

Oahe Unit

James Division

Pick-Sloan Missouri Basin Program

Adam R. Eastman
Bureau of Reclamation
2008

Table of Contents

Oahe Unit -- James Division	2
Project Location	3
Historic Setting	3
Project Authorization	8
Construction History	13
Investigations	13
Construction	18
Oahe Dam	18
James Diversion Dam	19
Oahe Pumping Plant	21
Pierre Canal	24
Pierre Canal Reach 1B “The Deep Cut.”	25
Pierre Canal Reach 1A	26
Blunt Reservoir Land Acquisition	26
Termination of Construction	28
Post Construction	31
Deauthorization Legislation and WEB Water System	33
CENDAK Investigations	36
Mid-Dakota Municipal, Rural and Industrial Water (MR&I) System	38
Oahe Pumping Plant Modifications	39
Blunt Reservoir and Pierre Canal Lands Conveyance Act	40
Settlement of Project Lands	42
Project Benefits and Uses of Project Water	42
Conclusion	43
Bibliography	44
Archival Sources	44
Government Publications	45
Books	47
Periodicals	47
Other Sources	48
Index	49

Oahe Unit -- James Division

The Oahe Unit is the child of what some observers called an ill conceived shotgun wedding between the Army Corp of Engineers and the Bureau of Reclamation. One parent, the Army Corp of Engineers, built the dam and reservoir. To utilize a portion of the water stored behind the dam, and to help offset the farmlands inundated by the dam in the name of flood control and navigation benefitting downstream users, the other parent, the Bureau of Reclamation, planned a massive irrigation project.

The statistics for both projects are impressive. Oahe Dam created the biggest reservoir on the Missouri, stretching north from the Oahe Dam six miles north of the capital of South Dakota, its waters nearly reaching the capital of North Dakota. Oahe Dam is the second biggest, by volume, of the massive dams on the Missouri falling just behind Fort Peck at 92,000,000 cubic yards. Equally impressive are the statistics of the proposed Oahe Unit irrigation project. The initial phase called for 213 miles of main supply canal – three pumping plants, three additional storage reservoirs, 955 miles of laterals, 3,900 miles of drains, and 60 relift pumping plants. The plan proposed irrigating 190,000 acres in eastern South Dakota. Ultimate development of the plan projected irrigating 495,000 acres.¹

But, hiding behind the numbers is a complex story of controversy and change. The project's destiny became intertwined with changing plans, priorities, and programs. These changes reflect not only challenges at the local level, but shifting national priorities and shifts in the structure and function of the Reclamation program. Caught up in the shifting environmental and budgetary priorities which reshaped Reclamation during the Carter and Reagan

1. U.S. Department of the Interior, Bureau of Reclamation, *Definite Plan Report on Initial Stage, Oahe Unit, James Division, Pick-Sloan Missouri Basin Program, South Dakota* (Billings, Montana: U.S. Bureau of Reclamation, Region 6, 1971), viii-ix.

administrations, Oahe's grand irrigation plans changed to modest municipal water supplies and emphasis on a new role for the Bureau of Reclamation.

Project Location

The Oahe Unit envisioned transferring water from the Corps of Engineer's Oahe Reservoir on the Missouri River, created by the Oahe Dam, six miles above Pierre, South Dakota. The water would be used on project lands more than 200 miles northeast of the dam in Brown and Spink Counties. These lands lie within the James River Basin in eastern South Dakota, and extend east and south of Aberdeen. In this area the James River meanders across the bed of an ancient lake on what is termed the Lake Plain. Additionally, project plans anticipated using project water for fish and wildlife conservation and enhancement, recreation, municipal water supplies along the route of the project canals in Hughes, Hyde, Hand, Faulk, and Beadle Counties.

The initial plans anticipated irrigating lands west of the James River and the portion of the lands east of the river in Spink County. Later development projected expanding the irrigation area to lands in the northeast Lake Plain Area in Marshall and Day counties and to 50,000 acres in the Missouri Slope area east of the Missouri River, primarily in Sully County. Under total development the project would have served 495,000 acres.²

Historic Setting

Seventy million years ago during the Cretaceous period a depression in the middle of the continent allowed a sea to connect the Gulf of Mexico and Arctic Ocean dividing the continent into two land masses. The layers of mud which formed at the bottom of this sea created the

2. *Definite Plan Report*, I, 11, frontispiece.

Pierre Shale formation which today predominates at the Oahe Dam site.³

During the Pleistocene Era which began two to three million years ago at least four major glaciers advanced from the arctic to reshape the Northern Plains. The glaciers, each separated by thousands of years, forced the Missouri into its present channel and carved out the prairie lowlands east of the river. As the final glacier melted in eastern South Dakota nine or ten thousand years ago, some of the runoff pooled to form a broad shallow lake which geologists call Lake Dakota. They estimate the lake existed for a few thousand years during which time glacial sediment blanketed the lake bottom creating a smooth, level area. The erratic nature of the sedimentation has created a patchwork of soil conditions throughout the area. Some soils contain more sand and are better drained and more suitable for irrigation. Other areas contain more silts and clays and turn to a sticky mud locals call “Gumbo” when covered with water.

As the lake drained it created the channel of the James River which originates in North Dakota and flows southward 710 miles to meet the Missouri near Yankton, SD. Because of the level topography, the James River drops only about a half-foot per mile through the lake plain area and meanders continually. It is also subject to frequent flooding during the periods of spring runoff and rains.⁴

Archeological evidence suggests that Native Americans’ ancestors—paleoindian hunters—moved into the area following the last Ice Age hunting now extinct animals like mammoths and ice-age bison. Between 8,000 BCE and 1,000 BCE they adapted to the extinction of large mammals by hunting more kinds of animals and gathering plant foods. Beginning around 1,000 BCE in what Archeologists term the Woodland Period, they became more efficient

3. Martha Sutherland Coon, *Oahe Dam: Master of the Missouri* (Irvington-on-Hudson, New York: Harvey House, Inc., 1969), 32.

4. U.S. Department of the Interior, U.S. Bureau of Reclamation, *Initial Stage, Oahe Unit, Final Environmental Statement* ([Billings, Montana]: Bureau of Reclamation, 1973), II, 1-5; Peter Carrels, *Uphill Against Water: The Great Dakota Water War* (Lincoln: University of Nebraska Press, 1999), 39-40

at hunting big game which allowed them to live in larger groups. Around 200 BCE they began making pottery and building burial mounds.

The Plains Village People, the predecessors of the Mandan, Arikara, and Hidatsa began planting corn and sunflowers and building villages. By 1500 their villages had spread all along the Missouri. The introduction of the horse to Plains Indians following the Pueblo Revolt of 1680 in what is today New Mexico, along with the arrival of beads, knives, tools, and other European goods which greatly altered life on the plains.

Europeans had another significant impact, forcing a general migration and displacement of various Native American groups from east to west. In the 1760s the Chippewa pushed the Sioux Indians out of Minnesota towards the Missouri River. On their way to the Missouri, the Sioux drove the Omaha Indians from the Big Sioux and James River valleys. The migration was a slow one, and not all of the Sioux tribes settled in the area. Only the Santee and Yanktonnais tribes halted in northeastern South Dakota, the others pushed on.⁵

Throughout the 1700s, the Santees and Yanktonnais lived undisturbed in their new land, gathering at intertribal trading fairs to exchange furs and hides, tools, weapons, and food. In the first half of the 1800s, however, others introduced themselves into the bartering system. During this same period, Euro-Americans began to explore the area. In 1743 brothers François and Louis Verendrye left Winnipeg, Canada on an exploration in search for the Pacific Ocean. They left a lead plate at the point they abandoned their search. Lost for two hundred years, two schoolchildren found the plate in 1913 where the west end of Oahe dam now lies. In 1804, Lewis and Clark reportedly camped near the bluff which is now the west end of Oahe dam and

5. South Dakota State Historical Society. "Chronology of South Dakota History," Online http://www.sdhistory.org/soc/soc_hist.htm; South Dakota Office of Tourism and Glacial Lakes and Prairies Tourism Association, "History," <http://www.sdglaciallakes.com/AboutUs/History/Index.cfm>.

held their first formal council with the Sioux.⁶

Continuous white settlement of South Dakota began in 1818 when Joseph La Framboise opened a fur trading post near present day Fort Pierre. Acting for the American Fur Company, Pierre Choteau Jr. built a replacement of La Framboise's old trading post in 1831. The U.S. Army purchased the fort in 1855, but two years later abandoned it for Fort Randall. Farmers replaced trappers and military men as the dominant Euro-American groups in 1857 with the establishment of Sioux Falls. The spread of whites into the area sparked decades of tension and conflict with the various Native American groups, each ultimately resulting in treaties and the restriction of Native Americans to reservations. A number of tribes signed treaties in 1825 following an Arikara attack on fur traders and the subsequent punitive expedition led by Colonel Henry Leavenworth. Following this pattern, the government created the Great Sioux Reservation following the signing of the Fort Laramie Treaty ending the Red Cloud War of 1866-8.

In the 1870s homesteading, the arrival of the railroads to the territory, and the subsequent discovery of Gold in the Black Hills led to a great rush of white settlers. The area encompassing the Oahe Unit was open to homesteading in 1873. In 1874 Thomas L. Riggs established a mission, built a chapel, school and home for his family on the Missouri River north of Pierre near the present Oahe Dam. The Sioux named the settlement "Ti Tanka Ohe" translated meaning "The place of the great meeting house." When the government established a post office at the location they adapted and simplified the name to Oahe. The Corps felt the name, referring to a "great foundation" fit the project.⁷

Gold seekers trespassing on the Great Sioux reservation sparked the Sioux war in 1876,

6. Coon, *Oahe*, 23-5.

7. United States Department of the Interior, Water and Power Resource Service, *Project Data* (Washington: U.S. Government Printing Office, 1981), 955; Coon, 49-50.

climaxing when the Sioux defeated Custer at the Battle of the Little Big Horn in June. The following year, Congress abrogated the Ft. Laramie Treaty with the passage of the Act of February 28, 1877, which removed over 7 million acres from the Sioux Reservation. A ten year boom ensued, which saw the spread of settlements. The construction of the Chicago and North Western, and the Chicago, Milwaukee, St. Paul and Pacific (also known as the Milwaukee Road) Railroads into northeastern South Dakota in 1879-1881 helped further fuel the boom. These railroads and their successors, joined by a line between St. Paul and Huron, South Dakota built by the Great Northern Railroad in 1888 served the Oahe Project area.

