3.288	$0	$385	0.0%	$0	75.9%	$2	$0	$381	16.35%	$5	$0	$119	$0	24.1%	$1	$0	$112	7.02%	$1	$0	$15
57	May-73	$3.686	$0	$389	0.0%	$0	75.9%	$3	$0	$383	16.35%	$5	$0	$125	$0	24.1%	$1	$0	$113	7.02%	$1	$0	$16

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Illustrative DOC AFUDC
(millions $)

All Carrier Inputs, Except Depreciation

Ln. No.	Date	Construction Work in Progress			In-service Ratio	Compounding Additions Equity AFUDC	Equity %	Equity Additions	Equity Transfers	Equity Base	ROE	Incremental Equity AFUDC	Transfers Equity AFUDC	Equity AFUDC Balance	Compounding Additions Debt AFUDC	Debt %	Debt Additions	Debt Transfers	Debt Base	COD	Incremental Debt AFUDC	Transfers Debt AFUDC	Debt AFUDC Balance
		Property Additions	Transfers o Propert	Property Balance																			
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
58	Jun-73	$3.982	$0	$393	0.0%	$0	75.9%	$3	$0	$386	16.35%	$5	$0	$130	$0	24.1%	$1	$0	$114	7.02%	$1	$0	$17
59	Jul-73	$5.164	$0	$398	0.0%	$31	75.9%	$4	$0	$420	16.35%	$6	$0	$136	$4	24.1%	$1	$0	$119	7.02%	$1	$0	$17
60	Aug-73	$4.630	$0	$402	0.0%	$0	75.9%	$4	$0	$424	16.35%	$6	$0	$141	$0	24.1%	$1	$0	$120	7.02%	$1	$0	$18
61	Sep-73	$5.206	$0	$408	0.0%	$0	75.9%	$4	$0	$428	16.35%	$6	$0	$147	$0	24.1%	$1	$0	$121	7.02%	$1	$0	$19
62	Oct-73	$7.992	$0	$416	0.0%	$0	75.9%	$6	$0	$432	16.35%	$6	$0	$153	$0	24.1%	$2	$0	$122	7.02%	$1	$0	$19
63	Nov-73	$4.485	$0	$420	0.0%	$0	75.9%	$3	$0	$438	16.35%	$6	$0	$159	$0	24.1%	$1	$0	$124	7.02%	$1	$0	$20
64	Dec-73	$6.412	$0	$427	0.0%	$0	75.9%	$5	$0	$441	16.35%	$6	$0	$165	$0	24.1%	$2	$0	$125	7.02%	$1	$0	$21
65	Jan-74	$21.430	$0	$448	0.0%	$35	72.3%	$15	$0	$481	17.33%	$7	$0	$172	$4	27.7%	$6	$0	$131	8.19%	$1	$0	$22
66	Feb-74	$19.355	$0	$467	0.0%	$0	72.3%	$14	$0	$497	17.33%	$7	$0	$179	$0	27.7%	$5	$0	$137	8.19%	$1	$0	$23
67	Mar-74	$21.796	$0	$489	0.0%	$0	72.3%	$16	$0	$511	17.33%	$7	$0	$187	$0	27.7%	$6	$0	$143	8.19%	$1	$0	$24
68	Apr-74	$25.349	$0	$514	0.0%	$0	72.3%	$18	$0	$526	17.33%	$8	$0	$194	$0	27.7%	$7	$0	$149	8.19%	$1	$0	$25
69	May-74	$25.309	$0	$540	0.0%	$0	72.3%	$18	$0	$545	17.33%	$8	$0	$202	$0	27.7%	$7	$0	$156	8.19%	$1	$0	$26
70	Jun-74	$33.131	$0	$573	0.0%	$0	72.3%	$24	$0	$563	17.33%	$8	$0	$210	$0	27.7%	$9	$0	$163	8.19%	$1	$0	$27
71	Jul-74	$69.084	$0	$642	0.0%	$45	72.3%	$50	$0	$632	17.33%	$9	$0	$219	$6	27.7%	$19	$0	$178	8.19%	$1	$0	$28
72	Aug-74	$95.964	$0	$738	0.0%	$0	72.3%	$69	$0	$682	17.33%	$10	$0	$229	$0	27.7%	$27	$0	$197	8.19%	$1	$0	$29
73	Sep-74	$88.045	$0	$826	0.0%	$0	72.3%	$64	$0	$751	17.33%	$11	$0	$240	$0	27.7%	$24	$0	$224	8.19%	$2	$0	$31
74	Oct-74	$160.956	$0	$987	0.0%	$0	72.3%	$116	$0	$815	17.33%	$12	$0	$252	$0	27.7%	$45	$0	$248	8.19%	$2	$0	$33
75	Nov-74	$106.622	$0	$1,094	0.0%	$0	72.3%	$77	$0	$931	17.33%	$13	$0	$265	$0	27.7%	$30	$0	$293	8.19%	$2	$0	$35
76	Dec-74	$265.876	$0	$1,359	0.0%	$0	72.3%	$192	$0	$1,008	17.33%	$15	$0	$280	$0	27.7%	$74	$0	$322	8.19%	$2	$0	$37
77	Jan-75	$40.513	$0	$1,400	0.0%	$70	64.1%	$26	$0	$1,270	18.79%	$20	$0	$300	$10	35.9%	$15	$0	$406	7.97%	$3	$0	$39
78	Feb-75	$131.521	$0	$1,531	0.0%	$0	64.1%	$84	$0	$1,296	18.79%	$20	$0	$320	$0	35.9%	$47	$0	$420	7.97%	$3	$0	$42
79	Mar-75	$256.892	$0	$1,788	0.0%	$0	64.1%	$165	$0	$1,381	18.79%	$22	$0	$342	$0	35.9%	$92	$0	$468	7.97%	$3	$0	$45
80	Apr-75	$107.239	$0	$1,896	0.0%	$0	64.1%	$69	$0	$1,545	18.79%	$24	$0	$366	$0	35.9%	$39	$0	$560	7.97%	$4	$0	$49
81	May-75	$262.621	$0	$2,158	0.0%	$0	64.1%	$168	$0	$1,614	18.79%	$25	$0	$391	$0	35.9%	$94	$0	$598	7.97%	$4	$0	$53
82	Jun-75	$581.761	$0	$2,740	0.0%	$0	64.1%	$373	$0	$1,782	18.79%	$28	$0	$419	$0	35.9%	$209	$0	$693	7.97%	$5	$0	$58
83	Jul-75	($58.262)	$0	$2,682	0.0%	$139	64.1%	($37)	$0	$2,294	18.79%	$36	$0	$455	$21	35.9%	($21)	$0	$922	7.97%	$6	$0	$64
84	Aug-75	$281.674	$0	$2,963	0.0%	$0	64.1%	$180	$0	$2,257	18.79%	$35	$0	$490	$0	35.9%	$101	$0	$902	7.97%	$6	$0	$70
85	Sep-75	$648.093	$0	$3,612	0.0%	$0	64.1%	$415	$0	$2,437	18.79%	$38	$0	$528	$0	35.9%	$233	$0	$1,003	7.97%	$7	$0	$76
86	Oct-75	$204.497	$0	$3,816	0.0%	$0	64.1%	$131	$0	$2,853	18.79%	$45	$0	$573	$0	35.9%	$73	$0	$1,236	7.97%	$8	$0	$85
87	Nov-75	$271.352	$0	$4,087	0.0%	$0	64.1%	$174	$0	$2,984	18.79%	$47	$0	$620	$0	35.9%	$97	$0	$1,309	7.97%	$9	$0	$93
88	Dec-75	$180.187	$0	$4,268	0.0%	$0	64.1%	$115	$0	$3,157	18.79%	$49	$0	$669	$0	35.9%	$65	$0	$1,406	7.97%	$9	$0	$103
89	Jan-76	$229.571	$0	$4,497	0.0%	$250	58.0%	$133	$0	$3,523	19.31%	$57	$0	$726	$45	42.0%	$96	$0	$1,516	8.33%	$11	$0	$113
90	Feb-76	$202.281	$0	$4,699	0.0%	$0	58.0%	$117	$0	$3,656	19.31%	$59	$0	$785	$0	42.0%	$85	$0	$1,613	8.33%	$11	$0	$124
91	Mar-76	$177.661	$0	$4,877	0.0%	$0	58.0%	$103	$0	$3,774	19.31%	$61	$0	$845	$0	42.0%	$75	$0	$1,698	8.33%	$12	$0	$136
92	Apr-76	$261.510	$0	$5,139	0.0%	$0	58.0%	$152	$0	$3,877	19.31%	$62	$0	$908	$0	42.0%	$110	$0	$1,772	8.33%	$12	$0	$148
93	May-76	$275.789	$0	$5,414	0.0%	$0	58.0%	$160	$0	$4,028	19.31%	$65	$0	$973	$0	42.0%	$116	$0	$1,882	8.33%	$13	$0	$162
94	Jun-76	$219.714	$0	$5,634	0.0%	$0	58.0%	$127	$0	$4,188	19.31%	$67	$0	$1,040	$0	42.0%	$92	$0	$1,998	8.33%	$14	$0	$175
95	Jul-76	$297.548	$0	$5,932	0.0%	$371	58.0%	$173	$0	$4,687	19.31%	$75	$0	$1,115	$73	42.0%	$125	$0	$2,163	8.33%	$15	$0	$190
96	Aug-76	$236.383	$0	$6,168	0.0%	$0	58.0%	$137	$0	$4,859	19.31%	$78	$0	$1,194	$0	42.0%	$99	$0	$2,288	8.33%	$16	$0	$206
97	Sep-76	$231.738	$0	$6,400	0.0%	$0	58.0%	$134	$0	$4,996	19.31%	$80	$0	$1,274	$0	42.0%	$97	$0	$2,387	8.33%	$17	$0	$223
98	Oct-76	$135.767	$0	$6,536	0.0%	$0	58.0%	$79	$0	$5,131	19.31%	$83	$0	$1,357	$0	42.0%	$57	$0	$2,484	8.33%	$17	$0	$240
99	Nov-76	$159.200	$0	$6,695	0.0%	$0	58.0%	$92	$0	$5,210	19.31%	$84	$0	$1,440	$0	42.0%	$67	$0	$2,541	8.33%	$18	$0	$258
100	Dec-76	$207.590	$0	$6,902	0.0%	$0	58.0%	$120	$0	$5,302	19.31%	$85	$0	$1,526	$0	42.0%	$87	$0	$2,608	8.33%	$18	$0	$276
101	Jan-77	$49.871	$0	$6,952	0.0%	$486	56.1%	$28	$0	$5,908	20.97%	$103	$0	$1,629	$100	43.9%	$22	$0	$2,796	8.28%	$19	$0	$295
102	Feb-77	$108.028	$0	$7,060	0.0%	$0	56.1%	$61	$0	$5,936	20.97%	$104	$0	$1,733	$0	43.9%	$47	$0	$2,818	8.28%	$19	$0	$315
103	Mar-77	$355.530	$0	$7,416	0.0%	$0	56.1%	$200	$0	$5,997	20.97%	$105	$0	$1,837	$0	43.9%	$156	$0	$2,865	8.28%	$20	$0	$334
104	Apr-77	$45.571	$0	$7,461	0.0%	$0	56.1%	$26	$0	$6,196	20.97%	$108	$0	$1,946	$0	43.9%	$20	$0	$3,021	8.28%	$21	$0	$355
105	May-77	$131.126	$0	$7,592	0.0%	$0	56.1%	$74	$0	$6,222	20.97%	$109	$0	$2,054	$0	43.9%	$58	$0	$3,041	8.28%	$21	$0	$376
106	Jun-77	$148.646	$7,741	$0	100.0%	$0	56.1%	$83	$6,379	$6,295	20.97%	$110	$2,165	$0	$0	43.9%	$65	$3,164	$3,099	8.28%	$21	$398	$0
107	Jul-77	$521.361	$0	$521	0.0%	$0	56.1%	$293	$0	$0	20.97%	$0	$0	$0	$0	43.9%	$229	$0	$0	8.28%	$0	$0	$0
108	Aug-77	$0.000	$334	$187	64.1%	$0	56.1%	$0	$188	$293	20.97%	$5	$0	$5	$0	43.9%	$0	$147	$229	8.28%	$2	$0	$2
109	Sep-77	$0.000	$55	$132	29.5%	$0	56.1%	$0	$31	$105	20.97%	$2	$2	$5	$0	43.9%	$0	$24	$82	8.28%	$1	$0	$2
110	Oct-77	$0.000	$1	$131	0.5%	$0	56.1%	$0	$0	$74	20.97%	$1	$0	$7	$0	43.9%	$0	$0	$58	8.28%	$0	$0	$2
111	Nov-77	$0.000	$1	$130	0.5%	$0	56.1%	$0	$0	$74	20.97%	$1	$0	$8	$0	43.9%	$0	$0	$58	8.28%	$0	$0	$2
112	Dec-77	$1.466	$3	$129	2.1%	$0	56.1%	$1	$2	$73	20.97%	$1	$0	$9	$0	43.9%	$1	$1	$57	8.28%	$0	$0	$3
113	Jan-78	$0.000	$2	$127	1.3%	$0	55.0%	$0	$1	$72	22.73%	$1	$0	$10	$0	45.0%	$0	$1	$57	8.44%	$0	$0	$3
114	Feb-78	$0.000	$73	$54	57.6%	$0	55.0%	$0	$41	$71	22.73%	$1	$6	$6	$0	45.0%	$0	$32	$56	8.44%	$0	$2	$2

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Illustrative DOC AFUDC
(millions $)

