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GAO

Fact Sheet for Congressional Requesters

July 1986

SYNTHETIC FUELS

Status of the Great Plains Coal Gasification Project

130305

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UNITED STATES GENERAL ACCOUNTING OFFICE
WASHINGTON, D.C. 20548

RESOURCES, COMMUNITY, AND ECONOMIC DEVELOPMENT DIVISION

July 3, 1986

B-207876

The Honorable Philip R. Sharp
Chairman, Subcommittee on Fossil and Synthetic Fuels
Committee on Energy and Commerce
House of Representatives

The Honorable Mark Andrews
United States Senate

As requested in your July 31 and August 5, 1985, letters and in subsequent meetings with your offices, we have obtained updated information on the Great Plains coal gasification project in North Dakota following the default of a $1.54 billion federal loan by the project's sponsors. Your offices asked that we provide periodic briefing documents on the status of the project. We issued our last fact sheet to you on February 28, 1986 (GAO/RCED-86-109FS).

This fact sheet includes updated information obtained through June 13, 1986, on the loan default, Great Plains loan and gas pricing formula, legal matters and agreements, the Department of Energy's options and actions, and Great Plains operations. The new information highlights recent legal action concerning gas purchase agreements and mortgage foreclosure; the status of the project sponsors' outstanding liability; the Department's progress in evaluating its options; revenue, expense, production, and plant employment data; capital improvement projects; and plant maintenance issues.

We obtained the information in this fact sheet from discussions with, and documents provided by, federal, state, local, and industry officials involved with or affected by the Great Plains project. We also discussed a draft of this fact sheet with Department of Energy officials, and their comments have been incorporated where appropriate.

The Department of Energy Act of 1978--Civilian Applications (Public Law 95-238) requires our office to audit recipients of loan guarantees for alternative fuel demonstration projects every 6 months. In accordance with this requirement, we have issued eight reports on the status of the Great Plains project--the most recent on December 24, 1985 (GAO/RCED-86-36). This fact sheet satisfies our auditing requirement under Public Law 95-238, covering the period February 15, 1986, through June 13, 1986.

As agreed with your offices, we are sending copies of this fact sheet to other interested congressional offices and committees, to the Secretary of Energy, and to other interested parties. Please call me at 275-8545 if you have any questions about this fact sheet.

James Duffus III

James Duffus III
Associate Director

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ABBREVIATIONS

ANG	ANG Coal Gasification Company
Btu's	British thermal units
DOE	Department of Energy
FFB	Federal Financing Bank
GAO	General Accounting Office
GPGA	Great Plains Gasification Associates

SECTION I

BACKGROUND AND SCOPE

The Federal Nonnuclear Energy Research and Development Act of 1974 (Public Law 93-577), as amended by the Department of Energy Act of 1978--Civilian Applications (Public Law 95-238), authorizes the Department of Energy (DOE) to provide loan guarantees for alternative fuel demonstration projects. The Secretary of Energy awarded a loan guarantee to the Great Plains Gasification Associates (GPGA) on January 29, 1982, for up to $2.02 billion of the estimated $2.76 billion cost to build and start up a plant in North Dakota, producing synthetic natural gas from coal.

The federal government, through the Department of the Treasury's Federal Financing Bank (FFB), loaned GPGA 75 percent of project construction and start-up costs, and DOE agreed to guarantee that amount up to $2.02 billion. GPGA financed the rest with its own equity. As of July 31, 1985, GPGA had borrowed about $1.54 billion from FFB and had contributed about $493 million in equity to the project.

GREAT PLAINS SPONSORS DEFAULTED ON FEDERAL GUARANTEED LOAN

On August 1, 1985, the GPGA partners terminated their participation in the Great Plains coal gasification project, and the partnership defaulted on its $1.54 billion federal loan guaranteed by DOE. The GPGA partnership includes subsidiaries of American Natural Resources Company, Tenneco Inc., Transco Energy Company, MidCon Corp., and Pacific Lighting Corp. Their action followed a DOE July 30, 1985, decision that a proposed Synthetic Fuels Corporation's $720 million price support and debt-restructuring package for the Great Plains project would not support long-term operations at a reasonable cost to the taxpayer.

After GPGA defaulted, to maintain continuity, DOE directed the plant operator, ANG Coal Gasification Company (ANG), to continue operations temporarily while DOE completed a transition plan. The loan guarantee agreement provided that ANG could be required to operate the plant in the event of a loan default. DOE has been keeping the plant operating while it is determining the plant's future.

DOE BORROWS FROM TREASURY TO PAY OFF DEFAULTED LOAN

On August 6, 1985, DOE paid FFB the approximately $401 million principal and interest payment that was due at the time GPGA defaulted on the $1.54 billion DOE-guaranteed loan. The funds for the payment were obtained from the project's appropriated loan guarantee default reserve fund, which totaled about $673 million at the time of default, leaving a balance in the reserve of about $272 million.

