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Missouri River Basin
Water Management Division

Missouri River Main Stem System 2001-2002 Annual Operating Plan



December 2001



DEPARTMENT OF THE ARMY
NORTHWESTERN DIVISION, CORPS OF ENGINEERS
12565 WEST CENTER ROAD
OMAHA, NEBRASKA 68144-3869


REPLY TO
ATTENTION OF:

This Annual Operating Plan (AOP) presents pertinent information regarding water management in the Missouri River Main Stem Reservoir System (System) for the remainder of 2001 through December 2002. The information provided in this AOP is based upon water management guidelines designed to meet the operational objectives of the existing Missouri River Master Water Control Manual. These guidelines are applied to computer simulations of System operation assuming five statistically derived inflow scenarios based on an analysis of water supply records from 1898 to 1997. This approach provides a good range of water management simulations for dry, average, and wet conditions, and eliminates the need to forecast future precipitation, which is very difficult. The AOP information provides a framework for the development of detailed monthly, weekly, and daily regulation schedules for the System's six individual dams during the upcoming year to serve its Congressionally authorized project purposes. In addition, 5-year extensions to the AOP water management simulations, through March 2008, are presented to serve as guides for longer range planning. System water management is provided by my staff at the Missouri River Basin Water Management Division, Northwestern Division, U.S. Army Corps of Engineers located in Omaha, NE.

Two separate documents are also available entitled: "System Description and Operation" and "Summary of Actual 2000-2001 Operations." To receive copies of those documents you can contact the Water Management Division at 12565 West Center Road, Omaha, Nebraska 68144-3869, phone (402) 697-2676. Both reports are also available at the "Reports and Publications" link on our web site at: www.nwd.usace.army.mil/rcc.

A draft of this AOP was made available to the public in late September of this year. Public meetings were held at Williston, North Dakota, on October 15, 2001, at Sioux City, Iowa, on October 16, 2001, and at Jefferson City, Missouri, on October 17, 2001. The primary purpose of these meetings was to present a synopsis of the Draft AOP and to allow those in attendance to make comments in person to Corps of Engineers staff. Attendees included representatives from Missouri River Basin states, public and industry interest groups, and private citizens. Copies of the comment letters received on the Draft AOP and a report on the comments received at the three public meetings are available upon request. A press release announcing the publication of the 2001-2002 AOP is shown as Exhibit 1.

I thank you for your interest in the operation of the Missouri River Mainstem System of Reservoirs. With your help, I trust we can ensure that the System is operated for all Congressionally authorized project purposes, and meets the contemporary needs of the people who benefit from it.


David Fastabend
Colonel, Corps of Engineers
Division Engineer

MISSOURI RIVER MAIN STEM RESERVOIR SYSTEM

Annual Operating Plan 2001-2002

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EXHIBITS

Exhibit 1 – News Release Announcing 2001-2002 AOP, December 10, 2001

ABBREVIATIONS

AOP	-	annual operating plan
ac.ft.	-	acre-feet
AF	-	acre-feet
B	-	Billion
cfs	-	cubic feet per second
Corps	-	Corps of Engineers
CY	-	calendar year (January 1 to December 31)
elev	-	elevation
ft	-	feet
FY	-	fiscal year (October 1 to September 30)
KAF	-	1,000 acre-feet
Kcfs	-	1,000 cubic feet per second
kW	-	kilowatt
kWh	-	kilowatt hour
M	-	million
MAF	-	million acre-feet
MRBA	-	Missouri River Basin Association
MRNRC	-	Missouri River Natural Resources Committee
msl	-	mean sea level
MW	-	megawatt
MWh	-	megawatt hour
plover	-	piping plover
pp	-	powerplant
P-S MBP	-	Pick-Sloan Missouri Basin Program
RM	-	river mile
T&E	-	Threatened and Endangered
tern	-	interior least tern
yr	-	year

DEFINITION OF TERMS

Acre-foot (AF, ac-ft) is the quantity of water required to cover 1 acre to a depth of 1 foot and is equivalent to 43,560 cubic feet or 325,850 gallons.

Cubic foot per second (cfs) is the rate of discharge representing a volume of 1 cubic foot passing a given point during 1 second and is equivalent to approximately 7.48 gallons per second or 448.8 gallons per minute. The volume of water represented by a flow of 1 cubic foot per second for 24 hours is equivalent to 86,400 cubic feet, approximately 1.983 acre-feet, or 646,272 gallons.

Discharge is the volume of water (or more broadly, volume of fluid plus suspended sediment) that passes a given point within a given period of time.