All Carrier Inputs, Except Depreciation

Ln. No.	Date	Construction Work in Progress			In-service Ratio	Compounding Additions Equity AFUDC	Equity %	Equity Additions	Equity Transfers	Equity Base	ROE	Incremental Equity AFUDC	Transfers Equity AFUDC	Equity AFUDC Balance	Compounding Additions Debt AFUDC	Debt %	Debt Additions	Debt Transfers	Debt Base	COD	Incremental Debt AFUDC	Transfers Debt AFUDC	Debt AFUDC Balance
		Property Additions	Transfers to Property	Property Balance																			
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
115	Mar-78	$0.000	$39	$15	72.7%	$0	55.0%	$0	$22	$30	22.73%	$1	$4	$2	$0	45.0%	$0	$17	$24	8.44%	$0	$1	$1
116	Apr-78	$78.797	$42	$52	44.6%	$0	55.0%	$43	$23	$8	22.73%	$0	$1	$1	$0	45.0%	$35	$19	$6	8.44%	$0	$0	$0
117	May-78	($15.413)	$0	$36	0.5%	$0	55.0%	($8)	$0	$29	22.73%	$1	$0	$2	$0	45.0%	($7)	$0	$23	8.44%	$0	$0	$1
118	Jun-78	($11.412)	$0	$24	1.7%	$0	55.0%	($6)	$0	$20	22.73%	$0	$0	$2	$0	45.0%	($5)	$0	$16	8.44%	$0	$0	$1
119	Jul-78	$0.184	$0	$24	1.3%	$0	55.0%	$0	$0	$14	22.73%	$0	$0	$2	$0	45.0%	$0	$0	$11	8.44%	$0	$0	$1
120	Aug-78	$14.907	$1	$38	2.6%	$0	55.0%	$8	$1	$13	22.73%	$0	$0	$3	$0	45.0%	$7	$0	$11	8.44%	$0	$0	$1
121	Sep-78	$64.862	$3	$100	2.9%	$0	55.0%	$36	$2	$21	22.73%	$0	$0	$3	$0	45.0%	$29	$1	$17	8.44%	$0	$0	$1
122	Oct-78	($86.230)	$1	$13	5.4%	$0	55.0%	($47)	$0	$55	22.73%	$1	$0	$4	$0	45.0%	($39)	$0	$45	8.44%	$0	$0	$1
123	Nov-78	$8.134	$1	$20	3.6%	$0	55.0%	$4	$0	$7	22.73%	$0	$0	$4	$0	45.0%	$4	$0	$6	8.44%	$0	$0	$1
124	Dec-78	$73.421	$10	$84	10.1%	$0	55.0%	$40	$5	$11	22.73%	$0	$0	$4	$0	45.0%	$33	$4	$9	8.44%	$0	$0	$1
125	Jan-79	($7.144)	$1	$77	0.7%	$0	62.6%	($4)	$0	$46	22.40%	$1	$0	$5	$0	37.4%	($3)	$0	$38	8.50%	$0	$0	$1
126	Feb-79	$1.699	$0	$78	0.0%	$0	62.6%	$1	$0	$42	22.40%	$1	$0	$5	$0	37.4%	$1	$0	$35	8.50%	$0	$0	$2
127	Mar-79	$0.725	$0	$79	0.2%	$0	62.6%	$0	$0	$43	22.40%	$1	$0	$6	$0	37.4%	$0	$0	$36	8.50%	$0	$0	$2
128	Apr-79	$3.515	$0	$82	0.3%	$0	62.6%	$2	$0	$43	22.40%	$1	$0	$7	$0	37.4%	$1	$0	$36	8.50%	$0	$0	$2
129	May-79	$3.451	$0	$85	0.5%	$0	62.6%	$2	$0	$45	22.40%	$1	$0	$8	$0	37.4%	$1	$0	$37	8.50%	$0	$0	$2
130	Jun-79	$9.331	$0	$94	0.1%	$0	62.6%	$6	$0	$47	22.40%	$1	$0	$9	$0	37.4%	$3	$0	$38	8.50%	$0	$0	$3
131	Jul-79	$5.606	$1	$99	0.8%	$0	62.6%	$4	$0	$53	22.40%	$1	$0	$9	$0	37.4%	$2	$0	$42	8.50%	$0	$0	$3
132	Aug-79	$8.536	$0	$108	0.1%	$0	62.6%	$5	$0	$56	22.40%	$1	$0	$10	$0	37.4%	$3	$0	$43	8.50%	$0	$0	$3
133	Sep-79	$10.836	$1	$117	1.1%	$0	62.6%	$7	$1	$61	22.40%	$1	$0	$12	$0	37.4%	$4	$1	$46	8.50%	$0	$0	$3
134	Oct-79	$25.480	$54	$89	37.9%	$0	62.6%	$16	$31	$67	22.40%	$1	$4	$8	$0	37.4%	$10	$22	$50	8.50%	$0	$1	$3
135	Nov-79	$7.506	$0	$96	0.0%	$0	62.6%	$5	$0	$52	22.40%	$1	$0	$9	$0	37.4%	$3	$0	$37	8.50%	$0	$0	$3
136	Dec-79	$12.338	$17	$91	16.0%	$0	62.6%	$8	$10	$56	22.40%	$1	$1	$9	$0	37.4%	$5	$7	$40	8.50%	$0	$0	$3
137	Jan-80	$24.800	$2	$113	2.1%	$0	67.9%	$17	$2	$54	23.92%	$1	$0	$10	$0	32.2%	$8	$1	$37	8.93%	$0	$0	$3
138	Feb-80	$7.678	$1	$120	0.5%	$0	67.9%	$5	$0	$69	23.92%	$1	$0	$11	$0	32.2%	$2	$0	$44	8.93%	$0	$0	$3
139	Mar-80	$7.840	$0	$128	0.2%	$0	67.9%	$5	$0	$74	23.92%	$1	$0	$13	$0	32.2%	$3	$0	$46	8.93%	$0	$0	$3
140	Apr-80	$13.319	$1	$141	0.5%	$0	67.9%	$9	$0	$79	23.92%	$2	$0	$14	$0	32.2%	$4	$0	$49	8.93%	$0	$0	$4
141	May-80	$9.317	$0	$150	0.3%	$0	67.9%	$6	$0	$88	23.92%	$2	$0	$16	$0	32.2%	$3	$0	$53	8.93%	$0	$0	$4
142	Jun-80	$11.464	$1	$160	0.4%	$0	67.9%	$8	$0	$94	23.92%	$2	$0	$18	$0	32.2%	$4	$0	$56	8.93%	$0	$0	$5
143	Jul-80	$14.285	$1	$174	0.3%	$0	67.9%	$10	$0	$101	23.92%	$2	$0	$20	$0	32.2%	$5	$0	$59	8.93%	$0	$0	$5
144	Aug-80	$12.716	$1	$185	0.7%	$0	67.9%	$9	$1	$110	23.92%	$2	$0	$22	$0	32.2%	$4	$0	$64	8.93%	$0	$0	$5
145	Sep-80	$12.692	$30	$168	15.2%	$0	67.9%	$9	$19	$118	23.92%	$2	$3	$21	$0	32.2%	$4	$11	$67	8.93%	$0	$1	$5
146	Oct-80	$14.194	($0)	$182	-0.1%	$0	67.9%	$10	($0)	$108	23.92%	$2	($0)	$23	$0	32.2%	$5	($0)	$60	8.93%	$0	($0)	$6
147	Nov-80	$7.321	$1	$189	0.5%	$0	67.9%	$5	$1	$117	23.92%	$2	$0	$25	$0	32.2%	$2	$0	$65	8.93%	$0	$0	$6
148	Dec-80	($1.313)	$71	$117	37.9%	$0	67.9%	($1)	$46	$122	23.92%	$2	$10	$18	$0	32.2%	($0)	$25	$67	8.93%	$0	$2	$4
149	Jan-81	($8.296)	$20	$88	18.5%	$0	69.3%	($6)	$13	$75	26.46%	$2	$3	$16	$0	30.7%	($3)	$7	$41	9.31%	$0	$1	$4
150	Feb-81	$1.749	$1	$89	1.0%	$0	69.3%	$1	$1	$57	26.46%	$1	$0	$17	$0	30.7%	$1	$0	$32	9.31%	$0	$0	$4
151	Mar-81	$4.919	$2	$92	2.3%	$0	69.3%	$3	$1	$57	26.46%	$1	$0	$18	$0	30.7%	$2	$1	$32	9.31%	$0	$0	$4
152	Apr-81	($10.878)	$0	$81	0.2%	$0	69.3%	($8)	$0	$59	26.46%	$1	$0	$20	$0	30.7%	($3)	$0	$33	9.31%	$0	$0	$4
153	May-81	$3.726	$1	$84	1.2%	$0	69.3%	$3	$1	$52	26.46%	$1	$0	$20	$0	30.7%	$1	$0	$29	9.31%	$0	$0	$5
154	Jun-81	$7.222	$2	$88	2.7%	$0	69.3%	$5	$2	$54	26.46%	$1	$1	$21	$0	30.7%	$2	$1	$30	9.31%	$0	$0	$5
155	Jul-81	$21.536	$2	$108	1.9%	$0	69.3%	$15	$1	$57	26.46%	$1	$0	$22	$0	30.7%	$7	$1	$31	9.31%	$0	$0	$5
156	Aug-81	$9.854	$2	$116	1.5%	$0	69.3%	$7	$1	$71	26.46%	$2	$0	$23	$0	30.7%	$3	$1	$37	9.31%	$0	$0	$5
157	Sep-81	$13.808	$1	$128	1.1%	$0	69.3%	$10	$1	$76	26.46%	$2	$0	$25	$0	30.7%	$4	$0	$40	9.31%	$0	$0	$5
158	Oct-81	$9.272	$3	$135	2.2%	$0	69.3%	$6	$2	$85	26.46%	$2	$1	$26	$0	30.7%	$3	$1	$43	9.31%	$0	$0	$6
159	Nov-81	$1.654	$0	$136	0.3%	$0	69.3%	$1	$0	$89	26.46%	$2	$0	$28	$0	30.7%	$1	$0	$45	9.31%	$0	$0	$6
160	Dec-81	($18.815)	$45	$72	38.1%	$0	69.3%	($13)	$29	$90	26.46%	$2	$11	$19	$0	30.7%	($6)	$15	$46	9.31%	$0	$2	$4
161	Jan-82	($39.518)	$6	$27	16.9%	$0	69.8%	($28)	$3	$48	25.25%	$1	$3	$17	$0	30.2%	($12)	$2	$25	9.54%	$0	$1	$4
162	Feb-82	$3.121	$1	$29	3.6%	$0	69.8%	$2	$1	$17	25.25%	$0	$1	$17	$0	30.2%	$1	$0	$11	9.54%	$0	$0	$3
163	Mar-82	$1.723	$1	$30	3.4%	$0	69.8%	$1	$1	$18	25.25%	$0	$1	$17	$0	30.2%	$1	$0	$11	9.54%	$0	$0	$3
164	Apr-82	$3.745	$2	$31	6.8%	$0	69.8%	$3	$1	$19	25.25%	$0	$1	$16	$0	30.2%	$1	$1	$11	9.54%	$0	$0	$3
165	May-82	$5.213	$1	$36	2.7%	$0	69.8%	$4	$1	$20	25.25%	$0	$0	$16	$0	30.2%	$2	$0	$12	9.54%	$0	$0	$3
166	Jun-82	$10.069	$1	$45	1.8%	$0	69.8%	$7	$1	$23	25.25%	$0	$0	$16	$0	30.2%	$3	$0	$13	9.54%	$0	$0	$3
167	Jul-82	$5.197	$1	$49	1.6%	$0	69.8%	$4	$1	$29	25.25%	$1	$0	$16	$0	30.2%	$2	$0	$16	9.54%	$0	$0	$3
168	Aug-82	$12.156	$18	$44	28.9%	$0	69.8%	$8	$12	$33	25.25%	$1	$5	$12	$0	30.2%	$4	$6	$17	9.54%	$0	$1	$3
169	Sep-82	$9.022	$10	$43	19.3%	$0	69.8%	$6	$7	$29	25.25%	$1	$2	$11	$0	30.2%	$3	$3	$15	9.54%	$0	$0	$2
170	Oct-82	$6.323	$9	$39	19.4%	$0	69.8%	$4	$6	$29	25.25%	$1	$2	$9	$0	30.2%	$2	$3	$14	9.54%	$0	$0	$2
171	Nov-82	$0.543	$4	$36	10.4%	$0	69.8%	$0	$3	$27	25.25%	$1	$1	$9	$0	30.2%	$0	$1	$13	9.54%	$0	$0	$2

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All Carrier Inputs, Except Depreciation

Ln. No.	Date	Construction Work in Progress			In-service Ratio	Compounding Additions Equity AFUDC	Equity %	Equity Additions	Equity Transfers	Equity Base	ROE	Incremental Equity AFUDC	Transfers Equity AFUDC	Equity AFUDC Balance	Compounding Additions Debt AFUDC	Debt %	Debt Additions	Debt Transfers	Debt Base	COD	Incremental Debt AFUDC	Transfers Debt AFUDC	Debt AFUDC Balance
		Property Additions	Transfers to Property	Property Balance																			
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
172	Dec-82	$0.440	$3	$33	7.9%	$0	69.8%	$0	$2	$24	25.25%	$1	$1	$9	$0	30.2%	$0	$1	$12	9.54%	$0	$0	$2
173	Jan-83	$1.446	$1	$34	1.9%	$0	72.0%	$1	$0	$23	22.83%	$0	$0	$9	$0	28.0%	$0	$0	$11	9.52%	$0	$0	$2
174	Feb-83	$2.967	$0	$37	0.6%	$0	72.0%	$2	$0	$23	22.83%	$0	$0	$9	$0	28.0%	$1	$0	$11	9.52%	$0	$0	$2
175	Mar-83	$12.156	$13	$36	26.9%	$0	72.0%	$9	$9	$25	22.83%	$0	$2	$7	$0	28.0%	$3	$4	$12	9.52%	$0	$0	$1
176	Apr-83	$11.964	$9	$39	18.5%	$0	72.0%	$9	$6	$25	22.83%	$0	$1	$6	$0	28.0%	$3	$3	$11	9.52%	$0	$0	$1
177	May-83	$5.997	$1	$44	2.1%	$0	72.0%	$4	$1	$27	22.83%	$1	$0	$7	$0	28.0%	$2	$0	$12	9.52%	$0	$0	$1
178	Jun-83	$6.524	$0	$50	0.9%	$0	72.0%	$5	$0	$31	22.83%	$1	$0	$7	$0	28.0%	$2	$0	$13	9.52%	$0	$0	$1
179	Jul-83	$3.630	$0	$53	0.4%	$0	72.0%	$3	$0	$35	22.83%	$1	$0	$8	$0	28.0%	$1	$0	$15	9.52%	$0	$0	$2
180	Aug-83	($1.387)	$1	$51	1.7%	$0	72.0%	($1)	$1	$38	22.83%	$1	$0	$8	$0	28.0%	($0)	$0	$16	9.52%	$0	$0	$2
181	Sep-83	$5.401	$42	$14	74.5%	$0	72.0%	$4	$30	$36	22.83%	$1	$6	$3	$0	28.0%	$2	$12	$15	9.52%	$0	$1	$1
182	Oct-83	$3.740	$2	$16	11.4%	$0	72.0%	$3	$1	$10	22.83%	$0	$0	$3	$0	28.0%	$1	$1	$4	9.52%	$0	$0	$1
183	Nov-83	$3.091	$4	$15	20.5%	$0	72.0%	$2	$3	$11	22.83%	$0	$1	$2	$0	28.0%	$1	$1	$5	9.52%	$0	$0	$0
184	Dec-83	$5.933	$3	$18	14.7%	$0	72.0%	$4	$2	$11	22.83%	$0	$0	$2	$0	28.0%	$2	$1	$4	9.52%	$0	$0	$0
185	Jan-84	$2.443	$1	$20	3.9%	$0	71.8%	$2	$1	$13	24.54%	$0	$0	$2	$0	28.2%	$1	$0	$5	9.49%	$0	$0	$0
186	Feb-84	$2.919	$0	$22	2.1%	$0	71.8%	$2	$0	$14	24.54%	$0	$0	$3	$0	28.2%	$1	$0	$6	9.49%	$0	$0	$0
187	Mar-84	$5.833	$5	$23	19.6%	$0	71.8%	$4	$4	$16	24.54%	$0	$1	$2	$0	28.2%	$2	$2	$6	9.49%	$0	$0	$0
188	Apr-84	$3.978	$2	$24	8.9%	$0	71.8%	$3	$2	$16	24.54%	$0	$0	$3	$0	28.2%	$1	$1	$6	9.49%	$0	$0	$0
189	May-84	$4.588	$3	$26	11.2%	$0	71.8%	$3	$2	$17	24.54%	$0	$0	$3	$0	28.2%	$1	$1	$7	9.49%	$0	$0	$0
190	Jun-84	$2.182	$1	$27	4.0%	$0	71.8%	$2	$1	$18	24.54%	$0	$0	$3	$0	28.2%	$1	$0	$7	9.49%	$0	$0	$0
191	Jul-84	$2.806	$1	$28	3.9%	$0	71.8%	$2	$1	$19	24.54%	$0	$0	$3	$0	28.2%	$1	$0	$8	9.49%	$0	$0	$1
192	Aug-84	$1.364	$0	$29	0.9%	$0	71.8%	$1	$0	$20	24.54%	$0	$0	$4	$0	28.2%	$0	$0	$8	9.49%	$0	$0	$1
193	Sep-84	$1.420	$0	$30	1.5%	$0	71.8%	$1	$0	$21	24.54%	$0	$0	$4	$0	28.2%	$0	$0	$8	9.49%	$0	$0	$1
194	Oct-84	$1.504	$6	$26	17.8%	$0	71.8%	$1	$4	$22	24.54%	$0	$1	$4	$0	28.2%	$0	$2	$9	9.49%	$0	$0	$1
195	Nov-84	$2.224	$2	$26	6.7%	$0	71.8%	$2	$1	$19	24.54%	$0	$0	$4	$0	28.2%	$1	$1	$7	9.49%	$0	$0	$1
196	Dec-84	$15.530	$42	$0	100.0%	$0	71.8%	$11	$30	$19	24.54%	$0	$4	$0	$0	28.2%	$4	$12	$8	9.49%	$0	$1	$0
197	Jan-85	$8.145	$0	$8	1.7%	$0	65.9%	$5	$0	($0)	21.72%	($0)	$0	($0)	$0	34.1%	$3	$0	$0	9.06%	$0	$0	$0
198	Feb-85	$4.541	$0	$13	0.4%	$0	65.9%	$3	$0	$5	21.72%	$0	($0)	$0	$0	34.1%	$2	$0	$3	9.06%	$0	$0	$0
199	Mar-85	$5.035	$0	$17	1.2%	$0	65.9%	$3	$0	$8	21.72%	$0	$0	$0	$0	34.1%	$2	$0	$4	9.06%	$0	$0	$0
200	Apr-85	$5.114	$1	$21	5.8%	$0	65.9%	$3	$1	$11	21.72%	$0	$0	$0	$0	34.1%	$2	$0	$6	9.06%	$0	$0	$0
201	May-85	$3.059	$1	$24	2.7%	$0	65.9%	$2	$0	$14	21.72%	$0	$0	$1	$0	34.1%	$1	$0	$7	9.06%	$0	$0	$0
202	Jun-85	$1.075	$25	$0	100.0%	$0	65.9%	$1	$16	$16	21.72%	$0	$1	$0	$0	34.1%	$0	$8	$8	9.06%	$0	$0	$0
203	Jul-85	$3.104	$3	$0	87.7%	$0	65.9%	$2	$2	($0)	21.72%	($0)	$0	($0)	$0	34.1%	$1	$1	$0	9.06%	$0	$0	$0
204	Aug-85	$1.274	$1	$1	43.8%	$0	65.9%	$1	$0	$0	21.72%	$0	($0)	$0	$0	34.1%	$0	$0	$0	9.06%	$0	$0	$0
205	Sep-85	$1.171	$0	$2	12.6%	$0	65.9%	$1	$0	$1	21.72%	$0	$0	$0	$0	34.1%	$0	$0	$0	9.06%	$0	$0	$0
206	Oct-85	$1.278	$1	$2	37.5%	$0	65.9%	$1	$1	$1	21.72%	$0	$0	$0	$0	34.1%	$0	$0	$1	9.06%	$0	$0	$0
207	Nov-85	$0.414	$0	$2	17.2%	$0	65.9%	$0	$0	$1	21.72%	$0	$0	$0	$0	34.1%	$0	$0	$1	9.06%	$0	$0	$0
208	Dec-85	($1.097)	$0	$1	0.0%	$0	65.9%	($1)	$0	$1	21.72%	$0	$0	$0	$0	34.1%	($0)	$0	$1	9.06%	$0	$0	$0
209	Jan-86	$1.426	$1	$2	24.9%	$0	65.7%	$1	$0	$1	22.05%	$0	$0	$0	$0	34.3%	$0	$0	$0	8.50%	$0	$0	$0
210	Feb-86	$0.855	$0	$2	16.9%	$0	65.7%	$1	$0	$1	22.05%	$0	$0	$0	$0	34.3%	$0	$0	$1	8.50%	$0	$0	$0
211	Mar-86	$0.403	$0	$2	1.7%	$0	65.7%	$0	$0	$1	22.05%	$0	$0	$0	$0	34.3%	$0	$0	$1	8.50%	$0	$0	$0
212	Apr-86	$0.785	$0	$3	5.4%	$0	65.7%	$1	$0	$2	22.05%	$0	$0	$0	$0	34.3%	$0	$0	$1	8.50%	$0	$0	$0
213	May-86	$1.529	$2	$3	36.4%	$0	65.7%	$1	$1	$2	22.05%	$0	$0	$0	$0	34.3%	$1	$1	$1	8.50%	$0	$0	$0
214	Jun-86	$3.016	$1	$5	13.7%	$0	65.7%	$2	$1	$2	22.05%	$0	$0	$0	$0	34.3%	$1	$0	$1	8.50%	$0	$0	$0
215	Jul-86	$2.768	$1	$7	7.1%	$0	65.7%	$2	$0	$3	22.05%	$0	$0	$0	$0	34.3%	$1	$0	$2	8.50%	$0	$0	$0
216	Aug-86	$4.096	$0	$11	1.8%	$0	65.7%	$3	$0	$5	22.05%	$0	$0	$0	$0	34.3%	$1	$0	$3	8.50%	$0	$0	$0
217	Sep-86	$2.030	$0	$13	0.9%	$0	65.7%	$1	$0	$7	22.05%	$0	$0	$0	$0	34.3%	$1	$0	$4	8.50%	$0	$0	$0
218	Oct-86	$16.698	$26	$4	88.0%	$0	65.7%	$11	$17	$9	22.05%	$0	$0	$0	$0	34.3%	$6	$9	$5	8.50%	$0	$0	$0
219	Nov-86	$0.835	$0	$4	9.5%	$0	65.7%	$1	$0	$2	22.05%	$0	$0	$0	$0	34.3%	$0	$0	$1	8.50%	$0	$0	$0
220	Dec-86	$2.066	$4	$2	62.9%	$0	65.7%	$1	$3	$3	22.05%	$0	$0	$0	$0	34.3%	$1	$1	$1	8.50%	$0	$0	$0
221	Jan-87	$0.941	$2	$2	48.3%	$0	68.8%	$1	$1	$1	20.06%	$0	$0	$0	$0	31.2%	$0	$1	$1	8.96%	$0	$0	$0
222	Feb-87	$0.252	$0	$2	2.7%	$0	68.8%	$0	$0	$1	20.06%	$0	$0	$0	$0	31.2%	$0	$0	$1	8.96%	$0	$0	$0
223	Mar-87	$1.163	$1	$2	31.8%	$0	68.8%	$1	$1	$1	20.06%	$0	$0	$0	$0	31.2%	$0	$0	$1	8.96%	$0	$0	$0
224	Apr-87	$1.739	$0	$3	11.7%	$0	68.8%	$1	$0	$1	20.06%	$0	$0	$0	$0	31.2%	$1	$0	$1	8.96%	$0	$0	$0
225	May-87	$4.131	$1	$7	9.0%	$0	68.8%	$3	$0	$2	20.06%	$0	$0	$0	$0	31.2%	$1	$0	$1	8.96%	$0	$0	$0
226	Jun-87	$6.657	$1	$12	10.2%	$0	68.8%	$5	$1	$5	20.06%	$0	$0	$0	$0	31.2%	$2	$0	$2	8.96%	$0	$0	$0
227	Jul-87	$7.798	$7	$13	33.0%	$0	68.8%	$5	$5	$8	20.06%	$0	$0	$0	$0	31.2%	$2	$2	$4	8.96%	$0	$0	$0
228	Aug-87	$3.655	$1	$16	5.4%	$0	68.8%	$3	$1	$9	20.06%	$0	$0	$0	$0	31.2%	$1	$0	$4	8.96%	$0	$0	$0

