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SERVICE DATE - MAY 9, 2000

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SURFACE TRANSPORTATION BOARD

DECISION

STB Docket No. 41685

CF INDUSTRIES, INC.

v.

KOCH PIPELINE COMPANY, L.P.

Decided: May 3, 2000

The Board finds that Koch Pipeline Company, L.P., faces no effective competitive alternatives to the transportation that it provides for complainants, CF Industries, Inc. and Farmland Industries, Inc., to 19 of the 21 locations at issue, and that Koch's rate increases to those locations in 1996 were unreasonable. Koch is ordered to reduce its rates to the pre-increase level and to pay reparations.

BY THE BOARD:

On March 27, 1996, CF Industries, Inc. (CF), a farmer-owned cooperative that produces and ships anhydrous ammonia (AA), filed a complaint against Koch Pipeline Company, L.P. (Koch or defendant) challenging rate increases (averaging almost 20%) taken in 1996¹ for pipeline transportation of AA from the Louisiana Gulf Coast to the Midwest. CF asserts that those rate increases were unreasonable under 49 U.S.C. 15501(a) and discriminatory under 49 U.S.C. 15505. On July 25, 1996, we allowed another AA producer, Farmland Industries, Inc. (Farmland), to join in the complaint.²

¹ Koch phased in the rate increases, with 75% of the increases taking effect on April 1, 1996, and the remaining 25% on July 1, 1996.

² In addition to a rate rollback and damages, Farmland seeks to be reimbursed for its attorney's fees, but we have no authority to award attorney's fees.

On May 14, 1997, we instituted an investigation into the complaint. The parties have filed evidence (in opening, reply and rebuttal statements) and briefs.³ Upon review, we find that, with two exceptions, complainants lack effective competitive alternatives to the pipeline transportation provided by Koch to the terminal locations at issue, and that Koch's rate increases to these locations were unreasonable. We order Koch to reduce the rates to their pre-increase levels and to pay reparations.⁴

I. BACKGROUND

AA, a hazardous material, is a colorless alkaline gas compound of nitrogen and hydrogen used in the manufacture of fertilizers and as a direct fertilizer application. Koch's 1,943-mile pipeline, constructed more than 30 years ago to link AA production facilities in Louisiana to users throughout the Midwest Corn Belt, transports AA in pressurized, liquid form. The pipeline runs from Louisiana north to Hermann, MO, where it splits into two legs. The main stem serves 1 storage destination point in Arkansas, the eastern leg serves 8 destination points in Illinois and Indiana, and the western leg serves 15 destinations in Missouri, Iowa and Nebraska.⁵ See Appendix 1. Koch acquired the pipeline from its previous owner, GCPL, in early 1988.

³ The parties submitted entire pleadings that were characterized as "confidential" or "highly confidential." By decision served October 13, 1998, we directed the parties to designate what particular evidence is confidential so that, in making our decision, we would "not be inhibited by an overly protective designation." Slip op. at 2. In response to that order, the parties bracketed the material they deemed to be confidential and highly confidential evidence, but those designations are still too restrictive, encompassing what appears in many instances to be non-sensitive information. While we are mindful of confidentiality concerns, we must be able to refer to and address the evidence in a meaningful way.

⁴ On January 27, 1998, CF sought to amend the complaint to include a request that the Board prescribe rates below the pre-increase levels and award damages accordingly. Not only is that request untimely — having been filed almost 2 years after the initial complaint and 4 months after the close of discovery — but CF is estopped from challenging the rates in effect prior to April 1996. That is because Koch's predecessor, Gulf Central Pipeline Company (GCPL), and several AA shippers, including CF, entered into a settlement agreement in August 1986, approved by the Federal Energy Regulatory Commission (FERC), in which CF agreed not to challenge then-existing pipeline rates as unlawful. Koch, Response and Opposition to Motion to Amend Complaint (Feb. 17, 1998), Attachments 1 and 2. Koch maintained those rates when it acquired the pipeline in February 1988, and made no rate adjustments until the 1996 increases at issue here.

⁵ The complaint covers the rates to 21 of the 24 pipeline delivery points (complainants do not use the Louisiana, MO or Blair, NE destinations, and Koch did not raise its rates on complainants' traffic to Fort Madison, IA), and there are 28 storage terminals located at these 21 points. Of these storage terminals, 9 are owned by CF, 4 by Farmland, 12 by Koch and 2 by a Koch affiliate, and 1 by El Dorado Chemical Company. See Appendix 2.

Both the Midwestern market for AA and the underlying transportation patterns are unusual. The region's demand for AA exceeds local production by nearly 3 million tons annually, and Louisiana AA producers such as CF, Farmland, and Koch Nitrogen Company (KNC) — a Koch affiliate — provide more than two-thirds of that shortfall.⁶ CF, V.S. Mugica, at 3-4.⁷ The demand for AA — especially for direct application — increases sharply during the Spring planting season (and to a lesser extent in the Fall). As a result, AA is not delivered to the end-users evenly over the year. Rather, complainants spend the year filling giant storage terminals throughout the Midwest with AA, so that it will be locally available when needed. During the Spring in particular, the terminals are depleted rapidly — usually in a matter of weeks — through deliveries in specialized trucks to retailers in the surrounding area, who then distribute it to farmers for immediate application.⁸ Afterward, complainants' customers — or in CF's case, its co-op members — designate their future AA requirements and, based upon those “intents,” complainants begin the cycle anew. *Id.* at 8; see also Reply V.S. Mugica, at 10, Reb. V.S. Mugica, at 3.

In the eight years after Koch acquired the pipeline, traffic through the pipeline (throughput) increased from 1.1 to 1.8 million tons per year (Koch, Reb. V.S. Simmons, at 6), and in 1996 Koch raised its rates to nearly all of its destinations. Complainants assert, however, that Koch was already earning exorbitant returns on its existing pipeline rates, and that the rate increases were not warranted.⁹ They also claim that the rate increases were assessed disproportionately in a way that preferred Koch's affiliate (KNC) and discriminated against complainants.¹⁰ Appendix 3 lists the

⁶ CF's production facilities are in southern Louisiana (at Donaldsonville), while Farmland's and KNC's are in northern Louisiana (at Pollack and Sterlington, respectively). The remaining Louisiana AA producers (not parties to this proceeding) are all located in southern Louisiana, at Donaldsonville (IMC/Agrico and First Mississippi/AMPRO), Luling (Monsanto), and Fortier (Cytec). The parties describe all pipeline movements of AA from Louisiana as originating from New Orleans, LA (NOLA), and we adopt that designation.

⁷ References to the verified statements in the record will be as follows: opening evidence (V.S.); reply evidence (Reply V.S.); and rebuttal evidence (Reb. V.S.).

⁸ The hazardous nature of AA requires specialized storage and handling that the terminals provide. Retailers and farmers lack the needed storage capacity and refuse to assume the risks associated with storing large quantities of AA on-site for prolonged periods of time prior to its application. Reb. V.S. Mugica, at 20.

⁹ The rate increases for CF and Farmland shipments averaged nearly 31% on the eastern leg and 11% on the western leg, with an overall simple average increase of approximately 18.4%.

¹⁰ On the eastern leg of the pipeline, for example, the increases ranged from nearly 5% on KNC's Sterlington to Wood River, IL rate, to 53.2% on CF's Donaldsonville to Walton, IN rate, and on the western leg from as little as 0.3% on KNC's Sterlington to Fort Madison, IA rate, to
(continued...)

destination locations, the prior and current pipeline rates for CF, Farmland, and KNC, and the percentage increases.

Koch asserts that its pipeline rates are constrained competitively by other transportation modes that can move the AA now transported by the pipeline, by another major AA pipeline, by other geographic sources where AA may be purchased, and by other substitutable fertilizers. As a result, Koch argues, its rate increases should not be subjected to regulatory intervention, but in any event are not unreasonable. Koch also asserts that complainants' discrimination claims should be dismissed.

II. REGULATORY FRAMEWORK

Under 49 U.S.C. 15301(a), we are charged with the economic regulation of pipeline transportation of commodities "other than water, gas, or oil."¹¹ The rates for such transportation must be reasonable, 49 U.S.C. 15501(a), and a pipeline carrier may not unreasonably discriminate among its users, 49 U.S.C. 15505. If we find that a carrier's rates violate these statutory commands, we may prescribe a reasonable rate, 49 U.S.C. 15503(a), but in so doing, we are directed to consider, among other factors, the effect on the movement of traffic by that carrier, the carrier's revenue needs, and the availability of other economic transportation alternatives, 49 U.S.C. 15503(b).

As we explained in our decision of May 14, 1997 commencing this investigation (May 1997 Decision), in view of section 15503(b)(3), we need not provide rate relief unless shippers lack effective competitive alternatives. May 1997 Decision, at 5. This reading of the statute is consistent with the limitation on our regulatory authority over the level of rates charged by rail carriers, see 49 U.S.C. 10701(d), 10707(b) (confining our rate regulatory authority to movements over which the

¹⁰(...continued)

24.5% on CF's Donaldsonville to Palmyra, MO rate.

¹¹ Koch asserts that AA is a gas and is thus beyond the Board's oversight, citing Cortez Pipeline Co.--Pet. for Decl. Order--Jurisd. over Transp. of Carbon Dioxide by Pipeline, ICC Finance Docket No. 37427 (ICC served Dec. 23, 1980 and Mar. 26, 1981) (Cortez). However, the jurisdictional dividing line has been clarified since the Cortez case, and our jurisdiction over AA is now settled. In Gulf Central Pipeline Co.--Pet. for Decl. Order, 7 I.C.C.2d 52, 56-58 (1990), our predecessor, the Interstate Commerce Commission (ICC), expressly found that it had jurisdiction over AA because FERC has pipeline jurisdiction only over energy-related commodities, and AA is an agricultural, not an energy-related, product. The ICC's ruling was consistent with CF Industries v. FERC, 925 F.2d 476 (D.C. Cir. 1991), affirming a FERC decision that also confirmed the ICC's jurisdiction over the pipeline transportation of AA. See also H.R. Rep. No. 104-122, 104th Cong., 1st Sess. 230 (1995) (specifically referring to AA in connection with transferring the ICC's pipeline jurisdiction to the Board).

railroad has “market dominance”), and with the policy of FERC in its regulation of petroleum pipelines. As we indicated, sound regulatory policy should allow the marketplace — not regulators — to determine the most efficient level of prices where competition is sufficient to prevent the exercise of market power.¹² *Id.* Thus, while the presence of effective competitive alternatives is not a jurisdictional bar, as it is in rail regulation, a market power inquiry is nonetheless an essential consideration here.¹³ Accordingly, we concluded that we would be “guided generally” here by our rail market dominance guidelines.¹⁴ May 1997 Decision, at 5.

Under those guidelines, we have traditionally examined the effectiveness of intramodal, intermodal, product, and geographic competition.¹⁵ Recently, however, we eliminated consideration of product and geographic competition in rail rate proceedings, and have applied that change to pending as well as future rail rate proceedings.¹⁶ Koch, however, filed a petition on July 22, 1999, seeking clarification that the evidence that had been presented regarding product and geographic competition would still be considered in this pipeline proceeding. Complainants opposed the petition, arguing that our revised rail market dominance guidelines — which now exclude

¹² See also, Georgia Pac. Corp.--Pet. For Declaratory Order, 9 I.C.C.2d 103, 161 (1992), aff'd sub nom. Oneida Motor Freight, Inc. v. ICC, 45 F.3d 503 (D.C. Cir. 1995) (market-based rates are the best indicator of the reasonableness of rates charged by motor carriers).

¹³ Even prior to the addition of section 15503(b) in the ICC Termination Act of 1995, Pub. L. No. 104-88, 109 Stat. 803 (ICCTA), the ICC provided for the use of “market-based ratemaking factors (e.g., market power and competitive factors)” in pipeline cases “on a case-by-case basis.” Ashley Creek Phosphate Co. v. Chevron Pipe Line Co., No. 40131 (Sub-No. 1), slip op. at 5 (ICC served Feb. 15, 1991).

¹⁴ Market Dominance Determinations, 365 I.C.C. 118 (1981) (Market Dominance Guidelines), aff'd sub nom. Western Coal Traffic League v. United States, 719 F.2d 772 (5th Cir. 1983) (en banc), cert. denied, 466 U.S. 953 (1984), modified in Product and Geographic Competition, 2 I.C.C.2d 1 (1985).

¹⁵ Intramodal and intermodal competition refer to competition from another carrier for transporting the same commodity between the same origin and destination by the same mode (intramodal) or a different mode (intermodal). In contrast to such point-to-point competition, indirect forms of competition exist when the complaining shipper can avoid reliance on the services of the defendant carrier by substituting a different product (product competition) or by obtaining the same product from a different source (geographic competition).

¹⁶ Market Dominance Determinations--Product and Geographic Competition, Ex Parte No. 627 (STB served Dec, 21, 1998), reconsideration denied (STB served July 2, 1999), pets. for judicial review pending sub nom. Association of Am. Railroads v. STB, Nos. 99-1354 et al. (D.C. Cir. filed Aug. 30, 1999).

consideration of these factors in rail rate cases — should govern instead. We will grant defendant’s petition.

Our decision not to consider evidence of product and geographic competition in rail rate cases was based on our substantial experience with how these factors were exploited by railroad defendants to delay and thwart the prosecution of rail rates cases, imposing undue burdens on rail shippers and ultimately foreclosing shippers from pursuing regulatory relief. We have no basis to make a similar determination with respect to pipeline rate cases.¹⁷ Because product and geographic competition are relevant considerations, we will consider evidence of such competition in this case.