The culmination of the boom was the admission of South Dakota to the Union on November 2, 1889. But a severe multi-year drought which began the year before, and the collapse of the nation's economy in the early 1890s turned the boom into a bust. The drought generated interest in the possibility of irrigating South Dakota's semiarid lands. South Dakotans had resisted previous talk of irrigation. Businessmen and speculators thought promotion of irrigation ran counter to their claims that "rain followed the plow" and would drive down land prices. Politicians at the state's constitutional convention in 1889 spurned plans presented by a representative John Wesley Powell sent to promote support for funds to conduct investigations for federal irrigation projects.⁸

Attitudes changed following passage of the Reclamation Act. Boosters supported reclamation in South Dakota. Reclamation Service Engineers recognized that they could not get a canal out of the Missouri River plain due to steep banks relative to shallow gradient of river. Areas to the east of the river received sufficient rainfall three out of four years. Some boosters did call for the use of Reclamation funds to expand existing irrigation by drilling additional

8. Carrels, 4.

artesian wells in the area between the Missouri and James Rivers. Reclamation policy did not allow this type of development. Thus, early investigations in the state focused on the western third of the state, particularly on Black Hills which provided reservoir sites. Reclamation located the state's first project, the Belle Fourche, on the dry plains north of the Black Hills. The project's high construction costs and the failure to classify soils unsuitable for irrigation plagued the project.⁹

The difficulties of Belle Fourche did not limit local calls for more projects. As part of investigations made to provide settlement opportunities for returning World War I veterans—a pet project of Secretary of the Interior Franklin K Lane—Reclamation studied Angostura and the state legislature memorialized congress to construct dams on the Missouri river to provide flood control, hydroelectric power, and irrigation in South Dakota. Politics and economics kept these projects on the drawing board until the great drought of the 1930's reinvigorated support for new irrigation schemes in the state.¹⁰

Project Authorization

As noted above, eastern South Dakota receives sufficient rainfall for dry farming in most years. However the severe, multi-year drought of the 1930s which created the Dust Bowl led to renewed calls for irrigation development in the Missouri River Basin. Within a few years drought turned to devastating floods along the Missouri in 1943. As a result Congress called for quick action to regulate the Missouri which resulted in the competing plans of the U.S. Army

9. On the development of artesian wells see John H. King to Senator Robert J. Gamble, *et. al.*, February 25, 1903 and Frederick H. Newell to John H. King, April 28, 1903, in file 941, box 321, entry 3, Rocky Mountain Region, National Archives and Records Administration; Carrels, 6-7. On investigations and the selection of Belle Fourche see, Department of the Interior, Bureau of Reclamation, *Second Annual Report of the Reclamation Service 1902-1903* (Washington D.C.: 1904), 65.

10. U.S., Department of the Interior, Bureau of Reclamation, "The Belle Fourche Project," by Christopher J. McCune (Denver: Bureau of Reclamation History Program, 2001), 18-25; South Dakota State Legislature, "House Joint Resolution Number 3, 1917," copy in file 941 Box 321, Entry 3, Rocky Mountain Region, National Archives and Records Administration; Carrels, 6-7.

Corp of Engineers and Bureau of Reclamation. As explained in the Pick-Sloan Missouri Basin Program Overview, political conditions forced a speedy compromise between the two agencies. Congress authorized the Pick-Sloan Missouri Basin Program, including the Oahe Unit, as part of the Flood Control Act of 1944.¹¹

The Pick-Sloan authorization contained an innovative and precedent setting provision. Previously hydropower revenues had been used to repay the construction costs of dams and individual irrigation projects, but the Pick-Sloan plan allowed revenues not needed to repay the costs of the mainstem dams to be pooled into a basinwide fund to pay for irrigation projects too expensive for irrigators to repay themselves. This repayment system allowed Reclamation to plan massive irrigation projects which implicitly would mitigate for the loss of prime farm lands inundated by the project's massive reservoirs on the Missouri.

However, as the Oahe Dam neared completion and Reclamation officials completed advance planning of the irrigation project, members of Congress began to express concerns about the economics of the Pick-Sloan plan. Rising construction costs and low hydropower revenues eroded the projected surplus monies for underwriting a large portion of the irrigation projects. The rising costs combined with the limited initial authorized cost ceiling of the Pick-Sloan Missouri Basin Program forced the issue before Congress as Reclamation requested increases in authorized spending. During hearings in early 1963 over the proposed increases, Wayne Aspinall, the chairman of the House Committee on Interior and Insular Affairs, pushed for language requiring Congress to reauthorize all PSMB units not already under construction.

11. U.S. Department of the Interior, Bureau of Reclamation, "Overview, Pick-Sloan Missouri Basin Program," by Toni Rae Linenberger (Denver: Bureau of Reclamation History Program, 1998), 7-13. It should be noted that in the original 1944 Flood Control Act the Congress named the project the Missouri River Basin Project. In 1970 Congress officially changed the project name to the Pick-Sloan Missouri Basin Program, "in honor of two great men who contributed so much to the development of the water resources of the nation." For the sake of consistency, the project will be referred by its current name, Pick-Sloan Missouri Basin Program (PSMBP), throughout this essay.

The House of Representatives passed H. R. 5312 on June 24, 1963. However, the proposal quickly met with opposition in the Senate. Missouri Basin senators succeeded in removing the language from a substitute version of the bill which both houses passed in December 1963 becoming Public Law 88-253. Because the legislation had only provided an additional \$16 million increase for the PSMBP, the issue returned to Aspinall's committee again in 1964. The House passed H. R. 9521 providing increased authorized spending of \$120 million contained Aspinall's limiting language from 1963. The Senate passed the bill on August 5, 1964 and it became Public Law 88-442.¹²

At the same time local interests took steps to initiate construction of the project. The South Dakota Legislature took preparatory steps by passing legislation in 1959 creating a water conservancy district covering the entire state. The legislation also allowed the formation of sub-districts to act at a local level to plan, sponsor, and develop water resource projects within their boundaries. As voters around the country cast ballots between Nixon and Kennedy on November 8, 1960 voters within a fifteen and one-half county area in northeastern South Dakota approved the creation of the Oahe Conservancy Sub-district (OCSD) by a margin of 85%.¹³

Because the taxing authority of the OCSD was not broad enough to meet Reclamation's requirements as the project's sole sponsor, local interests formed irrigation districts within the project areas. These irrigation districts had greater taxing authority under state law and could sign security contracts with Reclamation to guarantee repayment of the project costs. At special elections on January 5, 1965, voters approved the creation of two irrigation districts, one covering portions of Brown County and the other portions of Spink County. However, prior to

12. *Congressional Record* 109, 11413-7; 110, 8380-1; U.S. Department of the Interior, Bureau of Reclamation, *Reclamation Laws Annotated*, Volume 3, (Denver: U.S. Government Printing Office, 1972), 1737, 1755.

13. Water and Power Resources Service, "Oahe unit Termination Study, Initial Stage, Oahe Unit, James Division, Pick-Sloan Missouri Basin Program" ([Huron, South Dakota]: U.S. Bureau of Reclamation, 1980), 8-9. Hereafter cited as "Termination Study."

the election, 153 land owners in the proposed West Brown Irrigation District petitioned to have their lands, totaling over 60,000 acres removed from the district over issues of drainage and the 160 acre limit. In the Spink County Irrigation District 372 land owners, representing 80,000 acres did the same. As a result, the final boundaries of the West Brown Irrigation District included 50,000 acres while the Spink County Irrigation District included 140,000 acres.¹⁴

In the November 1966 general election voters in the OCSD area granted the district board the authority to enter into repayment contract with the United States and others. Additionally, the authority permitted the board to assess a maximum of one mill property tax levy to support the repayment contracts. With these preparatory steps taken, South Dakota Senators George McGovern and Karl Mundt introduced legislation to authorize the initial stage of the Oahe Unit in 1967. The Senate Subcommittee on Water and Power Resources, held field hearings in Redfield, South Dakota, on May 22 and in September 13, 1967. The committee reported favorably on the bill on October 31 and the Senate passed S. 6 on a voice vote the following day, November 1, 1967.¹⁵

As the Senate committee was preparing to report on the bill, its companion committee in the House was preparing to hold field hearings on identical bills introduced by South Dakota Congressman E. Y. Berry and Ben Reifel. The House Subcommittee on Irrigation and Reclamation held field hearings in Huron, South Dakota, on October 27 and in Redfield the following day. The committee held an additional two days of hearings in Washington, D.C., the following May.

14. "Termination Study," 9-10; page 4 of a letter from John Sieh to Lloyd Porter, January 12, 1980, "Oahe Conservancy Sub-district comments on Termination Study," a copy of which is included in appendix of "Termination Study," n.p.; Carrels, 50-1.

15. "Termination Study," 10-1; Congress, Senate, Committee on Interior and Insular Affairs, Subcommittee on Water and Power, *Oahe Unit, Missouri River Basin Project, Hearings before the Subcommittee on Water and Power on S. 6*, 90th Congress, First Session, May 22 and September 13, 1967; *Congressional Record* 113, 30699.

At these hearings Representative John Saylor of Pennsylvania, the ranking minority member of the full committee raised a sticky issue with South Dakota's Governor, Nils A Boe. Saylor wanted South Dakota to repeal its ban on hunting waterfowl by nonresidents. Saylor reasoned that if Reclamation spent federal funds on wildlife mitigation sites in the state, the state needed to allow all federal taxpayers the opportunity to use those sites for hunting. The issue became so important to Saylor that he refused to allow the bill out committee to the full house without an amendment restricting funding for the Oahe Unit until the state legislature repealed the ban.¹⁶

With Saylor's amendment attached, the House took up debate on the bill on July 15, 1968. After several speeches all favoring the bill, the House voted to authorize the Oahe Unit by a vote of 264 to 128. The Senate voted to agree to the House Amendment on July 22. President Johnson signed S. 6 into law on August 3, 1968, and it became Public law 90-453 (82 Stat. 624).¹⁷

On January 8, 1969 the OCSD entered into a "master contract" with the United States for development of the Oahe Unit. On December 23, 1969, the two irrigation districts signed contracts with the OCSD to participate in the Oahe Project, and signed security contracts with the United States guaranteeing repayment.¹⁸

The final piece of legislation holding back construction ended up being a repeal of South Dakota's ban on out-of-state hunters. Despite pressure from the Oahe sub-district, the South Dakota legislature took several sessions to act on the requirements of the Oahe authorization.

16. Congress, House, Committee on Interior and Insular Affairs, Subcommittee on Irrigation and Reclamation, *Oahe Unit, Missouri River Basin Project, Part 1, Hearings before the Subcommittee on Irrigation and Reclamation on H.R. 27 and H.R. 1163*, 90th Congress, First Session, October 27-8, 1967. For the exchange between Saylor and Boe see specifically pages 26-7.

17. *Congressional Record* (114), 21446-50; *Reclamation Laws Annotated*, Volume 4, (Denver: U.S. Government Printing Office, 1989), 2376-8.

18. "Termination Study," 10-1.