To protect the government's rights in foreclosure proceedings and to reduce the interest from the FFB rate of 11 percent to the Treasury rate of 8 percent, DOE exercised its authority to borrow from the Treasury under Section 19 of the Federal Nonnuclear Energy Research and Development Act of 1974, as amended. DOE then paid the principal balance of the FFB note of $1.138 billion plus accrued interest of $31.9 million on September 30, 1985. After expenses for the operation, maintenance, and preservation of the project assets, pending final disposition of the facility, the balance in the loan guarantee default reserve fund will be available to be applied against the Treasury note.

OBJECTIVES, SCOPE, AND METHODOLOGY

Senator Mark Andrews and Congressman Philip Sharp, Chairman of the Subcommittee on Fossil and Synthetic Fuels, House Committee on Energy and Commerce, asked GAO to obtain information on the government's options, responsibilities, and potential costs in deciding what to do with the project. Senator Andrews also asked GAO to address the socioeconomic impact issues. In addition, both requesters' offices asked that we provide periodic briefing documents on the status of the project. Our first briefing paper was transmitted to their offices on September 18, 1985. We also issued fact sheets to the requesters on November 8, 1985, (GAO/RCED-86-49FS) and February 28, 1986 (GAO/RCED-86-109FS).

We prepared this fact sheet in order to provide the requesters with information obtained as of June 13, 1986, on the various issues, legal matters, and problems the government is facing or will be faced with in deciding Great Plains' future.

The scope of our work included interviewing and obtaining pertinent documents and information from federal, state, local, and industry officials involved in or affected by the Great Plains project. We spoke with officials at DOE headquarters in Washington, D.C., DOE's Chicago Operations Office, GPGA, ANG, the state of North Dakota, and local governments. DOE officials reviewed a draft of this fact sheet, and their comments were incorporated where appropriate.

Our November 8, 1985, fact sheet included information on socioeconomic issues. We have not obtained any additional information concerning these issues and, therefore, have not included that subject in this fact sheet.

SECTION II

GREAT PLAINS LOAN AND GAS PRICING FORMULA

Four pipeline companies, subsidiaries of four parent companies of the Great Plains partners, agreed to purchase all the gas produced by the Great Plains plant. The plant's production is the equivalent of about 1 percent of the pipeline companies' average annual gas requirements. The price of the gas is controlled by gas purchase agreements that contain a pricing formula. The pricing formula provided that the gas would be sold to the pipeline companies at a base price of $6.75 per million British thermal units (Btu's) in January 1, 1981, dollars. The price would vary quarterly on the basis of changes in the Bureau of Labor Statistics' Producer Price Index and changes in the price of No. 2 fuel oil. The $6.75 price was comparable to the 1980 prices paid by interstate pipelines for unregulated natural gas.

However, the pricing formula set various "caps" on the prices. Specifically:

--For 5 years after the initial delivery of gas, the price could not exceed the price of unregulated No. 2 fuel oil.

--From the 6th through the 10th year, the price would be the greater of the average prices paid by the pipeline affiliates for the highest 10 percent of domestic natural gas or for Canadian and Mexican gas. In neither case would it be higher than the unregulated price of No. 2 fuel oil.

--After 10 years, the price would be based on the price of unregulated domestic natural gas. If gas prices were regulated at that time, then the price paid for Canadian and Mexican gas would set the ceiling.

Great Plains began producing gas in July 1984. From July 28 through December 31, 1984, the Great Plains' synthetic gas sales price ranged from $5.69 to $6.10 per million Btu's--the equivalent price of No. 2 fuel oil, which controls the maximum sales price during the first 5 years of gas production. As of July 31, 1985, Great Plains had produced and sold about 28.3 billion cubic feet of gas, totaling about $153 million.

Actions not related to the Great Plains default have altered the gas pricing calculations. Effective July 1985, the Bureau of Labor Statistics ceased publishing the price of No. 2 fuel oil as a separate item. Because that published price had determined the cap under the gas pricing formula, it became necessary to devise an alternate approach. Pending the adoption of an alternative approach, ANG continued to bill for July through December gas deliveries at $5.3717 per million Btu's (based on the June published price for No. 2 fuel oil).

On September 5, 1985, ANG proposed a substitute pricing formula to the four pipeline company purchasers for their approval. Under the proposed substitute formula, the last published price for No. 2 fuel oil would be adjusted monthly according to changes in the Bureau of Labor Statistics' Producer Price Index. Using this method, the gas price from July through December 1985 would have ranged from a low of $5.0184 per million Btu's for August deliveries to a high of $6.2730 per million Btu's for December deliveries.

DOE directed ANG to begin billing for January 1986 and subsequent deliveries using the substitute formula rate. Since then, ANG has billed at the substitute rate. Although only one of the pipeline companies has formally agreed to the substitute formula, all four companies have paid for January and subsequent deliveries using the substitute formula. The prices ranged from a high of $5.7106 per million Btu's for January deliveries to a low of $3.3744 per million Btu's for May deliveries. The companies also recomputed the gas prices for August through December deliveries using the substitute formula and adjusted payments as necessary.