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All Carrier Inputs, Except Depreciation

Ln. No.	Date	Construction Work in Progress			In-service Ratio	Compounding Additions Equity AFUDC	Equity %	Equity Additions	Equity Transfers	Equity Base	ROE	Incremental Equity AFUDC	Transfers Equity AFUDC	Equity AFUDC Balance	Compounding Additions Debt AFUDC	Debt %	Debt Additions	Debt Transfers	Debt Base	COD	Incremental Debt AFUDC	Transfers Debt AFUDC	Debt AFUDC Balance
		Property Additions	Transfers o Propert	Property Balance																			
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
229	Sep-87	$7.007	$16	$7	71.1%	$0	68.8%	$5	$11	$11	20.06%	$0	$0	$0	$0	31.2%	$2	$5	$5	8.96%	$0	$0	$0
230	Oct-87	$1.272	$1	$7	7.3%	$0	68.8%	$1	$0	$5	20.06%	$0	$0	$0	$0	31.2%	$0	$0	$2	8.96%	$0	$0	$0
231	Nov-87	$2.743	$1	$9	11.4%	$0	68.8%	$2	$1	$5	20.06%	$0	$0	$0	$0	31.2%	$1	$0	$2	8.96%	$0	$0	$0
232	Dec-87	$6.586	$14	$1	90.7%	$0	68.8%	$5	$10	$6	20.06%	$0	$0	$0	$0	31.2%	$2	$4	$3	8.96%	$0	$0	$0
233	Jan-88	$0.316	$0	$2	5.6%	$0	67.8%	$0	$0	$1	20.68%	$0	$0	$0	$0	32.2%	$0	$0	$0	8.94%	$0	$0	$0
234	Feb-88	$1.650	$1	$2	42.1%	$0	67.8%	$1	$1	$1	20.68%	$0	$0	$0	$0	32.2%	$1	$0	$1	8.94%	$0	$0	$0
235	Mar-88	$1.437	$1	$2	43.5%	$0	67.8%	$1	$1	$1	20.68%	$0	$0	$0	$0	32.2%	$0	$0	$1	8.94%	$0	$0	$0
236	Apr-88	$0.910	$0	$2	16.2%	$0	67.8%	$1	$0	$1	20.68%	$0	$0	$0	$0	32.2%	$0	$0	$1	8.94%	$0	$0	$0
237	May-88	$1.372	$1	$3	24.9%	$0	67.8%	$1	$1	$2	20.68%	$0	$0	$0	$0	32.2%	$0	$0	$1	8.94%	$0	$0	$0
238	Jun-88	$0.439	$0	$3	13.7%	$0	67.8%	$0	$0	$2	20.68%	$0	$0	$0	$0	32.2%	$0	$0	$1	8.94%	$0	$0	$0
239	Jul-88	$1.693	$0	$4	5.7%	$0	67.8%	$1	$0	$2	20.68%	$0	$0	$0	$0	32.2%	$1	$0	$1	8.94%	$0	$0	$0
240	Aug-88	$1.841	$0	$6	7.2%	$0	67.8%	$1	$0	$3	20.68%	$0	$0	$0	$0	32.2%	$1	$0	$1	8.94%	$0	$0	$0
241	Sep-88	$3.728	$2	$7	22.3%	$0	67.8%	$3	$1	$4	20.68%	$0	$0	$0	$0	32.2%	$1	$1	$2	8.94%	$0	$0	$0
242	Oct-88	$2.898	$1	$10	5.5%	$0	67.8%	$2	$0	$5	20.68%	$0	$0	$0	$0	32.2%	$1	$0	$2	8.94%	$0	$0	$0
243	Nov-88	$1.784	$3	$8	28.0%	$0	67.8%	$1	$2	$7	20.68%	$0	$0	$0	$0	32.2%	$1	$1	$3	8.94%	$0	$0	$0
244	Dec-88	$1.292	$1	$9	9.9%	$0	67.8%	$1	$1	$6	20.68%	$0	$0	$0	$0	32.2%	$0	$0	$3	8.94%	$0	$0	$0
245	Jan-89	$1.191	$1	$9	6.5%	$0	63.7%	$1	$0	$6	21.13%	$0	$0	$0	$0	36.3%	$0	$0	$3	8.39%	$0	$0	$0
246	Feb-89	$0.705	$1	$9	7.6%	$0	63.7%	$0	$1	$6	21.13%	$0	$0	$1	$0	36.3%	$0	$0	$3	8.39%	$0	$0	$0
247	Mar-89	$1.805	$1	$10	6.1%	$0	63.7%	$1	$0	$6	21.13%	$0	$0	$1	$0	36.3%	$1	$0	$3	8.39%	$0	$0	$0
248	Apr-89	$3.021	$2	$11	16.5%	$0	63.7%	$2	$1	$7	21.13%	$0	$0	$1	$0	36.3%	$1	$1	$3	8.39%	$0	$0	$0
249	May-89	$6.348	$8	$9	47.0%	$0	63.7%	$4	$5	$7	21.13%	$0	$0	$0	$0	36.3%	$2	$3	$4	8.39%	$0	$0	$0
250	Jun-89	$4.545	$3	$11	18.5%	$0	63.7%	$3	$2	$6	21.13%	$0	$0	$0	$0	36.3%	$2	$1	$3	8.39%	$0	$0	$0
251	Jul-89	$3.932	$2	$14	10.9%	$0	63.7%	$3	$1	$7	21.13%	$0	$0	$1	$0	36.3%	$1	$1	$4	8.39%	$0	$0	$0
252	Aug-89	$6.670	$5	$15	26.8%	$0	63.7%	$4	$3	$9	21.13%	$0	$0	$1	$0	36.3%	$2	$2	$5	8.39%	$0	$0	$0
253	Sep-89	$7.190	$1	$21	5.3%	$0	63.7%	$5	$1	$9	21.13%	$0	$0	$1	$0	36.3%	$3	$0	$5	8.39%	$0	$0	$0
254	Oct-89	$8.172	$5	$24	16.4%	$0	63.7%	$5	$3	$13	21.13%	$0	$0	$1	$0	36.3%	$3	$2	$7	8.39%	$0	$0	$0
255	Nov-89	$4.093	$1	$27	3.0%	$0	63.7%	$3	$1	$15	21.13%	$0	$0	$1	$0	36.3%	$1	$0	$9	8.39%	$0	$0	$0
256	Dec-89	$6.945	$15	$20	43.1%	$0	63.7%	$4	$9	$18	21.13%	$0	$0	$1	$0	36.3%	$3	$5	$10	8.39%	$0	$0	$0
257	Jan-90	$4.851	$3	$21	13.8%	$0	66.3%	$3	$2	$12	20.84%	$0	$0	$1	$0	33.7%	$2	$1	$7	8.26%	$0	$0	$0
258	Feb-90	$5.225	$2	$25	5.9%	$0	66.3%	$3	$1	$14	20.84%	$0	$0	$1	$0	33.7%	$2	$1	$8	8.26%	$0	$0	$0
259	Mar-90	$5.339	$1	$29	3.8%	$0	66.3%	$4	$1	$16	20.84%	$0	$0	$1	$0	33.7%	$2	$0	$9	8.26%	$0	$0	$0
260	Apr-90	$6.405	$1	$34	3.2%	$0	66.3%	$4	$1	$19	20.84%	$0	$0	$2	$0	33.7%	$2	$0	$10	8.26%	$0	$0	$0
261	May-90	$9.574	$4	$40	8.4%	$0	66.3%	$6	$2	$22	20.84%	$0	$0	$2	$0	33.7%	$3	$1	$12	8.26%	$0	$0	$0
262	Jun-90	$14.758	$5	$50	8.6%	$0	66.3%	$10	$3	$26	20.84%	$0	$0	$2	$0	33.7%	$5	$2	$14	8.26%	$0	$0	$0
263	Jul-90	$9.246	$7	$53	11.1%	$0	66.3%	$6	$4	$33	20.84%	$1	$0	$3	$0	33.7%	$3	$2	$17	8.26%	$0	$0	$1
264	Aug-90	$13.457	$4	$62	5.8%	$0	66.3%	$9	$3	$35	20.84%	$1	$0	$3	$0	33.7%	$5	$1	$18	8.26%	$0	$0	$1
265	Sep-90	$26.482	$18	$71	19.8%	$0	66.3%	$18	$12	$41	20.84%	$1	$1	$3	$0	33.7%	$9	$6	$21	8.26%	$0	$0	$1
266	Oct-90	$24.058	$3	$92	3.4%	$0	66.3%	$16	$2	$47	20.84%	$1	$0	$4	$0	33.7%	$8	$1	$24	8.26%	$0	$0	$1
267	Nov-90	$20.327	$20	$92	17.8%	$0	66.3%	$13	$13	$61	20.84%	$1	$1	$4	$0	33.7%	$7	$7	$31	8.26%	$0	$0	$1
268	Dec-90	$26.576	$25	$94	21.2%	$0	66.3%	$18	$17	$61	20.84%	$1	$1	$4	$0	33.7%	$9	$9	$31	8.26%	$0	$0	$1
269	Jan-91	$6.718	$9	$92	8.6%	$0	62.8%	$4	$6	$62	20.52%	$1	$0	$5	$0	37.2%	$2	$3	$32	8.35%	$0	$0	$1
270	Feb-91	$14.897	$3	$104	2.9%	$0	62.8%	$9	$2	$61	20.52%	$1	$0	$6	$0	37.2%	$6	$1	$31	8.35%	$0	$0	$1
271	Mar-91	$23.354	$42	$85	33.3%	$0	62.8%	$15	$27	$68	20.52%	$1	$2	$5	$0	37.2%	$9	$15	$36	8.35%	$0	$0	$1
272	Apr-91	$14.557	$2	$98	1.7%	$0	62.8%	$9	$1	$55	20.52%	$1	$0	$6	$0	37.2%	$5	$1	$30	8.35%	$0	$0	$1
273	May-91	$13.831	$3	$108	2.8%	$0	62.8%	$9	$2	$63	20.52%	$1	$0	$7	$0	37.2%	$5	$1	$34	8.35%	$0	$0	$1
274	Jun-91	$13.658	$2	$120	1.6%	$0	62.8%	$9	$1	$70	20.52%	$1	$0	$8	$0	37.2%	$5	$1	$39	8.35%	$0	$0	$2
275	Jul-91	$15.370	$11	$124	8.3%	$0	62.8%	$10	$7	$77	20.52%	$1	$1	$9	$0	37.2%	$6	$4	$43	8.35%	$0	$0	$2
276	Aug-91	($1.860)	$10	$112	8.3%	$0	62.8%	($1)	$6	$80	20.52%	$1	$1	$9	$0	37.2%	($1)	$4	$45	8.35%	$0	$0	$2
277	Sep-91	($67.475)	$3	$42	6.0%	$0	62.8%	($42)	$2	$72	20.52%	$1	$1	$10	$0	37.2%	($25)	$1	$40	8.35%	$0	$0	$2
278	Oct-91	$8.532	$5	$45	10.7%	$0	62.8%	$5	$4	$28	20.52%	$0	$1	$9	$0	37.2%	$3	$2	$14	8.35%	$0	$0	$2
279	Nov-91	$12.701	$2	$55	4.3%	$0	62.8%	$8	$2	$30	20.52%	$1	$0	$9	$0	37.2%	$5	$1	$16	8.35%	$0	$0	$2
280	Dec-91	$0.728	$25	$32	43.7%	$0	62.8%	$0	$16	$36	20.52%	$1	$4	$6	$0	37.2%	$0	$9	$19	8.35%	$0	$0	$1
281	Jan-92	$4.970	$8	$28	23.1%	$0	59.5%	$3	$5	$21	20.37%	$0	$1	$5	$0	40.5%	$2	$3	$11	8.10%	$0	$0	$1
282	Feb-92	$5.584	$5	$29	14.0%	$0	59.5%	$3	$3	$18	20.37%	$0	$1	$5	$0	40.5%	$2	$2	$10	8.10%	$0	$0	$1
283	Mar-92	$3.136	$7	$25	21.0%	$0	59.5%	$2	$4	$18	20.37%	$0	$1	$4	$0	40.5%	$1	$2	$11	8.10%	$0	$0	$1
284	Apr-92	$7.719	$5	$28	13.9%	$0	59.5%	$5	$3	$16	20.37%	$0	$1	$4	$0	40.5%	$3	$2	$9	8.10%	$0	$0	$1
285	May-92	$4.323	$2	$31	6.2%	$0	59.5%	$3	$1	$18	20.37%	$0	$0	$4	$0	40.5%	$2	$1	$11	8.10%	$0	$0	$1