They failed to resolve the issue until the 1970 session in which they repealed the ban opening the door for construction to move forward. In a political move to show support for South Dakota's Republican governor facing reelection that year, the Nixon administration and the Senate supported the appropriation of funds to begin construction. However, the Bureau of Budget and the House of Representatives opposed starting new massive public works projects that year in the face of a slumping economy. As a result, a compromise was struck. Congress appropriated extra funds for Oahe in fiscal 1971, but they could only be used for land acquisition not construction activities. Congress did not finally agree to appropriate the first construction funds until fiscal 1973.¹⁹

Construction History

Investigations

The Flood Control Act of 1944 authorized an Oahe irrigation project covering 750,000 acres. Reclamation began advance planning of the unit, conducted geological reviews of prospective sites, soil surveys, and established two demonstration farms at Redfield and Huron, South Dakota. While the basic plan had been established, Reclamation engineers began the difficult task of optimizing the plan, maximizing the benefits, and minimizing the costs. The engineering reports from this period attest to the challenging questions they faced as they selected the best canal routes, attempted to minimize both the pump lift from Oahe and construction costs, and maximize storage in the Blunt Reservoir while minimizing its costs.

But as these engineering studies went forward the most important question was suitability of the soils for irrigation. One report began by explaining the issue was of paramount importance, as firm plans could not be made until Reclamation knew the exact location of the

19. Carrels, 57-8.

arable lands. Reclamation concluded their studies and enlisted independent experts to verify their findings. This consulting board, composed of internationally known drainage engineers, supported Reclamation's findings, concluding in their 1954 report that considerable acreage in the southwest portion of the proposed project area was unsuitable for sustained irrigation. The subsoils below the arable glacial till soils had low permeability and were not drainable by practical means. As a result, the original plan for the Oahe Unit was altered, the proposed project lands shifted to the east to incorporate more of the Lake Plain area, and the project reduced to 445,000 acres.²⁰

Additional soil and geological studies allowed Reclamation engineers to firm up their selections among the alternative sites for the project's proposed dams and canals. In June 1965 Reclamation completed these plans and issued a supplemental report outlining the details of the proposed project. Completion of the report allowed the South Dakota Congressional delegation and local project supporters to begin their efforts to secure reauthorization of the Oahe Unit, as explained above. As part of the authorization efforts, Congress published the Oahe Unit Feasibility Report as House Document Number 163 during the First Session of the Ninetieth Congress in 1967.²¹

The essential characteristics of the plan remained unchanged. Reclamation would pump water from the Missouri River and convey it through a series of canals and regulating reservoirs to irrigate a large tract of land in east-central South Dakota. Specifically, the Oahe Pumping

20. U.S. Department of the Interior, Bureau of Reclamation, "Progress Summary, Oahe Unit, James Division" (Billings: Bureau of Reclamation Region 6, April 1951), v, Box 572, Accession 8NN-115-85-019, NARA, Denver; "Oahe Unit Project History" Draft 115 (Huron, South Dakota: U.S. Bureau of Reclamation, Missouri-Oahe Project Office, July 25, 1978), 5; "Report on Drainability of Land in the Oahe Unit of the Missouri River Basin Project," by Consulting Board composed of S. T. Harding, J. R. Iakisch, and C. E. Jacob (December 1954), 32-33, in Box 568 Accession 8NN-115-85-019, NARA, Denver; Final Environmental Statement, VIII-5.

21. Congress, House of Representatives, *Oahe Unit, Missouri River Basin Project, South Dakota*, House Document 163, 90th Congress, First Session, 1967.

Plant—located adjacent to the power plant at the left (east) abutment of the dam—would lift water 122 feet to the Pierre Canal. During the construction of the dam the Corps and Reclamation had made provisions to connect the pumping plant intake by installing a tee in the two surge-tank risers of the seventh generator penstock.

The thirty-six mile Pierre Canal would convey water from the pumping plant to the Blunt Reservoir created by the earthfill blunt dam across North Medicine Knoll Creek. Reclamation proposed using the reservoir's 185,000 acre-feet of active storage to regulate water supplies during the irrigation season. Without the reservoir, the project would have required larger pumps, using more electricity to meet the peak demands of irrigators during the growing season. A chain of canals and additional regulating reservoirs would connect Blunt Reservoir with the service lands along the James River. The first links were the Highmore and Faulkton Canals which would connect the Blunt and Cresbard Reservoirs. Cresbard Dam an earthfill structure across Cresbard Creek would have a capacity of 36,500 acre-feet and regulate irrigation flows for the canal and lateral system of the West Lake Plain. The delivery of water from Cresbard would be by the Cresbard, West Main and Redfield Canals. The Cresbard canal would snake to a point twelve miles east of the reservoir terminating at a bifurcation structure. The divided water would flow into the thirty-seven mile West Main canal to the northern portion and the twenty-two mile Redfield Canal to reach the southern portion of the service areas.

Service to the East Lake Plain area would be supplied by water released into the James River from the West Main canal and return flows. This water would collect behind the James Diversion Dam. Reclamation completed this structure in the fall of 1964, in advance of the balance of the Oahe Unit, to provide the city of Huron with supplemental municipal and industrial water. Under project operation, the James Pumping Plant would pump water from the

pool behind the diversion dam and into the three mile James Canal to the Byron Reservoir. This regulating reservoir would enlarge the existing Byron Lake by construction of an earthfill dam across Foster Creek. The Byron Pumping Plant would lift water seventy-one feet into the headworks of the forty-one mile East Main Canal servicing the lands in the East Lake Plain area. Because the Oahe Unit—and the Garrison Diversion, Oahe’s sister project in North Dakota—would significantly increase flows in the James River, Reclamation proposed “channel improvements” between Tacoma Park (near Aberdeen) and Redfield. Reclamation proposed channelizing this 120 mile stretch of river, eliminating meanders and shortening its length to about 54 miles.

When Reclamation issued its Definite Plan Report (DPR) for the Oahe Unit in 1971 it made minor changes to the 1965 plan. The original plan had contemplated construction of a power plant along the Highmore Canal utilizing the elevation change between Blunt Reservoir and the James River Basin. Reclamation planned for the plant to help recoup some of the electricity costs associated with the Oahe Pumping Plant and to minimize the projects impacts on Pick-Sloan power revenues. However, during authorization of the project, Congress felt it would take too long for the pumping cost saved by the plant to pay for itself and eliminated this feature. As a result, Reclamation modified the design of the Blunt Dam and Highmore Canal. Reclamation’s Definite Plan reflected another similar change. Congress had authorized the project canals to be built to their initial capacity, rather than their ultimate capacity. Congress recognized it would have saved money in the long run, but building to ultimate capacity would have increased the repayment costs of the project in the short run thus placing what it judged to be an undue burden on irrigators in the initial phase.²²

22. *Definite Plan Report, 2.*

Following publication of the DPR Reclamation began preparation of an Environmental Statement. Initially, Reclamation officials were unsure whether they needed to complete a statement because authorization of the Oahe Unit had occurred prior to the passage of the National Environmental Policy Act of 1969 (NEPA). Reclamation had included a section on Environmental and Ecological Aspects of the project in the DPR. However, court rulings related to NEPA soon made it clear that the bureau would need to complete an environmental statement to comply with the law.²³

Reclamation completed a slender seventy-five page draft environmental statement and scheduled a public hearing for November 29, 1972, in Aberdeen, South Dakota. It soon became apparent that a second day of testimony would be needed to hear all those desiring to speak. Judge Daniel Boos, Administrative Law Judge from the Department of the Interior's Office of Hearing and Appeals in Billings conducted the hearing.

The crowd was split on the project. The most controversial aspect of the project turned out to be the channelization of the James River and the effect of return flows on water quality. Former Assistant Secretary of the Interior Ken Holum was representative of those who supported the project. Holum felt that the channelization would improve the river which was subject to frequent spring flooding and dried up during late summer months, often resulting in fish kills. Opponents of the project felt that channelization jeopardized the riparian habitat home to furbearing animals, birds, and a large deer herd. They argued that channelization would turn the river into a sterile ditch.²⁴

As a result of the testimony, Reclamation conducted further research to address concerns

23. *Definite Plan Report*, 59.

24. U.S. Department of the Interior, Bureau of Reclamation, "Testimony at Public Hearing and Other Comments Received on Draft Environmental Impact Statement, Initial Stage of Oahe Unit, James Division, Pick-Sloan Missouri Basin Program" (Huron, South Dakota: Bureau of Reclamation Missouri-Oahe Project Office, February 1973); Carrels, 92-3.

raised at the hearing. On December 21, 1973, Upper Missouri Regional Director Robert McPhail announced the release of the final environmental statement which had more than quadrupled in length. Completion of the document cleared the way for construction on the Oahe Unit to commence the following spring, beginning with the Oahe Pumping Plant.²⁵

Construction

Oahe Dam

For political and economic reasons construction Congress chose not to fund construction of the Oahe Unit until after the U.S. Army Corp of Engineers had completed construction of the Oahe Dam. The Corp began construction of the dam after a groundbreaking ceremony on September 16, 1948. Because of the sheer size of the dam—it is second largest in volume—construction continued for more than a decade. Flooding along the Missouri River in 1952 slowed work on the dam even as the floods reinforced the need for the project. At approximately 3:00 AM the morning of August 3, 1958, after weeks of preparation for the event, bulldozer operators pushed piles of rock and clay into the narrow gap dividing two halves of the rising dam. As the water began backing behind the dam and flowing into the outlet tunnels through the morning, more than fifteen thousand people gathered for a ceremony later that day under a blazing summer sun.²⁶

Despite the jubilation of the crowd, the dam had not reached the halfway mark. August 1958 also marked the beginning of construction on the power plant structures. After construction crews hauled 92,000,000 cubic yards of material to construct the dam, dozens of dignitaries and thousands of spectators gathered on August 16, 1962, to see President Kennedy dedicate the dam. Final construction continued on the spillway structure and the installation of

25. "Release Final Environmental Statement on Oahe Project," *Huron Plainsman*, December 2, 1973.

26. Coon, 26-8, 89-93.

generators, the last one being installed June 1963.²⁷

James Diversion Dam²⁸

As the Corps completed the construction of the Oahe Dam, and in advance of the main construction on the Oahe Unit, Reclamation and the City of Huron, South Dakota determined that early construction of the James Diversion Dam would provide the city with much needed additional municipal water supply. Under the Oahe plan, the small dam would create a pool to allow the proposed James Pumping Plant to lift water—primarily spring flood waters—to the Byron Reservoir, an enlargement of Lake Byron. Byron Reservoir would regulate the water supply and be the location of a pumping plant to supply project lands on the east side of the James River.

Congress appropriated funds for investigation and planning of the James Diversion Dam in the Public Works Appropriation Act of 1961(74 Stat. 743). The primary question addressed by the investigations was the effect of the proposed James Diversion Dam on the surrounding ground water table. Reclamation drilled twelve shallow wells to determine existing ground water levels to serve as a baseline for monitoring the dam's impact. With the investigation and planning complete, Congress appropriated funds for construction in the Appropriations Act of 1963. (P.L. 87-800, 78 Stat. 1220).²⁹

With the investigation and planning complete, preparations for construction moved forward. Assistant Secretary of the Interior Kenneth Holum, a South Dakota native, joined Huron Mayor Gene W. Denison at a contract signing on September 13, 1962. On May 11 the

27. Coon, 107, 109-10. For the effect of the dam on the various Sioux Tribes living in the areas flooded by the Oahe Dam, and their poor treatment by the Corps of Engineers see Michael Lawson, *Dammed Indians: The Pick-Sloan Plan and the Missouri River Sioux, 1944-1980* (Norman: University of Oklahoma Press, 1982).