SECTION III

LEGAL MATTERS, AUTHORITY, AND AGREEMENTS

After GPGA defaulted on its loan, the Secretary of Energy directed his staff to review the status of Great Plains. Before DOE can make final decisions concerning its options, it must obtain title to the property. Other matters concern DOE's authority, foreclosure processes, ANG's operating agreement, coal and electric power supply contracts, gas purchase agreements, and the liability for expenses incurred during the June 24 to July 31, 1985, period (see p. 12).

DOE AUTHORITY

- Under the loan guarantee agreement and the Nonnuclear Act, DOE believes it has broad authority to protect the government's interests in the Great Plains project.

- Generally, DOE is authorized "to complete, maintain, operate, lease, or otherwise dispose of" the mortgaged property (42 U.S.C. §5919(g)(2); Loan Guarantee Agreement, §7.02(b)(iii)).

- DOE is of the opinion that, as a general matter, it needs no additional legislative authority to deal with GPGA's default.

FORECLOSURE

- Until DOE obtains title to the property, DOE believes its options are fairly limited; for example, without title to the property, DOE cannot sell the property.

- To obtain title and increase its options, DOE filed action to foreclose on the property on August 29, 1985, in the federal district court in North Dakota.

- DOE filed for summary judgment on October 16, 1985.

- On January 14, 1986, the federal district court for the district of North Dakota granted DOE's motion for summary judgment for foreclosure. The court ruled that the North Dakota state law, which would have permitted GPGA to redeem the property within 1 year of foreclosure, was not applicable.

- If DOE obtains title upon foreclosure, DOE would have available a wide range of options--operate, lease, sell, mothball, or scrap the project--and would be in a position to exercise the option it considers to be in the best interest of the government.

° On April 3, 1986, the Department of Justice, on behalf of DOE, filed a proposed foreclosure order with the North Dakota federal district court. The proposed order provided that the project assets were to be sold at a foreclosure sale at the Mercer County Courthouse in North Dakota on May 28, 1986. The order essentially provided for all assets held by GPGA to be sold as one unit to the highest bidder with no right of redemption by the former owners.

° On April 7, the federal district court signed the order.

° On April 18, GPGA filed a motion with the court to correct errors in the property descriptions and to defer the foreclosure sale date for at least 6 months in recognition of the partners "right of equitable redemption" under federal common law.

° On May 8, the court denied GPGA's motion for equitable redemption rights but granted its motion to correct certain property descriptions. The court also ordered the notice of the foreclosure sale to be republished with the corrected property descriptions and rescheduled the sale to be held on June 30, 1986.

PROPOSED ANG AGREEMENT

° As of June 13, 1986, DOE and ANG were continuing to negotiate an interim agreement under which ANG would operate the project until DOE decides on its future.

° According to DOE, under the proposed interim agreement

--ANG would not be an agent of DOE; ANG would be responsible for operating the plant, assuring supplies, and distributing and selling the products produced.

--ANG would operate the plant on a no-profit/no-loss basis to ANG.

--DOE could terminate the agreement at will.

° DOE said that, among other things, the issues still under discussion involve

--ANG's liability as plant operator.

--the method of transferring operating permits and licenses, now held by ANG, to a new owner in the event the project is sold.

--the assignability of ANG's services to a new owner if the project is sold.

SUPPLY CONTRACTS

- The contract for supplying electric power to the plant is a 35-year contract between Basin Electric Power Cooperative and ANG that requires a 10-year advance written notification to terminate. Under a proposed new payment structure, effective June 1986, ANG's cost for electric power will be about $20 million per year in 1986 dollars, provided that Basin Electric declares its second generating unit at the Antelope Valley Station to be in service. As of June 13, 1986, this unit had not been placed in service.

- The contracts for supplying coal to the project and Basin Electric's power plant are separate 25- to 35-year contracts between ANG and Coteau Properties Company, Basin Electric, and Great Plains.

- According to DOE officials, DOE has no liability under current supply contracts (e.g., coal purchase agreements, Basin Electric agreement) because it is not a party to any of those contracts.

GAS PURCHASE AGREEMENTS

- Following the August 1 default by the partners, DOE took the position that the separate 25-year gas purchase agreements with the affiliated pipeline companies remained valid and enforceable and that the pipelines were obligated to continue purchasing gas from the project.

- On August 19, 1985, Natural Gas Pipeline Company, a unit of MidCon Corporation, filed action in Washington, D.C., and Illinois asking the federal district court for the District of Columbia and the circuit court of Cook County, Illinois, to declare its gas purchase agreement void. The Illinois case was dismissed and the Washington case was transferred to the federal district court in North Dakota.

- As part of its August 29, 1985, foreclosure lawsuit in the federal district court in North Dakota, DOE asked the court to uphold the gas purchase agreements; the state of North Dakota intervened in the case on the side of DOE.