Although pipeline rates must be reasonable under 49 U.S.C. 15501(a), the statute does not specify how we are to determine reasonableness.¹⁸ In the rail rate area — where we are confronted with the same broad, undefined standard of reasonableness, see 49 U.S.C. 10701(a), and where carriers also serve both shippers who do not have effective transportation alternatives and shippers who do — we generally apply the Constrained Market Pricing (CMP) principles articulated in Coal Rate Guidelines, Nationwide, 1 I.C.C. 2d 520 (1985) (Rate Guidelines), aff’d sub nom. Consolidated Rail Corp. v. United States, 812 F.2d 1444 (3d Cir. 1987). CMP provides alternative methodologies for examining the reasonableness of a carrier’s rates, which reflect two basic means of approaching the same inquiry: what an efficient carrier would need to charge, with cross-subsidies eliminated, in order to earn revenues that are sufficient to cover all of its costs, including a sufficient return on investment to enable it to compete in capital markets for financing to maintain and replace its facilities as needed. Rate Guidelines, 1 I.C.C.2d at 534, 542, 547-48.

More specifically, the “top-down” approach examines the defendant carrier’s existing system to determine whether the carrier is “revenue adequate” — i.e., already earning sufficient funds to cover its costs and provide sufficient return on investment (the “revenue adequacy” constraint¹⁹) — or would be revenue adequate after eliminating unnecessary costs from specifically identified inefficiencies and cross-subsidies in its operations (the “management efficiency” constraint²⁰). See West Texas Utilities Co. v. Burlington N. R.R., 1 S.T.B. 638, 655 (1996). In contrast, the “bottom-

¹⁷ This is only the Board’s second pipeline case, and the first that began after Congress directed us in ICCTA to consider whether there are effective competitive alternatives to the pipeline. Should we determine, after more experience, that the consideration of product and geographic alternatives would produce undue burdens similar to those we determined had developed in rail rate cases, we will act accordingly.

¹⁸ 49 U.S.C. 15503 expressly permits, but does not require, the use of a stand-alone cost methodology, as described infra.

¹⁹ See Rate Guidelines, 1 I.C.C.2d at 535-36.

²⁰ Id. at 537-42.

up” approach (known as the “stand-alone cost” or SAC constraint²¹) calculates the revenue requirements that a hypothetical new, optimally efficient carrier would need to meet in order to serve the complaining shippers. *Id.*²²

As noted above, while 49 U.S.C. 15503 expressly sanctions the use of the SAC test, it does not foreclose the use of other rate reasonableness methodologies. Accordingly, in our May 1997 Decision, at 6, we stated that the complainants may use any methodology that is consistent with CMP. Here, the complainants have elected to proceed under the top-down approach, relying on the revenue adequacy constraint.

III. MARKET POWER

Complainants assert that competitive alternatives to the pipeline — whether intramodal, intermodal, geographic, or product competition — are either not available or not effective to constrain Koch’s pipeline rates, while Koch claims that its rates are constrained by all of these factors.²³ As described below, we find that there are effective competitive constraints at two pipeline points, but that otherwise, Koch does not face effective competition for complainants’ AA traffic.

Intramodal Competition

There is no other AA pipeline from NOLA to the Midwest. Koch argues, however, that the Mid-American Pipeline Company (MAPCO) affords intramodal competition for traffic on the western leg of the pipeline because it serves parts of the same geographic region — Iowa, Nebraska and parts of southern Minnesota. However, intramodal competition, as we use the term, exists only where two or more pipelines could provide transportation between the same origin-destination pairs. Because MAPCO’s pipeline does not transport AA from the complainants’ Louisiana production facilities, but only from Texas and Oklahoma production facilities, it does not provide intramodal competition. (We consider, *infra*, whether the MAPCO pipeline provides geographic competition.)

²¹ *Id.* at 542-46.

²² An additional constraint (the “phasing” constraint) can be used to limit the introduction of otherwise permissible rate increases if they would lead to undue inflation and dislocation of important economic resources. *Id.* at 546-47.

²³ Koch argues that, under the market dominance guidelines, an “effective” constraint need not divert all or most of the traffic at issue. Koch, Final Brief (Aug. 5, 1998) (Final Brief), at 6-7. Under the guidelines, however, we also consider the “relative feasibility” of other alternatives. Salt River Project Agr. Imp. v. United States, 762 F.2d 1053, 1059 (D.C. Cir. 1985).

Intermodal Competition

Complainants also claim that Koch faces no effective intermodal competition for their NOLA traffic because alternative transport modes — truck, rail, and barge — are more expensive (either by themselves or together with other costs associated with their use) or face significant capacity constraints. Further, complainants assert that pipeline transportation has substantial advantages: it is essentially instantaneous (withdrawal at destination can generally take place upon injection at origin) and it is significantly safer (the system is automated from injection to delivery, eliminating the risk of accidents and greatly minimizing the risks associated with hooking and unhooking transportation equipment, and loading and unloading AA, that are present with other modes). CF, V.S. Mugica, at 12-19.

Koch does not seriously dispute that trucking complainants' AA from Louisiana to the Midwest does not provide an effective competitive alternative to Koch's AA pipeline. Because AA may be transported only in specialized refrigeration or pressurization equipment by highly trained drivers, truck transportation of AA is typically limited to short-haul movements from storage terminals to nearby retailers, and these short-haul distance truck movements cost as much, and at times more, than Koch's long-haul pipeline movements. To truck AA shipments from several hundred to, in some cases, more than 1,000 miles — even if enough specialized trucks were available²⁴ — would be prohibitively expensive and present substantial safety risks. V.S. Mugica, at 13-14.

In contrast, however, Koch argues that rail and barge service are effective intermodal alternatives to its pipeline, pointing out, for example, that during Fertilizer Year 96/97 (July 1996 to June 1997), Midwestern retailers received almost as much of CF's Louisiana AA by barge (approximately 373,000 tons) as it did by the pipeline (396,000 tons), and also significant tonnage by rail (10,000 tons). Koch, V.S. Baumel, at 6-8 and Table 2.²⁵ As discussed below, we find that barge service provides an effective constraint on Koch's rates for CF's Louisiana AA traffic to the pipeline destination point at Palmyra, MO. However, we find that neither barge nor rail service provides effective intermodal competition for either complainant's NOLA AA shipments to points other than Palmyra.

²⁴ CF points out that to fill one 30,000 ton storage tank in the Midwest from an AA production facility 600 miles away would, at 50 miles-per-hour, require a convoy of 50 trucks operating non-stop for over a month and would resolve only 1% of the Midwest's annual AA shortfall. V.S. Mugica, at 14.

²⁵ Farmland, which ships approximately 250,000 tons of AA by Koch's pipeline, does not have barge access because its production facilities at Pollock are not located on a navigable waterway. See Farmland, Reb. V.S. Schrodt, at 3-4, Reply Argument, at 8-9.

Rail. As Koch's own evidence indicates, only slightly more than 1% of CF's NOLA AA is delivered to the Midwest by rail,²⁶ largely reflecting the fact that rail is not cost competitive. As CF points out, the rail rate from its Donaldsonville plant to Garner, IA, for example, is \$71.70 per ton, compared to Koch's (post-increase) pipeline rate to Garner of \$26.50 per ton.²⁷ V.S. Mugica, at 15. This does not even take into account complainants' additional rail car costs,²⁸ as well as the lack of adequate rail car capacity²⁹ and substitutable storage capacity.³⁰ Nor does it consider that rail

²⁶ This is consistent with Koch's evidence for all AA moving from NOLA origins to the Midwest, indicating that 21,960 tons, or only about 0.8%, is transported by rail. V.S. Baumel, at 6, Table 1. (Farmland's shipment of 130,000 tons of AA from NOLA by rail reflects its rail shipments to all destinations, not, as Koch suggests (Final Brief at 11 n.15), just to the Midwest. Farmland, Reb. V.S. Schrod, at 2.)

²⁷ V.S. Mugica, at 15. Koch argues that, because CF obtained a favorable rail volume discount rate for transporting urea ammonium nitrate (UAN), a fertilizer upgrade that it produces, complainants could obtain similar rail rates for its AA. V.S. Baumel, at 22. Complainants explain, however, that they are unlikely to obtain such a rate because it required a volume commitment (400,000 tons of UAN a year, increasing to 600,000 tons in 1998) that exceeds CF's and Farmland's respective AA tonnage through the pipeline, and that in any event AA, as a hazardous material, will likely command a rate premium relative to UAN (which is not hazardous). CF, Reply V.S. Mugica, at 22-23, Farmland, Reply Argument, at 10-11. Moreover, even in the unlikely event that CF could obtain a rail volume discount rate, when all likely additional costs are considered (*infra*), that rate would be substantially beyond the pipeline rate. *Id.* at 15-16, Exhibit FAM-2.

²⁸ AA is transported in specially constructed rail tank cars that are not provided by the railroads, but rather are owned or leased by complainants and other AA producers, and thus impose transportation costs beyond the rail rate. It costs approximately \$750 per month to lease a typical 78-ton AA car (CF, Reply V.S. Mugica, at 23-24), or from \$6.40 per ton (assuming a maximum 18 trips per year) to \$9.61 per ton (assuming a minimum of 12 trips).

²⁹ Koch argues that more than 21,000 tank cars are readily available (Reply V.S. Baumel, at 18), but most of those cars, CF explains, are designed to transport compressed flammable gases like propane, not AA, and the pool of roughly 5,000 AA cars available nationwide appears to be fully utilized. (CF primarily uses its pool of 700 AA cars to reach areas of the country not served by pipeline or barge.) V.S. Mugica, at 16, Reb. V.S. Mugica, at 23. Koch does not dispute that, if new cars are needed, they would not only be expensive (\$80,000 per car) but take years to build and supply to satisfy the shift of pipeline traffic to rail that defendant suggests could occur. Reb. V.S. Baumel, at 32.

³⁰ Many of Koch's and CF's pipeline storage terminals cannot receive AA by rail (CF, V.S. Mugica, at 16), thereby imposing additional costs to truck AA from a railhead to the designated pipeline terminal site, build rail lines into terminals without rail access, or construct other terminals.

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service takes significantly longer and would therefore be less responsive to any abrupt changes in the marketplace. In short, the claim that complainants could shift significant AA tonnage to rail (Koch, V.S. Baumel, at 20-24) is simply not realistic.

Barge. Koch does not contest the fact that Farmland lacks an effective barge alternative. CF, however, has shipped, and continues to ship, significant barge tonnage of AA from Donaldsonville — more than 373,000 tons in Fertilizer Year 96/97 — to a series of barge storage terminals that were constructed in the early 1960s, prior to the availability of pipeline service, along the Mississippi, Ohio, and Illinois rivers.

CF claims, however, that its AA is barged to these terminals to serve markets near the rivers that are distinct from the markets in land-locked areas surrounding most of Koch's pipeline destinations.³¹ Moreover, CF asserts that there is insufficient barge-hauling capacity (there are only 35 barges in active service) and barge terminal storage capacity to handle a significant shift of AA traffic from pipeline to barge, particularly during the early Spring planting season when retailer and farmer demand for direct application AA is highest; that necessary added costs would make such a shift prohibitive; and that barge transportation is less reliable (it is subject to floods, low water, icing), slower (barge trips can take from days to weeks), and therefore less responsive to AA markets away from the rivers. V.S. Mugica, at 17-19, Reply V.S. Mugica, at 11-12, Reb. V.S. Mugica, at 9-10.

In support, CF developed an "Alternative Inbound Study" to measure the comparative costs of transportation. Because, CF claims, it lacks sufficient storage capacity at its barge destination

³⁰(...continued)

Moreover, as Farmland points out, at pipeline terminals that could be served by rail, Farmland's rail access is often restricted. Farmland, Reply Argument, at 13.

Alternatively, retailers cannot realistically store the quantities of AA that defendant would have transported by rail (V.S. Baumel, at 20), because most retailers lack sufficient capacity to receive and store large numbers of AA-filled rail cars. Reb. V.S. Mugica, at 22. As CF points out, some rail-capable retailers may obtain one railcar of AA to ensure that some inventory will be available when the planting season begins, but they will still rely on trucks from local storage terminals for the bulk of their AA needs, and are unlikely to hold multiple railcars in storage in any event because they would then bear the safety, handling, and inventory costs that are presently borne by terminal operators. Reply V.S. Mugica, at 24 n.5. Placing the storage burden for filled railcars on complainants would be unrealistic as well, requiring them to lease rail track and purchase or lease additional rail cars that would then sit and be unavailable to transport additional AA. *Id.* at 24.

³¹ As even Koch acknowledges, the eastern leg of the pipeline "essentially splits the uprights" of the large amount of territory between the Ohio and Illinois Rivers. V.S. Baumel, at 5; see also Appendix 1.

points to accept significant additional amounts of barge-shipped AA, complainant asserts that the extra costs to truck the AA from barge destination points back to the storage terminals at inland pipeline points — or alternatively the additional investment in new barge storage capacity to avoid those costs (\$10-15 million per new storage terminal) — would be so prohibitive that Koch could raise its rates an additional 20-50% without facing effective barge competition. V.S. Mugica, at 7, Exhibits FAM-2, FAM-9; Reb. V.S. Mugica, at 9-10; V.S. Sultenfuss, at 14.

Using data from CF's Closed Order Status Report (COSR),³² however, Koch developed a "matching" study identifying 348 retailers that in Fertilizer Year 96/97 received AA (after truck delivery) from both pipeline and barge terminals, demonstrating, according to defendant, the effectiveness of barge competition. V.S. Baumel, at 7-12. As shown in Appendix 4, Koch asserts that these dually served retailers received more than 66,000 tons, or about 17% of CF's total NOLA AA pipeline tonnage (almost 396,000 tons) to the Midwest in Fertilizer Year 96/97, and represents the minimum pipeline tonnage that can be readily shifted to barge. V.S. Baumel, Exhibits CPB-12, CPB-28.