28. A more detailed construction history of the James Diversion Dam is found in U.S., Department of the Interior, Bureau of Reclamation, "James Diversion Dam, a Feature of the Oahe Unit, Pick-Sloan Missouri Basin Program," by Adam R. Eastman (Denver: Bureau of Reclamation History Program, 2008).

29. *Project Data*, 913.

State Water Resources Commission approved the applications of Huron City and Reclamation for storage of water behind the dam.³⁰

Assistant Commissioner for Project Development and Irrigation, William I. Palmer, authorized initiation of the project on January 17, 1963. Through the winter the Missouri-Oahe Projects Office in Huron completed the bidding process. However, because the low bid exceeded the funds available, Reclamation rejected the bids and went back to the drawing boards, literally. Reclamation simplified the design of the dam to lower the costs and opened the project to a second round of bidding. Reclamation opened the bids on June 17 and subsequently awarded a contract to Sorinson Construction of Fargo, North Dakota, in the amount of \$281,512.³¹

The Huron office issued the Notice to Proceed to Sorinson on July 23. Sorinson began construction on August 8, working first on an access road to the dam site. Three weeks later, the company's crews began construction of the coffer dams. Through September crews began work on the excavation of the dam foundation and the auxiliary spillway channel. Sorinson completed the coffer dams and diversion channel on September 16. Over the next three days they finished dewatering the foundation. By the end of the construction season, crews had completed the excavation and begun placing embankment materials over a two week period before shutting down for the winter on November 21, 1963.³²

After shutting down for the winter for five and one-half months, Sorinson's crews returned to the site and began preparations to complete the project. The company completed the excavation of the cutoff trench section under the weir within a week and began placing concrete

30. "Project History," Volume I, 1963, 2, Box 10, Accession 8NN-115-92-130.

31. "Project History," Volume I, 1963, iv, 3; "Project History," Volume I, 1963, 4 and Regional Director to Commissioner, March 29, 1963 in appendix, no page.

32. "Project History," Volume I, 1963, iv, 5-6.

on June 9. Concrete work on the overflow weir at the center of the dam continued through the summer and Sorinson completed the concrete work on October 12, having placed 1,450 cubic yards. With the concrete work nearing completion, the company resumed placement of the embankment sections on October 2. By October 19 they completed the right embankment and began riprapping this section as work began on the left embankment. Sorinson's crews completed the embankment on November 4 moving 45,000 cubic yards. The same day Reclamation inspectors accepted the dam as complete.³³

As constructed, the James Diversion Dam consists of a fifty foot wide concrete gravity ogee weir with flanking earth dikes. The dam has a height of twenty feet above the stream bed and a total length of 280 feet. It creates a reservoir with a maximum capacity of 4,875 acre-feet covering a surface area of 960 acres. If stream flows are sufficient that the water rises two feet above the crest of the overflow weir, flood waters are diverted into an auxiliary spillway located across flood plain to the right of the dam.³⁴

Oahe Pumping Plant

With the completion of the Oahe Dam by the Corps in 1963, Reclamation and the South Dakota congressional delegation, and other South Dakota interests began to push for construction of the Oahe Unit. As explained above, economic and political concerns slowed the authorization of the Oahe unit. The time required to secure amendment of South Dakota hunting laws, as required by the Oahe Unit authorization, and complete a definite plan report and environmental statement all delayed the start of project construction. With these prerequisites completed Reclamation moved forward with construction of the Oahe Unit's first project feature, the Oahe Pumping Plant.

33. "Project History," Volume II, 4, 7, 10.

34. *Project Data*, 914.

Reclamation officials opened bids for the Oahe Pumping Plant on March 5, 1974 in the Huron Office. Reclamation awarded a \$9.96 million contract on April 25, 1974, to Gordon H. Ball, Inc., of Renton, Washington. In advance of construction, Reclamation established a field office in the federal building in Pierre and appointed Robert T. McClure as the resident engineer.

On May 2, the contractor received notice to proceed. The initial work began on May 29 as the contractor's crews began grading a detour road. The initial phase of construction consisted of stabilizing the soils surrounding the structure by excavating and backfilling. This work continued through the summer and fall. Crews completed this work on October 19. In the final weeks of the construction season, the contractor began structural excavation on November 7 and continued for a month before the cold and frozen ground forced the winter shutdown on December 19.³⁵

During the 1975 construction season, the contractor completed the excavation for the structure and began placing concrete to form the foundation and the pumping plant. Nearly half of the structure, forty-seven feet of the total 107 foot height lay underground. Concrete operations continued as the contractor began forming the walls and partitions shaping a monolithic reinforced concrete structure which is 219 feet long and 70 feet wide.

As the concrete work progressed, subcontractor Pittsburg-Des Moines Steel (PDM), perhaps best known for constructing the gateway arch in St. Louis ten years earlier, began work on the plant's steel intake and discharge piping. The most complicated task was completing a massive steel trifurcation structure which tied the pumping plant into the penstock for the number seven turbine of the Oahe Power Plant.

The contractor's concrete crews placed the last encasement concrete around the tees

35. U.S. Department of the Interior, Bureau of Reclamation, "Construction Progress Report (L-29)--April 1974" (Huron, South Dakota: Bureau of Reclamation, Missouri-Oahe Projects Office, May 1974). These monthly reports are hereafter cited as L-29. See also L-29 reports for May, October, November, and December 1974.

completing the trifurcation structure on May 18, 1976. Concrete tests on sample cores showed satisfactory strength, and Reclamation notified the Corps of Engineers it could resume operation of the Number 7 turbine. The corps started the turbine at 1:00 p.m. The operation was successful and with no leakage from the 96 inch butterfly valves separating the penstock and the pumping plant.

In May 1976 PDM completed welding on the discharge bifurcation. Reclamation inspectors conducted a hydrostatic test and found no leaks in the pipeline. As PDM continued work on the discharge pipeline, Gordon Ball's crews began placing the concrete encasement around the bifurcation. PDM completed the installation and final welding of the discharge pipeline on August 2.³⁶

With the intake and discharge pipelines essentially complete, the contractor's crews began backfilling around the pumping plant as the concrete placement for the below ground levels of the building neared completion. By the end of September the total progress was approaching 75%. In October, portions of the foundation had been completed to the point that the building's superstructure steel could begin to be erected. The subcontractor, Ron M Fiegen, Inc., began this work October 11, 1976, and completed it by the end of November. They did not finish the final alignment and welding until the following spring, completing their work April 21, 1977.³⁷

Ball's crews set the precast roof tees and installed a temporary roof over the valve structure in early December. The contractor suspended work for the holidays the last week of December, and cold weather prevented the resumption of construction for a month. Limited work began again on January 24, 1977. This work continued through February and consisted of

36. May 1976 L-29, 6-7; August 1976 L-29, 6.

37. October 1976 L-29, 6; April 1977 L-29, 8.

concrete repair and construction of forms for the pumping plant and visitor center in anticipation of placing concrete when temperatures allowed.³⁸

Work resumed full speed in April as the contractor began placing the first of the lightweight concrete for the above ground portions of the main building and visitor center complex. Their crews also continued placing the compacted backfill material around the structure and the embankment around the discharge pipeline. Roofing subcontractor Chase Roofing began work on the valve structure roof. In the following months the subcontractor completed the gravel roof and installed the flashings and curbs.

Throughout the summer the contractor's crews continued placement of the structural concrete as the building assumed its final shape. Crews placed the final concrete and Chase Roofing began roofing the pumping plant. By the end of September 1977 the Oahe Pumping Plant structure was 99 percent complete. All that remained was minor electrical work and the installation of a passenger elevator. The contractor's crews completed this work as a safety measure over the winter. The contractor received his final payment in April 1978.³⁹

Pierre Canal

As designed, the 36 Pierre Canal links the Oahe Pumping Plant with the Blunt Reservoir. To simplify construction, Reclamation engineers divided the construction specifications into several Parts. Reach 1 of the canal extended from the pumping plant to Medicine Knoll Creek. Reclamation engineers designed the twenty-one mile long canal with a bottom width of forty-four feet and a capacity of 1440 cubic feet per second—making it the size of many medium sized rivers in the western United States. Because the last 1.3 miles of the canal involved cutting a deep channel through Medicine Knoll Hill, this section of the canal was designed and contracted

38. December 1976 L-29, 7; January 1977 L-29, 7.

39. June 1977 L-29, 6-7; Termination Study 17-19; April 1977 L-29, 2.

separately as Reach 1B.

Connecting Reach 1B with Reach 2 is the Medicine Knoll Siphon. Reclamation designed the inverted siphon, just over fourteen feet in diameter and .7 miles long, to cross Medicine Knoll Creek four miles south of Blunt. Reach 2A, 9.5 miles, and Reach 2B, 1.6 miles would have extended the Pierre Canal to the site of Blunt Reservoir.⁴⁰

Pierre Canal Reach 1B “The Deep Cut.”

Reclamation opened bids for Pierre Canal Reach 1B on March 2, 1976. Bechtold Excavating, Inc., of Minot ND submitted the low bid of \$2.27 million. Reclamation awarded a contract and gave notice to proceed on May 12. After a preconstruction conference held June 1, the contractor began preparations for work. A subcontractor began installing a right-of-way fence and removing existing fencing. Earthmoving equipment began excavating the canal on June 25. Through the construction season Bechtold’s crews worked excavating the canal and compacting the canal embankment. By the middle of November work had reach the halfway mark. The contractor also completed excavation for a concrete culvert and cattle underpass. A subcontractor, South Dakota Concrete Products Company in Rapid city completed the fabrication of the precast 84 inch flat bottom culvert pipe, and 48 inch reinforced pressure pipe.⁴¹

The contractor reached 59 percent complete before shutting down for the winter on December 3. Excavation work resumed in the spring. As the scappers and graders worked along the canal, the concrete subcontractor, Grangaard Construction, began form work for the cattle pass in preparation for installation of the preformed pipe. By the end of September 1977 the contractor had completed the excavation of 3,386,000 cubic yards for the 1.3 mile canal,

40. Termination Study, 23-3.

41. May 1976 L-29, June 4, 11; June L-29, 12; November L-29, 10.

bringing completion to 99 percent at the end of the fiscal year.⁴²

Pierre Canal Reach 1A

Representatives from the Huron Office opened the bids for the twenty-one mile Reach 1A of the Pierre Canal on October 14, 1976. On November 22, Reclamation awarded the contract to Summit, Inc., and Delzer Construction Company, Inc., a joint venture, on a bid of approximately \$9,763,000. Two days later, on November 24, Reclamation provided Notice to Proceed. After a preconstruction conference in January, subcontractor J. H. Hilt began working on the right-of-way fence in February. Summit-Delzer's crews began excavation as the ground thawed in March. By the end of April they had 16 scrapers busy working overtime excavating and had already moved over 1.3 million cubic yards of material. By the end of September Summit-Delzer crews had completed roughly 55 percent of the excavation and 39 percent of the contract.⁴³

Blunt Reservoir Land Acquisition

As construction work progressed on the Oahe Power Plant and the Pierre Canal, Reclamation continued its preparations for Blunt Reservoir. Using data compiled for the advance planning published in the Define Plan Report, in March 1972, Reclamation sent letters to landowners in the proposed reservoir site. The proposed reservoir area consisted of 30,050 acres for the reservoir and 9,835 acres for fish and wildlife purposes. Construction of the reservoir would require the relocation of thirty families. Throughout the year Reclamation held meetings to inform owners of the project and the process used for land acquisition.