- On October 25, 1985, Tennessee Gas Pipeline Company, an affiliate of Tenneco, Inc., filed action in North Dakota asking the federal district court to either terminate its gas purchase agreement or approve its payment for Great Plains gas at the lower market value of other gas on its system.

- Since the August 1 loan default, all four pipeline companies have continued to accept their proportionate share of the synthetic natural gas produced at the plant. However, at varying points, three of the four companies discontinued payment at the formula price and began paying at market price.

- On January 14, 1986, the federal district court in North Dakota upheld the validity of the gas purchase agreements. Since then, the four pipeline companies have paid the billed formula price. The pipeline companies have also paid all past due amounts for gas purchases since the August 1 loan default, plus interest.

- Transcontinental Gas Pipe Line Corporation (Transco), one of the four affiliated pipeline companies, still owes the project about $374,000 including interest for gas purchases before the August 1 loan default.

- On March 25, 1986, Transco, which purchases 25 percent of Great Plains gas, notified ANG that, due to a sharp decline in its gas markets, it might be unable to continue purchasing the gas. Transco cited the "force majeure" provision of its gas purchase agreement which provides for relief from performance under the agreement in the case of unforeseen events beyond the company's control that preclude the company from meeting its contractual obligations.

- On April 8, 1986, the Department of Justice, acting on behalf of DOE, responded to Transco's letter by stating that it did not agree that a decline in Transco's markets caused by market conditions constituted a force majeure under the agreement. The Department also stated its view that any attempt by Transco to refuse either to accept or to pay for its share of Great Plains gas would violate the North Dakota federal district court's January 14 decision on the validity of the gas purchase agreements.

- On May 8, 1986, ANG notified DOE that the agreements between the four pipeline companies that purchase the Great Plains gas and the feeder pipeline (Northern Border Pipeline Company) will expire in July 1986. While DOE and ANG are not parties to those agreements, the continuation of the feeder pipeline agreement is necessary to transport the Great Plains gas from the project's pipeline to the four pipeline companies. ANG told DOE that it may be necessary to discontinue gas production if new agreements are not executed and Federal Energy Regulatory Commission authorizations are not obtained before the present agreements and authorizations terminate.

- In late May 1986, Northern Border Pipeline Company obtained signed agreements with each of the four pipeline companies to extend the feeder pipeline agreement for 1 year. Northern Border Pipeline Company has also applied to the Federal Energy Regulatory Commission for a temporary certificate to continue transporting the Great Plains gas.

- On May 15, 1986, the judge of the North Dakota federal district court who had ruled in January on the validity of the gas purchase agreements, certified the decision to the

8th circuit court of appeals in St. Paul, Minnesota. As of June 13, three of the four pipeline companies had advised the appeals court that they intend to appeal the ruling.

EXPENSES INCURRED UNDER SPECIAL OPERATING AGREEMENT

- Faced with the uncertainty of federal price supports and the financial impact of continuing operations, a special operating agreement was effected between DOE, GPGA, and the GPGA partners for the period from June 24 to July 31, 1985.

  --The agreement was aimed at keeping the plant in operation through July 1985 while negotiations for federal price support were expected to be settled.

  --The agreement enabled the Great Plains partnership to delay interest and guarantee fee payments and additional equity contributions until August 1, 1985.

- According to DOE, the Great Plains partners and their parent companies are liable for all expenses incurred during the period (including operational costs and capital and inventory costs).

- The partners' auditors (Arthur Anderson & Co.) stated in a September 10, 1985, report that GPGA's accounts payable and accrued liabilities were presented fairly, as of July 31, 1985, and that they found no unrecorded liabilities.

- On September 23, 1985, GPGA made a cash contribution of $441,000 as its final payment of costs under the special agreement with DOE. This was in addition to $13 million the partners contributed in August 1985 as equity funding to Great Plains.

- DOE sent an October 2, 1985, letter to ANG stating that DOE does not consider GPGA's contributions the final payment due.

- On November 7, 1985, DOE requested its Inspector General to conduct an audit and render an advisory opinion on the GPGA partners' costs under the special agreement. On January 27, 1986, the Inspector General reported that the partners' and their parent companies' remaining liability totaled about $44 million.

- ANG billed GPGA for the $44 million on February 12, 1986, and sent copies of the billing to the partners and the partners' parent companies. GPGA and several of the partners' parent companies advised DOE in March that they disagreed with the scope of the liability. They also requested access to pertinent records. Certain Inspector General audit records were made available to GPGA in April.

- As of June 13, 1986, discussions were continuing between DOE and GPGA regarding the liability, and ANG continued to carry the $44 million as an account receivable on the project's accounting records.

SECTION IV

DOE OPTIONS FOR GREAT PLAINS

DOE is studying its options on the future of the Great Plains coal gasification project. The study is to identify and consider the pros and cons of each option in terms of the potential federal costs and socioeconomic impact on the state of North Dakota. DOE plans to use various assumptions to evaluate each option and will disclose the results of its study after the Secretary of Energy has reviewed the assumptions and options. DOE said that the options are to continue to operate the plant, sell it or lease it, shut down the plant until a buyer or lessee is found, mothball it, or scrap the plant. DOE told us in June 1986 that it has not eliminated any of its options.