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Illustrative DOC AFUDC
(millions $)

All Carrier Inputs, Except Depreciation

Ln. No.	Date	Construction Work in Progress			In-service Ratio	Compounding Additions Equity AFUDC	Equity %	Equity Additions	Equity Transfers	Equity Base	ROE	Incremental Equity AFUDC	Transfers Equity AFUDC	Equity AFUDC Balance	Compounding Additions Debt AFUDC	Debt %	Debt Additions	Debt Transfers	Debt Base	COD	Incremental Debt AFUDC	Transfers Debt AFUDC	Debt AFUDC Balance
		Property Additions	Transfers to Property	Property Balance																			
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
286	Jun-92	$6.763	$1	$36	3.6%	$0	59.5%	$4	$1	$19	20.37%	$0	$0	$4	$0	40.5%	$3	$1	$12	8.10%	$0	$0	$1
287	Jul-92	$5.601	$6	$35	15.1%	$0	59.5%	$3	$4	$22	20.37%	$0	$1	$4	$0	40.5%	$2	$2	$14	8.10%	$0	$0	$1
288	Aug-92	$3.490	$3	$36	8.6%	$0	59.5%	$2	$2	$22	20.37%	$0	$0	$4	$0	40.5%	$1	$1	$14	8.10%	$0	$0	$1
289	Sep-92	$12.752	$5	$44	9.6%	$0	59.5%	$8	$3	$22	20.37%	$0	$0	$4	$0	40.5%	$5	$2	$14	8.10%	$0	$0	$1
290	Oct-92	$6.620	$7	$43	14.6%	$0	59.5%	$4	$4	$27	20.37%	$0	$1	$4	$0	40.5%	$3	$3	$17	8.10%	$0	$0	$1
291	Nov-92	$6.430	$4	$45	8.5%	$0	59.5%	$4	$3	$26	20.37%	$0	$0	$4	$0	40.5%	$3	$2	$17	8.10%	$0	$0	$1
292	Dec-92	$2.983	$15	$33	30.6%	$0	59.5%	$2	$9	$27	20.37%	$0	$1	$3	$0	40.5%	$1	$6	$18	8.10%	$0	$0	$1
293	Jan-93	$1.672	$6	$29	18.0%	$0	59.4%	$1	$4	$20	18.56%	$0	$1	$3	$0	40.6%	$1	$3	$13	8.06%	$0	$0	$1
294	Feb-93	$2.740	$2	$29	6.8%	$0	59.4%	$2	$1	$17	18.56%	$0	$0	$3	$0	40.6%	$1	$1	$11	8.06%	$0	$0	$1
295	Mar-93	$5.125	$4	$31	10.5%	$0	59.4%	$3	$2	$18	18.56%	$0	$0	$3	$0	40.6%	$2	$1	$12	8.06%	$0	$0	$1
296	Apr-93	$5.219	$5	$32	12.5%	$0	59.4%	$3	$3	$19	18.56%	$0	$0	$3	$0	40.6%	$2	$2	$12	8.06%	$0	$0	$1
297	May-93	$2.181	$2	$31	6.8%	$0	59.4%	$1	$1	$19	18.56%	$0	$0	$3	$0	40.6%	$1	$1	$13	8.06%	$0	$0	$1
298	Jun-93	$4.215	$6	$29	17.4%	$0	59.4%	$3	$4	$19	18.56%	$0	$1	$3	$0	40.6%	$2	$2	$13	8.06%	$0	$0	$1
299	Jul-93	$0.821	$8	$22	25.8%	$0	59.4%	$0	$5	$18	18.56%	$0	$1	$2	$0	40.6%	$0	$3	$12	8.06%	$0	$0	$1
300	Aug-93	$2.036	$1	$24	2.9%	$0	59.4%	$1	$0	$13	18.56%	$0	$0	$2	$0	40.6%	$1	$0	$9	8.06%	$0	$0	$1
301	Sep-93	$1.253	$3	$22	13.5%	$0	59.4%	$1	$2	$14	18.56%	$0	$0	$2	$0	40.6%	$1	$1	$10	8.06%	$0	$0	$1
302	Oct-93	$2.629	$2	$22	8.6%	$0	59.4%	$2	$1	$13	18.56%	$0	$0	$2	$0	40.6%	$1	$1	$9	8.06%	$0	$0	$1
303	Nov-93	$3.788	$2	$24	8.6%	$0	59.4%	$2	$1	$13	18.56%	$0	$0	$2	$0	40.6%	$2	$1	$9	8.06%	$0	$0	$1
304	Dec-93	$6.619	$6	$24	21.3%	$0	59.4%	$4	$4	$14	18.56%	$0	$0	$2	$0	40.6%	$3	$3	$10	8.06%	$0	$0	$1
305	Jan-94	$2.594	$2	$25	6.3%	$0	63.7%	$2	$1	$14	19.41%	$0	$0	$2	$0	36.4%	$1	$1	$10	8.10%	$0	$0	$1
306	Feb-94	$1.793	$1	$26	4.1%	$0	63.7%	$1	$1	$15	19.41%	$0	$0	$2	$0	36.4%	$1	$0	$10	8.10%	$0	$0	$1
307	Mar-94	$4.643	$1	$30	2.2%	$0	63.7%	$3	$0	$15	19.41%	$0	$0	$3	$0	36.4%	$2	$0	$10	8.10%	$0	$0	$1
308	Apr-94	$3.777	$2	$31	6.8%	$0	63.7%	$2	$1	$18	19.41%	$0	$0	$3	$0	36.4%	$1	$1	$12	8.10%	$0	$0	$1
309	May-94	$5.348	$3	$34	6.9%	$0	63.7%	$3	$2	$19	19.41%	$0	$0	$3	$0	36.4%	$2	$1	$12	8.10%	$0	$0	$1
310	Jun-94	$4.342	$3	$35	8.2%	$0	63.7%	$3	$2	$21	19.41%	$0	$0	$3	$0	36.4%	$2	$1	$13	8.10%	$0	$0	$1
311	Jul-94	$4.658	$1	$38	3.4%	$0	63.7%	$3	$1	$22	19.41%	$0	$0	$3	$0	36.4%	$2	$1	$13	8.10%	$0	$0	$1
312	Aug-94	$4.686	$1	$42	1.4%	$0	63.7%	$3	$0	$24	19.41%	$0	$0	$3	$0	36.4%	$2	$0	$15	8.10%	$0	$0	$1
313	Sep-94	$5.679	$1	$47	2.8%	$0	63.7%	$4	$1	$26	19.41%	$0	$0	$4	$0	36.4%	$2	$1	$16	8.10%	$0	$0	$1
314	Oct-94	$9.200	$1	$55	2.1%	$0	63.7%	$6	$1	$29	19.41%	$0	$0	$4	$0	36.4%	$3	$0	$18	8.10%	$0	$0	$1
315	Nov-94	$1.400	$0	$56	0.5%	$0	63.7%	$1	$0	$34	19.41%	$1	$0	$5	$0	36.4%	$1	$0	$21	8.10%	$0	$0	$1
316	Dec-94	$5.489	$31	$31	49.9%	$0	63.7%	$3	$19	$35	19.41%	$1	$2	$3	$0	36.4%	$2	$11	$21	8.10%	$0	$1	$1
317	Jan-95	$3.277	$7	$27	20.6%	$0	68.1%	$2	$4	$19	18.02%	$0	$1	$3	$0	31.9%	$1	$3	$11	7.93%	$0	$0	$1
318	Feb-95	$5.161	$1	$31	2.8%	$0	68.1%	$4	$1	$17	18.02%	$0	$0	$3	$0	31.9%	$2	$0	$10	7.93%	$0	$0	$1
319	Mar-95	$3.819	$0	$35	0.2%	$0	68.1%	$3	$0	$20	18.02%	$0	$0	$3	$0	31.9%	$1	$0	$11	7.93%	$0	$0	$1
320	Apr-95	$5.248	$0	$40	0.6%	$0	68.1%	$4	$0	$23	18.02%	$0	$0	$3	$0	31.9%	$2	$0	$12	7.93%	$0	$0	$1
321	May-95	$2.680	$0	$43	0.1%	$0	68.1%	$2	$0	$26	18.02%	$0	$0	$4	$0	31.9%	$1	$0	$14	7.93%	$0	$0	$1
322	Jun-95	$3.501	$5	$41	10.3%	$0	68.1%	$2	$3	$28	18.02%	$0	$0	$4	$0	31.9%	$1	$2	$15	7.93%	$0	$0	$1
323	Jul-95	$4.151	$0	$45	0.8%	$0	68.1%	$3	$0	$27	18.02%	$0	$0	$4	$0	31.9%	$1	$0	$14	7.93%	$0	$0	$1
324	Aug-95	$5.192	$1	$50	1.3%	$0	68.1%	$4	$0	$30	18.02%	$0	$0	$5	$0	31.9%	$2	$0	$16	7.93%	$0	$0	$1
325	Sep-95	$4.286	$0	$54	0.2%	$0	68.1%	$3	$0	$33	18.02%	$0	$0	$5	$0	31.9%	$1	$0	$17	7.93%	$0	$0	$1
326	Oct-95	$5.294	$3	$57	4.5%	$0	68.1%	$4	$2	$36	18.02%	$1	$0	$5	$0	31.9%	$2	$1	$18	7.93%	$0	$0	$1
327	Nov-95	$3.944	$1	$59	2.4%	$0	68.1%	$3	$1	$37	18.02%	$1	$0	$6	$0	31.9%	$1	$0	$19	7.93%	$0	$0	$1
328	Dec-95	$12.330	$21	$51	28.9%	$0	68.1%	$8	$14	$39	18.02%	$1	$2	$5	$0	31.9%	$4	$7	$20	7.93%	$0	$0	$1
329	Jan-96	$5.440	$10	$46	17.8%	$0	73.2%	$4	$7	$34	17.05%	$0	$1	$4	$0	26.8%	$1	$3	$17	7.91%	$0	$0	$1
330	Feb-96	$3.309	$0	$49	0.7%	$0	73.2%	$2	$0	$31	17.05%	$0	$0	$5	$0	26.8%	$1	$0	$15	7.91%	$0	$0	$1
331	Mar-96	$4.470	$0	$53	0.4%	$0	73.2%	$3	$0	$33	17.05%	$0	$0	$5	$0	26.8%	$1	$0	$16	7.91%	$0	$0	$1
332	Apr-96	$3.284	$1	$56	1.3%	$0	73.2%	$2	$0	$36	17.05%	$1	$0	$6	$0	26.8%	$1	$0	$17	7.91%	$0	$0	$1
333	May-96	$3.996	$2	$57	4.1%	$0	73.2%	$3	$2	$38	17.05%	$1	$0	$6	$0	26.8%	$1	$1	$18	7.91%	$0	$0	$1
334	Jun-96	$7.992	$3	$62	4.6%	$0	73.2%	$6	$2	$40	17.05%	$1	$0	$6	$0	26.8%	$2	$1	$18	7.91%	$0	$0	$1
335	Jul-96	($2.752)	$0	$60	0.1%	$0	73.2%	($2)	$0	$43	17.05%	$1	$0	$7	$0	26.8%	($1)	$0	$19	7.91%	$0	$0	$2
336	Aug-96	$5.579	$0	$65	0.3%	$0	73.2%	$4	$0	$41	17.05%	$1	$0	$7	$0	26.8%	$1	$0	$18	7.91%	$0	$0	$2
337	Sep-96	$7.101	$1	$71	1.7%	$0	73.2%	$5	$1	$45	17.05%	$1	$0	$8	$0	26.8%	$2	$0	$20	7.91%	$0	$0	$2
338	Oct-96	$4.709	$0	$75	0.6%	$0	73.2%	$3	$0	$50	17.05%	$1	$0	$9	$0	26.8%	$1	$0	$21	7.91%	$0	$0	$2
339	Nov-96	$4.724	$0	$80	0.0%	$0	73.2%	$3	$0	$53	17.05%	$1	$0	$9	$0	26.8%	$1	$0	$23	7.91%	$0	$0	$2
340	Dec-96	$5.164	$11	$74	13.0%	$0	73.2%	$4	$8	$56	17.05%	$1	$1	$9	$0	26.8%	$1	$3	$24	7.91%	$0	$0	$2
341	Jan-97	$2.899	$0	$77	0.3%	$0	77.3%	$2	$0	$52	16.32%	$1	$0	$10	$0	22.7%	$1	$0	$22	7.85%	$0	$0	$2
342	Feb-97	$3.829	$0	$80	0.4%	$0	77.3%	$3	$0	$54	16.32%	$1	$0	$10	$0	22.7%	$1	$0	$22	7.85%	$0	$0	$2

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Illustrative DOC AFUDC
(millions $)