Further, Koch disputes CF's assumption that there is inadequate storage capacity at the barge points, arguing that CF-owned barge storage terminals alone have sufficient capacity to store and distribute additional barge-shipped AA. Reply V.S. Baumel, at 5-6, Reb. V.S. Baumel, at 13-16, 27-29. Koch claims that, properly restating CF's alternative inbound study by deleting from total barge costs the unnecessary intermediate cost of trucking the AA to pipeline storage terminals (prior to its delivery to retailers), shows that as much as 137,000 tons of AA could be economically diverted to barge. Reply V.S. Baumel, at 5-13 and Table 3.³³

We find that there is effective barge competition for CF's NOLA traffic to the pipeline destination at Palmyra, MO. Located on the Mississippi River, CF's Palmyra storage terminal is the only one of complainant's terminals that can directly receive AA from both Koch's pipeline and barge. V.S. Mugica, at 6. Although CF claims that the current barge fleet is insufficient to permit significant additional barge-shipped tonnage, the weight of the evidence is that additional barges are reasonably obtainable.³⁴ Even though there certainly may be more qualitative advantages to

³² CF's COSR is an electronic data base that provides information on sales of AA, volume, mode of transport, date, terminal, town, and retailer.

³³ In its restatement, Koch also added back \$3.50 per ton to total barge costs to reflect the potential costs of new barges (\$2.50 per ton) and a cost to reflect the loss of the pipeline's asserted advantages of safety, reliability and instantaneous delivery (\$1.00 per ton). Reply V.S. Baumel, at 11-12.

³⁴ CF relies primarily on the statements of Southern Towing Company, one of two major AA towing companies that operate barges from Louisiana to the Midwest, which claims that all existing specialized AA barge capacity was used in 1997, with the same expectation for 1998; that
(continued...)

pipeline service, Palmyra has been historically used primarily as a barge terminal, as CF concedes.³⁵ *Id.* at 6 n.5. Given the favorable rate differential — \$16.39 per ton for barge (V.S. Baumel, Exhibit CPB-17) versus the post-increase pipeline rate of \$20 per ton (Appendix 3) — the same direct accessibility to the storage terminal as the pipeline, and the availability of additional barge capacity, we find that barge service is an effective constraint to Koch on CF’s NOLA traffic to Palmyra.

As to effective barge competition for other pipeline traffic, the evidence is less convincing. We find Koch’s matching study unreliable. While the COSR data show that some retailers obtain AA from barge in addition to the pipeline — particularly retailers equidistant from a pipeline or barge terminal — implicit in Koch’s study is that a “matched” retailer does so when total pipeline and barge costs (including truck delivery costs) are competitive. V.S. Baumel, at 11-18. The COSR data, however, indicated matches where total barge costs were higher than total pipeline costs.³⁶ Without showing that all retailer matches are effectively cost competitive — or weeding out

³⁴(...continued)

two to four barges were expected to leave active service; and that no new AA barges were being constructed. Reply V.S. Mugica, at 11-12, Exhibit FAM-5. However, Koch, with support from Kirby Inland Marine, the other major AA barge towing company, which also owns one-third of the AA barge fleet (Southern owns only two barges), more credibly establishes that barge supply is adequate to meet current and additional future demand, showing that while the 1960s-built fleet may leave active service from time to time for maintenance and inspection, they do so only temporarily, not permanently; that barges currently in private service may be purchased or leased; and that “mothballed” barges may be restored to active service. Reb. V.S. Baumel, at 17-20, Exhibit CPB-56; see also, V.S. Baumel, at 18-20, Exhibit CPB-19, Reply V.S. Baumel, at 9-10, V.S. Mick, at 3-8. Thus, while short-term barge-hauling capacity constraints may very well explain unusual traffic patterns in a particular year — practically all of CF’s substantially increased traffic at Palmyra in Fertilizer Year 96/97 moved by pipeline rather than barge, for example (V.S. Baumel, Exhibit CPB-28) — on this record, there appears to be sufficient barge capacity, over the longer term, to absorb additional barge transport of AA.

³⁵ In Fertilizer Year 95/96, for example, CF shipped approximately 32,000 tons of AA to Palmyra by barge, but only 90 tons by pipeline. V.S. Baumel, Exhibit CPB-28.

³⁶ These matches typically involved situations where the retailer’s distance from a barge terminal — and therefore its trucking costs — are greater than that from the nearest pipeline terminal. A match in Berry, IL, for example, shows a retailer that purchases AA from both the Cowden pipeline terminal (57.66 tons) and Kingston Mines barge terminal (20.02 tons). According to Koch’s spreadsheets, the retailer is 49.9 miles from the Cowden pipeline terminal and 148.6 miles from the Kingston Mines barge terminal, a difference of almost 100 miles. Using the barge and mileage-based truck rates that Koch supplied (V.S. Baumel, Exhibits CPB-13, CPB-17), Appendix 5 shows total barge-delivered costs to the Berry retailer of \$43.41 per ton (including truck costs of \$24.30 per ton), and pipeline-delivered costs of \$36.80 per ton (including truck costs of \$11 per

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matches where retailers obtained barge-delivered AA for reasons other than lower transport costs — Koch’s matching study casts too much doubt on the amount of barge competition that does or could exist.³⁷

We also find that a portion of Koch’s restatement of CF’s “alternative inbound study” is likewise flawed. Defendant’s restatement includes pipeline-diverted AA tonnage moving to non-CF owned barge terminals that do not have distribution capability or, for those terminals that do, without accounting for the substantial storage costs that would be imposed on CF that would make such movements non-competitive.³⁸ As a result, the AA pipeline tonnage that Koch’s restatement claims could be diverted is significantly overstated.

However, Koch’s restatement — unlike its matching study — does compare the total costs (including truck delivery) of Fertilizer Year 96/97 pipeline shipments of AA to retailers to the total costs of moving those same shipments from NOLA by barge to the CF-owned barge terminal closest to the retailer, and absent capacity constraints at barge terminals, it could be relied upon to show traffic where barge would be cost-competitive with the pipeline. However, while there appears to be

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ton). With the total cost of pipeline transport significantly less, the retailer’s choice to obtain certain of its AA needs in 1996-97 from the Kingston Mines barge terminal — rather than the much closer Cowden pipeline terminal — was clearly made for reasons (immediate need and availability, for example) other than transport costs.

As shown in Appendix 6, the COSR data reveal that 46 of Koch’s 348 “matches,” representing approximately 19,000 tons (or more than 28% of Koch’s claimed “divertable” AA tonnage) are matches where the retailer is more than 30 miles further from the barge terminal than the pipeline terminal, and is similarly taking AA from barge terminals at total transportation costs that are likely higher than by pipeline.

³⁷ For the same reasons, we also find unreliable Koch’s extension of its matching study to include a second group of retailers currently served solely by the pipeline who, defendant maintains, could potentially be served by barge: those within a 15-mile radius of the 348 matched retailers receiving AA by both modes. V.S. Baumel, at 13-15 and Table 5, and Exhibit CPB-12.

³⁸ Non-CF owned barge terminals are located at Meredosia, Pekin, and Marseilles, IL, and Henderson, KY, Finney, OH, and Crystal City, MO. See Appendix 2. Crystal City is an ammonium nitrate plant, and there are no storage facilities there to allow for the distribution of AA to the direct application market. The Marseilles terminal is owned by IMC Global; CF only delivers AA to this terminal and maintains no distribution position there. And, as for those foreign-owned terminals that have AA storage and distribution facilities, CF notes that at Koch’s Pekin, IL barge terminal, for example — assuming CF could gain access to it — it would incur \$14 per ton terminal capacity costs and \$4 per ton loading costs. Reb. V.S. Mugica, at 13.

some additional storage capacity at CF's barge storage terminals throughout the year,³⁹ after examining the evidence more closely to account for potential traffic flows and storage constraints at particular barge terminals, we find that the amount of traffic that could be diverted from the pipeline to barge is not sufficient to effectively constrain Koch's rates.

In reaching that determination, we first restated Koch's evidence using only pipeline traffic that would move to CF-owned barge terminals.⁴⁰ Using Koch's traffic data,⁴¹ the table in Appendix 7 shows that barge/truck service for just over 66,000 tons of AA could be provided to various retailers at a lower total cost than by the pipeline, with all but approximately 1,400 tons diverted through CF's barge terminals at Mount Vernon, IN and Joliet, IL. As a measure of the effectiveness of barge competition, we then compared Koch's revenues on CF's Fertilizer Year 96/97 traffic under the old rate structure to its revenues under the new rate structure, assuming all cost-competitive traffic would be diverted. As shown in Appendix 8, for AA traffic moving to the pipeline points at Herman, MO, Cowden and Trilla, IL, Crawfordsville, IN, and Washington, Marshalltown and Iowa Falls, IA, Koch's revenues for the CF traffic that it would retain — based on its increased rates — would exceed pre-increase revenues.⁴² As a result, we find that Koch does not face effective barge competition at these points. Market Dominance Guidelines, 365 I.C.C. at 128-29, 131.⁴³

³⁹ Reb. V.S. Baumel, at 15, Exhibit CPB-53. As a result, we find that CF wrongly assumed in its "alternative inbound study" that diverted barge-shipped AA automatically required the additional cost of trucking the AA back to inland pipeline storage terminals.

⁴⁰ We also include, as did Koch, certain additional barge costs: a \$0.94 per ton shipping charge at NOLA to reflect the cost of refrigerating AA prior to its barge-loading; a \$1.85 per ton throughput cost at the barge terminal to reflect the need for additional personnel to move additional AA tonnage through the facility; and, as we noted previously, a \$3.50 per ton charge to reflect new barge costs and a cost to reflect the loss of the pipeline's advantages. Reply V.S. Baumel, at 5-6, 11-12.

⁴¹ The data we use for our analysis is from Koch's restatement of CF's alternative inbound study, particularly Workpaper 25, contained in Witness Baumel's electronic spreadsheet REPLY WORKPAPERS SET #1.xls.

⁴² Appendix 8 does not adjust for any savings in operating costs that Koch would incur — and therefore any offset of revenue loss — as a result of moving less AA. Thus, we assume, for purposes of this Appendix that the marginal cost of moving AA through Koch's pipeline is zero, putting Koch's earnings on its retained traffic after its rate increases in a light most favorable to Koch's position here.

⁴³ Koch argues that the agency has rejected "quantitative measures" of this sort in market dominance determinations in the past. Koch, Reply Argument, at 6-14. While we do not rely on
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For the pipeline points at Terre Haute, Frankfort, Walton and Huntington, IN, however, Appendix 8 shows that if all of the identified cost-competitive tonnage were diverted to barge, Koch would lose revenues (after the rate increases) on its retained traffic, suggesting that barge service could be an effective constraint at those points. Even assuming that CF is correct that its barge terminals cannot receive and distribute any additional AA tonnage during the peak Spring season,⁴⁴ Koch submits that the Mount Vernon and Joliet barge terminals could accept additional tonnage “off-peak” that would be sufficient to discipline Koch’s rates (Reb. V.S. Baumel, at 27-29, Exhibit CPB-59), and the table in Appendix 9 shows that approximately 23,000 tons of the cost-competitive AA tonnage could be diverted from Terre Haute, Frankfort, Walton, and Huntington to the two barge terminals during the less-constrained 11 off-peak months.⁴⁵

⁴³(...continued)

such measures as a substitute for a thorough qualitative examination of all possible competitive alternatives (whether intramodal, intermodal, geographic, or product), we are not restricted from using any valid tool to assess whether a particular competitive alternative (here, barge competition) effectively constrains a defendant’s rates where, as here, the other evidence leaves the question unresolved. Market Dominance Guidelines, 365 I.C.C. at 131 (“[i]f the loss of future revenues exceeds the gains from exercising market power in the short term, then a rail carrier will be deterred from charging excessive rates.”); see also Aluminum Ass’n, Inc. v. ACY R. Co., 367 I.C.C. 475, 489 (1983), aff’d sub nom. Aluminum Co. of Amer. v. ICC, 761 F.2d 746 (D.C. Cir 1985); Salt River v. Atchison, T. & S. Fe Ry., 1 I.C.C.2d 684, 691 (1985).

Koch concedes that such a test could provide an “indication” of market power in “some situations” (Final Brief, at 22), but argues that the test would be unreliable here because defendant’s pre-increase rates — which were unchanged since 1988 — were “depressed” in relation to increased rates charged by the MAPCO pipeline and barges and to the increased prices of AA itself, and that its rate increases simply reflect its effort to “catch up” with those of its competitors. Final Brief, at 5-6, Reply Argument, at 10, Reb. V.S. Kalt, at 39-40, V.S. Watson, at 7-8, 12. Such comparisons, especially to carriers that largely serve different markets or bear different transportation characteristics and operating costs, are not particularly instructive. See Coal Trading Corp. v. Baltimore & O. Ry., 6 I.C.C.2d 361, 372-74 (1990).

⁴⁴ CF points out, for example, that on April 1, 1997 (the beginning of the planting season), the Mount Vernon barge terminal already had 13,800 tons of AA in storage at a facility with a capacity of 14,800 tons, and that the Joliet terminal had 18,700 tons in storage at a facility with a capacity of 18,800 tons. Reb. V.S. Mugica, at 15, Exhibit FAM-9.