DOE's PROGRESS IN EVALUATING OPTIONS

° In November 1985, DOE's Assistant Secretary for Management and Administration filed a deposition in the federal district court in North Dakota which stated, among other things, that, following foreclosure, DOE may sell or lease the Great Plains project to an appropriate buyer or lessee, who would be bound by the gas purchase agreements, and would make a good faith effort to keep the facility in operation for the duration of the gas purchase agreements.

° On February 13, 1986, DOE placed an announcement in the Federal Register requesting any public and private sector organizations that may be interested in acquiring the plant to submit statements of interest and informational proposals by April 4, 1986. The announcement emphasized that DOE was not soliciting specific proposals for the purchase of the facility, but was seeking information to assist the department in identifying qualified prospective offerors and determining which option for disposition of the facility would be the most appropriate and advantageous for both the citizens of North Dakota and the U.S. taxpayer. It also indicated that any submissions of interest must state the organization's commitment to operate the facility for the duration of the gas purchase agreements. A DOE news release concerning the announcement stated that DOE's objectives are to

--transfer ownership of the plant and remove the federal government as a direct competitor in the gas production business.

--recover as much of the federal funds provided to cover the loan default as possible.

--assure continued long-term operation of the plant to avoid disruptions to the local economy and to capture the benefits associated with extended plant operations.

- DOE received nine statements of interest in response to its Federal Register notice. According to DOE, the statements ranged from interest in purchasing the plant, to operating it for the government, to buying its gas or by-products.

- On May 21, 1986, DOE mailed requests for proposals to 34 investment banking-type companies to acquire services to assist it in the disposition of the plant and assets. Proposals were to be submitted by June 20, 1986.

SECTION V

GREAT PLAINS OPERATIONS

The Great Plains plant is the nation's first commercial-scale facility producing synthetic natural gas from coal. Project construction began in August 1981 and was completed in December 1984, as scheduled. The plant has been producing and selling synthetic gas since July 1984 as part of the operational startup and testing process. During 1985, the plant met production performance standards for commercial operations. Some technical problems remain and modifications are needed to meet design specifications and environmental control agreements. Great Plains was scheduled to complete required air quality control testing by September 1985, but the date has been extended to September 1986.

GPGA appointed ANG as project administrator responsible for the construction, startup, and operation of the gasification plant. A management committee composed of representatives from each of the sponsoring partners provided overall direction to ANG. DOE's Office of Assistant Secretary for Fossil Energy was responsible for monitoring project construction and operations. The day-to-day monitoring of the project was delegated to DOE's Chicago Operations Office. When GPGA defaulted on its federally guaranteed loan on August 1, 1985, DOE directed ANG to continue plant operations until further notice.

According to DOE, any decision on plant operations will be made independently of the decision on the ultimate future of the project. Further, DOE does not believe that operating the project during the transition period will result in further costs or economic risk to the U.S. taxpayer as long as project revenues continue to exceed project expenses.

PROJECT MANAGEMENT

- Since the notice of default, DOE's Assistant Secretary for Fossil Energy has been providing direction to ANG through DOE's Chicago Operations Office.

- DOE and ANG stated that they are continuing to work closely together to cut costs and increase operating efficiencies.

- DOE receives a number of reports from ANG to assist it in monitoring the project's operations. They include

  --a weekly and monthly cash flow report detailing actual and projected receipts and disbursements.

  --a monthly project cost report that shows end-of-month revenues, operating costs, and other costs on an accrual accounting basis.

  --monthly project status reports that summarize the financial, operational, and administrative aspects of the project.

--other reports, prepared as appropriate, to assist in the project's financial and operational management.

° Monthly capital project reports describing the engineering, procurement, construction, and cost expenditure status of each approved project will be initiated in the near future.

° Each month DOE and ANG managers conduct technical progress meetings to discuss plant operations and financial status review meetings to discuss the project's financial operations.

PLANT EMPLOYMENT

° The following table shows the month-end employment at the gas plant of both permanent and contract employees from July 1985 through May 1986.

	Permanent	Contract	Total
1985			
July	977	376	1,353
August	966	211	1,177
September	961	187	1,148
October	934	176	1,110
November	882	99	981
December	873	86	959
1986			
January	873	77	950
February	871	83	954
March	871	107	978
April	867	212	1,079
May	866	109	975

° From October through January, 56 permanent employees were involuntarily terminated as part of a reduction-in-force to reduce operating costs. ANG told us that probably none of those employees would have been terminated at that time if it had not been for the need to reduce operating expenses. An additional 113 contract personnel were released during November and December to reduce costs further. Many of the released personnel were field and office technicians, and the others were building and equipment maintenance workers, supervisors, engineers, and support staff.