Drainage area of a stream at a specific location is that area, measured in a horizontal plane, enclosed by a topographic divide from which direct surface runoff from precipitation normally drains by gravity into the river above the specified point. Figures of drainage area given herein include all closed basins, or noncontributing areas, within the area unless otherwise noted.

Drainage basin is a part of the surface of the earth that is occupied by drainage system, which consists of a surface stream or body of impounded surface water together with all tributary surface streams and bodies of impounded water.

Gaging station is a particular site on a stream, canal, lake, or reservoir where systematic observations of hydrologic data are obtained.

Runoff in inches shows the depth to which the drainage area would be covered if all of the runoff for a given time period were uniformly distributed on it.

Streamflow is the discharge that occurs in a natural channel. Although the term "discharge" can be applied to the flow of a canal, the word "streamflow" uniquely describes the discharge in a surface stream course. The term "streamflow" is more general than "runoff" as streamflow may be applied to discharge whether or not it is affected by diversion or regulation.

MISSOURI RIVER MAIN STEM RESERVOIR SYSTEM

Annual Operating Plan 2001 - 2002

I. FOREWORD

This Annual Operating Plan (AOP) presents pertinent information and tentative plans for operating the Missouri River Main Stem Reservoir System (System) for the remainder of 2001 through December 2002 under widely varying water supply conditions. It provides a framework for the development of detailed monthly, weekly, and daily regulation schedules for the System's six individual dams during the upcoming year to serve the Congressionally authorized project purposes. Regulation is directed by the Missouri River Basin Water Management Division (formerly the Reservoir Control Center), Northwestern Division, U.S. Army Corps of Engineers (Corps). A map of the Missouri River basin is shown on *Plate 1* and the summary of engineering data for the six System reservoirs is shown on *Plate 2*.

This plan may require adjustments when substantial departures from expected runoff occur. Results of a 5-year extension to the AOP studies (March 2003 to March 2008) are presented to serve as a guide for Western Area Power Administration's power marketing activities and those other interests that require information on reservoir conditions for long term planning.

This AOP includes only the plan for future operation. Previous AOP's have included a System description and discussion of the typical operation to meet authorized purposes and a historic summary of the previous year's operation. Although not included in this AOP, they are available as separate reports upon request. To receive a copy of either the updated version of the "System Description and Operation," dated January 2000, or the "Summary of Actual 2000-2001 Operations," contact the Missouri River Basin Water Management Division at 12565 West Center Road, Omaha, Nebraska 68144-3869, phone (402) 697-2676. Both reports will be available at the "Reports and Publications" link on our web site at: www.nwd-mr.usace.army.mil/rcc in early 2002.

II. PURPOSE AND SCOPE

Beginning in 1953, projected System operation for the year ahead was developed annually as a basis for advance coordination with the various interested Federal, state, and local agencies and private citizens. Also beginning in 1953, a coordinating committee was organized to make recommendations on each upcoming year's System operation. The Coordinating Committee on Missouri River Main Stem Reservoir Operations held meetings semiannually until 1981 and provided recommendations to the Corps. In 1982 the committee was dissolved because it did not conform to the provisions of the Federal Advisory Committee Act. Since 1982, to continue providing a forum for public participation, one or more open public meetings are held

semiannually in the spring and fall. The fall public meeting is conducted to take public input on a draft of the AOP, which is typically published in early October each year. The spring meetings are conducted to update the public on the current hydrologic conditions and projected System operation for the remainder of the year.

The spring public meetings were held in Pierre, South Dakota on April 10, 2001, Kansas City, Missouri on April 16, 2001, and Omaha, Nebraska on April 17, 2001. In addition, a public meeting scheduled at New Town, North Dakota for April 12 was cancelled due to a death in the tribal community. The attendees were given an update regarding the outlook for 2001 runoff and projected operation for the remainder of 2001. Three fall public meetings on the Draft AOP were held on October 15, 2001 at Williston, North Dakota, October 16, 2001 at Sioux City, Iowa, and on October 17, 2001 at Jefferson City, Missouri.

Pre-draft AOP coordination was conducted with the Missouri River Natural Resources Committee (MRNRC) on August 15, 2001. Previous recommendations from the MRNRC are included in *Table V*, Reservoir Elevation Guidelines for Unbalancing.

III. FUTURE WATER SUPPLY - AUGUST 2001 - DECEMBER 2002

Water supply (runoff) into the six System reservoirs is typically low and relatively stable during the August-to-February period. The August 1 most likely runoff scenario is used as input to the Basic reservoir regulation simulation (Simulation) in the AOP studies for the period August 2001 to February 2002. Two other runoff scenarios based on the August 1 most likely runoff scenario were developed for the same period. These are the 80 percent and 120 percent of the most likely runoff scenarios, which are input to the 80 percent and 120 percent of Basic Simulations for the August 2001 to February 2002 period.