After President Nixon approved expenditure of funds on the Oahe Unit in April 1972 Reclamation moved forward with contracts to purchase lands from willing sellers. It purchased

42. December L-29, 12; April 1977, 13; Termination Study, 22-3.

43. "Chronology of Events, Oahe Unit [Draft]" (Huron: South Dakota, July 25, 1978), 7; December 1976 L-29, 16; April 1977 L-29, 18; Termination Study 20-1.

the first parcel on April 11, 1972. During the year Reclamation used all available appropriations purchasing an additional eleven parcels for a total of 4,911 acres for the reservoir site and 750 acres for mitigation purposes. During 1972, 1974, and 1975 Reclamation acquired additional parcels bringing the total to 10,011 at \$1.45 Million for the reservoir and 3,144 acres at \$508,000 for fish and wildlife. These total represented approximately one quarter of land needed for the entire reservoir.⁴⁴

In 1976 Reclamation moved forward with investigation of the dam site, including drilling to test the geology and surveying the dam site. Because the property owners at the dam site refused to allow crews onto their property, Reclamation requested condemnation proceedings for right of entry on three parcels. In addition, Reclamation acquired nine additional parcels of land needed for the reservoir bringing the total to 13,298 acres. As part of the acquisitions, Reclamation financially assisted relocating six families from the reservoir area at a cost of \$140,055.⁴⁵

In 1977 the local and national political powers shifted. As a result of reviews of the project initiated by newly elected board members of the Oahe Conservancy Sub-district, and the Carter Administration, Reclamation determined in May to halt any new condemnation proceedings pending outcome of the reviews. In August, as it became apparent Congress did not intend to appropriate any funds for Oahe in Fiscal 1978 which began that October, Reclamation suspended additional land purchases from willing sellers. Prior to the decision, the Right-of-way Branch had acquired an additional four parcels raising the total to approximately 17,878 acres—just over one third of the land needed for the reservoir and associated fish and wildlife

44. "Oahe Unit, Right-of-Way Branch Project history 1972-1977 [Draft]," 4-5.

45. "Oahe Unit, Right-of-Way Branch Project history 1972-1977 [Draft]," 5-6.

mitigation.⁴⁶

Termination of Construction

While there had been some opposition to the Oahe Unit during the formation of the irrigation districts, the vast majority of local residents supported the concept of a large irrigation project. However, as specific plans progressed, and the impacts of right-of-way acquisition, the impacts of channelization of the James River, and the creation of new regulating reservoirs became more commonly known, opposition began to increase. The first opportunity for public input on the proposed plan was during public hearings of the Draft Environmental Statement. At the hearing held in Aberdeen on November 29 and 30, 1972, a considerable number of individuals and organizations expressed negative views of the project's proposals.⁴⁷

Following the hearings, a group of concerned individuals formed United Family Farmers (UFF) on January 23, 1973. The organizations leaders attempted to fight the project simultaneously on several fronts. Citing the inadequacy of the environmental statements, and other issues UFF filed for an injunction on April 29, 1974, four days after Reclamation awarded the contract for the Oahe Pumping Plant. The following day District Court Judge Andrew Bouge denied the application for a preliminary injunction, allowing construction to proceed while the full case moved forward. On June 19 Judge Albert Schatz affirmed this decision following an evidentiary hearing held in May.⁴⁸

United Family Farmers full case against the government went before the U.S. District Court in Sioux Falls. Judge Fred Nichol opened the trial on March 29, 1976. After hearing testimony for nine days Nichol adjourned the trial. He issued his ruling four months later on August 18. He ruled in favor of Reclamation, agreeing that while the project would create

46. "Oahe Unit, Right-of-Way Branch Project history 1972-1977 [Draft]," 6.

47. Carrels, 70-1.

48. Carrels, 91-2.

substantial environmental impacts, Reclamation had included these impacts in its environmental statement and fulfilled the requirements of NEPA.⁴⁹

But the court's decision did not mark the end of the fight for UFF. As the case worked its way through the courts, UFF began a political fight to stop the project by running for seats on boards of the Oahe Conservancy Sub-District Board and the Irrigation Districts. In 1974 they succeeded in winning four seats on the Oahe Conservancy District Board. Using the information made public by the project's environmental statement and the court case, UFF continued to gain support. Additionally, the perception of a distant federal bureaucracy ignoring the concerns of local citizens hurt the image of long standing board members. In the board elections in 1976, UFF supporters gained an additional five seats and a majority position. Additionally, the project had been an important factor helping project opponents win seats in the state legislature.⁵⁰

The new board moved quickly on several fronts. They voted to relocate the district's headquarters from Huron to Aberdeen, South Dakota, and pushed the manager to resign. Additionally, beginning on February 3 they launched a series of seven public hearings evaluating the project. On April 5, after five hearings, the board recommended to Congress that construction on the project be stopped.

The November elections had also brought change in the White House. President Jimmy Carter made balancing the federal budget one of his top priorities. He believed that cutting funding to expensive and perhaps outdated and environmentally questionable projects was the first place to start. On February 19, 1977, President Carter announced his intent to cut funding from his budget proposal and begin an official review of nineteen questionable water projects

49. Carrels, 98.

50. Carrels, 130-2.

out of 306 then under construction. Eight Reclamation projects, including Oahe, made the list.⁵¹

The response from Congress, which had not been notified of the President's plans, was fast and furious. A correspondent of the *Washington Post* quickly dubbed the projects slated for review the "Hit List." Under the direction of Secretary of the Interior Cecil Andrus, a formal review process including local public hearings quickly began. The Department of Interior Review Committee held a field hearing on the Oahe Unit on March 21 in Pierre, South Dakota. Testimonies given were divided and contentious, but local opinion strongly opposed the project.

On April 18 President Carter announced the results of the review. Citing concerns which echoed local complaints—impaired water quality in the James River as a result of return flows, channelization of the James River, and the large investment per farm unit producing with limited cost benefits—President Carter recommended to Congress that all funding for the project be deleted. Noting the uncertainty of the local commitment to the project, Carter recommended that funding could only be reinstated if local opinion in favor of the project became manifest, and Reclamation modified the plans to eliminate service to the East Lake Plain service area.⁵²

Congress debated Carter's proposals through the summer. In June the House narrowly passed the appropriations bill funding work on Oahe and all but one of the other eighteen projects recommended for deletion by the president. However, the vote, 218-194 demonstrated that those supporting the Reclamation projects did not have the votes needed to override the threatened veto.⁵³

The following day the Senate subcommittee, in an effort to avoid a veto agreed to drop

51. National Archives and Records Administration, Office of the Federal Register, *Public Papers of the Presidents of the United States: Jimmy Carter, 1977, Book 1* (Washington, D.C.: Government Printing Office, 1978), 207-8; Gaylord Shaw and Paul E Steiger, "Carter Will Ask Hill to halt Aid for 18 Major Water Projects," *Washington Post*, February 20, 1977.

52. *Public Papers of the Presidents of the United States: Jimmy Carter, 1977, Book 1*, 651-4.

53. Gaylord Shaw, "House Rejects Bid to Halt Water Projects," *Los Angeles Times*, June 15, 1977, B1.

funds for Oahe and seven of the other sixteen projects included in the House Bill. House and Senate conferees agreed to the Senate Subcommittee's compromise proposal and both houses formally passed the appropriations bill which President Carter signed on August 8, 1977. As a result, all construction on the Oahe unit essentially ended at the end of the fiscal year, September 30, 1977.⁵⁴

Post Construction

As noted above, construction of the Oahe Pumping Plant and the Pierre Canal were nearing completion in September 1977. The pumping plant was 99 percent complete. The contract to complete the discharge lines and structures was 27 percent complete. Reclamation canceled a separate contract to supply the pumps, motors, and discharge valves, directing the contractor to delete the motors from the contract but to complete the \$3 million worth of pumps and valves and ship them to a storage facility in Tracy, California for possible future use. After September 30, some minor work was done on the pumping plant to secure the safety and security of the site. This included paving the public access and service roads, completing a passenger elevator and basic electrical system for the building, and other minor repairs and cleanup.⁵⁵

Construction on the Pierre Canal was in various stages of completion. The contractor had nearly completed Reach 1B of the canal, the portion of Reach 1 furthest from the pumping plant and which required the deepest excavation. The contractor had completed the excavation of 3,386,000 cubic yards for the 1.3 mile canal. As a safety measure, Reclamation instructed the contractor to complete work on the 79 foot drop structure for a cross drainage channel. This

54. Shaw, "Senate Panel Drops Fund for 9 Water Projects in Attempt to Clear 8 Others," *Los Angeles Times*, June 16, 1977; API, "House, Senate to Finance 8 Water Projects, Kill 9," *Los Angeles Times*, June 20, 1977. *Public Papers of the Presidents of the United States: Jimmy Carter, 1977*, Book II, 1461.

55. "Termination Study," 18-20.

work continued into the spring of 1978 and brought the total contract to 99.8 percent complete.⁵⁶

The contractor had begun construction work on Reach 1A in March and by the end of September, had completed slightly more than one third of the 21 mile canal. Crews had completed 55 percent of the excavation (4,750,000 of 8,630,000 cubic yards). Reclamation entered into a contract with the South Dakota Department of Transportation to provide site safety, public safety, and mosquito abatement (including drainage of a portion of a canal near a subdivision). On October 29, 1979, the contractor submitted a termination settlement proposal of \$1.5.⁵⁷

In addition to construction on the Oahe Pumping Plant and Reach 1 of the Pierre Canal, Reclamation had begun land acquisition for portions the Medicine Knoll Creek Siphon—which would have connected Reach 1B and 2A—and for Blunt Reservoir. By the end of September 1977 Reclamation had acquired approximately one half of the land for the Siphon. At the Blunt Reservoir site the government had completed the acquisition of thirty-eight of the 108 parcels needed or approximately 42 percent of the total acreage. As a temporary measure pending final disposition of the project, these lands along with lands acquired for the canal right-of-ways were leased back to the original property owner or their descendants. In some cases the original land owners did not opt to lease back the lands acquired for the project in which case Reclamation leased the parcels to third parties.⁵⁸

In a memorandum on February 17, 1979, Commissioner R. Keith Higginson directed

56. “Termination Study,” 22-3.