All Carrier Inputs, Except Depreciation

Ln. No.	Date	Construction Work in Progress			In-service Ratio	Compounding Additions Equity AFUDC	Equity %	Equity Additions	Equity Transfers	Equity Base	ROE	Incremental Equity AFUDC	Transfers Equity AFUDC	Equity AFUDC Balance	Compounding Additions Debt AFUDC	Debt %	Debt Additions	Debt Transfers	Debt Base	COD	Incremental Debt AFUDC	Transfers Debt AFUDC	Debt AFUDC Balance
		Property Additions	Transfers to Property	Property Balance																			
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
343	Mar-97	$5.578	$0	$86	0.2%	$0	77.3%	$4	$0	$57	16.32%	$1	$0	$11	$0	22.7%	$1	$0	$23	7.85%	$0	$0	$2
344	Apr-97	$4.941	$0	$90	0.2%	$0	77.3%	$4	$0	$61	16.32%	$1	$0	$12	$0	22.7%	$1	$0	$24	7.85%	$0	$0	$3
345	May-97	$7.117	$0	$97	0.3%	$0	77.3%	$6	$0	$65	16.32%	$1	$0	$13	$0	22.7%	$2	$0	$26	7.85%	$0	$0	$3
346	Jun-97	$7.181	$0	$104	0.3%	$0	77.3%	$6	$0	$70	16.32%	$1	$0	$14	$0	22.7%	$2	$0	$27	7.85%	$0	$0	$3
347	Jul-97	$7.792	$0	$112	0.1%	$0	77.3%	$6	$0	$75	16.32%	$1	$0	$15	$0	22.7%	$2	$0	$29	7.85%	$0	$0	$3
348	Aug-97	$4.096	$0	$116	0.0%	$0	77.3%	$3	$0	$81	16.32%	$1	$0	$16	$0	22.7%	$1	$0	$30	7.85%	$0	$0	$3
349	Sep-97	$6.537	$2	$120	1.9%	$0	77.3%	$5	$2	$85	16.32%	$1	$0	$17	$0	22.7%	$1	$1	$31	7.85%	$0	$0	$3
350	Oct-97	$4.305	$0	$124	0.2%	$0	77.3%	$3	$0	$88	16.32%	$1	$0	$18	$0	22.7%	$1	$0	$32	7.85%	$0	$0	$4
351	Nov-97	$4.919	$2	$127	1.2%	$0	77.3%	$4	$1	$91	16.32%	$1	$0	$19	$0	22.7%	$1	$0	$33	7.85%	$0	$0	$4
352	Dec-97	$2.834	$101	$30	77.2%	$0	77.3%	$2	$74	$94	16.32%	$1	$15	$6	$0	22.7%	$1	$27	$34	7.85%	$0	$3	$1
353	Jan-98	$1.174	$0	$31	0.0%	$0	75.6%	$1	$0	$22	16.91%	$0	$0	$6	$0	24.4%	$0	$0	$8	6.63%	$0	$0	$1
354	Feb-98	$1.079	$0	$32	0.0%	$0	75.6%	$1	$0	$23	16.91%	$0	$0	$6	$0	24.4%	$0	$0	$8	6.63%	$0	$0	$1
355	Mar-98	$2.028	$0	$34	0.0%	$0	75.6%	$2	$0	$24	16.91%	$0	$0	$7	$0	24.4%	$0	$0	$8	6.63%	$0	$0	$1
356	Apr-98	$0.439	($1)	$35	-3.0%	$0	75.6%	$0	($1)	$25	16.91%	$0	($0)	$7	$0	24.4%	$0	($0)	$9	6.63%	$0	($0)	$1
357	May-98	$0.324	$0	$36	0.1%	$0	75.6%	$0	$0	$26	16.91%	$0	$0	$7	$0	24.4%	$0	$0	$9	6.63%	$0	$0	$1
358	Jun-98	$2.865	$0	$38	0.8%	$0	75.6%	$2	$0	$26	16.91%	$0	$0	$8	$0	24.4%	$1	$0	$9	6.63%	$0	$0	$1
359	Jul-98	$4.354	$0	$43	0.0%	$0	75.6%	$3	$0	$28	16.91%	$0	$0	$8	$0	24.4%	$1	$0	$10	6.63%	$0	$0	$1
360	Aug-98	$1.127	$0	$44	0.0%	$0	75.6%	$1	$0	$32	16.91%	$0	$0	$9	$0	24.4%	$0	$0	$11	6.63%	$0	$0	$2
361	Sep-98	$3.594	$0	$47	0.0%	$0	75.6%	$3	$0	$32	16.91%	$0	$0	$9	$0	24.4%	$1	$0	$11	6.63%	$0	$0	$2
362	Oct-98	$2.710	$2	$48	3.2%	$0	75.6%	$2	$1	$35	16.91%	$0	$0	$9	$0	24.4%	$1	$0	$12	6.63%	$0	$0	$2
363	Nov-98	$2.711	$1	$50	1.8%	$0	75.6%	$2	$1	$36	16.91%	$1	$0	$10	$0	24.4%	$1	$0	$12	6.63%	$0	$0	$2
364	Dec-98	$10.150	$21	$39	35.6%	$0	75.6%	$8	$16	$37	16.91%	$1	$3	$7	$0	24.4%	$2	$5	$13	6.63%	$0	$1	$1
365	Jan-99	$0.809	$0	$40	0.0%	$0	75.3%	$1	$0	$29	19.15%	$0	$0	$7	$0	24.7%	$0	$0	$10	6.38%	$0	$0	$1
366	Feb-99	$2.137	$0	$42	0.1%	$0	75.3%	$2	$0	$30	19.15%	$0	$0	$8	$0	24.7%	$1	$0	$10	6.38%	$0	$0	$1
367	Mar-99	$2.015	$1	$43	1.2%	$0	75.3%	$2	$0	$31	19.15%	$0	$0	$8	$0	24.7%	$0	$0	$11	6.38%	$0	$0	$1
368	Apr-99	$1.339	$0	$45	0.0%	$0	75.3%	$1	$0	$32	19.15%	$1	$0	$9	$0	24.7%	$0	$0	$11	6.38%	$0	$0	$1
369	May-99	$2.003	$0	$47	0.0%	$0	75.3%	$2	$0	$33	19.15%	$1	$0	$9	$0	24.7%	$0	$0	$11	6.38%	$0	$0	$1
370	Jun-99	$4.354	$0	$51	0.0%	$0	75.3%	$3	$0	$35	19.15%	$1	$0	$10	$0	24.7%	$1	$0	$12	6.38%	$0	$0	$1
371	Jul-99	$4.428	$0	$55	0.1%	$0	75.3%	$3	$0	$38	19.15%	$1	$0	$10	$0	24.7%	$1	$0	$13	6.38%	$0	$0	$2
372	Aug-99	$2.790	$2	$56	3.4%	$0	75.3%	$2	$2	$41	19.15%	$1	$0	$11	$0	24.7%	$1	$1	$14	6.38%	$0	$0	$2
373	Sep-99	$4.507	$4	$56	7.3%	$0	75.3%	$3	$3	$42	19.15%	$1	$1	$10	$0	24.7%	$1	$1	$14	6.38%	$0	$0	$1
374	Oct-99	$8.377	$0	$65	0.0%	$0	75.3%	$6	$0	$42	19.15%	$1	$0	$11	$0	24.7%	$2	$0	$14	6.38%	$0	$0	$2
375	Nov-99	$5.693	$5	$65	7.3%	$0	75.3%	$4	$4	$48	19.15%	$1	$1	$11	$0	24.7%	$1	$1	$16	6.38%	$0	$0	$2
376	Dec-99	$18.981	$41	$43	48.4%	$0	75.3%	$14	$31	$49	19.15%	$1	$5	$6	$0	24.7%	$5	$10	$16	6.38%	$0	$1	$1
377	Jan-00	$1.736	$0	$45	0.0%	$0	75.3%	$1	$0	$33	19.15%	$1	$0	$7	$0	24.7%	$0	$0	$11	6.38%	$0	$0	$1
378	Feb-00	$1.969	$0	$47	0.0%	$0	75.3%	$1	$0	$34	19.15%	$1	$0	$8	$0	24.7%	$0	$0	$11	6.38%	$0	$0	$1
379	Mar-00	$2.199	$6	$43	12.7%	$0	75.3%	$2	$5	$35	19.15%	$1	$1	$7	$0	24.7%	$1	$2	$12	6.38%	$0	$0	$1
380	Apr-00	$1.922	$0	$45	0.0%	$0	75.3%	$1	$0	$32	19.15%	$1	$0	$8	$0	24.7%	$0	$0	$11	6.38%	$0	$0	$1
381	May-00	$4.074	$0	$49	0.0%	$0	75.3%	$3	$0	$34	19.15%	$1	$0	$8	$0	24.7%	$1	$0	$11	6.38%	$0	$0	$1
382	Jun-00	$4.715	$0	$54	0.0%	$0	75.3%	$4	$0	$37	19.15%	$1	$0	$9	$0	24.7%	$1	$0	$12	6.38%	$0	$0	$1
383	Jul-00	$4.715	$0	$58	0.0%	$0	75.3%	$4	$0	$40	19.15%	$1	$0	$9	$0	24.7%	$1	$0	$13	6.38%	$0	$0	$1
384	Aug-00	$4.715	$0	$63	0.0%	$0	75.3%	$4	$0	$44	19.15%	$1	$0	$10	$0	24.7%	$1	$0	$15	6.38%	$0	$0	$1
385	Sep-00	$4.715	$0	$68	0.0%	$0	75.3%	$4	$0	$47	19.15%	$1	$0	$11	$0	24.7%	$1	$0	$16	6.38%	$0	$0	$1
386	Oct-00	$4.715	$0	$73	0.0%	$0	75.3%	$4	$0	$51	19.15%	$1	$0	$12	$0	24.7%	$1	$0	$17	6.38%	$0	$0	$1
387	Nov-00	$4.715	$0	$77	0.0%	$0	75.3%	$4	$0	$55	19.15%	$1	$0	$13	$0	24.7%	$1	$0	$18	6.38%	$0	$0	$2
388	Dec-00	$8.734	$56	$30	64.7%	$0	75.3%	$7	$42	$58	19.15%	$1	$8	$5	$0	24.7%	$2	$14	$19	6.38%	$0	$1	$1

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Illustrative DOC AFUDC
(millions $)

All Carrier Inputs, Except Depreciation

Ln. No.	Date	Construction Work in Progress			In-service Ratio	Compounding Additions Equity AFUDC	Equity %	Equity Additions	Equity Transfers	Equity Base	ROE	Incremental Equity AFUDC	Transfers Equity AFUDC	Equity AFUDC Balance	Compounding Additions Debt AFUDC	Debt %	Debt Additions	Debt Transfers	Debt Base	COD	Incremental Debt AFUDC	Transfers Debt AFUDC	Debt AFUDC Balance
		Property Additions	Transfers to Property	Property Balance																			
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23

SOURCE:

Column 1	Time in months
Column 2	Exhibit 143-RGV-C, TAPS-RGV WP3, Schedule 3
Column 3	Exhibit 143-RGV-C, TAPS-RGV WP3, Schedule 3
Column 4	Exhibit 143-RGV-C, TAPS-RGV WP3, Schedule 3
Column 5	Exhibit 143-RGV-C, TAPS-RGV WP3, Schedule 3
Column 6	Sum (prior six months Col 12) - sumproduct(prior six months Col 12 * prior six months Col 5) [A]
Column 7	Exhibit WBT-38
Column 8	Col 2 * Col 7
Column 9	(cum Col 8 - cum prior Col 9 + cum Col 6) * Col 5
Column 10	prior (Col 8 - Col 9 + Col 10) + Col 6
Column 11	[(Exhibit WBT 40) - Col 16*Col 20]/Col 7
Column 12	(Col 10 * Col 11)/12
Column 13	prior Col 14 * Col 5 + [B]
Column 14	prior Col 14 + Col 12 - Col 13
Column 15	Sum (prior six months Col 21) - sumproduct(prior six months Col 21 * prior six months Col 5) [A]
Column 16	1.0 - Col 7
Column 17	Col 2 * Col 16
Column 18	(cum Col 17 - cum prior Col 18 + cum Col 15) * Col 5
Column 19	prior (Col 17 - Col 18 + Col 19) + Col 15
Column 20	Exhibit WBT-39
Column 21	(Col 19 * Col 20) / 12
Column 22	prior Col 23 * Col 5 +[C]
Column 23	prior Col 23 + Col 21 - Col 22

[A] for the months January and July prior to June of 1977, otherwise equal to 0
[B] if Col 5 = 100%, +Col 12, otherwise 0
[C] if Col 5 = 100%, +Col 19, otherwise 0

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Illustrative DOC Amortization of AFUDC
(millions $)

All Carrier Inputs, Except Depreciation

Line No.	Description	Source	Starting Balances	1977	1978	1979	1980	1981	1982	1983	1984
1	Amortization Factor - Net Basis	Sch. 15 Ln. 8		1.38%	6.31%	8.05%	9.79%	10.38%	11.72%	12.66%	13.95%
2	Net Equity AFUDC - BOY	Prior Ln. 5		$2,165	$2,136	$2,013	$1,857	$1,687	$1,527	$1,363	$1,201
3	Equity AFUDC Additions	Sch. 8, Col. 13	$2,165	$2	$12	$6	$14	$17	$17	$12	$7
4	Current Period Equity AFUDC Amortization	(Ln.2 + Ln.3) * Ln.1		$30	$136	$162	$183	$177	$181	$174	$169
5	Net Equity AFUDC - EOY	Lns.(2+3-4)	$2,165	$2,136	$2,013	$1,857	$1,687	$1,527	$1,363	$1,201	$1,039
6	Accumulated Equity AFUDC Additions	Ln. 3 + Prior Ln. 6	$2,165	$2,166	$2,178	$2,185	$2,198	$2,215	$2,232	$2,244	$2,251
7	Accumulated Equity AFUDC Amortization	Ln. 4 + Prior Ln. 7		$30	$166	$328	$511	$688	$869	$1,043	$1,212
8	Net Debt AFUDC - BOY	Prior Ln. 11		$398	$393	$371	$343	$312	$283	$253	$223
9	Debt AFUDC Additions	Sch. 8 Col 22	$398	$1	$4	$2	$3	$4	$4	$2	$1
10	Current Period Debt AFUDC Amortization	(Ln. 8 + Ln. 9) * Ln.1		$5	$25	$30	$34	$33	$34	$32	$31
11	Net Debt AFUDC - EOY	Lns. (8 + 9 - 10)	$398	$393	$371	$343	$312	$283	$253	$223	$193
12	Accumulated Debt AFUDC Additions	Ln. 9 + Prior Ln. 12	$398	$398	$402	$404	$407	$411	$414	$417	$418
13	Accumulated Debt AFUDC Amortization	Ln. 10 + Prior Ln. 13		$5	$31	$61	$94	$127	$161	$193	$225
14	Annual AFUDC	Ln. 4 + Ln. 10		$35	$161	$192	$217	$210	$215	$207	$200

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Illustrative DOC Amortization of AFUDC
(millions $)

All Carrier Inputs, Except Depreciation

Line No.	Description	Source	1985	1986	1987	1988	1989	1990	1991	1992	1993
1	Amortization Factor - Net Basis	Sch. 15 Ln. 8	13.62%	14.85%	16.89%	18.44%	19.15%	19.18%	18.23%	20.49%	20.52%
2	Net Equity AFUDC - BOY	Prior Ln. 5	$1,039	$898	$765	$637	$520	$421	$343	$289	$236
3	Equity AFUDC Additions	Sch. 8, Col. 13	$1	$1	$1	$0	$1	$3	$10	$7	$4
4	Current Period Equity AFUDC Amortization	(Ln.2 + Ln.3) * Ln.1	$142	$134	$129	$118	$100	$81	$64	$61	$49
5	Net Equity AFUDC - EOY	Lns.(2+3-4)	$898	$765	$637	$520	$421	$343	$289	$236	$191
6	Accumulated Equity AFUDC Additions	Ln. 3 + Prior Ln. 6	$2,252	$2,252	$2,253	$2,254	$2,255	$2,258	$2,269	$2,276	$2,280
7	Accumulated Equity AFUDC Amortization	Ln. 4 + Prior Ln. 7	$1,353	$1,487	$1,616	$1,734	$1,834	$1,915	$1,980	$2,040	$2,090
8	Net Debt AFUDC - BOY	Prior Ln. 11	$193	$167	$142	$118	$97	$78	$64	$54	$44
9	Debt AFUDC Additions	Sch. 8 Col 22	$0	$0	$0	$0	$0	$1	$2	$2	$1
10	Current Period Debt AFUDC Amortization	(Ln. 8 + Ln. 9) * Ln.1	$26	$25	$24	$22	$19	$15	$12	$11	$9
11	Net Debt AFUDC - EOY	Lns. (8 + 9 - 10)	$167	$142	$118	$97	$78	$64	$54	$44	$36
12	Accumulated Debt AFUDC Additions	Ln. 9 + Prior Ln. 12	$418	$418	$418	$418	$419	$419	$421	$423	$424
13	Accumulated Debt AFUDC Amortization	Ln. 10 + Prior Ln. 13	$251	$276	$300	$322	$340	$355	$367	$379	$388
14	Annual AFUDC	Ln. 4 + Ln. 10	$168	$158	$154	$139	$118	$97	$77	$72	$59

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Illustrative DOC Amortization of AFUDC
(millions $)