Simulations for the March 1, 2002 to February 28, 2003 time period use five statistically derived inflow scenarios based on an analysis of water supply records from 1898 to 1997. This approach provides a good range of simulations for dry, average, and wet conditions, and eliminates the need to forecast future precipitation, which is very difficult.

The Upper Decile and Upper Quartile Simulations extend from the end of the 120 percent of Basic Simulation through February 2003. Likewise, the Median Simulation extends from the end of the Basic Simulation, and the Lower Quartile and Lower Decile Simulations extend from the end of the 80 percent of Basic Simulation through February 2003.

Upper Decile runoff (34.5 million acre-feet (MAF)) has a 1 in 10 chance of being exceeded, Upper Quartile (30.6 MAF) has a 1 in 4 chance of being exceeded, and Median (24.6 MAF) has a 1 chance in 2 of being exceeded. Lower Quartile runoff (19.5 MAF) has a 1 in 4 chance of occurrence of less runoff, and Lower Decile (15.5 MAF) has a 1 in 10 chance of occurrence of less runoff. There is still a 20 percent chance that a runoff condition may occur that has not been simulated; i.e., 10 percent chance runoff could be lower than Lower Decile, and a 10 percent chance runoff could be greater than Upper Decile.

The estimated natural flow 1/ at Sioux City, the corresponding post-1949 water use effects, and the net flow 2/ available above Sioux City are shown in *Table I*, where several water supply conditions are quantified for the periods August through February 2002 and the runoff year March 2002 through February 2003. The natural water supply for CY 2001 (actual January 2001 through July 2001 runoff plus the August 1 most likely runoff scenario for the August 2001 through December 2001 period) is estimated to total about 22.0 MAF.

**TABLE I
NATURAL AND GROSS WATER SUPPLY AT SIOUX CITY**

	<u>Natural 1/</u>	<u>Post-1949 Depletions</u>	<u>Net 2/</u>
	(Volumes in 1,000 Acre-Feet)		
August through February 2002 (Most Likely Runoff Scenario)			
Basic	5,000	-100	4,900
120% Basic	6,000	-100	5,900
80% Basic	4,000	0	4,000
Runoff Year March 2002 through February 2003 (Statistical Analysis of Past Records)			
Upper Decile	34,500	-2,200	32,300
Upper Quartile	30,600	-2,100	28,500
Median	24,600	-2,500	22,100
Lower Quartile	19,500	-2,400	17,100
Lower Decile	15,500	-2,100	13,400

1/ The word “Natural” is used to designate flows adjusted to the 1949 level of basin development, except that regulation and evaporation effects of the Fort Peck Reservoir have also been eliminated during its period of operation prior to 1949. 2/ The word “Net” represents the total streamflow after deduction of the post-1949 irrigation, upstream storage, and other use effects.

IV. ANNUAL OPERATING PLAN FOR 2001-2002

A. General. The anticipated operation described in this AOP is designed to meet the operational objectives documented in the current Missouri River Master Water Control Manual (Master Manual), which was first published in the 1960s. Consideration has been given to all of the authorized project purposes, including the needs of threatened and endangered (T&E) species, and relies on a wealth of operational experience. Operational experience available for preparation of the 2001-2002 AOP includes 13 years of operation at Fort Peck Reservoir (1940) by itself plus 48 years of System experience as Fort Randall (1953), Garrison (1955), Gavins Point (1955), Oahe (1962), and Big Bend (1964) have been brought progressively into System operation. This operational experience includes lessons learned during the 6 consecutive years of drought of the late-1980’s through 1992 as well as the high runoff period that followed.

Runoff during the period 1993 to 1999 was greater than Upper Quartile level during 5 of those 7 years, including the record 49.0 MAF of runoff in 1997. In addition to the long period of actual regulation experience, many background operational studies for the completed System are available for reference.

This operational experience has shown that additional water conservation measures, beyond the specific technical criteria published in the current Master Manual, are required to meet the operational objectives of the current Master Manual, if System water-in-storage (storage) is below 52 MAF on July 1 of any year. These additional conservation measures may be necessary during drought to offset increased release requirements for water supply due to degradation (lowering) of the channel bed, and to serve navigation, while meeting the requirements of the Endangered Species Act. This spring we announced our intent to apply additional water conservation measures related to 2001 navigation support if System storage fell below 52 MAF by July 1, 2001. These adjustments would have been applied in a manner that would have conserved an amount of storage equal to the amount released in calendar year 2000 above the specific technical criteria presented in the current Master Manual. System storage was above 52 MAF on July 1, so no adjustments were made.