57. “Termination Study,” 20-2.

58. The total acreage needed was 42,155 which included 11,325 acres for fish and wildlife mitigation. Reclamation had acquired 17,878 of the total needed including 3,500 acres or 31% required for mitigation. “Termination Study,” 23-5; For leasing see testimony of John Keys, III in Congress, Senate, Committee on Energy and Natural Resources, Subcommittee on Water and Power, *Miscellaneous Water Bills, Hearings before the Subcommittee on Water and Power of the Committee on Energy and Natural Resources*, 109th Congress, Second Session, March 30, 2006, 11-3.

Regional Director L. W. Lloyd to complete a study of the alternative for constructive use, preservation or disposition of the Oahe features constructed, without undertaking further construction. Higginson had previously petitioned Assistant Secretary Guy Martin to include studying completion of the Pierre Canal to provide canal-side irrigation and a municipal water pipeline. Martin declined, instructing Higginson to focus only on the termination option. Reclamation staff at the Huron, South Dakota office conducted the study over the next year, publishing their report in February 1980.

The study explored the costs of maintaining the lands pending alternative construction and restoring the lands to an original state. However, Reclamation chose to wait to take any action pending direction from Congress regarding disposition of the Oahe Unit.

Deauthorization Legislation and WEB Water System

Previous to the Termination Study, South Dakota Senator James Abourezk had introduced legislation to deauthorize the project. In addition to deauthorizing, S. 3292 which Abourezk introduced on July 13, 1978, would have allowed original property owners to purchase back their lands at fair market value. Revenues from the land sales, and the sale of surplus construction-related property would have reverted to the treasury to repay a portion of the project costs. The balance of the project costs would have been charged to the general treasury.⁵⁹

As Abourezk's bill stalled in the Senate, United Family Farmers proposed a trade off for deauthorization of Oahe, the WEB Pipeline. Named after Waslworth, Edmunds, and Brown Counties the pipeline project proposed pumping treated Lake Oahe water from a point near Mobridge, South Dakota, to the three counties for municipal, rural, and industrial use. After visiting South Dakota in 1980, Assistant Secretary Guy Martin agreed to support the tradeoff.

59. *Congressional Record*, July 13, 1978, 20762.

South Dakota's Governor William Janklow and others who supported Oahe felt the trade amounted to blackmail.⁶⁰

Despite the resistance to the trade, the Carter Administration helped push legislation through Congress which conditionally authorized the WEB Development provided Congress deauthorized the Oahe Unit by September 30, 1981. However, Congress failed to pass Senator Abourezk's deauthorization bill prior to the deadline. As a result, the task fell to Congressman Tom Daschle (D) to push a bill reauthorizing WEB through Congress. Daschle succeeded in gaining the support of a Democrat controlled Congress. By a voice vote the House passed H.R. 7347 on June 8, 1982, which authorized the Secretary of the Interior to construct the WEB Water Development Project using a combination of federal grants, loans and local cost sharing.

As a political compromise the new bill did not officially deauthorize the Oahe Unit. Rather, it prohibited any further construction without the approval of Congress and funded studies of alternative irrigation projects using the Oahe Pumping Plant and Pierre Canal. Section Four of the bill allowed the Secretary of the Interior to cancel the repayment contract for the Oahe Unit. This section also stated that project features east of Blunt Reservoir could not be constructed without further action by congress. While the wording to prohibit construction versus deauthorizing the project could be a mistaken as a simple matter of semantics, the difference had significant impacts on the repayment costs of Oahe Dam and would have raised hydropower rates.

The Senate amended the bill and passed it on August 19. The House agreed to the Senate Amendment on September 23. President Regan signed the bill on September 30, 1982. In conjunction with the signing, Reagan issued a statement noting the change in priority and

60. Carrels, 191-2.

program which had taken place on the Oahe Unit. He said, "One of the strengths of our American System of government is its ability to reconsider in an orderly manner well-established plans that later fail to meet changed conditions. In signing H.R. 4347, I am pleased that this strength enables me to help correct the course of our water resources development in South Dakota, so that real problems faced by real people can be met by real solutions."⁶¹

With the President's signature on the bill, the WEB Water Development project began a new era in rural water development for the Bureau of Reclamation. Reclamation would provide oversight of the engineering studies, administer federal appropriations, and oversee the repayment of the federal loans extended for project construction. However, WEB Water Development Association controlled project construction.

The initial authorization of the project in 1980 funded continued planning of the project. WEB Water Development had previously hired Bartlett & West Consulting Engineers and the Boyle Engineering Corporation to prepare a feasibility study. WEB Water now had the two firms prepare an Environmental Assessment (EA) to meet the requirements of NEPA. In September 1982 the WEB Water Development Association submitted the completed EA. On September 24, 1982, the day following the final passage of HR 4347 by the House, Joseph B. Marcotte Jr., Upper Missouri Regional Director approved a Finding of No Significant Impact for the WEB Project.⁶²

A year later the project design report was completed and approved by Reclamation. On September 29, 1983, the Department of the Interior and WEB Water entered into a loan and

61. Ronald Reagan, "Statement on Signing a South Dakota Water Resources Development Bill," in National Archives and Records Administration, Office of the Federal Register, *Public Papers of the Presidents of the United States: Ronald Reagan, 1982, Book 2* (Washington, D.C.: Government Printing Office, 1983), 1240.

62. Congress, House, Committee on Appropriations, *Energy and Water Development Appropriations for 1986, Hearings before the Subcommittee of the Committee on Appropriations, House of Representatives, Part 8*, 99th Congress, First Session, 1445-6.

grant contract agreement. Moving quickly, WEB Water awarded the first construction contract on October 13, 1983, for the Intake and pumping Plant located on Lake Oahe south of Mobridge, South Dakota. The Contractor Construction work began seven days later on October 20.⁶³

Over the next several years, construction continued in phases. Several contractors worked on the project installing 116 miles of main transmission pipeline and 3,401 miles of secondary distribution pipe. Reclamation reviewed all construction plans before the construction contracts were advertised. As construction continued WEB delivered its first water on May 26, 1986, to the Keith Vojta family. The family had been hauling drinking water to their home for fourteen years. Their experience was typical of many of WEB's rural customers. On May 30 WEB held a dedication ceremony for the Water Treatment Plant and Phase I distribution with Reclamation Commissioner C. Dale Duvall attending as the keynote speaker.⁶⁴

WEB completed the construction of the initial phases in 1989. However, during subsequent years the agency has continued to expand its service to more customers and towns. By 2008 WEB had grown to provide water service to 8,000 hookups, 106 towns, and industrial customers in fourteen counties in South Dakota and three in North Dakota.

CENDAK Investigations

The 1982 legislation authorizing WEB also authorized funding for Reclamation to study alternative irrigation projects to replace the Oahe Unit. One of the plans to be developed was CENDAK, short for Central South Dakota Water Supply System. CENDAK sponsors formed a non-profit corporation, CENDAK Water Supply System, Inc., which joined Reclamation and South Dakota in preparation of a "Draft Environmental Impact Statement" published in October

63. *Ibid*, 1429-30.

64. Congress, House, Committee on Appropriations, *Energy and Water Development Appropriations for Fiscal Year 1988, Hearings before a Subcommittee of the Committee on Appropriations, United States Senate, One Hundredth Congress, First Session, Part 3*, 1728.

1986.

CENDAK proposed using the Oahe Pumping Plant and partially completed Pierre Canal to implement one of two plans—a National Economic Develop (NED) Plan or the Staged Full Development Plan. Both plans anticipated sprinkler irrigation on 300,000 acres using about 350 miles of canals, 660 miles of laterals, and 260 miles of pipelines. But the Staged Full Development plan anticipated increasing the laterals to 920 miles. In its full development the plan anticipated adding 174,000 additional acres by lengthening the canals by 100 miles, enlarging the Pierre Pumping Plant, and constructing six additional pumping plants. The initial plan called for annual average diversion of 438,000 acre feet of water, 2.4 percent of the annual flow of the Missouri at Pierre. Full development increased the diversion to 692,000 acre-feet or 4 percent of the annual flows at Pierre. Project pumping would annually consume 80.4 gigawatt-hours in the initial phase and 157.3 GWh or 1.5% of the normal generation for the six Pick-Sloan main stem dams.⁶⁵

In the DEIS, Reclamation recommended the 300,000 NED plan for authorization and South Dakota and the project sponsors recommended the Staged Full Development Plan of 474,000 acres. Major issues raised by Oahe opponents remained in the CENDAK plan, particularly the impacts on the James River. These issues never came to a head, however, because shortly after the publication President Reagan announced deep cuts in Reclamation's planning budget. Subsequently, Reclamation shelved the CENDAK study. Although the project sponsors, the South Dakota Board of Water and Natural Resources, the State Legislature, and Governor continue to support the proposed CENDAK Irrigation Project as a long term goal, they

65. U.S. Department of the Interior, Bureau of Reclamation, CENDAK Water Supply System, Inc., and State of South Dakota, *Planning Report/Draft Environmental Statement on Central South Dakota Water Supply System (CENDAK)* (Billings, Montana: U.S. Bureau of Reclamation, Missouri Basin Region, 1986), i-v.

shifted their support to a substitute, the Mid-Dakota Rural Water System.⁶⁶

Mid-Dakota Municipal, Rural and Industrial Water (MR&I) System

As it became clear that CENDAК lacked the support it needed to move off of the drawing board as an irrigation project, towns and farms in the proposed service area switched gears and began promoting a plan to provide a MR&I water supply to the former Oahe project area. Early in their studies they considered using the existing Oahe features, but it soon became obvious that the Oahe Pumping Plant was simply scaled too large to be efficiently used by the smaller project. As a result the plans for Mid-Dakota quickly changed to provide for a new intake for a smaller pumping plant located along the shore of Lake Oahe.⁶⁷

During the Congressional hearings on Mid-Dakota some project proponents attempted to gain support for the project by using arguments similar to those used to support the WEB Development, pointing out the perceived commitment and obligation of the government in to provide Mid-Dakota as an alternative to the failed Oahe Unit. However, this tactic gained them little traction and was quickly dropped in favor of a simple statement of the benefits of the project. Also during the hearings, there were some who felt the authorization of Mid-Dakota should serve as an opportunity to officially deauthorize Oahe. These calls also failed to gain traction. When Congress authorized the construction of Mid-Dakota in 1992 as Section XIX of the Reclamation Projects Authorization and Adjustment Act of 1992 (Public Law 102-575), it did so without any official ties or action related to the Oahe Unit.⁶⁸

66. Cass Peterson, "Where Funds Flow, So Would Water; Reagan Budget Nominated 15 Western Projects for Increases," *Washington Post* Jan 9, 1987; Bob Mercer, "Projects: CENDAК on Long-Term List," *Aberdeen American*, December 27, 1987. On long term support of CENDAК see the list of South Dakota State Water Resources Management System Projects, available online at <http://www.state.sd.us/DENR/DFTA/WWFunding/StateWaterPlan/statewaterresourcesmanagement.htm>.