⁴⁵ The data in Appendix 9 is derived from Witness Baumel’s electronic spreadsheet (Workpaper 25), Exhibit CPB-59 of Baumel’s rebuttal verified statement, and the COSR data (to determine the month of delivery to the retailer). As noted, Baumel assumed that there was no additional storage capacity available at any of CF’s barge terminals during the peak Spring planting season, which he defined as the entire month of April. Baumel then limited (as relevant here) Mount Vernon and Joliet’s maximum capacity for any off-peak month to each terminal’s throughput for
(continued...)

This tonnage, however — representing only 6% of CF’s total NOLA pipeline tonnage — is too small an amount of traffic to constrain Koch’s rates. After taking this tonnage into account, Appendix 10 shows that Koch would still earn greater revenues on its retained traffic (with the rate increases) at each of these pipeline points than what it earned for all of the traffic at each of those points under the prior rates. As a result, we find that Koch does not face effective barge competition for CF’s traffic at these pipeline points either.

Geographic Competition

Koch contends that its pipeline rates are also constrained because AA may be obtained alternatively from local producers; from sources (via rail) in Tampa, FL and western Canada; from sources (via the MAPCO pipeline) in Texas and Oklahoma; and from transportation-avoiding exchanges of AA between producers. We find that AA carried by the MAPCO pipeline from Texas and Oklahoma producers provides effective geographic competition at Koch’s Garner, IA pipeline destination (where MAPCO and Koch cross and use a common storage terminal), but that none of the other alternative AA sources effectively constrain Koch’s rates.

More specifically, while local production represents a substantial portion (47%, or about 3 million tons) of the AA used in the Midwest, 9 of the 10 AA production plants in the region manufacture AA for use in fertilizer upgrades, and only one for direct application in the markets served by complainants.⁴⁶ Combined with the fact that regional demand for AA exceeds the local production by more than 3 million tons (a ratio of two-to-one), local producers simply cannot effectively substitute for the Louisiana producers that supply the great bulk of the Midwest’s direct application AA.⁴⁷

⁴⁵(...continued)

April (9,018 tons for Joliet, 12,380 tons for Mount Vernon), and compared each off-peak month’s capacity to cost-competitive traffic that it had identified as moving in that month to see if the terminal could accept it. Reb. V.S. Baumel, at 28, Exhibit CPB-59.

⁴⁶ Government Accounting Office Report B-277480, April 21, 1998, Surface Transportation: Issues Associated With Pipeline Regulation by the Surface Transportation Board, at 10.

⁴⁷ Koch claims that AA can easily be switched out of the upgrade process into the direct application market, and that there is increased AA production capacity now available (1.3 million tons of new capacity added between 1995 and 1997) and planned construction of additional capacity in Oklahoma, Kansas, North Dakota, Texas and Mississippi. Reply V.S. Kalt, at 35. As CF points out, however, upgrade facilities are already operating at capacity, V.S. Sultenfuss, at 9-10, and, as a result, upgrade manufacturers could not produce direct application AA without substantial new investment. Reply V.S. Mugica, at 30-31. Further, Koch does not identify the new production facilities it claims are now available — nor their allocation between direct application
(continued...)

Nor can Midwestern retailers effectively substitute rail-shipped AA from western Canada or Tampa, FL. As CF explains, its Medicine Hat, Alberta AA production facilities run at or near capacity to supply AA to wheat farmers in Canada and U.S. States in the northern plains and the Northwest, and therefore cannot provide significant AA tonnage for the Midwest.⁴⁸ Similarly, even though CSX's \$30 per ton rail rate from Tampa to Terre Haute (CF's only terminal on the eastern leg of the pipeline with rail access) is comparable with Koch's pipeline rate from NOLA (\$30.40 per ton), total rail costs are not (Koch fails to include rail car costs that CF must bear), and CF moves very little rail tonnage to Terre Haute in any event, only for retailers in the surrounding area that require rail delivery.⁴⁹

Lastly, Koch's assertion that producers have the ability to act like brokers engaging in transportation-avoiding exchanges, V.S. Candell/Kalt, at 29-30,⁵⁰ also ignores the basic imbalance in supply and demand for AA in the Midwest that requires the region to import more than 3 million tons of AA annually, most by pipeline. As CF points out, its opportunities for exchanges are occasional and almost always involve small volumes — its most consistent largest exchange involves only 15,000 tons per year — and in the context of the region's longer-term need for regular and substantial quantities of AA, they provide little, if any, constraint on Koch's pipeline rates. Reply V.S. Mugica, at 32, Reb. V.S. Mugica, at 22-23.

⁴⁷(...continued)

AA and upgrades — and its arguments concerning future capacity are too remote to be considered.

⁴⁸ Reply V.S. Mugica, at 26-27. Even Koch appears to recognize that AA users in the Midwest typically do not purchase significant AA tonnage from western Canada. See e.g., Appendix I, KO 003506 (showing no Canadian imports into the Midwest); KO 003389; and Althoff Dep., at 46-48, ("My recollection of studying the Canadian imports was that historical data showed that imports came right up to the edge of the Corn Belt, and that generally, unless there was some market upset, that generally their supply was exhausted before it reached the Corn Belt."). As CF points out, this is supported by the fact that CF shipments from Medicine Hat to U.S. States served by Koch's pipeline have declined, going from 100,509 tons in 1995, to 60,726 tons in 1996, and to 12,186 tons in 1997. V.S. Carlton, Table 5.

⁴⁹ As Koch's own evidence shows, for the period 1995 through 1997, CF shipped from Tampa to the Midwest by rail only 2,254, 3,876, and 4,225 tons of AA, respectively. Reply V.S. Kalt, Figure 5.

⁵⁰ Exchanges are trades of fertilizer products between producers. They can involve an agreement by producers to deliver or receive AA in one place in exchange for the delivery or receipt of product by another producer at another location, or to deliver or receive product at a different time (hedging). Exchanges may also involve unlike products, such as direct-application AA for an upgraded fertilizer.

On the other hand, Koch does face effective geographic competition at Garner, IA. Like the storage terminal at Palmyra, MO that provides access to both Koch's pipeline and barges, the terminal at Garner can receive AA directly from both Koch and MAPCO.⁵¹ That ability to draw product from either pipeline gives surrounding retailers in the Garner area the ability to regularly acquire substantial tonnage of AA from Texas and Oklahoma sources in a way that can effectively discipline Koch's rates.⁵²

Product Competition

Koch argues that ammonium nitrate, urea and UAN are alternative sources of nitrogen that compete with AA in the fertilizer market and constrain defendant's rates. V.S. Candell/Kalt, at 26-30. Although there may be agronomic reasons why an individual farmer may choose a different

⁵¹ MAPCO delivers AA from Texas and Oklahoma to terminals in Kansas, Nebraska, Iowa and Minnesota at rates that Koch asserts are similar to defendant's on a ton-mile basis. V.S. Baumel, at 29. In addition to Garner, MAPCO also has a common terminal with Koch at Blair, NE, though, as we noted previously, Koch's rate to Blair is not before us.

⁵² Koch argues that it competes for retailers' business with MAPCO-shipped AA not just at Garner, but at pipeline points all along its western leg, noting that about one-quarter of CF's Koch shipments went to retailers in close proximity to retailers served from MAPCO terminals, and that Farmland has two production plants connected to MAPCO that not only provide AA for retailers along MAPCO, but that re-inject AA into defendant's pipeline at Garner for distribution to retailers at other Koch pipeline points. Reply V.S. Kalt, at 32, 47. CF points out, however, that Texas and Oklahoma production facilities supplying MAPCO are already operating at full capacity serving markets not served by Koch, with little extra AA to move to the Midwest. Reply V.S. Mugica, at 30. Likewise, Farmland explains that it, too, lacks excess production capacity at its plants along MAPCO that could supply sufficient additional AA for re-injection at Garner to discipline Koch's rates on its traffic from Pollock. Reb. V.S. Schrodt, at 4-5, Rebuttal Argument, at 21. In any event, even Koch's witness concedes that MAPCO may not have excess pipeline capacity to carry additional AA beyond non-Garner Koch pipeline points to the extent that defendant more generally suggests could occur. See Koch, Witness Kalt, Reply Transcript, at 79 (Board should not "put a great amount of weight" on claims of available MAPCO pipeline capacity).

fertilizer over AA,⁵³ CF more convincingly shows that AA is the most efficient⁵⁴ and least costly of the nitrogen fertilizers,⁵⁵ and therefore less likely to be substituted for on either an agronomic or competitive basis. As even Koch concedes, as the most nitrogen-rich and least expensive form of fertilizer, AA is the primary nitrogen fertilizer consumed in Koch's corn-growing distribution area of the Midwest. V.S. Candell/Kalt, at 27.

Koch argues, however, that, when application costs are included, the margin between AA and the other upgraded fertilizers narrows, and that there is a growing trend away from AA in favor of UAN and urea. Even when Koch's product and application prices per acre are included with the cost of the product though, the total cost per acre for AA is still significantly below that of other nitrogen sources.⁵⁶ And Koch's argument that there is a trend away from AA in the Midwest is misleading because the total amount of nitrogen-enriched AA used, despite Koch's rate increase, is increasing. Reply V.S. Voss, at 13-14. Thus, we find that the availability of other forms of nitrogen fertilizers in the Midwest does not constrain Koch's rates.

Conclusions on Market Power

⁵³ CF cites examples of soil type, moisture, weather, and crop management practices which can influence a farmer's choice of fertilizer, because these variables affect the efficiency with which nitrogen is delivered to a plant. While AA is applied to the soil in its gaseous state, urea is a dry material (usually sold in tiny round grains or pellets) that is applied during or just prior to planting, and UAN is a clear, non-pressurized liquid that is sprayed directly on plants or soil. According to CF, once a farmer selects a given form of fertilizer, he will typically stick with that choice as long as it results in satisfactory crop yields. Reply V.S. Voss, at 1, 4-9.

⁵⁴ AA is 82% nitrogen, urea is 46%, ammonium nitrate is 34%, and UAN from 28% to 32%. CF, V.S. Sultenfuss, at 7, Exhibit JHS-9. Thus, application of 120 pounds of nitrogen per acre would require approximately 146 pounds of AA, 261 pounds of urea, 353 pounds of ammonium nitrate, and between 375 and 429 pounds (depending on the concentration) of UAN.

⁵⁵ In the Spring seasons of 1995 through 1997, for example, Midwest farmers paid an average of \$390 per ton for nitrogen derived from AA, compared to \$546-\$647 for an equivalent amount of nitrogen derived from urea, ammonium nitrate, or UAN. See CF, V.S. Sultenfuss, at 7, Exhibit JHS-9.

⁵⁶ Assuming application of 105 pounds of nitrogen per acre, the respective per-acre costs are as follows: \$21.45 per acre for AA (105 pounds at \$.134 per pound plus \$7.38 per-acre application cost); \$26.42 per acre for urea (105 pounds at \$.227 per pound plus \$2.58 per-acre application cost); and \$23.47 per acre for UAN (105 pounds at \$.211 per pound plus \$1.31 per-acre application cost). Koch, V.S. Johnson, at 7, 11-13. For a 1,000-acre farm, Koch's own data show that the cost advantage of AA over UAN is around \$2,000, while the cost advantage is approximately \$5,000 over urea.

In summary, we find that Koch faces effective barge competition at its pipeline destination point at Palmyra, MO, and effective geographic competition from the MAPCO pipeline at Garner, IA. We will not consider the reasonableness of Koch's rates for pipeline service to these two locations. As to the other 19 pipeline destinations at issue, however, we find that Koch faces no effective alternatives to its pipeline. We turn now to complainants' challenge to the reasonableness of defendant's rates to these points.

IV. RATE REASONABLENESS

Use of the Revenue Adequacy Constraint

As explained above, complainants have elected to use the "top-down" revenue adequacy constraint of CMP here. Adequate revenues are those which cover all costs and provide a rate of return on investment equal to the current cost of capital (i.e., the level of return available on alternative investments), so that the carrier can compete equally with other firms for available financing in order to maintain, replace and, if necessary, expand its facilities and services. Rate Guidelines, 1 I.C.C.2d at 535, citing Standards for Railroad Revenue Adequacy, 364 I.C.C. 803 (1981), aff'd sub nom. Bessemer & L.E.R.R. v. United States, 691 F.2d 1104 (3rd Cir. 1982), cert. denied, 462 U.S. 1110 (1983). As the ICC observed (Rate Guidelines, 1 I.C.C.2d at 535-36):

[The] revenue adequacy standard represents a reasonable level of profitability for a healthy carrier. It fairly rewards the [carrier's] investors and assures shippers that the carrier will be able to meet their service needs for the long term. Carriers do not need greater revenues than this standard permits, and we believe that, in a regulated setting, they are not entitled to any higher revenues. Therefore, the logical first constraint on a carrier's pricing is that its rates not be designed to earn greater revenues than needed to achieve and maintain this 'revenue adequacy' level.

To use the revenue adequacy constraint for ratemaking purposes, a complainant must provide more than a "single-period snapshot" of a carrier's costs and revenues. May 1997 Decision, at 7. Instead, it must measure whether a carrier earns adequate revenues "over time," Rate Guidelines, 1 I.C.C.2d at 536, and a multi-period discounted cash flow (DCF) analysis provides the best measure, May 1997 Decision, at 7.

Koch argues that complainants' revenue adequacy evidence is essentially an "original-cost ratemaking" (OCR) presentation which we rejected in our May 1997 Decision as inconsistent with CMP, and that we should rely on the defendant's SAC evidence instead.⁵⁷ Final Brief, at 2, 27-28.