--ANG officials told us that personnel costs related to the contract personnel ceased immediately upon their termination.

--ANG also said that the termination of the permanent employees resulted in a monthly cost savings of about $100,000. Under company severance policies, the permanent employees generally continued to receive from 1 to 2 additional months of pay and benefits depending upon their length of employment.

° No reduction-in-force actions have been taken since January, and we were told by ANG that no such staffing reductions are planned. As of May 31, 1986, the plant had 866 permanent employees.

° From August 1985 through May 1986, 76 permanent employees voluntarily terminated their employment at the plant. ANG estimated that about 80 percent of these employees were either highly skilled technically or were in key supervisory positions.

--The most seriously felt skill losses have involved electronic instrumentation technicians and certain key engineering positions. In certain cases, contract personnel were used to cover these areas while permanent staff were trained internally to fill the positions.

° ANG officials attributed much of the voluntary staff turnover to the current uncertainties regarding the plant's future operations. To minimize future losses of critical staff and to provide all employees with greater financial security in the event the plant is closed, a DOE-approved temporary 3-point program has been established. The program generally increases severance pay benefits through 1987 by extending the benefits to a minimum of 6 months, extends the period of time outplacement services will be available, and increases ANG's contributions under its employee savings plan for a 3-year period.

° The number of contract employees increased significantly during March and April, when about 30 additional engineers were brought in for a period of up to 6 months for work related to capital projects underway and about 100 other contract personnel were added to assist with the scheduled routine annual maintenance.

PLANT PRODUCTION

° During 1985, Great Plains produced about 40.4 billion cubic feet of gas. Plant production averaged about 80.6 percent of the design capacity rating of 137.5 million cubic feet per day.

° Gas production since August 1, 1985, is shown below.

	Average daily production	Average percent of design capacity rating
	(million cubic feet)	
1985		
August	118.6	86.3
September	125.3	91.1
October	140.7	102.3
November	135.4	98.5
December	119.1	86.6
1986		
January	138.2	100.5
February	139.1	101.2
March	145.8	106.0
April	125.1	91.0
May	138.3	100.5

° The Great Plains project is designed to use a small amount of its own gas production for internal operating purposes. The gas production shown above was the amount delivered to the pipeline companies to generate project revenue.

° The 137.5 million cubic feet per day design capacity rating is based on an operating mode using 12 of the plant's 14 gasifiers. Based on an October 1985 test, ANG began running 13 of the 14 gasifiers as the normal operating mode beginning in December.

° The production drop in December was due to operational problems.

--The plant operated at about 50 percent of capacity for about 4 days early in the month when one gasification train (the plant has two rows of seven gasifiers called trains) was shut down for maintenance. During this shut down, distillation equipment in the ammonia recovery unit also failed.

--A second production drop occurred later in the month when an electrical problem led to a loss of oxygen pressure in the power supply system at the oxygen plant causing the plant to be unable to deliver gas to the pipeline for 13 hours.

° Production rates from January 1 through May 31, 1986, remained fairly stable.

--Except for a 6-day period from April 28 to May 3 during which gasification train B was shut down for scheduled annual maintenance, the plant experienced only 8 days when production rates fell below the project's 1986 production goal of 91 percent of the design capacity rating. Four of the days occurred from April 9 to 12 when problems in an oxygen plant caused gasification train B to go down.

--The longest period during which the project did not deliver gas to the pipeline was 4 hours and 20 minutes on January 8 when both gasification trains tripped off due to low steam pressure.

° Since the loan default, the two best production days were 155.5 million cubic feet recorded on October 29, 1985, and 154.2 million cubic feet recorded on March 19, 1986.

° A preliminary study by ANG indicated that a capital investment of about $20 to $25 million to eliminate certain design bottlenecks could yield sustainable production rates in the range of 160 million cubic feet per day. Modifying the plant facilities to increase production would coincide with normal scheduled maintenance over a 2-year period. According to ANG, the production modifications would have an expected payback in less than 1 year after they are completed.

° In April 1986, ANG requested that DOE consider approving further study to determine the specific design modifications needed to achieve the increased production capacity. According to DOE, an additional study could cost as much as $500,000, but might be worth the investment considering the revenue that additional gas production could generate. ANG advised us in June that the study had been approved.

REVENUES AND OPERATING EXPENSES

° From August 1985 through April 1986, monthly revenues earned from the sale of gas and by-products (ammonia, tar oil, and sulfur) and from other sources ranged from $14.8 million to $26.3 million and averaged $21.4 million. During the same period, monthly expenses ranged from $14.2 million to $19.3 million and averaged $15.7 million. The actual monthly cash receipts and disbursements from August 1985 through May 1986 averaged about $24.8 million and $18.3 million, respectively.

° From January 1 through April 30, 1986, revenues earned by the project continued to exceed incurred expenses despite significant declines in the selling price of the product gas. The project's operating costs are to a large degree fixed costs. Consequently, the project has been able to generate incremental revenues by sustaining generally high production levels.