All Carrier Inputs, Except Depreciation

Line No.	Description	Source	1994	1995	1996	1997	1998	1999	2000
1	Amortization Factor - Net Basis	Sch. 15 Ln. 8	20.39%	20.65%	17.29%	11.45%	7.60%	7.50%	8.51%
2	Net Equity AFUDC - BOY	Prior Ln. 5	$191	$154	$125	$106	$107	$103	$102
3	Equity AFUDC Additions	Sch. 8, Col. 13	$4	$3	$3	$15	$4	$7	$9
4	Current Period Equity AFUDC Amortization	(Ln.2 + Ln.3) * Ln.1	$40	$33	$22	$14	$8	$8	$9
5	Net Equity AFUDC - EOY	Lns.(2+3-4)	$154	$125	$106	$107	$103	$102	$101
6	Accumulated Equity AFUDC Additions	Ln. 3 + Prior Ln. 6	$2,284	$2,287	$2,290	$2,305	$2,309	$2,316	$2,325
7	Accumulated Equity AFUDC Amortization	Ln. 4 + Prior Ln. 7	$2,129	$2,162	$2,184	$2,198	$2,206	$2,214	$2,224
8	Net Debt AFUDC - BOY	Prior Ln. 11	$36	$29	$24	$20	$21	$20	$19
9	Debt AFUDC Additions	Sch. 8 Col 22	$1	$1	$1	$3	$1	$1	$1
10	Current Period Debt AFUDC Amortization	(Ln. 8 + Ln. 9) * Ln.1	$8	$6	$4	$2.687	$1.627	$1.561	$1.735
11	Net Debt AFUDC - EOY	Lns. (8 + 9 - 10)	$29	$24	$20	$21	$20	$19	$19
12	Accumulated Debt AFUDC Additions	Ln. 9 + Prior Ln. 12	$425	$426	$427	$430	$430	$431	$432
13	Accumulated Debt AFUDC Amortization	Ln. 10 + Prior Ln. 13	$396	$402	$406	$409	$410	$412	$414
14	Annual AFUDC	Ln. 4 + Ln. 10	$47	$39	$26	$17	$10	$10	$11

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Illustrative State Tax Depreciation,
1977-2000; Carriers' Inputs,
Except for Depreciation (millions $)

Exhibit 3
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					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
				Year	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
Depreciation Factors - (1977)					5.71%	4.00%	4.00%	4.00%	4.00%	10.22%	9.61%	9.00%	8.38%	7.77%	7.15%	6.54%	5.93%	5.31%	4.70%
Depreciation Factors - (1978)					2.00%	4.00%	4.00%	4.00%	10.75%	10.14%	9.52%	8.91%	8.29%	7.68%	7.06%	6.45%	5.84%	5.22%	2.46%
Depreciation Factors - (1979)					2.00%	4.00%	4.00%	10.84%	10.23%	9.61%	9.00%	8.39%	7.77%	7.16%	6.54%	5.93%	5.32%	3.07%	2.46%
Depreciation Factors - (1980)					2.00%	4.00%	10.87%	10.26%	9.65%	9.03%	8.42%	7.80%	7.19%	6.58%	5.96%	5.35%	3.68%	3.07%	2.46%
Depreciation Factors - (1981)					2.00%	11.15%	10.20%	9.58%	8.97%	8.35%	7.74%	7.13%	6.51%	5.90%	5.28%	4.30%	3.68%	3.07%	2.46%
Depreciation Factors - (1982-present)					5.71%	10.78%	9.82%	9.21%	8.60%	7.98%	7.37%	6.75%	6.14%	5.53%	4.91%	4.30%	3.68%	3.07%	2.46%
Year		Property Additions (a) Sch 15, Lns. 3 - (1+2)[1]	AFUDC Additions (b) Sch 8, col 22	Tax Basis for Depreciation (d) = (a) + (b)															
1977	1	$7,889	$398	$8,287	$474	$331	$331	$331	$331	$847	$796	$745	$695	$644	$593	$542	$491	$440	$389
1978	2	$112	$4	$116	$0	$2	$5	$5	$5	$12	$12	$11	$10	$10	$9	$8	$7	$7	$6
1979	3	$97	$2	$98	$0	$0	$2	$4	$4	$11	$10	$9	$9	$8	$8	$7	$6	$6	$5
1980	4	$123	$3	$127	$0	$0	$0	$3	$5	$14	$13	$12	$11	$11	$10	$9	$8	$8	$7
1981	5	$49	$4	$53	$0	$0	$0	$0	$1	$6	$5	$5	$5	$4	$4	$4	$3	$3	$3
1982	6	$60	$4	$64	$0	$0	$0	$0	$0	$4	$7	$6	$6	$5	$5	$5	$4	$4	$4
1983	7	$84	$2	$86	$0	$0	$0	$0	$0	$0	$5	$9	$8	$8	$7	$7	$6	$6	$5
1984	8	$51	$1	$52	$0	$0	$0	$0	$0	$0	$0	$3	$6	$5	$5	$4	$4	$4	$4
1985	9	$29	$0	$29	$0	$0	$0	$0	$0	$0	$0	$0	$2	$3	$3	$3	$3	$2	$2
1986	10	$20	$0	$20	$0	$0	$0	$0	$0	$0	$0	$0	$0	$1	$2	$2	$2	$2	$2
1987	11	$33	$0	$33	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$2	$4	$3	$3	$3
1988	12	$10	$0	$10	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$1	$1	$1	$1
1989	13	$37	$0	$37	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$2	$4	$4
1990	14	$81	$1	$82	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$5	$9
1991	15	$203	$2	$205	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$12
1992	16	$69	$2	$71	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
1993	17	$46	$1	$47	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
1994	18	$43	$1	$44	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
1995	19	$36	$1	$37	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
1996	20	$29	$1	$29	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
1997	21	$105	$3	$109	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
1998	22	$21	$1	$22	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
1999	23	$46	$1	$47	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
2000	24	$58	$1	$59	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total State Tax Depreciation					$474	$334	$338	$343	$346	$894	$848	$802	$752	$699	$648	$595	$542	$494	$454

[1] For 1977, Sch. 16, Lns 3 - (1+2+10)

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Illustrative State Tax Depreciation,
1977-2000; Carriers' Inputs,
Except for Depreciation (millions $)

Exhibit 3
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	Year	16 1992	17 1993	18 1994	19 1995	20 1996	21 1997	22 1998	23 1999	24 2000
Depreciation Factors - (1977)		1.84%	1.23%	0.61%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Depreciation Factors - (1978)		1.84%	1.23%	0.61%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Depreciation Factors - (1979)		1.84%	1.23%	0.61%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Depreciation Factors - (1980)		1.84%	1.23%	0.61%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Depreciation Factors - (1981)		1.84%	1.23%	0.61%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Depreciation Factors - (1982-present)		1.84%	1.23%	0.61%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%

Year		Property Additions (a) Sch 15, Lns. 3 - Sch 8, col 22 (1+2)[1]	AFUDC Additions (b)	Tax Basis for Depreciation (d) = (a) + (b)								
1977	1	$7,889	$398	$8,287	$153	$102	$51	$0	$0	$0	$0	$0	$0
1978	2	$112	$4	$116	$3	$2	$1	$1	$0	$0	$0	$0	$0
1979	3	$97	$2	$98	$3	$2	$2	$1	$1	$0	$0	$0	$0
1980	4	$123	$3	$127	$5	$4	$3	$2	$2	$1	$0	$0	$0
1981	5	$49	$4	$53	$2	$2	$2	$1	$1	$1	$0	$0	$0
1982	6	$60	$4	$64	$3	$3	$2	$2	$2	$1	$1	$0	$0
1983	7	$84	$2	$86	$5	$4	$4	$3	$3	$2	$2	$1	$1
1984	8	$51	$1	$52	$3	$3	$3	$2	$2	$2	$1	$1	$1
1985	9	$29	$0	$29	$2	$2	$2	$1	$1	$1	$1	$1	$1
1986	10	$20	$0	$20	$1	$1	$1	$1	$1	$1	$1	$1	$0
1987	11	$33	$0	$33	$3	$2	$2	$2	$2	$2	$1	$1	$1
1988	12	$10	$0	$10	$1	$1	$1	$1	$1	$1	$0	$0	$0
1989	13	$37	$0	$37	$3	$3	$3	$3	$2	$2	$2	$2	$2
1990	14	$81	$1	$82	$8	$8	$7	$7	$6	$6	$5	$5	$4
1991	15	$203	$2	$205	$22	$20	$19	$18	$16	$15	$14	$13	$11
1992	16	$69	$2	$71	$4	$8	$7	$7	$6	$6	$5	$5	$4
1993	17	$46	$1	$47	$0	$3	$5	$5	$4	$4	$4	$3	$3
1994	18	$43	$1	$44	$0	$0	$3	$5	$4	$4	$4	$4	$3
1995	19	$36	$1	$37	$0	$0	$0	$2	$4	$4	$3	$3	$3
1996	20	$29	$1	$29	$0	$0	$0	$0	$2	$3	$3	$3	$3
1997	21	$105	$3	$109	$0	$0	$0	$0	$0	$6	$12	$11	$10
1998	22	$21	$1	$22	$0	$0	$0	$0	$0	$0	$1	$2	$2
1999	23	$46	$1	$47	$0	$0	$0	$0	$0	$0	$0	$3	$5
2000	24	$58	$1	$59	$0	$0	$0	$0	$0	$0	$0	$0	$3
Total State Tax Depreciation					$221	$170	$117	$63	$59	$60	$60	$58	$57

[1] For 1977, Sch. 16, Lns 3 - (1-

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Illustrative Federal Tax Depreciation,
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Except for Depreciation (millions $)

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						1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
					Year	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
Depreciation Factors - (1977-1980)						5.71%	10.78%	9.82%	9.21%	8.60%	7.98%	7.37%	6.75%	6.14%	5.53%	4.91%	4.30%	3.68%	3.07%	2.46%
Depreciation Factors - (1981-1986)						15.00%	22.00%	21.00%	21.00%	21.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Depreciation Factors - (1987-Present)						5.00%	9.50%	8.55%	7.70%	6.93%	6.23%	5.90%	5.90%	5.90%	5.90%	5.90%	5.90%	5.90%	5.90%	5.90%
Year		Property Addition (a) Sch 15, Lns. 3 - (1+2)1	AFUDC Addition (b) Sch 8, col 22	TEFRA Adjustment (c) Sch. 13, Ln. 3	Tax Basis for Depreciation (d) = (a) + (b) - (c)															
1977	1	$7,889	$398	$0	$8,287	$474	$893	$814	$763	$712	$662	$611	$560	$509	$458	$407	$356	$305	$254	$204
1978	2	$112	$4	$0	$116	$0	$7	$12	$11	$11	$10	$9	$9	$8	$7	$6	$6	$5	$4	$4
1979	3	$97	$2	$0	$98	$0	$0	$6	$11	$10	$9	$8	$8	$7	$7	$6	$5	$5	$4	$4
1980	4	$123	$3	$0	$127	$0	$0	$0	$7	$14	$12	$12	$11	$10	$9	$9	$8	$7	$6	$5
1981	5	$49	$4	$0	$53	$0	$0	$0	$0	$8	$12	$11	$11	$11	$0	$0	$0	$0	$0	$0
1982	6	$60	$4	$0	$64	$0	$0	$0	$0	$0	$10	$14	$13	$13	$13	$0	$0	$0	$0	$0
1983	7	$84	$2	$4	$82	$0	$0	$0	$0	$0	$0	$12	$18	$17	$17	$17	$0	$0	$0	$0
1984	8	$51	$1	$3	$49	$0	$0	$0	$0	$0	$0	$0	$7	$11	$10	$10	$10	$0	$0	$0
1985	9	$29	$0	$1	$28	$0	$0	$0	$0	$0	$0	$0	$0	$4	$6	$6	$6	$6	$0	$0
1986	10	$20	$0	$0	$20	$0	$0	$0	$0	$0	$0	$0	$0	$0	$3	$4	$4	$4	$4	$0
1987	11	$33	$0	$0	$33	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$2	$3	$3	$3	$2
1988	12	$10	$0	$0	$10	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$1	$1	$1	$1
1989	13	$37	$0	$0	$37	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$2	$4	$3
1990	14	$81	$1	$0	$82	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$4	$8
1991	15	$203	$2	$0	$205	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$10
1992	16	$69	$2	$0	$71	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
1993	17	$46	$1	$0	$47	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
1994	18	$43	$1	$0	$44	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
1995	19	$36	$1	$0	$37	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
1996	20	$29	$1	$0	$29	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
1997	21	$105	$3	$0	$109	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
1998	22	$21	$1	$0	$22	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
1999	23	$46	$1	$0	$47	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
2000	24	$58	$1	$0	$59	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total Federal Tax Depreciation						$474	$900	$832	$793	$754	$714	$677	$637	$591	$531	$468	$399	$338	$284	$240

1 For 1977, Sch. 16, Lns 3 - (1+2+10)

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Illustrative Federal Tax Depreciation,
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					Year	16 1992	17 1993	18 1994	19 1995	20 1996	21 1997	22 1998	23 1999	24 2000
Depreciation Factors - (1977-1980)						1.84%	1.23%	0.61%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Depreciation Factors - (1981-1986)						0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Depreciation Factors - (1987-Present)						2.95%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Year		Property Addition (a) Sch 15, Lns. 3 - Sch 8, col 22 (1+2)1	AFUDC Addition (b)	TEFRA Adjustment (c) Sch. 13, Ln. 3	Tax Basis for Depreciation (d) = (a) + (b) - (c)									
1977	1	$7,889	$398	$0	$8,287	$153	$102	$51	$0	$0	$0	$0	$0	$0
1978	2	$112	$4	$0	$116	$3	$2	$1	$1	$0	$0	$0	$0	$0
1979	3	$97	$2	$0	$98	$3	$2	$2	$1	$1	$0	$0	$0	$0
1980	4	$123	$3	$0	$127	$5	$4	$3	$2	$2	$1	$0	$0	$0
1981	5	$49	$4	$0	$53	$0	$0	$0	$0	$0	$0	$0	$0	$0
1982	6	$60	$4	$0	$64	$0	$0	$0	$0	$0	$0	$0	$0	$0
1983	7	$84	$2	$4	$82	$0	$0	$0	$0	$0	$0	$0	$0	$0
1984	8	$51	$1	$3	$49	$0	$0	$0	$0	$0	$0	$0	$0	$0
1985	9	$29	$0	$1	$28	$0	$0	$0	$0	$0	$0	$0	$0	$0
1986	10	$20	$0	$0	$20	$0	$0	$0	$0	$0	$0	$0	$0	$0
1987	11	$33	$0	$0	$33	$2	$2	$2	$2	$2	$2	$2	$2	$2
1988	12	$10	$0	$0	$10	$1	$1	$1	$1	$1	$1	$1	$1	$1
1989	13	$37	$0	$0	$37	$3	$3	$2	$2	$2	$2	$2	$2	$2
1990	14	$81	$1	$0	$82	$7	$6	$6	$5	$5	$5	$5	$5	$5
1991	15	$203	$2	$0	$205	$19	$18	$16	$14	$13	$12	$12	$12	$12
1992	16	$69	$2	$0	$71	$4	$7	$6	$5	$5	$4	$4	$4	$4
1993	17	$46	$1	$0	$47	$0	$2	$4	$4	$4	$3	$3	$3	$3
1994	18	$43	$1	$0	$44	$0	$0	$2	$4	$4	$3	$3	$3	$3
1995	19	$36	$1	$0	$37	$0	$0	$0	$2	$3	$3	$3	$3	$2
1996	20	$29	$1	$0	$29	$0	$0	$0	$0	$1	$3	$2	$2	$2
1997	21	$105	$3	$0	$109	$0	$0	$0	$0	$0	$5	$10	$9	$8
1998	22	$21	$1	$0	$22	$0	$0	$0	$0	$0	$0	$1	$2	$2
1999	23	$46	$1	$0	$47	$0	$0	$0	$0	$0	$0	$0	$2	$5
2000	24	$58	$1	$0	$59	$0	$0	$0	$0	$0	$0	$0	$0	$3
Total Federal Tax Depreciation						$199	$148	$96	$44	$42	$45	$49	$50	$53

1 For 1977, Sch. 16, Lns 3 - (1+2+10)

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Illustrative ADIT Balances,
1977-2000: Carrier Inputs,
Except for Depreciation (millions $)