⁵⁷ We note that, even if a SAC presentation were required, a defendant carrier's SAC evidence by itself, when it is not responding to a shipper's SAC evidence, is not instructive. While the objective of the SAC test is to devise the least cost, most efficient system possible, it is against a
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Koch misreads our prior decision. While we expressed concern about presentations that reflect the “snapshot-in-time” tendencies of the OCR model, we explained that complainants could avoid that concern by presenting a multi-year DCF analysis, and they have done so. We also did not suggest that the ICC’s determination to use a hybrid (part OCR/part SAC) methodology in an earlier (phosphate slurry) pipeline case, Ashley Creek Phosphate Co. v. Chevron Pipe Line Co., No. 40131 (Sub-No. 1) (ICC served March 30, 1992) (Ashley Creek), requires the use of a SAC methodology here.⁵⁸ As we explained, the “guidance” that Ashley Creek provides for this case stems not from the fact that SAC was used, but rather from the fact that it was presented in the context of DCF analysis. That kind of multi-year presentation, we noted, is needed whether a complainant chooses to present a SAC case or a revenue adequacy case. May 1997 Decision, at 6.

There is simply no reason why complainants should not be allowed to apply the revenue adequacy constraint here, or why a SAC presentation should be necessary.⁵⁹ As we have recognized, there is “no single formula” that can perfectly test the reasonableness of rates. Rate Guidelines, 1 I.C.C.2d at 524. Thus, CMP purposely affords complaining parties the flexibility to approach a rate analysis from alternative perspectives, examining either the pricing needs of a hypothetical carrier or the defendant carrier’s pricing needs. Id. at 547-48.

Accordingly, we will apply the revenue adequacy constraint here. Under that constraint, if we find that Koch’s revenues are adequate without the challenged rate increases, then those rate increases are unreasonable.

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defendant carrier’s interest to show that the service could be provided more efficiently and less expensively than it is currently providing the service. The objective of the SAC test is not to determine whether the existing rate levels can be justified, but whether lower rate levels can be justified.

⁵⁸ In Ashley Creek, the ICC determined that, because the pipeline at issue was relatively new, a SAC-type presentation could utilize an original cost valuation for the investment base in lieu of a replacement (current) cost valuation. May 1997 Decision, at 6.

⁵⁹ The revenue adequacy constraint is a judicially affirmed CMP methodology. The fact that the ICC, in Ashley Creek, indicated that a replacement-cost based SAC may “typically” be better in testing the rates of older pipelines (Final Brief, at 36), or that it might produce, for defendant’s benefit, “substantially different results” (id. at 32), does not undermine the use of a validly constructed revenue adequacy presentation here. Contrary to Koch’s arguments (id. at 25, 27), a multi-year revenue adequacy presentation is no less “forward-looking” or reflective of “market dynamics” than a SAC presentation.

Parties' Evidence

Koch acquired GCPL's AA pipeline (together with certain other properties) on February 1, 1988,⁶⁰ and, in its 1988 FERC regulatory filings, it valued the AA pipeline assets at \$77.2 million.⁶¹ Complainants rely on multi-year DCF's and other data — including a DCF from 1988 through 2007 based on the 1988 acquisition valuation, and a comparison from 1988 through 1996 of Koch's rate of return on that investment to its yearly cost of capital — which they claim establish that, even without the 1996 rate increases, Koch earns revenues far beyond those needed to be revenue adequate.

Koch responds that the pipeline was nearly 20 years old when it acquired the property in 1988 and is nearing the end of its 30-year useful life; that the pipeline will require replacement of components in future years to sustain service; and that the 1996 rate increases should be allowed in order to pay for those improvements. Koch asserts that complainants' evidence is flawed because it does not take into consideration the potential cost of these improvements. Koch offers two DCF analyses — one beginning in 1970, using the pipeline's original cost of approximately \$116 million, and one using defendant's estimated value of the pipeline in 1996 (\$87 million), plus the 1996 present value of investments necessary to maintain the pipeline through 2025 — that Koch argues demonstrate that the pipeline has not been revenue adequate since it entered into service, and will not be revenue adequate even with the challenged rate increases.

⁶⁰ CF, Final Brief (Aug. 5, 1998), at 4. In addition to the AA pipeline, Koch also acquired the Gulf Central Storage and Terminal Company, and Chapparral Pipeline, a natural gas pipeline. Together, Koch paid \$200 million for these assets. Koch, Reply V.S. Klick, Exhibit JCK-4.

⁶¹ CF, Reb. V.S. Eberst, Exh. CRE-31, 1988 FERC Form 6, page 214, column (b), line 45, and page 111, column (d), line 33. Koch's Form 6 shows that, at the beginning of 1988, it allocated \$69.2 million to the net carrier property and just under \$8 million to the AA in the pipeline at the time, for a total of approximately \$77.2 million, a figure which approximated the year-end 1987 value on GCPL's books. The \$69.2 million 1988 beginning-year figure for net carrier property is approximately \$1.5 million more than the 1988 year-end amount listed in the table in CF's brief, at 4 (\$67.7 million), but, in our judgment, the more reliable reflection of the value of Koch's investment in the pipeline is the valuation assigned closer to the time of Koch's acquisition (Feb. 1, 1988). The \$8 million value in the Form 6 for the line fill was the same at the beginning and end of the year, *id.*, 1988 FERC Form 6, page 111, columns (c) and (d), line 33, and CF agrees that this amount is properly included in the investment base as working capital. CF, Final Brief, at 3-4.

Analysis

Koch cannot rely on costs incurred by the pipeline's previous owners, but only on those that it has incurred itself. Thus, Koch's 1988 acquisition provided a new investment base.⁶² This approach is fully consistent with generally accepted accounting principles (GAAP) for reporting asset values and related expenses. Under GAAP, purchasers may, upon acquisition, write up or write down assets, as appropriate, to more accurately reflect their value.⁶³ Koch, however, did not write up the AA pipeline assets or provide any other evidence showing a valuation different from the \$77.2 million that it allocated to those assets in its 1988 regulatory filings. Acquisition-cost valuation — the amount paid in an arm's-length transaction — is consistent with “what other business enterprises use for measuring their investments,” Acquisition Costs, 6 I.C.C.2d at 641, and in testing defendant's rates under the revenue adequacy constraint, we may properly use Koch's own \$77.2 million valuation as a reliable estimate of its cost of acquiring — and the value of its initial investment in — the pipeline.⁶⁴

⁶² See Railroad Revenue Adequacy—1988 Determination, 6 I.C.C.2d 933, 940 (1990) (Acquisition Cost), aff'd sub nom. Association of Am. Railroads v. ICC, 978 F.2d 737 (D.C. Cir. 1993). Koch points to the ICC's caution against acquisition-cost valuations that would spawn a continuous upward or downward spiral of rates (Final Brief, at 39, citing Acquisition Cost, 6 I.C.C.2d at 941), but has not established such a prospect here. Acquisition Cost addressed the rail industry's concern at the time that an acquisition-cost valuation of a rail carrier's assets below book value would lead to a downward spiral of rates in a still troubled rail industry. There is no evidence that this was the case at the time of Koch's acquisition, or, given its level of earnings (discussed below), that this is likely to occur for any potential purchaser in the foreseeable future. Koch has similarly failed to demonstrate any likely upward rate spiral to recover acquisition premiums. See e.g., FPC v. Hope Natural Gas Co., 320 U.S. 591, 601 (1944). Koch did not raise the pipeline rates for the first 8 years of its ownership, and it has argued vigorously here that the pipeline's AA traffic is subject to competitive rate constraints. (We will not disturb Koch's rates at points where we find that such constraints exist.)

⁶³ See e.g., Rail Accounting Principles Board Final Report, Volume 1-Summary of Report, Sept. 1, 1987, Asset Valuation and Related Expense, at 21.

⁶⁴ Koch's reliance on Arkansas & M.R.R. v. Missouri Pac. R.R., 6 I.C.C.2d 619 (1990), aff'd sub nom. Missouri Pac. R.R. v. ICC, 23 F.3d 531 (D.C. Cir. 1994) (A&M), to compel a replacement cost valuation here (Final Brief at 39) is misplaced. There, the ICC valued rail assets (for trackage rights compensation purposes) using a replacement-cost-new-less-depreciation (RCNLD) method — rather than the capitalized earnings valuation that “would presumptively apply” — only because the agency could not value the A&M system by “reference to an arm's length purchase price.” A&M, 23 F.3d at 533-34 (a current approximation of the net liquidation value of A&M assets could not be reasonably determined “until some unknown” future time). Here, in contrast, Koch's acquisition costs for the AA pipeline can reasonably be discerned by referencing
(continued...)

In reviewing the evidence, we have developed four DCF analyses, each beginning with the 1988 acquisition year. Table 1 of Appendix 11 shows that, by the end of 1996, Koch had recovered nearly \$73.2 million, or almost 95%, of its initial investment. Koch made additional capital investments in the pipeline through 1994 that must be taken into account, valued at \$4.9 million (the net present value of the additions in 1988 dollars). Even after considering these additional costs, however, Table 2 of Appendix 11 reflects that Koch had recovered by the end of 1996 more than 89% of its total pipeline investment, which by then was approximately \$82 million.⁶⁵

The parties did not submit any earnings data after 1996, nor is there any evidence that Koch made any further investments in the pipeline through 1997, just before the evidentiary record closed.⁶⁶ As a result, we developed two other DCF analyses based on two levels of average after-tax net income for the period 1997 through 2000. The first DCF analysis (Table 3, Appendix 11) holds the after-tax earnings for this period at the average of the pipeline's earnings for the period 1988 through 1995.⁶⁷ This is prior to the rate increase in April 1996 and, we believe, represents a fair estimate of the pipeline's potential earnings if Koch's rate increases were denied. The second DCF analysis (Table 4, Appendix 11) reflects the rate increases, and assumes the after-tax earnings for the pipeline in future years to be equivalent to the earnings in 1996. This results in a conservative earnings estimate for the years 1997-2000, because the rate increases did not go into effect until April 1996 — and then only in part (75%) — and was not fully effective until July 1996, when the pipeline's throughput was near its maximum.

Even without the 1996 rate increase, Table 3 shows that Koch would have recovered almost all of its \$82 million total investment by the end of 1998 — two years before the projected end of its useful life — and approximately \$88 million (or more than 107% of its total investment) through 2000, and that the pipeline would produce an after-tax cash flow of almost \$13 million (in current

⁶⁴(...continued)

the values assigned by defendant, upon acquisition, in its FERC filings.

⁶⁵ The DCF analyses in Tables 1 and 2 include the 1996 rate increases as they were applied by Koch in April (75% of the increases) and July (the remainder), and the revenue streams are discounted using the railroad industry's nominal after-tax cost of capital (COC). While Koch asserts that AA pipelines face higher risks than railroads and therefore would face correspondingly higher costs of capital (Final Brief, at 29-30, 41-43), Koch did not attempt to “develop a specific risk-based cost of capital for pipeline investments,” and its own evidence uses the rail industry's COC “as a surrogate” for the pipeline's (*id.* at 41).

⁶⁶ Defendant's DCF evidence assumes that there were no new investments in 1996 and 1997. *Reb. V.S. Klick*, at 12.

⁶⁷ The average revenue for the 1988-1995 period reflects the lower utilization of the pipeline in 1988 (1.1 million tons) and 1989 (1.37 million tons), and thus a conservative estimate of pipeline revenues under the pre-increase rate structure.

year dollars) annually. Table 4, taking the rate increases into account, predictably paints an even more optimistic picture, showing that Koch would recover its total investment sometime during 1998 and more than \$91 million through 2000 (almost 111% of its pipeline investment), and that the pipeline would produce an after-tax cash flow of nearly \$14.9 million annually.

These results are consistent with a comparison, as provided in Table 5 of Appendix 11, of Koch's yearly return on investment (ROI) to the cost of capital measure here (see note 65). Between 1988 and 1996, pipeline rates were stable, but, as previously noted, pipeline volume of increased from a low of 1.1 million tons in 1988 to a high of approximately 1.8 million tons in 1996. With the exception of its first year of ownership in 1988, Koch's ROI has exceeded its cost of capital in all years and by increasingly larger margins so that by 1996 its ROI (21.52%) was almost twice the cost of capital (11.80%). In short, based on all reliable measures, it is clear that the pipeline is earning adequate revenues and that Koch's 1996 rate increases are not warranted.

Nonetheless, Koch argues that it is entitled to additional revenues because the pipeline is nearing the end of its useful life and substantial sums will be needed to keep it operating (Final Brief, at 26), including expenditures during 1998-2001 of \$20 million for corrosion testing and \$30 million for new valves, and from \$11.1 to \$19.3 million in subsequent yearly investments to maintain service through 2025. Koch, Reb. V.S. Klick, at 12-15. Defendant asserts that, keeping in mind this "real world context," we should also consider that Koch had made no changes in its rate structure since it acquired the pipeline in 1988, and that, as a result, its inflation-adjusted rates had declined in real terms by more than 30%. Final Brief, at 26.

In seeking rates that would provide it, over the long term, with revenues greater than what the revenue adequacy constraint would permit, Koch must show with particularity: (1) a need for higher revenues; (2) the harm it would suffer if it could not collect them; and (3) why complainants should provide them at this time. Rate Guidelines, 1 I.C.C.2d at 536 n.36. We find that Koch has not made the necessary showing. As our DCF analyses demonstrate, even without the rate increase, the pipeline will have recovered defendant's total investment by the end of 1999 and generate an after-tax cash flow of almost \$13 million annually.⁶⁸ Clearly, that amount would be sufficient to pay for what defendant claims are immediately required 1998-2001 expenditures of \$50 million for corrosion testing and new valves, or alternatively to serve as a basis for Koch to secure — in full or in part — financing to do the same.⁶⁹

⁶⁸ Even this estimate of after-tax earnings is conservative because Koch's planned reinvestment in the pipeline would increase the amount of tax depreciation available to it. Because tax depreciation is a pre-tax deduction from earnings, it would reduce tax liability and increase after-tax cash flow.