- As of June 1, 1986, the project's cash balance had increased to about $67 million.

Cash flow

- Since the August 1, 1985, loan default, the project cash position has improved substantially, as shown below.

	Beginning cash balance	Receipts	Disbursements
	-----------(millions of dollars)----------		
1985			
August	$ 1.4	$ 32.5	$ 19.3
September	14.6	17.9	23.6
October	8.9	19.4	19.9
November	8.4	20.3	14.1
December	14.6	21.0	18.1
1986			
January	17.5	13.6	21.6
February	9.5	36.1	15.7
March	29.9	34.8	18.1
April	46.6	36.2	13.4
May	69.4	16.4	18.8
June	67.0	a	a
Total		$248.4	$182.6
Monthly average		$ 24.8	$ 18.3

[a]Data not available as of June 13, 1986.

- Actual cash receipts varied for the following reasons.

  --Under terms of the June 24 to July 31, 1985, special operating agreement, the GPGA partner companies contributed $13 million in August and an additional $441,000 in September.

  --At varying points from August through December, three of the pipeline companies began paying the market price rather than the formula price for the gas.

  --One of the four companies initially withheld all payments from August through October before making catch-up payments in November based partly on the market price of gas.

--The increased receipts during February through April were due primarily to the receipt of about $40 million in past due payments and interest from the gas pipeline companies.

° DOE officials estimated that there will be sufficient cash available to meet project operating requirements at least through December 1986. ANG also told us that its projections indicate that the project should maintain at least a break-even, and possibly a slightly positive, monthly cash flow through December 1986.

Revenues

° The revenues earned by the project from August 1985 through April 1986 are shown below.

	Gas	By-products	Other	Total
	--(millions of dollars of revenues earned)--			
1985				
August	$ 17.6	$ .3	$ 1.1	$ 19.0
September	20.1	.3	1.2	21.6
October	24.6	.5	1.2	26.3
November	24.2	.2	1.5	25.9
December	22.3	.0	1.6	23.9
1986				
January	23.5	.1	1.6	25.2
February	15.5	.3	1.6	17.4
March	15.9	.3	2.0	18.2
April	12.6	.4	1.8	14.8
Total	$176.3	$2.4	$13.6	$192.3
Monthly average	$ 19.6	$ .3	$ 1.5	$ 21.4

° The amounts shown for gas and total revenues earned for August through December reflect ANG's recomputed gas prices using the substitute pricing formula discussed on page 7.

° The $13.6 million in other revenues earned over this 9-month period included pipeline transportation charges, mine-related revenues, interest earned on cash investments, and income from other sources.

° The reduction in revenues from gas sales since January 1986 reflects the drop in the price of No. 2 fuel oil, which is used to determine the maximum price the pipeline companies pay for Great Plains' gas.

Operating expenses

- Monthly plant operating expenses have generally declined since August 1985, as shown below.

	Operating expenses	Other plant expenses	Total
	--------(millions of dollars)----------		
1985			
August	$ 16.5	$2.8	$ 19.3
September	16.3	2.1	18.4
October	15.3	.1	15.4
November	14.1	.2	14.3
December	16.1	.1	16.2
1986			
January	14.6	.1	14.7
February	14.1	.1	14.2
March	14.5	.1	14.6
April	$ 14.0	.2	14.2
Total	$135.5	$5.8	$141.3
Monthly average	$ 15.1	$ .6	$ 15.7

- Reduced plant expenditures were primarily attributable to

  --cancellation of all capital projects other than those essential to the continued operation of the plant.

  --reduced personnel costs.

- An August 1985 payroll of about $1.6 million was paid from funds that had been transferred from the project's appropriated loan guarantee default reserve fund. At DOE's direction, ANG restored the $1.6 million to the default reserve fund in December 1985. All other operating expenses since August 1, 1985, have been paid from project revenues.

- Meridian Land and Mineral Co. owns two coal lease tracts containing about 35 million tons of coal within and around the Freedom Mine, which supplies Great Plains. On November 8, 1984, ANG approved an agreement whereby Meridian would sell all remaining unmined coal to Coteau Properties Company for $15 million. Under the agreement, ANG and Basin Electric were to share in the cost on roughly a 50/50 basis by making periodic payments through March 1989. According to ANG officials,

--ANG paid the scheduled March 1985 coal lease payment of about $95,000.

--ANG did not pay the approximately $2.3 million that was due on October 1, 1985, in order to preserve available funds for operating capital. ANG renegotiated the coal lease payment schedule and agreed to pay the $2.3 million plus interest by making monthly payments through July 1986. All payments under the renegotiated payment schedule have been made on time and ANG told us the final payment of the $2.3 million will be made in July 1986 as scheduled.

CAPITAL IMPROVEMENTS/CRITICAL PROJECTS

° Prior to the loan default, the Great Plains budgets for 1985 and 1986 provided $81 million for 150 plant modification projects, including modifications to meet odor, air, and water quality standards.