67. "CENDAК on Long-term List."

68. Congress, Senate, Committee on Energy and Natural Resources, Subcommittee on Water and Power, *Mid-Dakota Rural Water System Act of 1989 and Lake Andes-Wagner/Marty II Units, Hearings before the Subcommittee on Water and Power of the Committee on Energy and Natural Resources on S. 1765 and S. 2710*, 101st Congress, (continued...)

Though there is no official connection, the Mid-Dakota Rural Water System (MDRWS) serves many of the communities which would have received municipal water from the Oahe Unit. Construction on the project began in September 1994. In partnership with the Bureau of Reclamation MDRWS completed construction of the federally authorized portion of the project on October 1, 2006. Completed at a cost of \$145 million the system delivers treated Missouri River water from Lake Oahe to over 30,000 people. The project specifically serves seventeen cities, in addition to providing service to 7,000 square miles of rural South Dakota.⁶⁹

Oahe Pumping Plant Modifications

During the intervening years Reclamation has completed additional safety work on the Oahe Pumping Plant. During plant construction the contractor installed a ninety-six inch butterfly valve on each of the pumps to provide maintenance crews the ability to dewater the pumps to perform their work. Since 1977 these valves served as the only means of preventing water from entering the pumping plant. In 1992 Reclamation removed the valves and replaced them with elliptical bulkheads providing for the long term safety of both the pumping plant and the Oahe Power Plant. These valves joined the plant's four pumps in storage at the site. Reclamation had investigated using the pumps at another facility. However, there have been no pumping plants with similar hydraulic characteristics proposed for construction. So, Reclamation transported the pumps to the Oahe Plant where they remain in crates for possible future use.⁷⁰

68. (...continued)

Second Session, June 19, 1990. For obligation see written testimony of Representative Tim Johnson 108, and Senator Larry Pressler, 151-2; For deauthorization and planned use of Oahe features see testimony of Dr. David C. Campbell, 233-9.

69. U.S. Department of the Interior, Bureau of Reclamation, "Mid-Dakota Rural Water Project Celebrates Completion," *Plains Talk* (Winter 2006-7), 16; U.S. Department of the Interior, Bureau of Reclamation, *Accomplishments: 2006 Great Plains Region* (Billings: Great Plains Region, Bureau of Reclamation, 2007), 6-7.

70. U.S. Department of the Interior, Bureau of Reclamation, "Oahe Pumping Plant Fact Sheet" (Pierre, North Dakota: Bureau of Reclamation, [n.d.]).

Blunt Reservoir and Pierre Canal Lands Conveyance Act

Perhaps the thorniest issue surrounding termination of the Oahe Unit has been the disposition of land obtained for the Pierre Canal and Blunt Reservoir. Prior to the end of funding, Reclamation had obtained 19,262 acres for the Blunt Reservoir and Pierre Canal. One of the primary criticisms of Reclamation by project opponents was the bureau's heavy handed techniques in obtaining these lands. Approximately one-third of the lands were obtained through condemnation, while others who "willingly" sold complained of threatening and intimidating negotiation tactics. The loss of lands to proposed project features and to environmental mitigation were among the chief concerns of farmers who opposed the project after publication of the Final Environmental Statement.

After the project was suspended Reclamation leased these lands back to farmers. It leased 13,775 acres to preferential lessees, defined as original land owners or their descendants. Since the hearings to deauthorize the Oahe Unit in 1981 original landowners had petitioned for the right to reacquire their land. Further, local governments supported the land owners as they sought to have the lands returned to the tax rolls. While the solution to sell the lands back seemed simple enough, the details of such a sale presented sticky issues. For example what price should the lands be sold at, and should all original owners be given the option to purchase their land, or only the preferential lease holders. As an alternative to the sale of land, others advocated for the use of the lands as a means to meet unmet mitigation obligations for the reservoirs on the Missouri like Oahe.

Senator Tom Daschle, with the support of the other members of South Dakota's congressional delegation introduced legislation in May 1999 and the Senate Subcommittee held hearings on October 20 in conjunction with several other water bills. However, the

subcommittee failed to report favorably on the bill. Daschle reintroduced the legislation in 2001 and 2003 but in each instance the bill again failed despite having been favorably reported by the Committee on Energy and Natural Resources. On January 2006 Daschle's successor, John Thune, reintroduced the legislation as S.2205. Representative Stephanie Herseth worked to pass a companion measure in the House. The House acted first passing H 5616 on July 24. The Senate passed S. 2205 on December 7. The following day the House agreed to the Senate version of the bill. President George W. Bush signed the bill on December 22, 2006, and it became Public Law 109-458.⁷¹

The final version of the Lands Conveyance Act allowed the South Dakota to Commission of Schools and Public Lands to administer the lands. The Act gives preferential lessees the first option to purchase their leases under generous terms. The act sets the purchase price at 75% of fair market value and allows either a cash purchase with an additional 10% discount, or an installment purchase with 10% down over 30 years at 3% interest. Lands not purchased by preferential lessees, along with lands of nonpreferential lessees and unleased lands revert to the South Dakota Department of Game, Fish, and parks for mitigating the wildlife habitat that was lost as a result of the development of the Pick-Sloan Program. The law does allow nonpreferential lease holders and adjoining property holders to exchange land elsewhere in the state for nonpreferential lease and unleased parcels. The Act provided that revenues generated by the sale of lands be placed in a trust fund to pay property taxes on lands used for mitigation. Finally, the act officially deauthorized Blunt Reservoir as a feature, but allowed a permanent easement along the Pierre Canal Right-of-way should an irrigation pipeline be approved in the

71. Press Release, Senator John Thune, "Thune bill to Return Blunt Reservoir and Pierre canal Lands to Original Owners" December 26, 2008.

future.⁷²

At a ceremony on January 10, 2008, Reclamation officially transferred title to the Blunt Reservoir and Pierre Canal lands to the South Dakota Game, Fish and Parks Commission. As per the legislation, nearly 4,700 acres will be managed by the commission. Preferential leaseholders have until Dec 22, 2011 to purchase the lands. Prior to the sale of the lands Reclamation is completing surveys in accordance with federal legislation including NEPA, the National Historic Preservation Act, the Native American Graves Protection and Repatriation Act, and the Endangered Species Act.⁷³

Settlement of Project Lands

Since all of the lands in the proposed Oahe Unit were privately owned, no lands were withdrawn for settlement in conjunction with this unit.

Project Benefits and Uses of Project Water

While the Oahe Unit was not completed, the WEB Pipeline completed as a substitution provides an important municipal, industrial, and rural water supply. The project currently serves 106 towns and bulk customers spread across an area the size of Connecticut. As the groundwater in most of this area is heavily mineralized and generally unfit for drinking, the project is vital to the people and livestock living in the area. While not directly related to the Oahe Unit, Reclamation has participated in the construction of other rural water systems in the Oahe service area based on the WEB Pipeline model.

As a further benefit, at least 4,722 acres of the lands obtained for the Pierre Canal and Blunt Reservoir are being converted to allow for mitigation of wildlife habitat lost as a result of the construction of Pick-Sloan reservoirs in South Dakota.

72. Public Law 109-458, 120 Stat. 3397.

73. Jeff Bunn, "Lands Given Back to State," *Capital Journal*, January 11, 2008.

The James Diversion Reservoir continues to provide recreation opportunities to the community of Huron and the surrounding area. Average yearly attendance is estimated to be slightly more than 5,000 visitors. For forty years the reservoir also provided municipal and industrial water for the City of Huron. Only recently, with the completion of the Mid-Dakota Rural Water System, has the city found a superior source of water.

Conclusion

The Oahe Unit is a unique project in Reclamation's history. It can be claimed that it is the only Bureau of Reclamation project to be stopped by President Carter's "Hit List." Some of projects on the Hit List have been modified and features cut, others managed to continue on for several years only to be halted in later years by budget concerns and litigation. But in the case of Oahe, Congress sided with the President and cut funding to the project when strong local opinion developed against the project. Alternative projects have been built in its place, but all of them have opted not to use the constructed features of the Oahe Unit and all of them have focused on providing municipal, rural, and industrial water. In this sense the Oahe Unit may serve as a mirror, reflecting the larger changes at play in the 1970s and 1980s which reshaped the agency as it evolved from constructing massive public works projects to managing our federal water resources in the West.

Bibliography

Archival Sources

- United States Department of the Interior. Bureau of Reclamation. "Annual Project History: Oahe Unit, James Division, South Dakota," Volume I, 1963, 2, Box 10, Accession 8NN-115-92-130, Rocky Mountain Region, National Archives and Records Administration. Denver, Colorado.
- _____. "Annual Project History: Oahe Unit, James Division, South Dakota," Volume II, 1964, Box 123, Accession 8NN-115-88-053. Rocky Mountain Region, National Archives and Records Administration.
- _____. "Annual Project History: Oahe Unit, James Division, South Dakota," Draft 115, July 25, 1978. Huron, South Dakota: Missouri-Oahe Projects Office, Bureau of Reclamation, 1978. Bureau of Reclamation, Rapid City Field Office.
- _____. "Annual Project History: Oahe Unit, James Division, South Dakota," Draft 140, August 3, 1977. Huron, South Dakota: Missouri-Oahe Projects Office, Bureau of Reclamation, 1977. Bureau of Reclamation, Rapid City Field Office.
- _____. "Chronology of Events, Oahe Unit," Draft July 25, 1978. Huron: South Dakota: Missouri-Oahe Projects Office, Bureau of Reclamation, 1978. Bureau of Reclamation, Rapid City Field Office.
- _____. "Construction Progress Report (L-29)." Huron, South Dakota: Bureau of Reclamation, Missouri-Oahe Projects Office. Reports for April, May, August, September, November, and December 1974, and April, May, and June 1978 can be found in Box 41, Accession NRG-115-05-0014, Rocky Mountain Region, National Archives and Records Administration. Reports for June 1976 through June 1977 can be found in Bureau of Reclamation, Rapid City Field Office.
- _____. General Administrative and Project Records, 1902-1919. Entry 3. Record Group 115. Records of the Bureau of Reclamation. Rocky Mountain Region, National Archives and Records Administration.
- _____. "Information Sheets: The Oahe Unit, Pick-Sloan Missouri Basin Program." Huron, South Dakota: Missouri-Oahe Projects Office, Bureau of Reclamation, April 1977. Bureau of Reclamation, Rapid City Field Office.
- _____. "Oahe Pumping Plant Fact Sheet" (Pierre, North Dakota: Bureau of Reclamation, Pierre Field Office, No date. Bureau of Reclamation, Pierre Field Office.
- _____. "Oahe Unit, Right-of-Way Branch Project History 1972-1977." Huron, South Dakota: Missouri-Oahe Projects Office, Bureau of Reclamation, No date. Bureau of Reclamation, Rapid City Field Office.