⁶⁹ Koch allocates its planned \$50 million in expenditures for 1998-2001 equally over 4 years and asserts that its testing and valve-replacement programs are now "underway." Reb. V.S. (continued...)

Koch's claimed expenditures beyond 2001 are too remote to be considered. These additional investments that, according to defendant, will total more than \$400 million through 2025 (or \$86.6 million dollars in 1996 dollars), were determined by assuming that 1/30th of the SAC-determined investment would have to be replaced each year. They include the costs of pump and motor replacements, the need to conduct periodically the corrosion testing ("smart pig") program, and the replacement of corroded pipe section. *Reb. V.S. Klick*, at 12-15, and Table 2.

In essence, Koch seeks to establish a cash reserve to replace the pipeline before reinvesting in the pipeline itself. Under the revenue adequacy constraint, however, a carrier can "recover no more than its total costs over the life of its investment." May 1997 Decision, at 7. Thus, the constraint permits a carrier to recover, over the useful life of its investment, all of the costs that it has incurred, so that it then has the opportunity — and, like other businesses, the burden of risk — to attract needed capital at currently prevailing rates to replace and maintain its assets. Koch is not entitled to "put the cart before the horse" by requiring captive pipeline shippers to provide in advance a revenue stream to pay for investments not yet made and assets that are not in place.

We are cognizant, of course, that as Koch implements its plans over the next several years to replace, modernize, and maintain the pipeline, it may well have the need and justification for additional revenues, and we stand ready to promptly lift the rollback and prescription if and when such action should be shown to be necessary. However, Koch earns adequate revenues at pre-1996 rate increase levels, and it has not demonstrated a need, harm, or other basis for obtaining additional revenues from complainants at this time.⁷⁰

⁶⁹(...continued)

Klick, at 12, 15. Even if we deem these expenditures as already made and include them in defendant's investment base now — investments that, as a result, would likely extend the useful life of the pipeline by several years — Koch would still, without the rate increase, have recovered more than 77% of its restated \$95.5 million investment base by the end of 1996 (Table 6 of Appendix 11), and would recover all of its investment by the middle of 2003 (Table 7 of Appendix 11).

⁷⁰ Koch's argument that it has not raised its rates since 1988 — and that, as a result, its rates have declined due to inflation — is misleading. The 1988 rate levels were likely tied to pipeline throughput, and annual throughput for the 1980-1987 period (just prior to Koch's acquisition of the pipeline) averaged approximately 1.3 million tons. As a general matter, pipelines have high capital costs and fairly low operating costs. Thus, the substantial increase in throughput volume from 1988 through 1996 (1.1 million tons to 1.8 million tons per year) largely flowed through to Koch's improved "bottom line." In Ashley Creek, in similar circumstances, the phosphate slurry pipeline rate actually declined as throughput increased.

V. RATE DISCRIMINATION

Because we have found Koch's rate increases unreasonable at 19 of the 21 involved pipeline points and will order them rolled back, complainants' claim that the increased rates are discriminatory are moot at those points. The remaining issue is whether, under 49 U.S.C. 15505, Koch's rates unreasonably discriminate against complainants in favor of KNC at Palmyra and Garner, the two western-leg pipeline points where we determined that Koch faces effective competitive alternatives. We find that they do not.

Unreasonable discrimination occurs when (1) there is a disparity in rates; (2) the complaining party is competitively injured; (3) the carrier is the common source of both the allegedly prejudicial and preferential treatment; and (4) the disparity in rates is not justified by transportation conditions. *See e.g., Harborlite Corp. v. ICC*, 613 F.2d 1088, 1091-92 (D.C. Cir. 1979).⁷¹ Here, neither complainant has provided evidence to establish competitive injury. Moreover, for Palmyra and Garner as well as Koch's other pipeline points, there has historically been a rate differential for KNC traffic and CF traffic to account for the fact that CF traffic has to travel more than 200 miles further on the pipeline than KNC's, and the small differences in the rate increases to Palmyra (24.53% for CF compared to 22.11% for KNC) and Garner (10.42% for CF compared to 9.85% for KNC) do not exaggerate that differential unreasonably. Finally, the sole basis of Farmland's request for a discrimination remedy — its assertion that, because Koch owns both the pipeline and KNC, it has both the "incentive and ability" to discriminate against it (Farmland, Opening Argument, at 40) — is simply unproven.

VI. CONCLUSION

We find that Koch faces effective barge competition for CF traffic at Palmyra, MO, and effective geographic competition for both CF and Farmland traffic at Garner, IA, but that Koch has market power with respect to the 19 other pipeline destination points that are at issue here. Applying the CMP revenue adequacy constraint, we find that Koch's rate increases to those points are unreasonable because Koch's revenues are adequate under its pre-rate increase structure. As a result, we will award reparations for past pipeline movements to those points, and prescribe maximum reasonable rates at the pre-increase (March 31, 1996) level for future movements. Because of the ordered rate relief, complainants' rate discrimination claims to the 19 noted pipeline points are moot, and we do not find Koch's rates to Palmyra and Garner to be discriminatory.

This decision will not significantly affect the quality of the human environment or the conservation of energy resources.

It is ordered:

⁷¹ The complaining party has the burden of proving the presence of the first three factors and the carrier has the burden of justifying the disparity, if possible, in connection with the fourth factor.

1. CF's motion to amend its complaint is denied.
2. Koch's petition for clarification regarding the consideration of evidence relating to product and geographic competition is granted.
3. Defendant shall, within 60 days, establish and maintain pipeline rates that do not exceed the rates in effect on March 31, 1996, for transportation to the destinations serving the complainants, other than Palmyra, MO and Garner, IA.
4. Defendant shall pay reparations and interest, calculated in accordance with 49 CFR Part 1141, back to the point when it increased the rates ordered to be reduced by paragraph 3 of this order.
5. This decision is effective June 8, 2000.

By the Board, Chairman Morgan, Vice Chairman Burkes, and Commissioner Clyburn.
Vice Chairman Burkes commented with a separate expression.

Vernon A. Williams
Secretary

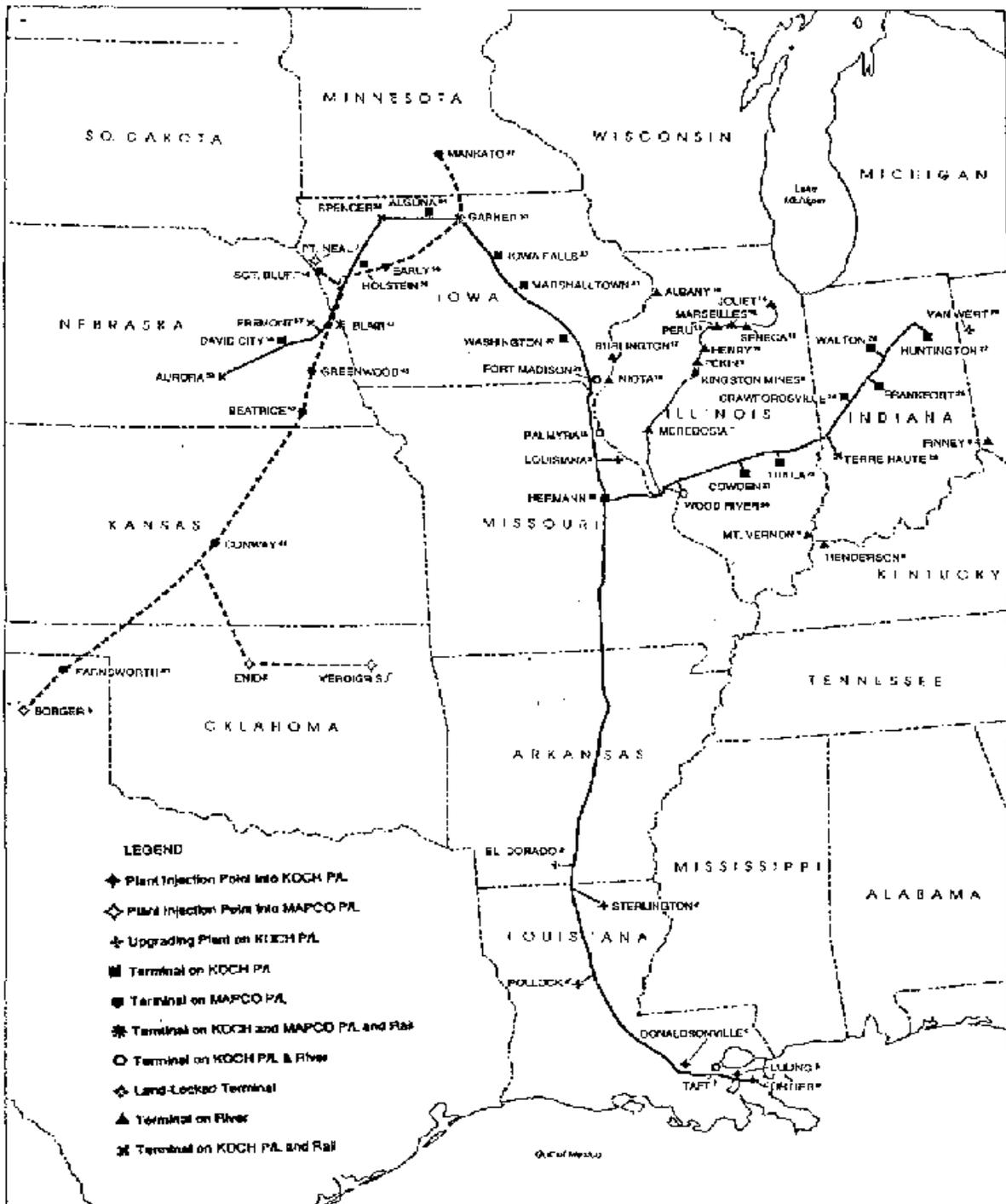
Vice Chairman Burkes, commenting:

I agree with the ultimate findings of this decision, which finds that Koch Pipeline Company, L.P. (Koch) faces no effective competitive alternatives to the pipeline transportation of anhydrous ammonia that it provides to complainants at 19 of the 21 locations at issue, and that Koch's rate increases to those locations in 1996 were unreasonable. However, I am concerned that the Board's consideration of product and geographic competition in this proceeding not be viewed as inconsistent with its decision in STB Ex Parte No. 627, Market Dominance Determinations—Product and Geographic Competition, served December 21, 1998.

In the Ex Parte No. 627 decision, the Board concluded that, although product and geographic competition may be relevant factors, the consideration of those factors "imposes substantial burdens on both parties and this agency" and thus provided that the Board "will no longer consider evidence of product and geographic competition in market dominance determinations." In this decision, however, the Board relies on the consideration of geographic competition to correctly determine that Koch faces effective competition at Garner, Iowa. The decision also includes a detailed evaluation of product competition and correctly concludes that substitute products do not constrain Koch's rates.

This is a pipeline rate case, whereas the Ex Parte No. 627 decision concerned market dominance standards for railroad rate cases. Pipeline rate cases have different standards from rail rate cases and product and geographic competition appear to be relevant factors in this proceeding. Moreover, the record in this proceeding was closed before the Board's decision in Ex Parte No. 627 was released; therefore, the "burden" of presenting evidence and testimony relating to product and geographic competition had already been imposed. However, I believe that the Board should be consistent with the broader notion in its Ex Parte No. 627 decision and decline to consider these factors in future pipeline cases.

APPENDIX 1



APPENDIX 2

PIPELINE TERMINALS (EASTERN AND WESTERN LEGS)

STATE	TERMINAL-LEG	PARTIES CHALLENGING RATES	TERMINAL OWNER	GROSS CAPACITY (1,000 TONS)	CF CAPACITY AVAILABLE (1,000 TONS)	KOCH CAPACITY AVAILABLE (1,000 TONS)
AK	ELDORADO	FARMLAND	ELDORADO	23		
MO	HERMANN-SPLIT	BOTH	KOCH	2	<u>1.5</u>	
MO	PALMYRA-WEST	CF	CF	30	<u>28.5</u>	1.1
IA	WASHINGTON-WEST	BOTH	<i>FARMLAND</i>	30		
IA	WASHINGTON-WEST	BOTH	KOCH	<1	<u>1.0</u>	
IA	MARSHALLTOWN-WEST	BOTH	KOCH	60	<u>12.0</u>	
IA	IOWA FALLS-WEST	BOTH	KOCH	60	<u>5.0</u>	
IA	GARNER-WEST	BOTH	CF	60	<u>50.9</u>	8.3
IA	GARNER-WEST	BOTH	<i>FARMLAND</i>	30		
IA	ALGONA-WEST	BOTH	KOCH	60	<u>2.0</u>	
IA	SPENCER-WEST	BOTH	CF	60	<u>53.1</u>	6.2
IA	HOLSTEIN-WEST	CF	KOCH	<1	<u>0.5</u>	0.5
NE	FREMONT-WEST	CF	CF	20	<u>17.3</u>	2.5
NE	DAVID CITY-WEST	BOTH	KOCH	60	<u>1.0</u>	
NE	AURORA-WEST	BOTH	CF	15	<u>14.8</u>	
NE	AURORA-WEST	BOTH	<i>FARMLAND</i>	30		
NE	AURORA-WEST	BOTH	KOCH	30		
IL	WOODRIVER-EAST	CF	KNC	30		
IL	COWDEN-EAST	CF	CF	30	<u>23.2</u>	6.0
IL	TRILLA-EAST	BOTH	<i>FARMLAND</i>	30		
IL	TRILLA-EAST	BOTH	KOCH	30	<u>14.0</u>	
IN	TERRA HAUTE-EAST	CF	CF	28	<u>21.0</u>	8.0
IN	CRAWFORDSVILLE-	BOTH	KOCH	60	<u>10.0</u>	
IN	FRANKFORT-EAST	BOTH	CF	30	<u>21.3</u>	8.0
IN	WALTON-EAST	BOTH	KOCH	80	<u>7.0</u>	
IN	HUNTINGTON-EAST	BOTH	CF	30	<u>29.7</u>	
IN	HUNTINGTON-EAST	BOTH	KOCH	30		
IN	HUNTINGTON-EAST ⁴	BOTH	KNC	30		