Two of the five Simulations, Lower Decile and Lower Quartile, result in System storage below 52 MAF on July 1, 2002. However, no additional releases above the specific technical criteria presented in the current Master Manual have been, or are anticipated, in calendar year 2001. Therefore, the AOP Simulations developed for all five runoff scenarios in 2002 follow the specific technical criteria (March 15 and July 1 System storage checks) contained in the current Master Manual for the determination of navigation flow service level and season length. The specific technical criteria for the September 1 storage check was also used to determine winter 2001-2002 multipurpose System releases for all runoff scenarios, and for Upper Quartile and Median runoff scenarios for winter 2002-2003 releases. A minimum release of 13,000 cubic feet per second (cfs) for winter 2002-2003 was used for the Lower Quartile and Lower Decile forecasts, which is more than what is called for by the specific Master Manual technical criteria. This is to allow adequate downstream winter water supply, including powerplants, as provided for in the current Master Manual, and is based on operational experience. Adjustments for this additional winter 2002-2003 release may be made in 2003 if System storage is below 52 MAF on July 1, 2003. However, a revised Master Manual is also due for completion in 2002, with implementation in 2003. This could result in the application of a revised water control plan in 2003.

Adjusted regulations for fish spawning and T&E species nesting habitat have been adopted for the five runoff scenarios with no peaking cycle at Gavins Point Dam as was implemented to conserve water during the recent drought years. Intrasystem releases are adjusted to best serve the multiple-purpose functions of the projects with special emphasis placed on regulation for fisheries starting in early April and for T&E bird species beginning in early May and continuing through August. System releases for Upper Decile are set to evacuate excess storage from late spring through the winter period, reaching the desired 57.1 MAF on March 1, 2003. Unlike many years prior to 2001, steady System releases for Upper Quartile, Median, Lower Quartile, and Lower Decile runoff are not shown during the tern and plover nesting season (mid-May to

the end of August) to minimize the inundation of nests. Releases shown follow the March 15 and July 1 storage checks and are based on the values shown in *Table II*. This is made possible by the continued availability of suitable tern and plover habitat.

A reanalysis of the average monthly Gavins Point releases needed to meet navigation service requirements was completed in 1999. The study used the Daily Long Range Study (DLRS) model for the period 1950 to 1996. As part of this study, the relationship between annual runoff upstream of Sioux City and the average Gavins Point release required for the navigation season was analyzed. The study concluded that generally more water was needed downstream to support navigation during years with below normal upper basin runoff than during years with higher upper basin runoff. Therefore, regulation studies since 1999 use two levels of System release requirements: one for Median, Upper Quartile, and Upper Decile runoff scenarios, and another for Lower Quartile and Lower Decile scenarios.

The updated release requirements for full service navigation used in the development of the 2001-2002 AOP are given in *Table II*. Releases required for minimum service navigation support are 6,000 cfs less than the numbers provided in *Table II*. A final report detailing the procedures used in this study is available on our web site.

TABLE II
GAVINS POINT RELEASES NEEDED TO MEET
NAVIGATION REQUIREMENTS
1950 - 1996
(Discharges in 1,000 cfs)

Runoff Scenario	<u>Month</u>								<u>Average</u>
	<u>Apr</u>	<u>May</u>	<u>Jun</u>	<u>Jul</u>	<u>Aug</u>	<u>Sep</u>	<u>Oct</u>	<u>Nov</u>	
Median, Upper Quartile, Upper Decile	26.7	28.0	27.9	31.6	33.2	32.6	32.0	31.1	30.4
Lower Quartile, Lower Decile	29.8	31.3	31.2	34.3	34.0	33.5	33.1	31.2	32.3

The Upper Decile runoff scenario shows release increases early in the year to evacuate floodwater from the reservoirs. Releases for Upper Decile runoff for 2002 are similar to last year's AOP since March 1 System storage based on the 120 Percent Simulation is expected to be 7.0 MAF less than the desired 57.1 MAF. The Median and above Simulations also include releases that provide a steady to rising lake level in the upper three large reservoirs during the spring fish spawn period. Similar regulation in the past has resulted in a higher fish reproduction success. Gavins Point releases will not be cycled to conserve water under any of the five studied runoff scenarios but may be necessary for flood control operations during the T&E species nesting period or should significant drought conditions return.

Actual System operation from January 1 through August 1, 2001 and the operating plans for each project for the remainder of 2001 with the Basic Simulation and for CY 2002 using the five runoff scenarios described on page 2 are presented on *Plates 3 through 8*, inclusive. An exception is the omission of Big Bend, since storage at that project is relatively constant and average monthly releases are essentially the same as those at Oahe. These plates also show, on a condensed scale, actual operations during the period 1953 through 2000.