Exhibit 3
Sch. 12
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Line No.	Description	Source	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
1	Book Depreciation Including Debt AFUDC Amortization	Sch 6 Ln. 3 + Sch 9 Ln. 10	$114	$526	$635	$727	$701	$715	$693	$673	$569	$539	$528	$481	$414
2	State Tax Depreciation	Sch. 10	$474	$334	$338	$343	$346	$894	$848	$802	$752	$699	$648	$595	$542
3	State Tax Timing Differences	Ln. 2 - Ln. 1	$360	($192)	($297)	($384)	($355)	$178	$155	$129	$182	$160	$120	$114	$128
4	State Income Tax Rate	AK Stat.	9.40%	9.40%	9.40%	9.40%	9.40%	9.40%	9.40%	9.40%	9.40%	9.40%	9.40%	9.40%	9.40%
5	State Tax Effect	Ln. 3 * Ln. 4	$34	($18)	($28)	($36)	($33)	$17	$15	$12	$17	$15	$11	$11	$12
6	State ADIT Balance	Ln. 5 + Prior Ln. 6	$34	$16	($12)	($48)	($82)	($65)	($50)	($38)	($21)	($6)	$5	$16	$28
7	Book Depreciation Including Debt AFUDC Amortization	Ln.1	$114	$526	$635	$727	$701	$715	$693	$673	$569	$539	$528	$481	$414
8	Depreciation of TEFRA Adjustment	Sch.13 Ln. 6	$0	$0	$0	$0	$0	$0	$1	$1	$1	$1	$1	$1	$1
9	Book Depreciation after TEFRA Adjustment	Ln. 7 - Ln. 8	$114	$526	$635	$727	$701	$715	$692	$672	$568	$538	$527	$480	$413
10	Federal Tax Depreciation	Sch. 11	$474	$900	$832	$793	$754	$714	$677	$637	$591	$531	$468	$399	$338
11	Tax Effect of State Timing Differences	Ln. 5	$34	($18)	($28)	($36)	($33)	$17	$15	$12	$17	$15	$11	$11	$12
12	Total Federal Tax Deductions	Ln. 10 - Ln.11	$440	$918	$860	$829	$788	$697	$663	$625	$574	$516	$456	$388	$326
13	Federal Tax Timing Differences	Ln.12 - Ln. 9	$326	$392	$225	$102	$87	($18)	($29)	($47)	$5	($22)	($70)	($92)	($88)
14	Federal Income Tax Rate	IRC	48.00%	48.00%	46.00%	46.00%	46.00%	46.00%	46.00%	46.00%	46.00%	46.00%	39.95%	34.00%	34.00%
15	Federal Tax Effect	Ln. 13 * Ln. 14	$156	$188	$104	$47	$40	($8)	($14)	($22)	$2	($10)	($28)	($31)	($30)
16	FASB 96/109 Adjustment	Cum. Ln 13 * Change in Ln 14	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$62	$56	$0
17	Amortization Basis for FASB 96/109 Adjustment	Lns(Prior 17 + 16 - Prior 18)	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$62	$108	$88
18	Amortization of FASB 96/109 Adjustment	Ln.17*(Sch 14, Ln.8)	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$10	$20	$17
19	Federal ADIT Balance	Prior Ln.19 + Ln.15 - Ln.18	$156	$344	$448	$495	$535	$526	$513	$491	$494	$483	$445	$394	$347
20	Total State And Federal ADIT Balances	Ln. 6 + Ln. 19	$190	$360	$436	$446	$453	$462	$463	$453	$473	$477	$450	$410	$375

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Illustrative ADIT Balances,
1977-2000: Carrier Inputs,
Except for Depreciation (millions $)

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Line No.	Description	Source	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
1	Book Depreciation Including Debt AFUDC Amortization	Sch 6 Ln. 3 + Sch 9 Ln. 10	$351	$308	$297	$246	$204	$172	$131	$84	$51	$50	$58
2	State Tax Depreciation	Sch. 10	$494	$454	$221	$170	$117	$63	$59	$60	$60	$58	$57
3	State Tax Timing Differences	Ln. 2 - Ln. 1	$143	$146	($76)	($77)	($87)	($109)	($72)	($24)	$9	$7	($1)
4	State Income Tax Rate	AK Stat.	9.40%	9.40%	9.40%	9.40%	9.40%	9.40%	9.40%	9.40%	9.40%	9.40%	9.40%
5	State Tax Effect	Ln. 3 * Ln. 4	$13	$14	($7)	($7)	($8)	($10)	($7)	($2)	$1	$1	($0)
6	State ADIT Balance	Ln. 5 + Prior Ln. 6	$42	$55	$48	$41	$33	$23	$16	$13	$14	$15	$15
7	Book Depreciation Including Debt AFUDC Amortization	Ln.1	$351	$308	$297	$246	$204	$172	$131	$84	$51	$50	$58
8	Depreciation of TEFRA Adjustment	Sch.13 Ln. 6	$1	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
9	Book Depreciation after TEFRA Adjustment	Ln. 7 - Ln. 8	$350	$307	$297	$246	$203	$171	$131	$84	$51	$50	$58
10	Federal Tax Depreciation	Sch. 11	$284	$240	$199	$148	$96	$44	$42	$45	$49	$50	$53
11	Tax Effect of State Timing Differences	Ln. 5	$13	$14	($7)	($7)	($8)	($10)	($7)	($2)	$1	$1	($0)
12	Total Federal Tax Deductions	Ln. 10 - Ln.11	$271	$227	$206	$155	$104	$54	$48	$47	$48	$49	$53
13	Federal Tax Timing Differences	Ln.12 - Ln. 9	($79)	($81)	($91)	($91)	($99)	($117)	($82)	($37)	($3)	($1)	($5)
14	Federal Income Tax Rate	IRC	34.00%	34.00%	34.00%	35.00%	35.00%	35.00%	35.00%	35.00%	35.00%	35.00%	35.00%
15	Federal Tax Effect	Ln. 13 * Ln. 14	($27)	($27)	($31)	($32)	($35)	($41)	($29)	($13)	($1)	($0)	($2)
16	FASB 96/109 Adjustment	Cum. Ln 13 * Change in Ln 14	$0	$0	$0	($5)	$0	$0	$0	$0	$0	$0	$0
17	Amortization Basis for FASB 96/109 Adjustment	Lns(Prior 17 + 16 - Prior 18)	$71	$57	$47	$32	$26	$20	$16	$13	$12	$11	$10
18	Amortization of FASB 96/109 Adjustment	Ln.17*(Sch 14, Ln.8)	$14	$10	$10	$7	$5	$4	$3	$2	$1	$1	$1
19	Federal ADIT Balance	Prior Ln.19 + Ln.15 - Ln.18	$307	$269	$228	$190	$150	$105	$73	$59	$56	$55	$53
20	Total State And Federal ADIT Balances	Ln. 6 + Ln. 19	$348	$324	$276	$231	$183	$127	$89	$72	$71	$70	$68

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Illustrative TEFRA Adjustment to ADIT
1977-2000: Carrier Inputs,
Except for Depreciation (millions $)

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Line No.	Description	Source	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
1	Tax Depreciation Basis before TEFRA Adjustment	Sch 10	$8,287	$116	$98	$127	$53	$64	$86	$52	$29	$20	$33	$10	$37
2	Tax Depreciation Basis Reduction	IRC	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	5.00%	5.00%	5.00%	0.00%	0.00%	0.00%	0.00%
3	TEFRA Adjustment	Ln. 1 * Ln. 2	$0	$0	$0	$0	$0	$0	$4	$3	$1	$0	$0	$0	$0
4	TEFRA Adjustment Balance (BOY)	Ln. 3 + Prior Ln. 7	$0	$0	$0	$0	$0	$0	$4	$6	$7	$6	$5	$4	$3
5	Depreciation Factor	Sch 15 Ln.8	1.38%	6.31%	8.05%	9.79%	10.38%	11.72%	12.66%	13.95%	13.62%	14.85%	16.89%	18.44%	19.15%
6	Depreciation of TEFRA Adjustment	Ln. 4 * Ln. 5	$0	$0	$0	$0	$0	$0	$1	$1	$1	$1	$1	$1	$1
7	TEFRA Adjustment Balance (EOY)	Ln. 4 - Ln. 6	$0	$0	$0	$0	$0	$0	$4	$5	$6	$5	$4	$3	$2

Illustrative TEFRA Adjustment to ADIT
1977-2000: Carrier Inputs,
Except for Depreciation (millions $)

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Line No.	Description	Source	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
1	Tax Depreciation Basis before TEFRA Adjustment	Sch 10	$82	$205	$71	$47	$44	$37	$29	$109	$22	$47	$59
2	Tax Depreciation Basis Reduction	IRC	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
3	TEFRA Adjustment	Ln. 1 * Ln. 2	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
4	TEFRA Adjustment Balance (BOY)	Ln. 3 + Prior Ln. 7	$3	$2	$2	$1	$1	$1	$1	$1	$1	$0	$0
5	Depreciation Factor	Sch 15 Ln.8	19.18%	18.23%	20.49%	20.52%	20.39%	20.65%	17.29%	11.45%	7.60%	7.50%	8.51%
6	Depreciation of TEFRA Adjustment	Ln. 4 * Ln. 5	$1	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
7	TEFRA Adjustment Balance (EOY)	Ln. 4 - Ln. 6	$2	$2	$1	$1	$1	$1	$1	$1	$0	$0	$0

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Illustrative DOC Rate Base, 1977-2000
(millions $)

All Carrier Inputs Except Depreciation

Line No.	Description	Source	Starting Balances	1977	1978	1979	1980	1981	1982
1	Gross Carrier Property - BOY	Prior Ln. 8	$7,741	$10,303	$10,482	$10,654	$10,746	$10,875	$10,942
2	Gross Property Additions, New Construction E	Sch 16, Ln. 3		$1,422	$98	$100	$106	$49	$65
3	Less Additions to Capitalized Interest	Sch 16, [Ln. 10 - Prior Ln. 10]		$1,216	$0	$0	$0	($0)	$0
4	Gross Property Additions, Net IDC	Ln. 2 - Ln. 3		$206	$98	$100	$106	$50	$65
5	Acquisitions of Carrier Property in Service	Sch 16, Ln. 4		$0	$0	$0	$170	$0	$0
6	Retirements of CPIS	Sch 16, Ln. 5		($29)	($7)	($12)	($165)	($2)	($12)
7	Adjustments to CPIS	Sch 16, Ln. 6		($0)	$65	($4)	$1	($1)	($13)
8	Equity AFUDC Additions	Sch 9, Ln. 3	$2,165	$2	$12	$6	$14	$17	$17
9	Debt AFUDC Additions	Sch 9, Ln. 9	$398	$1	$4	$2	$3	$4	$4
10	Gross Carrier Property - EOY	Lns (1+4+5+6+7+8+9)	$10,303	$10,482	$10,654	$10,746	$10,875	$10,942	$11,003
11	Accumulated Depreciation	Sch 6, Ln. 6		$108	$602	$1,197	$1,838	$2,505	$3,173
12	Accumulated Equity AFUDC Amortization	Sch 9 Ln. 7		$30	$166	$328	$511	$688	$869
13	Accumulated Debt AFUDC Amortization	Sch 9 Ln. 13		$5	$31	$61	$94	$127	$161
14	CWIP Balance - EOY	Sch 16, Ln. 8		$42	$24	$28	$29	$29	$33
15	Net Carrier Property	Lns (10 -11-12-13-14)	$10,303	$10,296	$9,832	$9,132	$8,402	$7,592	$6,767
16	Working Capital	Schedule 16, Ln. 11		$57	$29	$36	$34	$39	$39
17	ADIT	Sch 12 Ln. 20		$190	$360	$436	$446	$453	$462
18	Rate Base	Lns (15+16-17)	$10,303	$10,164	$9,501	$8,732	$7,990	$7,179	$6,344
19	Average Rate Base	(Ln.18+Prior Ln.18)/2.0		$10,233	$9,832	$9,117	$8,361	$7,584	$6,761

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Illustrative DOC Rate Base, 1977-2000
(millions $)

All Carrier Inputs Except Depreciation

Line No.	Description	Source	1983	1984	1985	1986	1987	1988	1989
1	Gross Carrier Property - BOY	Prior Ln. 8	$11,003	$11,059	$11,088	$11,102	$11,121	$11,137	$11,142
2	Gross Property Additions, New Construction E	Sch 16, Ln. 3	$70	$38	$26	$21	$32	$17	$48
3	Less Additions to Capitalized Interest	Sch 16, [Ln. 10 - Prior Ln. 10]	$0	($1)	($0)	($0)	($0)	($0)	($0)
4	Gross Property Additions, Net IDC	Ln. 2 - Ln. 3	$70	$39	$26	$21	$32	$17	$48
5	Acquisitions of Carrier Property in Service	Sch 16, Ln. 4	$0	$0	$0	$0	$0	$0	$0
6	Retirements of CPIS	Sch 16, Ln. 5	($24)	($13)	($14)	($3)	($17)	($13)	($5)
7	Adjustments to CPIS	Sch 16, Ln. 6	($4)	($4)	$0	$0	$0	$0	($0)
8	Equity AFUDC Additions	Sch 9, Ln. 3	$12	$7	$1	$1	$1	$0	$1
9	Debt AFUDC Additions	Sch 9, Ln. 9	$2	$1	$0	$0	$0	$0	$0
10	Gross Carrier Property - EOY	Lns (1+4+5+6+7+8+9)	$11,059	$11,088	$11,102	$11,121	$11,137	$11,142	$11,186
11	Accumulated Depreciation	Sch 6, Ln. 6	$3,811	$4,441	$4,970	$5,482	$5,969	$6,415	$6,806
12	Accumulated Equity AFUDC Amortization	Sch 9 Ln. 7	$1,043	$1,212	$1,353	$1,487	$1,616	$1,734	$1,834
13	Accumulated Debt AFUDC Amortization	Sch 9 Ln. 13	$193	$225	$251	$276	$300	$322	$340
14	CWIP Balance - EOY	Sch 16, Ln. 8	$15	$4	$1	$2	$2	$9	$20
15	Net Carrier Property	Lns (10 -11-12-13-14)	$5,996	$5,207	$4,526	$3,874	$3,251	$2,663	$2,187
16	Working Capital	Schedule 16, Ln. 11	$29	$33	$34	$29	$33	$36	$36
17	ADIT	Sch 12 Ln. 20	$463	$453	$473	$477	$450	$410	$375
18	Rate Base	Lns (15+16-17)	$5,562	$4,786	$4,087	$3,425	$2,834	$2,289	$1,848
19	Average Rate Base	(Ln.18+Prior Ln.18)/2.0	$5,953	$5,174	$4,437	$3,756	$3,130	$2,562	$2,068

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Illustrative DOC Rate Base, 1977-2000
(millions $)

All Carrier Inputs Except Depreciation

Line No.	Description	Source	1990	1991	1992	1993	1994	1995
1	Gross Carrier Property - BOY	Prior Ln. 8	$11,186	$11,341	$11,442	$11,506	$11,536	$11,581
2	Gross Property Additions, New Construction E	Sch 16, Ln. 3	$156	$141	$71	$36	$51	$56
3	Less Additions to Capitalized Interest	Sch 16, [Ln. 10 - Prior Ln. 10]	($0)	($0)	($0)	($0)	($0)	($0)
4	Gross Property Additions, Net IDC	Ln. 2 - Ln. 3	$156	$141	$71	$36	$51	$56
5	Acquisitions of Carrier Property in Service	Sch 16, Ln. 4	$0	$0	$0	$0	$0	$0
6	Retirements of CPIS	Sch 16, Ln. 5	($4)	($53)	($16)	($11)	($10)	($4)
7	Adjustments to CPIS	Sch 16, Ln. 6	$0	($0)	$0	($0)	$0	$0
8	Equity AFUDC Additions	Sch 9, Ln. 3	$3	$10	$7	$4	$4	$3
9	Debt AFUDC Additions	Sch 9, Ln. 9	$1	$2	$2	$1	$1	$1
10	Gross Carrier Property - EOY	Lns (1+4+5+6+7+8+9)	$11,341	$11,442	$11,506	$11,536	$11,581	$11,638
11	Accumulated Depreciation	Sch 6, Ln. 6	$7,138	$7,375	$7,646	$7,872	$8,058	$8,220
12	Accumulated Equity AFUDC Amortization	Sch 9 Ln. 7	$1,915	$1,980	$2,040	$2,090	$2,129	$2,162
13	Accumulated Debt AFUDC Amortization	Sch 9 Ln. 13	$355	$367	$379	$388	$396	$402
14	CWIP Balance - EOY	Sch 16, Ln. 8	$94	$32	$34	$24	$31	$51
15	Net Carrier Property	Lns (10 -11-12-13-14)	$1,839	$1,687	$1,407	$1,162	$968	$803
16	Working Capital	Schedule 16, Ln. 11	$39	$59	$54	$44	$43	$34
17	ADIT	Sch 12 Ln. 20	$348	$324	$276	$231	$183	$127
18	Rate Base	Lns (15+16-17)	$1,530	$1,422	$1,185	$976	$828	$710
19	Average Rate Base	(Ln.18+Prior Ln.18)/2.0	$1,689	$1,476	$1,304	$1,081	$902	$769

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Illustrative DOC Rate Base, 1977-2000
(millions $)