APPENDIX 2
(continued)

BARGE TERMINALS (IN PROXIMITY OF EASTERN AND WESTERN LEGS OF PIPELINE)

STATE	TERMINAL	RIVER	TERMINAL OWNER	GROSS CAPACITY (1,000 TONS)	CF CAPACITY AVAILABLE (1,000 TONS)	KOCH CAPACITY AVAILABLE (1,000 TONS)
IL	MEREDOSIA	ILLINOIS	TRANSAMMONIA	36		
IL	MEREDOSIA	ILLINOIS	IMC GLOBAL	20		
IL	KINGSTONMINES	ILLINOIS	<u>CF</u>	<u>40</u>	<u>39.3</u>	
IL	PEKIN	ILLINOIS	KNC	60		
IL	HENRY	ILLINOIS	<i>FARMLAND</i>	20		
IL	PERU	ILLINOIS	<u>CF</u>	<u>20</u>	<u>19.7</u>	
IL	MARSEILLES	ILLINOIS	IMC GLOBAL	40		
IL	SENECA	ILLINOIS	<u>CF</u>	<u>30</u>	<u>20.0</u>	9.0
IL	JOLIET	ILLINOIS	<u>CF</u>	<u>20</u>	<u>18.8</u>	
MO	CRYSTALCITY	MISSISS.	LAROCHE	37		
IL	WOODRIVER	MISSISS.	KNC	30		
IL	NIOTA	MISSISS.	IMC GLOBAL	30		
MO	PALMYRA	MISSISS.	<u>CF</u>	<u>30</u>		
IA	BURLINGTON	MISSISS.	KNC	30		
IL	ALBANY	MISSISS.	<u>CF</u>	<u>60</u>	<u>59.1</u>	
MN	ROSEPORT-PINEBEND	MISSISS.	<u>CF</u>	<u>60</u>		
MN	ROSEPORT-PINEBEND	MISSISS.	CNR	23		
IN	MT. VERNON	OHIO	<u>CF</u>	<u>15</u>	<u>14.8</u>	
KY	HENDERSON	OHIO	IMC-AGRICO	40		
OH	FINNEY-NORTH BEND	OHIO	IMC GLOBAL	20		

APPENDIX 2
(continued)

LOCAL PRODUCTION AMMONIA PLANTS IN THE MIDWEST - FY 96/97

PLANT	CITY	STATE	AA CAPACITY (000s of Tons)	UREA PRODUCTION	AN PRODUCTION	UAN PRODUCTION
FARMLAND	FT. DODGE	IA	280			
GREEN VALLEY	CRESTON	IA	35			
PCS	CLINTON	IA	270	X	X	X
TERRA	PORT NEAL	IA	350	X	X	X
IMC NITROGEN	E. DUBUQUE	IL	300	X	X	X
FARMLAND	DODGE CITY	KS	290		X	X
FARMLAND	LAWRENCE	KS	465	X	X	X
FARMLAND	BEATRICE	NE	290	X	X	X
PCS	LA PLATTE	NE	200	X	X	X
PCS	LIMA	OH	575	X	X	X
TOTAL			3,055			

APPENDIX 3

DESTINATIONS: 1	CF INDUSTRIES <u>AT DONALDSONVILLE</u>			FARMLAND INDUSTRIES <u>AT POLLOCK</u>			KOCH NITROGEN COMPANY <u>AT STERLINGTON</u>		
	PRIOR RATE (03/31/96)	CURRENT RATE (07/01/96)	PERCENT CHANGE 4	PRIOR RATE (03/31/96)	CURRENT RATE (07/01/96)	PERCENT CHANGE 7	PRIOR RATE (03/31/96)	CURRENT RATE (07/01/96)	PERCENT CHANGE 10
	2	3	4	5	6	7	8	9	10
WESTERN LEG:									
HERMANN, MO	\$16.06	\$20.00	24.53%	\$15.82	\$19.00	20.10%	\$15.56	\$19.00	22.11%
PALMYRA, MO	\$16.06	\$20.00	24.53%	XXX	XXX	XXX	\$15.56	\$19.00	22.11%
FORT MADISON, IA	\$22.50	\$22.50	0.00%	XXX	XXX	XXX	\$21.94	\$22.00	0.27%
WASHINGTON, IA	\$23.00	\$25.75	11.96%	\$22.76	\$25.40	11.60%	\$22.57	\$25.25	11.87%
MARSHALLTOWN, IA	\$23.44	\$25.75	9.85%	\$23.13	\$25.40	9.81%	\$22.94	\$25.25	10.07%
IOWA FALLS, IA	\$23.62	\$26.00	10.08%	\$23.37	\$25.75	10.18%	\$23.13	\$25.50	10.25%
GARNER, IA	\$24.00	\$26.50	10.42%	\$23.62	\$26.00	10.08%	\$23.44	\$25.75	9.85%
ALGONA, IA	\$24.13	\$26.60	10.24%	\$23.75	\$26.15	10.11%	\$23.49	\$25.85	10.05%
SPENCER, IA	\$24.38	\$26.75	9.72%	\$24.00	\$26.40	10.00%	\$23.82	\$26.25	10.20%
HOLSTEIN, IA	\$24.49	\$27.00	10.25%	XXX	XXX	XXX	\$24.00	\$26.50	10.42%
FREMONT, NE	\$25.19	\$27.75	10.16%	XXX	XXX	XXX	\$24.49	\$27.00	10.25%
DAVID CITY, NE	\$25.31	\$28.00	10.63%	\$25.00	\$27.50	10.00%	\$24.75	\$27.25	10.10%
AURORA, NE	\$25.51	\$28.10	10.15%	\$25.31	\$28.00	10.63%	\$25.19	\$27.75	10.16%
EASTERN LEG:									
WOOD RIVER, IL	\$18.19	\$25.80	41.84%	XXX	XXX	XXX	\$17.62	\$18.50	4.99%
COWDEN, IL	\$20.95	\$25.80	23.15%	XXX	XXX	XXX	\$20.37	\$21.90	7.51%
TRILLA, IL	\$21.31	\$29.80	39.84%	\$21.01	\$24.00	14.23%	\$20.87	\$24.00	15.00%
TERRE HAUTE, IN	\$21.94	\$30.40	38.56%	XXX	XXX	XXX	\$21.20	\$26.00	22.64%
CRAWFORDSVILLE, IN	\$22.57	\$30.80	36.46%	\$22.25	\$27.00	21.35%	\$22.01	\$27.00	22.67%
FRANKFORT, IN	\$22.94	\$30.80	34.26%	\$22.62	\$27.00	19.36%	\$22.50	\$27.00	20.00%
WALTON, IN	\$23.37	\$35.80	53.19%	\$23.00	\$32.00	39.13%	\$22.87	\$31.90	39.48%
HUNTINGTON, IN	\$24.00	\$35.80	49.17%	\$23.62	\$32.00	35.48%	\$23.44	\$31.90	36.09%
EL DORADO, AR *	XXX	XXX	XXX	\$6.63	\$11.00	65.91%	\$6.63	\$11.00	65.91%
TOTAL O/D POINTS		21			15			22	
* THIS DESTINATION IS LOCATED SOUTH OF HERMANN, MO SPLIT ON THE PIPELINE.									

APPENDIX 4

DIRECT MATCHES OF RETAILERS RECEIVING CF AA BY PIPELINE/TRUCK MOVEMENTS AND BARGE/TRUCK MOVEMENTS IN FY 1996/97					
LEG	PIPELINE TERMINAL		DIRECT MATCHES		
	CITY	STATE	TOWN / RETAILERS	P/L TONS TO DUALY SERVED RETAILERS	P/L TONS TO ALL RETAILERS
SPLIT	HERMANN	MO	12	5,724.83	13,732.96
EAST	COWDEN	IL	36	10,915.18	47,825.63
EAST	TRILLA	IL	23	6,246.64	29,208.62
EAST	TERRE HAUTE	IN	21	5,091.09	38,691.08
EAST	CRAWFORDSVILLE	IN	14	1,350.31	11,353.63
EAST	FRANKFORT	IN	7	2,631.25	35,694.50
EAST	WALTON	IN	3	91.00	10,101.64
EAST	HUNTINGTON	IN	6	1,646.33	33,417.60
	TOTAL EAST LEG		110	27,971.80	206,292.70
WEST	PALMYRA	MO	149	11,255.32	12,820.11
WEST	WASHINGTON	IA	3	565.11	2,022.27
WEST	MARSHALLTOWN	IA	17	3,232.23	23,711.69
WEST	IOWA FALLS	IA	14	1,958.66	7,835.22
WEST	GARNER	IA	28	9,666.20	20,345.47
WEST	ALGONA	IA	0	0.00	9,927.69
WEST	SPENCER	IA	15	6,022.88	39,515.52
WEST	HOLSTEIN	IA	0	0.00	4,306.60
WEST	FREMONT	NE	0	0.00	17,202.49
WEST	DAVID CITY	NE	0	0.00	2,196.08
WEST	AURORA	NE	0	0.00	35,695.68
	TOTAL WEST LEG		226	32,700.40	175,578.82
	TOTAL ALL TERMINALS		348	66,397.04	395,604.48

APPENDIX 5

COMPARISON OF PIPELINE/BARGE COSTS AT BERRY, IL "MATCH"			
Current Pipeline Routing		Proposed Barge Routing	
Cost Category	Cost/Ton	Cost/Ton	Cost Category
Pipeline to Cowden	\$ 25.80	\$ 16.32	Barge to Kingston Mines
		\$ 0.94	Incremental refrigeration cost to lower AA temperature for shipment by barge at NOLA
		\$ 1.85	Additional labor cost to move AA through Kingston Mines
<i>Subtotal</i>	\$ 25.80	\$ 19.11	
Truck Cowden to Berry	\$ 11.00	\$ 24.30	Truck Kingston Mines to Berry
TOTAL COST TO RETAILER	\$ 36.80	\$ 43.41	

APPENDIX 6**PIPELINE & BARGE TRAFFIC TO THE SAME RETAILERS**

Pipeline Terminals	Number of Direct Matches	Total NOLA Pipeline Tons	“Match” NOLA Tons	Matches with Barge > 30 Miles Further than Pipeline	Tons Where Barge > 30 Miles Further than Pipeline
(1)	(2)	(3)	(4)	(5)	(6)
Western Leg Terminals:					
Palmyra, MO	149	12,820	11,255	3	234
Washington, IA	3	2,022	565	3	565
Marshalltown, IA	17	23,712	3,232	10	3,098
Iowa Falls, IA	14	7,835	1,959	7	737
Garner, IA	28	20,345	9,666	7	5,946
Spencer, IA	15	39,516	6,023	4	1,802
Eastern Leg Terminals:					
Hermann, MO	12	13,733	5,725	0	0
Cowden, IL	36	47,826	10,915	4	2,446
Trilla, IL	23	29,209	6,247	5	2,928
Terre Haute, IN	21	38,691	5,091	2	812
Crawfordsville, IN	14	11,354	1,350	0	0
Frankfort, IN	7	35,695	2,631	0	0
Walton, IN	3	10,102	91	1	9
Huntington, IN	6	33,418	1,646	0	0
TOTAL	348		66,397	46	18,577

APPENDIX 7⁷²

Pipeline Terminal	Total P/L Tons	Total Divertable Tons	Percent of Total Tons	Barge Terminals					
				Kingston Mines	Seneca	Joliet	Palmrya	Albany	Mount Vernon
Herman	13,733	44	0.32%				44		
Cowden	47,826	3,132	6.55%	237					2,895
Trilla	29,208	7,898	26.50%	21	193	377			7,307
Terre Haute	38,691	23,231	60.04%		76	1,812			21,343
Crawfordsville	11,354	400	3.53%			38			362
Frankfort	35,695	10,471	29.33%			10,471			
Walton	10,102	7,915	78.35%			7,915			
Huntington	33,418	12,105	36.22%			12,105			
Washington	2,022	63	3.12%				63		
Marshalltown	23,712	798	3.37%				777	21	
Iowa Falls	7,835	14	0.18%				14		
Totals		66,071		258	269	32,718	854	21	31,907

⁷² Tonnage totals in Appendices 7, 9, and 10 may differ slightly from each other due to rounding.