Plate 9 illustrates for Fort Peck, Garrison, Oahe, and Gavins Point Dams the actual reservoir releases (Regulated Flow) as well as the Missouri River flows (Unregulated Flow) that would have resulted if the reservoirs were not in place during the period January 2000 through July 2001. *Plate 10* presents past and simulated gross monthly, average power generation, and gross peaking capability for the System.

B. Operating Plans for the Balance of the 2001 Navigation Season. Gavins Point releases were increased from 23,000 cfs to 26,500 cfs in August 2001 to provide intermediate (3,000 cfs less than full service) support to navigation flows. Steady releases from Gavins Point Dam during the tern and plover nesting season were not provided due to the availability of habitat. Releases will continue to be adjusted as needed to provide 3,000 cfs less than full service support to navigation flows as computed by the July 1 System storage check. System storage was 54.7 MAF on July 1, 2001, substantially less than the 59.0 MAF minimum storage required to provide full service flows the remainder of the navigation season. A full 8-month navigation season will be provided in 2001.

System storage declined to 49.9 MAF on December 1 at the close of the 2000 navigation season. The winter brought a generally average plains snowpack that was very unevenly distributed. The mountain snowpack, which was much below normal, peaked at 72 percent of normal during the third week in April. The plains snowpack was non-existent or very light over much of the upper basin except in eastern North and South Dakota where it was much above average. The total runoff for 2001 is expected to be below Median, but there has been a great deal of variability in the way the runoff has occurred. January and February were 155 and 82 percent of normal, respectively. March increased to 132 percent, and April was 154 percent of normal. The higher runoffs during March and April were due to the much above average plains snowpack in eastern North and South Dakota. The months of May, June, and July were well below average at 85, 57, and 80 percent of normal, respectively, because of the lack of significant mountain snowmelt. Runoff for the August-through-December period is forecast at 60 percent of normal because of the persistent dry conditions and the ongoing drought in Montana and Wyoming. Therefore, the calendar year 2001 runoff is expected to be near 22.0 MAF (87 percent of normal). The closing dates for ending the 2001 navigation season will be November 22 at Sioux City, November 24 at Omaha, November 25 at Nebraska City, November 27 at Kansas City, and December 1 at the mouth of the Missouri River near St. Louis.

Simulations for the August 1 to December 1 period indicate that 2.5 billion kilowatt hours (kWh) of energy will be generated by the System powerplants, 1.2 billion kWh below normal.

Fort Peck releases will continue at 6,000 cfs through Labor Day, then reduced to the minimum 4,000 cfs for the remainder of the 2001 navigation season for intrasystem regulation. The Basic Simulation indicates the level of Fort Peck Lake is expected to decline 3.6 feet from elevation 2222.3 feet above mean sea level (msl) to 2218.7 feet msl by the end of the navigation season, 16.0 feet lower than the 1967-2000 long term average.

Garrison releases will be maintained at 14,000 cfs through Labor Day, then lowered to 12,000 cfs for one week. Releases will then be further lowered to the minimum 10,000 cfs by mid-September provided downstream municipal and coal-fired powerplant intakes have adequate water. The level of Lake Sakakawea is expected to decline steadily by 2.7 feet from elevation 1834.4 feet msl to 1831.7 feet msl by the end of the navigation season, 6.7 feet below the long term average.

Oahe releases will be reduced from 24,000 cfs in August to 13,000 cfs in late November to achieve the scheduled Fort Randall drawdown to elevation 1337.5 feet msl by the end of the navigation season. Releases will be adjusted to serve the variable power loads. Lake Oahe will lower steadily by 8.5 feet throughout the period from elevation 1608.5 to elevation 1600.0 feet msl by the close of the navigation season, 1.9 feet lower than the long term average.

Big Bend releases will generally parallel those from Oahe. Lake Sharpe will fluctuate between 1420.0 and 1421.0 feet msl for weekly cycling during high power load periods. Reservoir fluctuations of a foot are scheduled during the course of most weeks in order to follow peaking power demands. Storage lost during the week is regained during the succeeding weekend period of lower power demands.

Fort Randall releases will generally parallel those from Gavins Point. Lake Francis Case will fall steadily during the August-through-November period from the 1355.4 feet msl end-of-July elevation to 1337.5 feet msl. This drawdown will provide sufficient capacity to store a reasonable level of power releases from Oahe and Big Bend during the coming winter season.