° After the loan default, DOE instructed ANG not to make any capital improvements without its approval.

° In August 1985 ANG identified 50 capital improvement projects for further consideration. About $10 million had already been spent or committed for many of these projects. ANG estimated that an additional $15 million would be needed to complete all 50 projects.

° In September ANG reviewed capital improvement projects to identify those that are essential for plant operations and to assure workers' health and safety, or those that would increase operating efficiencies.

° ANG requested approval of three "urgently needed" capital improvement projects estimated to cost an additional $571,600.

--DOE approved two of these projects with combined estimated costs of $71,600. The projects, which were intended to provide cost-effective solutions to address environmental situations requiring immediate attention, have been completed.

--DOE rejected ANG's request for a cooling tower windwall project estimated to cost $500,000. This project would have provided for the erection of steel structures to prevent the wind from causing water losses and ice buildup in the plant's cooling tower.

° ANG, in consultation with DOE, is continuing to work with the North Dakota State Department of Health on projects aimed at reducing odor problems. Four projects, which are underway and scheduled to be completed by October 1986, are expected to achieve required odor compliance.

- The plant's Stretford sulfur recovery process has not met the design specifications for sulfur dioxide emissions and, according to DOE, is one of the most serious operational problems needing modification. ANG identified a "caustic wash" process that may alleviate this problem, and DOE approved testing of the process. As of May 31, six tests had been conducted, but the results are incomplete. Additional tests are planned.

- ANG submitted its 1986 capital projects budget to DOE on January 30, 1986, recommending expenditures of $15 million which would be paid out of plant revenues.

  --ANG recommended an expenditure of $5 million for six priority 1 projects that ANG believes would begin to bring the plant into regulatory compliance by reducing plant odors and decreasing sulfur emissions. Four of these projects ($2 million) are odor-related. Another project ($2.5 million) would provide for the Stretford plant modifications needed to install the full-scale caustic wash process to reduce sulfur emissions. The sixth priority 1 project ($.5 million) would provide for testing of untreated gas streams to reduce sulfur emissions.

  --ANG recommended an additional expenditure of $9.25 million for priority 2 projects that ANG considers necessary to maintain or improve the plant's operating efficiency. The projects are considered to have a short-term payout and to contribute to plant profitability. The budget did not identify a full list of projects included in priority 2, but did cite 10 specific project areas that would be addressed.

  --ANG also requested approval of the construction of a new ash disposal pit at the mine ($500,000) and the procurement of new capital equipment for the mine ($250,000).

- DOE approved 12 of the specific projects recommended by ANG plus an additional $100,000 allowance for undefined projects, for an estimated total budget of $7.1 million. The approved projects included all six of the priority 1, four of the priority 2 plus the additional $100,000 allowance, and the two mine-related capital expenditures recommended by ANG.

PLANT MAINTENANCE

- In accordance with DOE's instructions, ANG has continued to maintain plant equipment and facilities to assure efficient plant operations. According to ANG, all routine maintenance has been performed on schedule.

- Seven gasifiers (train B) were shut down for 2 weeks in May 1985 and for 6 days beginning on April 28, 1986, for scheduled routine annual maintenance. The recent maintenance shut down cost about $1.6 million, which is expected to be offset to some extent when the used catalyst is sold. ANG computed the cost of the lost production from the recent shut down at about $1.4 million.

- The other seven gasifiers (train A) were shut down in August 1985 for scheduled maintenance that cost $347,000 and critical capital improvements that cost $415,000. According to DOE, the next scheduled shutdown of train A will begin in October 1986.

OPERATIONAL ALTERNATIVES

- On the average, over 95 percent of the plant's earned revenues are from the production and sale of synthetic natural gas. The three by-products being marketed (sulfur, ammonia, and coal tars) represent a small percent of revenues recorded. ANG has studied the potential for increasing revenues by developing and marketing additional by-products.

- ANG officials indicated in February 1986 that, because of falling oil prices, carbon dioxide, a major by-product not now marketed, potentially could yield about $10 million or more annually in additional revenues if an adequate supply could be guaranteed for a long period. We were also told that the tar oil and other by-products could ultimately earn several million dollars annually with some additional capital investment and the development of new customer markets.

- ANG has also explored the potential for increasing revenues by reconfiguring the plant to produce other liquid products from the gas which have a higher market value. ANG's preliminary studies indicated that it may be feasible to reconfigure a portion of the plant's capacity to produce other principal products. In a September 3, 1985, letter to DOE, ANG recommended further investigation of seven such other products; its first preference was jet fuel followed by a combination of jet fuel and gasoline. Ammonia and methanol were included among the other products recommended for study. DOE authorized an in-house study by ANG to evaluate the potential of those products further.

- ANG spent about 5 staff-months in reviewing operational alternatives and discussed the results with DOE on November 26, 1985. Citing the gas pricing agreement litigation and cash flow constraints, DOE instructed ANG in December 1985 to discontinue further work on the study.

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