_____. “Progress Summary, Oahe Unit, James Division.” Billings, Bureau of Reclamation Region 6, April 1951, Box 572, Accession 8NN-115-92-019, Rocky Mountain Region, National Archives and Records Administration.

_____. “Summary of the Oahe Unit Studies, [prepared for] Special Meeting Oahe Conservancy Sub-District [held at] Pierre, South Dakota, February 29, 1975.” By Preston L. Funkhouser, Jr. Huron, South Dakota: Missouri-Oahe Projects Office, Bureau of Reclamation, 1975. Bureau of Reclamation, Rapid City Field Office.

Government Publications

Congressional Record. Washington D.C.: U.S. Government Printing Office.

National Archives and Records Administration, Office of the Federal Register, *Public Papers of the Presidents of the United States: Jimmy Carter, 1977, Book 1*. Washington D.C.: U.S. Government Printing Office, 1978.

_____. *Public Papers of the Presidents of the United States: Ronald Reagan, 1982, Book 2*. Washington, D.C.:U.S. Government Printing Office, 1983.

United States. Congress. House. *Oahe Unit, Missouri River Basin Project, South Dakota*, House Document 163, Ninetieth Congress, First Session. Washington D.C.: U.S. Government Printing Office, 1967.

_____. Committee on Appropriations. *Energy and Water Development Appropriations for 1986, Hearings before a Subcommittee of the Committee on Appropriations, House of Representatives, Ninety-Ninth Congress, First Session, Part 8 Testimony of Members of Congress and Other Interested Individuals and Organizations*. Washington D.C.: U.S. Government Printing Office, 1985.

_____. Committee on Interior and Insular Affairs. Subcommittee on Irrigation and Reclamation. *Oahe Unit, Missouri River Basin Project, Part 1 , Hearings before the Subcommittee on Irrigation and Reclamation Ninetieth Congress, First Session on H.R. 27 and H.R. 1163... Hearing Held In Huron, South Dakota, Oct 27, 1967 and Redfield, South Dakota, October 28, 1967*. Washington D.C.: Government Printing Office, 1967.

United States. Congress. Senate. Committee on Appropriations. *Energy and Water Development Appropriations for Fiscal Year 1988, Hearings before a Subcommittee of the Committee on Appropriations, United States Senate, One Hundredth Congress, First Session, Part 3, Nondepartmental Witnesses*. Washington D.C.: U.S. Government Printing Office, 1988.

_____. Committee on Energy and Natural Resources. Subcommittee on Water and Power. *Miscellaneous Water Bills, Hearings before the Subcommittee on Water and Power of the Committee on Energy and Natural Resources, One Hundred Ninth Congress, Second Session, Hearing Held in Washington D.C., March 30, 2006*. Washington D.C.: Government Printing Office, 2006.

_____. *Mid-Dakota Rural Water System Act of 1989 and Lake Andes-Wagner/Marty II Units, Hearings before the Subcommittee on Water and Power of the Committee on Energy and Natural Resources United States Senate One Hundred First Congress, Second Session on S. 1765 and S. 2710...*, June 19, 1990. Washington D.C.: Government Printing Office, 1990.

_____. Committee on Interior and Insular Affairs. Subcommittee on Water and Power. *Oahe Unit, Missouri River Basin Project, Hearings before the Subcommittee on Water and Power, Ninetieth Congress, First Session on S. 6...Hearing Held in Washington D.C., September 13, 1967, and Redfield, South Dakota May 22, 1967.* Washington D.C.: Government Printing Office, 1967.

United States Department of the Interior, Bureau of Reclamation, *1992 Summary Statistics, Land, Water and Related Data.* Washington D.C.: US Government Printing Office, 1995.

_____. *Accomplishments: 2006 Great Plains Region.* Billings: Great Plains Region, Bureau of Reclamation, 2007.

_____. *Definite Plan Report on Initial Stage, Oahe Unit, James Division, Pick-Sloan Missouri Basin Program, South Dakota.* Billings, Montana: U.S. Bureau of Reclamation, Region 6, 1971.

_____. *Initial Stage, Oahe Unit, Final Environmental Statement.* [Billings?]: Bureau of Reclamation, 1973.

_____. "Overview, Pick-Sloan Missouri Basin Program," by Toni Rae Linenberger. Denver, Colorado: U.S. Bureau of Reclamation History Program, 1998.

_____. *Reclamation Laws Annotated, Volume 3.* Denver: Government Printing Office, 1972.

_____. *Reclamation Laws Annotated, Volume 4.* Denver: Government Printing Office, 1989.

_____. *Second Annual Report of the Reclamation Service 1902-1903.* Washington D.C.: 1904.

_____. "Testimony at Public Hearing and Other Comments Received on Draft Environmental Impact Statement, Initial Stage of Oahe Unit, James Division, Pick-Sloan Missouri Basin Program." Huron, South Dakota: Bureau of Reclamation Missouri-Oahe Project Office, February 1973.

_____. "The Belle Fourche Project" by Christopher J. McCune. Denver, Colorado: U.S. Bureau of Reclamation History Program, 2001.

_____. *Water & Land Resources Accomplishment, 1971, Statistical Appendix* (U.S. Government Printing Office, 1971).

U.S. Department of the Interior. Bureau of Reclamation, CENDAK Water Supply System, Inc, and State of South Dakota. *Planning Report/Draft Environmental Statement on Central South Dakota Water Supply System (CENDAK)*. Billings, Montana: U.S. Bureau of Reclamation, Missouri Basin Region, 1986.

United States Department of the Interior, Water and Power Resource Service, *Project Data*. Washington: US Government Printing Office, 1981.

_____. "Oahe Unit Termination Study, Initial Stage, Oahe Unit, James Division, Pick-Sloan Missouri Basin Program." [Huron, SD]: U.S. Bureau of Reclamation, 1980.

Books

Carrels, Peter. *Uphill Against Water: The Great Dakota Water War*. Lincoln: University of Nebraska Press, 1999.

Coon, Martha Sutherland. *Oahe Dam: Master of the Missouri*. Irvington-on-Hudson, New York: Harvey House, Inc., 1969.

Ferrell, John R. *Big Dam Era: A Legislative and Institutional history of the Pick-Sloan Missouri Basin Program*. Omaha, Nebraska: Missouri River Division, U.S. Army Corp of Engineers, 1993.

Lawson, Michael L. *Dammed Indians: The Pick-Sloan Plan and the Missouri River Sioux, 1944-1980*. Norman: University of Oklahoma Press, 1982.

Milton, John. *South Dakota: A Bicentennial History*. New York: W. W. Norton & Company, 1977.

Periodicals

Aberdeen American.

Capital Journal, Pierre, South Dakota.

Huron [South Dakota] *Plainsman*.

Los Angeles Times.

Plains Talk: News from the Great Plains, Billings, Montana. Bureau of Reclamation, Great Plains Region Newsletter.

Time Magazine.

Washington Post.

Other Sources

Beadle County, "History," <http://www.beadlecounty.org> (accessed June 13, 2008).

Mid-Dakota Rural Water System. "History of Mid-Dakota." <http://www.mdrws.com/> (accessed July 21, 2008).

South Dakota Department of Environment and Natural Resources. "State Water Resources Management System." <http://www.state.sd.us/DENR/DFTA/WWFunding/StateWaterPlan/statewaterresourcesmanagement.htm> (accessed June 13, 2008).

South Dakota Office of Tourism and Glacial Lakes and Prairies Tourism Association, "History," <http://www.sdglaciallakes.com/AboutUs/History/Index.cfm> (accessed June 13, 2008).

South Dakota State Historical Society. "Chronology of South Dakota History," http://www.sdhistory.org/soc/soc_hist.htm (accessed June 13, 2008).

Thune, John, Senator. "Thune bill to Return Blunt Reservoir and Pierre canal Lands to Original Owners" December 9, 2008 http://thune.senate.gov/public/index.cfm?FuseAction=PressReleases.Detail&PressRelease_id=9f2af5e6-eb4d-4a72-8a0d-0478b714dccd&Month=12&Year=2006 (accessed July 18, 2008).

_____. "Thune Bill to Return Blunt Reservoir and Pierre Canal Lands to Original Owners Becomes Law: President Signs the Blunt Reservoir and Pierre Canal Land Conveyance Act of 2006." December 28, 2006. http://thune.senate.gov/public/index.cfm?FuseAction=PressReleases.Detail&PressRelease_id=1c6c1721-ced6-476b-bf65-491c0ca3920b&Month=12&Year=2006 (accessed July 18, 2008).

U.S. Bureau of Census, "Population Finder: Huron, South Dakota," <http://factfinder.census.gov> (accessed June 13, 2008).

United States Department of the Interior, Bureau of Reclamation, "James Diversion Dam Facilities," <http://www.usbr.gov/gp/recreation/jamrrec.htm> (accessed June 13, 2008).

Index

Aspinall, Wayne	9
Belle Fourche Project	8
Berry, E. Y.	11
Blunt Reservoir	
description of	15
design modification	16
final deauthorization	41
land acquisition	26
lands returned to owners	40
part of early plans	13
Blunt Reservoir and Pierre Canal Lands Conveyance Act	40
Boe, Nils A.	12
Carter, Jimmy	29
and Hit List	29
Central South Dakota Water Supply System (CENDAK)	36
Daschle, Tom	34, 40
Duvall, C. Dale	36
Gordon H. Ball, Inc	22
Herseth, Stephanie	41
Hit List	29
Holum, Kenneth	17, 19
Huron, South Dakota	
contracts with Reclamation	19
early history of	7
Oahe Hearings in	11
James Diversion Dam	
construction	20
description	21
redesign	20
Janklow, William	34
Lake Dakota	4
Martin, Guy	33
McGovern, George	11
Mid-Dakota MR&I	38
Mundt, Karl	11
Nichol, Fred	28
Oahe Conservancy Sub-district (OCSD)	
formation of	10
United Family Farmers wins board seats	29
Oahe Dam	
biggest reservoir on Missouri	2
construction of	18
naming of	6
Oahe Pumping Plant	

construction of	21
modifications to	39
Oahe Unit	
authorization and out of state hunters	12
Definite Plan Report	16
drainage issue	13
Environmental Statement	17
funding extinguished	30
initial phase	2
termination of construction on	28
Palmer, William I.	20
Pick-Sloan Missouri Basin Program	9
Pierre Canal	
description	24
lands returned to owners	40
Reach 1A	26
Reach 1B "The Deep Cut"	25
Pittsburg-Des Moines Steel (PDM)	22
Reifel, Ben	11
Ron M Fiegen, Inc	23
Saylor, John	12
Spink County Irrigation District	11
Thune, John	41
United Family Farmers	
organization of	28
wins seats on OCSD board	29
support of WEB Pipeline	33
WEB Pipeline	
authorization	33
construction of	35
West Brown Irrigation District	11