Gavins Point releases will be in the range of 23,000 to 28,000 cfs by the end of the navigation season. Prior to 1992, Lewis and Clark Lake was maintained at a target elevation of 1208.0 feet msl from September to mid-February when it was lowered to elevation 1205.0 feet msl, the beginning of the runoff season. The September to mid-February target was lowered to elevation 1207.0 feet msl in 1992 to reduce shoreline erosion and displacement of riprap on the dam. The March-August elevation was raised to elevation 1206.0 feet msl to improve recreational access. After modification of the riprap and coordination with the States of South Dakota and Nebraska, a decision was made to return to the 1208.0 feet msl elevation for the late summer through winter period. Lewis and Clark Lake will, therefore, rise 2.3 feet from elevation 1205.7 to near elevation 1208.0 feet msl during the remainder of the 2001 navigation season that ends December 1. The lake level will be maintained near 1208.0 feet msl through the winter.

C. Operating Plan for the Winter of 2001-2002. The specific technical criteria presented in the current Master Manual for the September 1 storage check were used to set winter 2001-2002 System releases in the Simulations. At a System storage level of 58.0 MAF or above

on September 1, the specific technical criteria calls for a full service release rate for the following winter. At a System storage of 43.0 MAF, minimum service releases are called for. Full and minimum service winter release rates are an average Fort Randall release of 15,000 and 5,000 cfs, respectively. The storage on September 1, 2001, given the most likely runoff scenario, would be 53.4 MAF, 4.6 MAF less than the 58.0 MAF required to provide a full service release of 15,000 cfs from Fort Randall Dam. Therefore, the Fort Randall 2001-2002 winter release rate will be less than full service, near 12,000 cfs, to back up the required Gavins Point release. The Gavins Point release will be maintained near 14,000 cfs, about 4,000 cfs less than normal. Sustained winter release rates above this amount are not anticipated since System storage would be 8.3 MAF below the desired 57.1 MAF on March 1, 2002. However, it may be necessary at times to increase System releases to provide adequate downstream flows if ice jams or blockages form which temporarily restrict flows. These events are expected to occur infrequently and be of short duration based on past experiences. It is anticipated that this year's winter release will be adequate to serve all downstream water intakes except for very short periods that may be impacted below rapidly forming ice jams.

For the winter period from the close of the 2001 navigation season on December 1, 2001 until the opening of the 2002 navigation season on April 1, 2002 operations are expected to be as follows:

Fort Peck releases are expected to be 5,000 cfs before the beginning of the winter period, one-half the amount that is normally released. Winter releases will average only 5,000 cfs due to the storage imbalance among Fort Peck Lake, Lake Sakakawea, and Lake Oahe resulting from the continued extreme drought in the upper basin. This will be the lowest Fort Peck winter release since the System first filled in 1967. Fort Peck Lake with the Basic Simulation is expected to remain near elevation 2218.5 feet msl as a result of the low releases and will be more than 3 feet below a balanced storage on March 1. The lake is expected to rise 1.5 feet to elevation 2220.0 feet msl by March 31, which would be 13.0 feet below normal.

Garrison winter releases will only be 14,000 cfs (as much as 10,000 to 12,000 cfs below normal) due to the drought and to achieve a reasonable System storage balance. No release reductions are anticipated during the freeze-in at Bismarck due to the already low releases. Lake Sakakawea is expected to lower from near elevation 1831.7 feet msl to elevation 1828.4 feet msl by March 1, 9.1 feet below the base of the annual flood control storage zone. The Median Simulation indicates the lake will rise to elevation 1829.7 by March 31, which would be 6.1 feet below normal.

Oahe releases for the winter season will provide backup for the Fort Randall and Gavins Point releases plus fill the recapture space available at Fort Randall consistent with anticipated winter power loads. Monthly average releases may vary substantially with fluctuations in power loads occasioned by weather conditions but, in general, are expected to average between 15,000 and 19,000 cfs. Daily releases will vary widely to best meet power loads. Peak hourly releases as well as daily energy generation will be constrained to prevent urban flooding in the Pierre and Fort Pierre areas if severe ice problems develop downstream of Oahe Dam. This potential reduction has been coordinated with the Western Area Power Administration.

The Lake Oahe level is expected to gradually fall from elevation 1600.0 feet msl at the end of the 2001 navigation season to elevation 1598.4 by March 1, then rise to elevation 1599.5 feet msl by the end of March, 7.2 feet below normal.

Lake Sharpe at Big Bend will be maintained in the normal 1420.0 to 1421.0 feet msl range during the winter.

Fort Randall releases will average 12,000 cfs. Lake Francis Case is expected to rise from a low of about 1337.5 feet msl at the end of the 2001 navigation season to near elevation 1350.0, the seasonal base of flood control, by March 1. However, if the plains snowpack flood potential downstream of Oahe is quite low at that time, measures will be taken to raise Lake Francis Case to near elevation 1353.0 by March 1. It is likely that a Lake Francis Case level above elevation 1353.0 feet msl, to as high as 1355.2, will be reached by the end of the winter period on March 31, if runoff conditions permit. The level of Lake Francis Case above the White River delta near Chamberlain, South Dakota will likely remain at a higher elevation than the lake below the delta from late October through December, due to the damming effect of this delta area.