All Carrier Inputs Except Depreciation

Line No.	Description	Source	1996	1997	1998	1999	2000
1	Gross Carrier Property - BOY	Prior Ln. 8	$11,638	$11,668	$11,744	$11,772	$11,829
2	Gross Property Additions, New Construction E	Sch 16, Ln. 3	$52	$61	$30	$95	$45
3	Less Additions to Capitalized Interest	Sch 16, [Ln. 10 - Prior Ln. 10]	($9)	($0)	($0)	($0)	$0
4	Gross Property Additions, Net IDC	Ln. 2 - Ln. 3	$61	$61	$30	$95	$45
5	Acquisitions of Carrier Property in Service	Sch 16, Ln. 4	$81	$0	$0	$0	$0
6	Retirements of CPIS	Sch 16, Ln. 5	($116)	($3)	($6)	($47)	($1)
7	Adjustments to CPIS	Sch 16, Ln. 6	$0	($0)	($0)	($0)	$0
8	Equity AFUDC Additions	Sch 9, Ln. 3	$3	$15	$4	$7	$9
9	Debt AFUDC Additions	Sch 9, Ln. 9	$1	$3	$1	$1	$1
10	Gross Carrier Property - EOY	Lns (1+4+5+6+7+8+9)	$11,668	$11,744	$11,772	$11,829	$11,883
11	Accumulated Depreciation	Sch 6, Ln. 6	$8,252	$8,331	$8,374	$8,420	$8,469
12	Accumulated Equity AFUDC Amortization	Sch 9 Ln. 7	$2,184	$2,198	$2,206	$2,214	$2,224
13	Accumulated Debt AFUDC Amortization	Sch 9 Ln. 13	$406	$409	$410	$412	$414
14	CWIP Balance - EOY	Sch 16, Ln. 8	$74	$30	$39	$43	$30
15	Net Carrier Property	Lns (10 -11-12-13-14)	$752	$777	$743	$739	$746
16	Working Capital	Schedule 16, Ln. 11	$36	$44	$43	$47	$24
17	ADIT	Sch 12 Ln. 20	$89	$72	$71	$70	$68
18	Rate Base	Lns (15+16-17)	$699	$749	$715	$717	$702
19	Average Rate Base	(Ln.18+Prior Ln.18)/2.0	$705	$724	$732	$716	$709

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Illustrative Amortization Rates, 1977-2000
(percentages)

All Carrier Inputs Except Depreciation

Line No.	Description	Source	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987
1	Grand Total, Carrier Property - EOY	Sch 16 Ln. 9	$9,133	$9,289	$9,373	$9,486	$9,531	$9,572	$9,613	$9,634	$9,646	$9,665	$9,680
2	Land - EOY	Sch 16 Ln. 7	$17	$17	$17	$17	$17	$17	$17	$17	$17	$17	$17
3	CWIP - EOY	Sch 16 Ln. 8	$42	$24	$28	$29	$29	$33	$15	$4	$1	$2	$2
4	Capitalized Interest - EOY	Sch 16 Ln. 10	$1,216	$1,216	$1,216	$1,216	$1,215	$1,215	$1,215	$1,214	$1,214	$1,214	$1,214
5	Gross Depreciable Property, Less Capitalized Interest, EOY	Ln 1 - Lns(2 + 3 + 4)	$7,859	$8,033	$8,113	$8,224	$8,270	$8,306	$8,366	$8,399	$8,414	$8,431	$8,447
6	Appropriate Depreciation Expense	Sch 6 Ln. 3	$108	$501	$605	$693	$668	$682	$660	$642	$543	$515	$504
7	Appropriate Accumulated Depreciation	Sch 6 Ln. 6	$108	$602	$1,197	$1,838	$2,505	$3,173	$3,811	$4,441	$4,970	$5,482	$5,969
8	Amortization Rate - Net Basis	Ln. 6/Lns. (5 + 6 - 7)	1.38%	6.31%	8.05%	9.79%	10.38%	11.72%	12.66%	13.95%	13.62%	14.85%	16.89%

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Illustrative Amortization Rates, 1977-2000
(percentages)

All Carrier Inputs Except Depreciation

Line No.	Description	Source	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
1	Grand Total, Carrier Property - EOY	Sch 16 Ln. 9	$9,684	$9,726	$9,878	$9,965	$10,020	$10,045	$10,086	$10,139	$10,156	$10,214	$10,238
2	Land - EOY	Sch 16 Ln. 7	$17	$17	$18	$18	$18	$18	$19	$19	$19	$19	$19
3	CWIP - EOY	Sch 16 Ln. 8	$9	$20	$94	$32	$34	$24	$31	$51	$74	$30	$39
4	Capitalized Interest - EOY	Sch 16 Ln. 10	$1,214	$1,214	$1,214	$1,214	$1,214	$1,214	$1,214	$1,214	$1,205	$1,205	$1,205
5	Gross Depreciable Property, Less Capitalized Interest, EOY	Ln 1 - Lns(2 + 3 + 4)	$8,444	$8,475	$8,552	$8,701	$8,755	$8,790	$8,823	$8,856	$8,859	$8,961	$8,976
6	Appropriate Depreciation Expense	Sch 6 Ln. 3	$459	$395	$336	$296	$286	$237	$196	$165	$127	$82	$50
7	Appropriate Accumulated Depreciation	Sch 6 Ln. 6	$6,415	$6,806	$7,138	$7,375	$7,646	$7,872	$8,058	$8,220	$8,252	$8,331	$8,374
8	Amortization Rate - Net Basis	Ln. 6/Lns. (5 + 6 - 7)	18.44%	19.15%	19.18%	18.23%	20.49%	20.52%	20.39%	20.65%	17.29%	11.45%	7.60%

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Illustrative Amortization Rates, 1977-2000
(percentages)

All Carrier Inputs Except Depreciation

Line No.	Description	Source	1999	2000
1	Grand Total, Carrier Property - EOY	Sch 16 Ln. 9	$10,286	$10,330
2	Land - EOY	Sch 16 Ln. 7	$19	$19
3	CWIP - EOY	Sch 16 Ln. 8	$43	$30
4	Capitalized Interest - EOY	Sch 16 Ln. 10	$1,205	$1,205
5	Gross Depreciable Property, Less Capitalized Interest, EOY	Ln 1 - Lns(2 + 3 + 4)	$9,019	$9,076
6	Appropriate Depreciation Expense	Sch 6 Ln. 3	$49	$56
7	Appropriate Accumulated Depreciation	Sch 6 Ln. 6	$8,420	$8,469
8	Amortization Rate - Net Basis	Ln. 6/Lns. (5 + 6 - 7)	7.50%	8.51%

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Illustrative Carrier Property Balances, 1977-2000
(millions $)

All Carrier Inputs Except Depreciation

Line No.	Description[1]	Starting Balance	1977	1978	1979	1980	1981	1982	1983	1984
1	Land - New Construction Exp.		$17	$0	$0	$0	$0	$0	$0	$0
2	CWIP - New Construction Exp.		$42	($14)	$3	($17)	($0)	$5	($14)	($13)
3	Grand Total - New Construction E:	$7,741	$1,422	$98	$100	$106	$49	$65	$70	$38
4	Grand Total - Acquired Property		$0	$0	$0	$170	$0	$0	$0	$0
5	Grand Total - Credits for Retirements		($29)	($7)	($12)	($165)	($2)	($12)	($24)	($13)
6	Grand Total - Other Adjustments		($0)	$65	($4)	$1	($1)	($13)	($4)	($4)
7	Land - EOY Balance		$17	$17	$17	$17	$17	$17	$17	$17
8	CWIP - EOY Balance		$42	$24	$28	$29	$29	$33	$15	$4
9	Grand Total - EOY Balance		$9,133	$9,289	$9,373	$9,486	$9,531	$9,572	$9,613	$9,634
10	Capitalized Interest - EOY Balance	$1,216	$1,216	$1,216	$1,216	$1,216	$1,215	$1,215	$1,215	$1,214
11	Workign Capital		$57.24	$29.20	$36.01	$34.18	$39.23	$38.95	$28.69	$32.58
12	Operting Expenses		$242	$450	$396	$456	$466	$468	$456	$441

[1]All inputs from 143-RGV-C,
TAPS-RGV WP3, Schedules 12 & 13

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Illustrative Carrier Property Balances, 1977-2000
(millions $)

All Carrier Inputs Except Depreciation

Line No.	Description[1]	1985	1986	1987	1988	1989	1990	1991	1992	1993
1	Land - New Construction Exp.	$0	$0	$0	$0	$0	$1	$0	$0	$0
2	CWIP - New Construction Exp.	($3)	$1	($1)	$7	$11	$74	($62)	$1	($10)
3	Grand Total - New Construction E:	$26	$21	$32	$17	$48	$156	$141	$71	$36
4	Grand Total - Acquired Property	$0	$0	$0	$0	$0	$0	$0	$0	$0
5	Grand Total - Credits for Retiremer	($14)	($3)	($17)	($13)	($5)	($4)	($53)	($16)	($11)
6	Grand Total - Other Adjustments	$0	$0	$0	$0	($0)	$0	($0)	$0	($0)
7	Land - EOY Balance	$17	$17	$17	$17	$17	$18	$18	$18	$18
8	CWIP - EOY Balance	$1	$2	$2	$9	$20	$94	$32	$34	$24
9	Grand Total - EOY Balance	$9,646	$9,665	$9,680	$9,684	$9,726	$9,878	$9,965	$10,020	$10,045
10	Capitalized Interest - EOY Balance	$1,214	$1,214	$1,214	$1,214	$1,214	$1,214	$1,214	$1,214	$1,214
11	Workign Capital	$33.68	$28.58	$33.33	$36.15	$36.24	$39.01	$58.84	$54.30	$44.19
12	Operting Expenses	$462	$438	$411	$449	$582	$710	$658	$717	$753

[1]All inputs from 143-RGV-C,
TAPS-RGV WP3, Schedules 12 & 13

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Illustrative Carrier Property Balances, 1977-2000
(millions $)

All Carrier Inputs Except Depreciation

Line No.	Description[1]	1994	1995	1996	1997	1998	1999	2000
1	Land - New Construction Exp.	$1	$0	$0	$0	$0	$0	$0
2	CWIP - New Construction Exp.	$7	$20	$23	($44)	$9	$49	($13)
3	Grand Total - New Construction E:	$51	$56	$52	$61	$30	$95	$45
4	Grand Total - Acquired Property	$0	$0	$81	$0	$0	$0	$0
5	Grand Total - Credits for Retiremer	($10)	($4)	($116)	($3)	($6)	($47)	($1)
6	Grand Total - Other Adjustments	$0	$0	$0	($0)	($0)	($0)	$0
7	Land - EOY Balance	$19	$19	$19	$19	$19	$19	$19
8	CWIP - EOY Balance	$31	$51	$74	$30	$39	$43	$30
9	Grand Total - EOY Balance	$10,086	$10,139	$10,156	$10,214	$10,238	$10,286	$10,330
10	Capitalized Interest - EOY Balance	$1,214	$1,214	$1,205	$1,205	$1,205	$1,205	$1,205
11	Workign Capital	$43.05	$34.49	$36.42	$43.96	$43.06	$47.45	$23.80
12	Operting Expenses	$889	$668	$601	$604	$566	$568	$444

[1]All inputs from 143-RGV-C,
TAPS-RGV WP3, Schedules 12 & 13

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Explanatory Note to Exhibit 4

The rationale for a comparative revenue requirement analysis is developed in Part V.

Lines 9 and 10 on Schedule 1 show that, even when measured against a straight-line DOC (but with appropriate capital structure and rate of return), the Carriers have had the opportunity to recover more than $9 and $20 billion (measured in nominal and 1997 dollars, respectively) in excess of the costs of providing service. The critical element to this calculation -- the straight-line DOC revenue requirement -- is reported at Line 1 of Schedule 1. TSM's revenue requirement is reduced by the amount of TSM DR&R to permit an "apples to apples" assessment of filed rates. We evaluate the comparative revenue requirements in 1997 present value dollars, rather than 1977 dollars, because the Carriers' opportunity at investment recovery is at issue, and such investment will be recovered in current rather than historical dollars.

The straight-line DOC revenue requirement is calculated at Schedule 2. The depreciation amounts are taken from Schedule 5, and reflect the Carriers' sponsored depreciation figures.[1] AFUDC is calculated in Schedule 6, as per the discussion in Part IV.B.5, and is amortized according to Schedule 7, consistent with the net depreciation factors being modeled. Return on rate base is calculated in Schedule 3, where the rate base is developed in Schedule 8. Rate base reflects adjustments for ADIT, calculated in Schedule 11 as per the discussion in Part IV.D. Income taxes are calculated (see Schedule 4) according to maximum statutory rates; see Part V.A.3 for discussion.

[1] Exhibit 134-RGV-C, TAPS-RGV WP3.xls, Schedule 2.

Illustrative Annual and Cumulative Regulatorily Enforced Return Deficiency
(millions $)

Appropriate ROR and Capital Structure, Carriers' Inputs Otherwise

Line No.	Description	Source	1977	1978	1979	1980	1981	1982	1983
1	Straight-Line DOC Revenue Requirement	Schedule 2, Ln. 6	$2,355	$2,860	$2,718	$2,847	$2,976	$2,683	$2,324
2	TSM RR	31-BWF-E; 30-BWF-E: Line 125[1]	$860	$2,480	$2,654	$3,081	$3,354	$3,548	$3,524
3	TSM DR&R Charges	29-ABJ-W: Horst Testimony	$24	$96	$113	$127	$120	$121	$116
4	TSM Revenue Requirement, Less DR&R	Lns. 2 - 3	$836	$2,384	$2,541	$2,954	$3,234	$3,427	$3,408
5	Regulatorily Enforced Return Deficiency	Ln. 4 - Ln. 1	($1,519)	($476)	($177)	$107	$258	$743	$1,084
6	Weighted Rate of Return plus Unity	1 + (Schedule 3 Ln. 1)	1.1174	1.1219	1.1263	1.1367	1.1515	1.1498	1.1331
7	Present Value (1997) Factor	Product(Line 6, this year to 1996)	11.2640	10.0806	8.9853	7.9777	7.0183	6.0949	5.3008
8	Regulatory Deficiency (Present Value 1997$)	Ln. 5 * Ln. 7	($17,105)	($4,803)	($1,587)	$852	$1,812	$4,530	$5,746
9	Cumulative Sum, Return Deficiency	Sum(Ln. 5, 1977 to this year)	($1,519)	($1,995)	($2,172)	($2,065)	($1,807)	($1,063)	$21
10	Cumulative Sum, Return Deficiency, 1997 $	Sum(Ln. 8, 1977 to this year)	($17,105)	($21,908)	($23,495)	($22,643)	($20,830)	($16,300)	($10,554)

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Illustrative Annual and Cumulative Regulatorily Enforced Return Deficiency
(millions $)

Appropriate ROR and Capital Structure, Carriers' Inputs Otherwise

Line No.	Description	Source	1984	1985	1986	1987	1988	1989	1990
1	Straight-Line DOC Revenue Requirement	Schedule 2, Ln. 6	$2,287	$2,124	$1,918	$1,700	$1,599	$1,675	$1,769
2	TSM RR	31-BWF-E; 30-BWF-E: Line 125[1]	$3,388	$3,245	$3,101	$2,739	$2,413	$2,312	$2,354
3	TSM DR&R Charges	29-ABJ-W: Horst Testimony	$110	$104	$98	$95	$85	$73	$61
4	TSM Revenue Requirement, Less DR&R	Lns. 2 - 3	$3,277	$3,141	$3,003	$2,644	$2,328	$2,239	$2,293
5	Regulatorily Enforced Return Deficiency	Ln. 4 - Ln. 1	$991	$1,018	$1,085	$944	$729	$564	$524
6	Weighted Rate of Return plus Unity	1 + (Schedule 3 Ln. 1)	1.1394	1.1329	1.1264	1.1263	1.1284	1.1274	1.1288
7	Present Value (1997) Factor	Product(Line 6, this year to 1996)	4.6782	4.1058	3.6242	3.2175	2.8567	2.5316	2.2455
8	Regulatory Deficiency (Present Value 1997$)	Ln. 5 * Ln. 7	$4,634	$4,178	$3,931	$3,037	$2,084	$1,428	$1,177
9	Cumulative Sum, Return Deficiency	Sum(Ln. 5, 1977 to this year)	$1,011	$2,029	$3,113	$4,057	$4,787	$5,351	$5,875
10	Cumulative Sum, Return Deficiency, 1997 $	Sum(Ln. 8, 1977 to this year)	($5,920)	($1,742)	$2,189	$5,225	$7,309	$8,737	$9,915

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