APPENDIX 8

Pipeline Terminal	Rates prior to 4/01/96	Rates After 7/1/96	Revenues Under Old Rates	Revenues after Traffic Diversion under New Rates
Herman	\$16.06	\$20.00	\$ 220,551	\$ 273,779
Cowden	\$20.95	\$25.80	\$1,001,947	\$1,153,009
Trilla	\$21.31	\$29.80	\$ 622,436	\$ 635,050
Terre Haute	\$21.94	\$30.40	\$ 848,882	\$ 469,995
Crawfordsville	\$22.57	\$30.80	\$ 256,251	\$ 337,342
Frankfort	\$22.94	\$30.80	\$ 818,832	\$ 776,886
Walton	\$23.37	\$35.80	\$ 236,075	\$ 78,359
Huntington	\$24.00	\$35.80	\$ 802,022	\$ 763,003
Washington	\$23.00	\$25.75	\$ 46,512	\$ 50,451
Marshalltown	\$23.44	\$25.75	\$ 555,802	\$ 590,028
Iowa Falls	\$23.62	\$26.00	\$ 185,068	\$ 203,352

APPENDIX 9

Month/ Year	Joliet			Mount Vernon		
	Actual Throughput	Maximum Divertable Throughput	Divertable Throughput limited by peak season throughput	Actual Throughput	Maximum Divertable Throughput	Divertable Throughput limited by peak season throughput
Jul/96	1,486	3,053	3,053	3,365	1,202	1,202
Aug/96	3,757	1,030	1,030	1,715	224	224
Sept/96	584	2,016	2,016	1,068	1,316	1,316
Oct/96	1,774	349	349	99	21	21
Nov/96	4,703	1,081	1,081	181	179	179
Dec/96	1,116	463	463	673	304	304
Jan/97		270	270	81	100	100
Feb/97		40	40	485	0	0
Mar/97	743	534	534	768	210	210
Apr/97	9,018	10,580	0	12,380	9,059	0
May/97	2,474	2,168	2,168	11,549	3,983	533
Jun/97	2,154	10,715	6,864	9,976	4,744	1,278
Totals	27,809	32,299	17,868	42,340	21,342	5,367

APPENDIX 10

Terminal	FY 96/97 Tons	Rates prior to 4/01/9 6	Rates After 7/1/96	Divertable Tons ⁷³	Revenues Under Old Rates	Revenues Under New Rates
Terre Haute	38,691	\$21.94	\$30.4 0	6,646	\$848,882	\$974,168
Frankfort	35,695	\$22.94	\$30.8 0	5,820	\$818,832	\$920,147
Walton	10,102	\$23.37	\$35.8 0	3,067	\$236,075	\$251,848
Huntington	33,417	\$24.00	\$35.8 0	7,704	\$802,022	\$920,534

⁷³ Adding in the 76 tons that Appendix 7 shows could be diverted from Terre Haute to the barge terminal at Seneca, IL, and assuming that all of those tons could be diverted “off-peak, would not change these results: divertable tonnage from Terre Haute in the table above would increase to 6,722 tons, and Koch’s revenues at Terre Haute after the rate increases would decrease slightly to \$971,857.

Appendix 11

**TABLE 1
DISCOUNTED CASH FLOW ANALYSIS
USING KOCH'S ACQUISITION COST
AND NOMINAL COST OF CAPITAL**

Year	Source	Revenue	Cash Operating Expenses	Taxes	After-Tax Cash Flow	Annual Weighted Average Cost of Capital /1	Half Year Discount Factor	Discounted After-Tax Cash Flow	Cumulative Cash Flow
1988	Form 6	20,162,024	6,816,948	3,665,378	8,658,304	11.70%	0.946179	8,192,307	8,192,307
1989	Form 6	24,665,305	6,625,739	3,687,417	14,352,149	11.50%	0.847831	12,168,200	20,360,507
1990	Form 6	25,372,079	7,629,530	4,686,772	13,055,777	11.80%	0.759366	9,914,111	30,274,618
1991	Form 6	25,414,914	7,462,523	6,038,199	11,914,192	11.60%	0.679826	8,099,583	38,374,201
1992	Form 6	29,103,560	7,100,400	7,166,847	14,836,313	11.40%	0.609710	9,045,849	47,420,051
1993	Form 6	24,277,119	7,025,831	5,506,873	11,744,415	11.40%	0.546581	6,419,269	53,839,319
1994	Form 6	29,563,700	7,469,923	7,960,319	14,133,458	12.20%	0.488238	6,900,485	60,739,804
1995	/2	28,310,232	8,735,808	4,344,400	15,230,024	11.70%	0.436122	6,642,151	67,381,955
1996	/3	33,003,796	10,314,352	7,793,300	14,896,144	11.90%	0.390092	5,810,860	73,192,815

Koch Pipeline Acquisition Cost 77,173,442
 Present Value After-Tax Earnings 73,192,815

Percent of Acquisition Cost Recovered 94.84%

/1 Based on the Railroad Industry Cost of Capital

/2 Revenue and Operating Expenses - Koch, R.V.S. Klick, Workpapers KO 000516, Taxes - KO 007794.

/3 Revenue and Operating Expenses - Koch, R.V.S. Klick, Workpapers KO 000516, Taxes - KO 007796

Appendix 11
(continued)

TABLE 2

INCREMENTAL INVESTMENT (1988 DOLLARS)

1988 Acquisition Cost 69,208,699
Line Fill 7,964,743

Year	Gross Investment	Capital Additions	Half Year Discount Factor	Capital Additions (1988 dollars)
1988	77,173,442	NA	0.946179	
1989	78,239,384	1,257,257	0.847831	1,065,942
1990	78,468,691	301,972	0.759366	229,307
1991	78,845,256	553,913	0.679826	376,565
1992	80,357,106	2,479,622	0.609710	1,511,850
1993	81,975,935	2,961,739	0.546581	1,618,829
1994	82,036,142	123,314	0.488238	60,207

Koch Pipeline Gross Investment 82,036,142
Present Value After-Tax Earnings 73,192,815

Percent of Gross Investment Recovered 89.22%

APPENDIX 11

(continued)

TABLE 3

DISCOUNTED CASH FLOW ANALYSIS
USING KOCH'S ACQUISITION COST AND NOMINAL COST OF CAPITAL

Year	Source	Revenue	Cash Operating Expenses	Taxes	After-Tax Cash Flow	Annual Weighted Average Cost of Capital	Half- Year Discount Factor	Discounted After-Tax Cash Flow	Cumulative Cash Flow
1988	Form 6	20,162,024	6,816,948	3,665,378	8,658,304	11.70%	0.946179	8,192,307	8,192,307
1989	Form 6	24,665,305	6,625,739	3,687,417	14,352,149	11.50%	0.847831	12,168,200	20,360,507
1990	Form 6	25,372,079	7,629,530	4,686,772	13,055,777	11.80%	0.759366	9,914,111	30,274,618
1991	Form 6	25,414,914	7,462,523	6,038,199	11,914,192	11.60%	0.679826	8,099,583	38,374,201
1992	Form 6	29,103,560	7,100,400	7,166,847	14,836,313	11.40%	0.609710	9,045,849	47,420,051
1993	Form 6	24,277,119	7,025,831	5,506,873	11,744,415	11.40%	0.546581	6,419,269	53,839,319
1994	Form 6	29,563,700	7,469,923	7,960,319	14,133,458	12.20%	0.488238	6,900,485	60,739,804
1995	Koch	28,310,232	8,735,808	4,344,400	15,230,024	11.70%	0.436122	6,642,151	67,381,955
1996					12,990,579	11.90%	0.390092	5,067,515	72,449,470
1997					12,990,579	11.80%	0.350640	4,555,015	77,004,485
1998					12,990,579	11.61%	0.314062	4,079,846	81,084,331
1999					12,990,579	11.61%	0.285866	3,713,567	84,797,898
2000					12,990,579	11.61%	0.253818	3,297,247	88,095,144

Koch Pipeline Acquisition Cost

82,036,142

Present Value After-Tax Earnings

88,095,144

Excess Recovery (1988 dollars)

6,059,003

Percent of Gross Investment Recovered

107.39%

APPENDIX 11
(continued)

TABLE 4
DISCOUNTED CASH FLOW ANALYSIS
USING KOCH'S ACQUISITION COST AND NOMINAL COST OF CAPITAL

Year	Source	Revenue	Cash Operating Expenses	Taxes	After-Tax Cash Flow	Annual Weighted Average Cost of Capital	Half Year Discount Factor	Discounted After-Tax Cash Flow	Cumulative Cash Flow
1988	Form 6	20,162,024	6,816,948	3,665,378	8,658,304	11.70%	0.946179	8,192,307	8,192,307
1989	Form 6	24,665,305	6,625,739	3,687,417	14,352,149	11.50%	0.847831	12,168,200	20,360,507
1990	Form 6	25,372,079	7,629,530	4,686,772	13,055,777	11.80%	0.759366	9,914,111	30,274,618
1991	Form 6	25,414,914	7,462,523	6,038,199	11,914,192	11.60%	0.679826	8,099,583	38,374,201
1992	Form 6	29,103,560	7,100,400	7,166,847	14,836,313	11.40%	0.609710	9,045,849	47,420,051
1993	Form 6	24,277,119	7,025,831	5,506,873	11,744,415	11.40%	0.546581	6,419,269	53,839,319
1994	Form 6	29,563,700	7,469,923	7,960,319	14,133,458	12.20%	0.488238	6,900,485	60,739,804
1995	Koch	28,310,232	8,735,808	4,344,400	15,230,024	11.70%	0.436122	6,642,151	67,381,955
1996	Koch	33,003,796	10,314,352	7,793,300	14,896,144	11.90%	0.390092	5,810,860	73,192,815
1997					14,896,144	11.80%	0.350640	5,223,182	78,415,997
1998					14,896,144	11.61%	0.314062	4,678,311	83,094,308
1999					14,896,144	11.61%	0.285866	4,258,303	87,352,611
2000					14,896,144	11.61%	0.253818	3,780,914	91,133,525

Koch Pipeline Acquisition Cost 82,036,142
 Present Value After-Tax Earnings 91,133,525
 Percent of Acquisition Cost Recovered 111.09%

Appendix 11
(continued)

TABLE 5

KOCH REVENUE ADEQUACY DETERMINATION

Year	Net Income	Net Investment Base	Return on Investment	Cost of Capital	Revenue Adequacy
1988	7,895,360	76,750,245	10.29%	11.70%	Inadequate
1989	10,792,798	75,570,562	14.28%	11.50%	Adequate
1990	10,639,781	73,787,069	14.42%	11.80%	Adequate
1991	9,036,555	69,246,917	13.05%	11.60%	Adequate
1992	11,641,954	65,411,099	17.80%	11.40%	Adequate
1993	8,298,785	63,977,050	12.97%	11.40%	Adequate
1994	11,545,385	58,980,000	19.58%	12.20%	Adequate
1995	9,962,428	55,801,751	17.85%	11.70%	Adequate
1996	11,833,960	55,002,055	21.52%	11.80%	Adequate

Net Income is less Depreciation Expense

Appendix 11
(continued)

TABLE 6

INCREMENTAL INVESTMENT (1988 DOLLARS)

1988 Acquisition Cost 69,208,699
Line Fill 7,964,743

Year	Gross Investment	Capital Additions /1	Half Year Discount Factor	Capital Additions (1988 dollars)
1988	77,173,442	NA	0.946179	
1989	78,239,384	1,257,257	0.847831	1,065,942
1990	78,468,691	301,972	0.759366	229,307
1991	78,845,256	553,913	0.679826	376,565
1992	80,357,106	2,479,622	0.609710	1,511,850
1993	81,975,935	2,961,739	0.546581	1,618,829
1994	82,036,142	123,314	0.488238	60,207
1995	82,036,142		0.436112	0
1996	82,036,142		0.390092	0
1997	82,036,142		0.350640	0
1998	85,961,915	12,500,000	0.314062	3,925,773
1999	89,535,242	12,500,000	0.285866	3,573,327
2000	92,707,970	12,500,000	0.253818	3,172,729
2001	95,522,716	12,500,000	0.225180	2,814,746

Koch Pipeline Gross Investment 95,522,716
Present Value After-Tax Earnings 1996 73,192,815

Percent of Gross Investment Recovered 76.62%

/1 1998-2001 capital addition of \$50 million over four years from Koch, Reb. V.S. Klick, page 12-15.

APPENDIX 11
(continued)

TABLE 7
DISCOUNTED CASH FLOW ANALYSIS
USING KOCH'S ACQUISITION COST AND NOMINAL COST OF CAPITAL

Year	Source	Revenue	Cash Operating Expenses	Taxes	After-Tax Cash Flow	Annual Weighted Average Cost of Capital /1	Half-Year Discount Factor	Discounted After-Tax Cash Flow	Cumulative Cash Flow
1988	Form 6	20,162,024	6,816,948	3,665,378	8,658,304	11.70%	0.946179	8,192,307	8,192,307
1989	Form 6	24,665,305	6,625,739	3,687,417	14,352,149	11.50%	0.847831	12,168,200	20,360,507
1990	Form 6	25,372,079	7,629,530	4,686,772	13,055,777	11.80%	0.759366	9,914,111	30,274,618
1991	Form 6	25,414,914	7,462,523	6,038,199	11,914,192	11.60%	0.679826	8,099,583	38,374,201
1992	Form 6	29,103,560	7,100,400	7,166,847	14,836,313	11.40%	0.609710	9,045,849	47,420,051
1993	Form 6	24,277,119	7,025,831	5,506,873	11,744,415	11.40%	0.546581	6,419,269	53,839,319
1994	Form 6	29,563,700	7,469,923	7,960,319	14,133,458	12.20%	0.488238	6,900,485	60,739,804
1995	Koch	28,310,232	8,735,808	4,344,400	15,230,024	11.70%	0.436122	6,642,151	67,381,955
1996					12,990,579	11.90%	0.390092	5,067,515	72,449,470
1997					12,990,579	11.61%	0.350640	4,555,015	77,004,485
1998					12,990,579	11.61%	0.314062	4,079,846	81,084,331
1999					12,990,579	11.61%	0.285866	3,713,567	84,797,898
2000					12,990,579	11.61%	0.253818	3,297,247	88,095,144
2001					12,990,579	11.61%	0.225180	2,925,214	91,020,358
2002					12,990,579	11.61%	0.203414	2,642,470	93,662,828
2003					12,990,579	11.61%	0.182256	2,367,612	96,030,440