Gavins Point releases will be gradually reduced beginning the last week of November to a winter level of about 14,000 cfs. These releases should be adequate to maintain water levels necessary during freeze-in for downstream water intakes; however, adjustments to the releases may be required if significant reduction in flows occurs downstream due to ice blockages. Lewis and Clark Lake will generally be near elevation 1208.0 feet msl until late February when it will be lowered to elevation 1206.0 feet msl for controlling spring floods, primarily from the Niobrara River and Ponca Creek along the Fort Randall to Gavins Point reach.

System storage for all five runoff conditions will be substantially below the base of the annual flood control zone by March 1, 2002, the beginning of next year's runoff season.

D. Operations During the 2002 Navigation Season. The Upper Decile, Upper Quartile, Median, Lower Quartile, and Lower Decile runoff scenarios studied for this year's AOP follow the specific technical criteria presented in the current Master Manual for navigation service flow support and season length. Releases from Fort Peck, Garrison, and Fort Randall will follow repetitive daily patterns from early May, at the beginning of the T&E species nesting season, to the end of the nesting in late August. As previously stated, steady System releases for Upper Quartile, Median, Lower Quartile, and Lower Decile runoff are not shown during the tern and plover nesting season (mid-May to the end of August) due to continued availability of suitable tern and plover habitat. All runoff scenarios except Lower Quartile and Lower Decile would provide rising pool levels in the spring fish spawn period.

All five runoff scenarios studied for this year's AOP are based on gradually increasing System releases to provide navigation season flow rates at the mouth of the Missouri near St. Louis by April 1, 2002, the normal navigation season opening date. The corresponding dates at upstream locations are: Sioux City, Iowa, March 23; Omaha, Nebraska, March 25; Nebraska City, Nebraska, March 26; and Kansas City, Missouri, March 28. The studies illustrated on

Plates 3 through 8 and summarized in *Table III* are based on providing greater than full service flows and a full 8-month season extended by 10 days as a reservoir flood storage evacuation measure for the Upper Decile runoff scenario. Releases for Upper Quartile runoff are 2,300 cfs below full service in the spring, increasing to near full service during the summer and fall with an 8-month navigation season. The normal runoff scenario characterized by the Median study indicates 3,400 cfs less than full service flows in the spring and 3,000 cfs below full service in the summer and fall with a full 8-month navigation season. Lower Quartile has a 4,500 cfs spring and 5,800 cfs summer and fall reduction below full service flows with an 8-month season. The Lower Decile study has releases 4,600 cfs below full service in the spring and 6,000 cfs below full service in the summer and fall.

TABLE III
NAVIGATION SERVICE SUPPORT
FOR THE 2002 SEASON

	Runoff Scenario (MAF)	2002 System Storage		Flow Level Above or Below Full Service (in cfs)		Length of Season (Months)
		March 15 (MAF)	July 1 (MAF)	Spring	Summer/Fall	
U.D.	34.5	51.4	59.7	+2,600	+ 1,900	8 + 10 days
U.Q.	30.6	51.2	58.7	-2,300	-200	8
Med	24.6	49.6	54.8	-3,400	-3,000	8
L.Q.	19.5	48.1	50.8	-4,500	-5,800	8
L.D.	15.5	47.9	48.7	-4,600	-6,000	8

Navigation flow support for the 2002 season will be determined by actual System storage on March 15 and July 1. Gavins Point releases may be quite variable during the 2002 navigation season but, for Upper Quartile, Median, Lower Quartile, and Lower Decile, are expected to range from 25,000 to 33,000 cfs. For Upper Decile, Gavins Point releases would range from a minimum 24,500 cfs to a maximum 34,000 cfs. Release reductions necessary to minimize downstream flooding are not reflected in these monthly averages but will be instituted as conditions warrant.

Simulated storages and releases for the System and individual reservoirs within the System are shown on *Plates 3 through 8*. Ample regulatory storage space exists in the System to control flood inflows under all conditions studied. *Table III* summarizes the navigation service support projected for the 2002 navigation season.

Two modified reservoir operations that were first included in last year's AOP are repeated for the Upper Decile and Upper Quartile Simulations. Both these operations are being pursued based on recommendations received from the U.S. Fish and Wildlife Service (Service) during our recent Formal Consultation under Section 7 of the Endangered Species Act. These recommendations are documented in the Service's Final Biological Opinion dated November 2000.

The first of these two modified operations are tests of flow modifications for T&E species. If Fort Peck Lake has adequate water above the spillway crest by mid to late May 2002, a T&E flow modification "mini-test" will be conducted in early June to monitor effects of higher spring releases and warmer water released from the spillway. It will also allow for an evaluation of the integrity of the spillway structure given the potential for increased frequency of use. Streambank erosion and fishing impacts will also be monitored.

During the Fort Peck "mini-test," which will last about 4 weeks, flows will vary from 8,000 to 15,000 cfs as various combinations of spillway and powerplant releases are monitored. The maximum spillway release of 11,000 cfs will combine with a minimum powerplant release of 4,000 cfs for 6 days. This operation is reflected in the June releases shown for Fort Peck for Upper Decile and Upper Quartile runoff, but will be timed to avoid lowering the lake during the forage fish spawn. The "mini-test" will not be conducted if sufficient flows will not pass over the spillway crest (elevation 2225 feet msl). A minimum lake elevation of about 2229 feet msl is needed during the test to avoid unstable flows over the spillway. Results of the Simulations show that this elevation will not be achieved in 2002 given Median, Lower Quartile, and Lower Decile runoff. A more extensive test with a combined 20,000 to 30,000 cfs release from Fort Peck is scheduled to be conducted beginning in early June 2003 to determine if warm water releases will benefit the native river fishery. Peak outflows during the 2003 test would be maintained for 2 weeks within the 4-week test period. Any permanent change to the Fort Peck operation to enhance flows for endangered species will be considered as part of the ongoing Master Manual Review and Update.

The second modified operation involves unbalancing the three large upper reservoirs to benefit reservoir fishery and the T&E species as shown on *Table IV*. AOP studies indicate Fort Peck Lake cannot be balanced on March 1, 2002, but 1 year later, on March 1, 2003, Fort Peck will be high, Garrison low, and Oahe allowed to float (normal operation) should Upper Quartile or greater runoff occur. This unbalancing is computed based on the percent of the carryover multiple purpose pool that remains in Fort Peck Lake, Lake Sakakawea, and Lake Oahe. In terms of elevations, Fort Peck would be 4.0 feet high, Garrison would be 3.0 feet low, and Oahe would be balanced on March 1, 2003, for Upper Decile and Upper Quartile. This would permit the Fort Peck T&E flow modification test of 20,000 to 30,000 cfs in the spring of 2003, as described in the previous paragraph. Median or lower runoff does not sufficiently refill the reservoirs in 2002 and no unbalancing would occur. The unbalancing would alternate at each project; high one year, float (normal operation) the next year, and low the third year as shown on *Table IV*. *Table V* shows the lake elevations proposed by the MRNRC at which the unbalancing would be terminated. *Table V* indicates that no reservoir unbalancing should occur for any of the five runoff scenarios in 2002 since Fort Peck Lake is below elevation 2227 feet msl on March 1, 2002. However, it is important to implement unbalancing to benefit endangered species should

**TABLE IV
RESERVOIR UNBALANCING SCHEDULE**

<i>Year</i>	Fort Peck		Garrison		Oahe	
	<i>March 1</i>	<i>Rest of Year</i>	<i>March 1</i>	<i>Rest of Year</i>	<i>March 1</i>	<i>Rest of year</i>
2002	Unbalanced	High	Balance	Low	Balance	Float
2003	High	Float	Low	Hold peak	Raise & hold during spawn	Float
2004	Raise & hold during spawn	Float	High	Float	Low	Hold peak
2005	Low	Hold peak	Raise & hold during spawn	Float	High	Float

Notes:

Float year: Normal operation, then unbalance 1 foot during low pool years or 3 feet when System storage is near 57.1 MAF on March 1.

Low year: Begin low, then hold peak the remainder of the year.

High year: Begin high, raise and hold pool during spawn, then float.

**TABLE V
MRNRC RECOMMENDED
RESERVOIR ELEVATION GUIDELINES
FOR UNBALANCING**

	Fort Peck	Garrison	Oahe
Implement unbalancing if March 1 reservoir elevation is above this level.	2234 feet msl	1837.5 feet msl	1607.5 feet msl
Implement unbalancing if March 1 reservoir elevation is in this range and the pool is expected to raise more than 3 feet after March 1.	2227-2234 * feet msl	1827-1837.5 feet msl	1600-1607.5 feet msl
Scheduling Criteria	Avoid lake level decline during spawn period which ranges from April 15 – May 30	Schedule after spawn period of April 20 – May 20	Schedule after spawn period of April 8 – May 15

* See text for unbalancing implementation rationale for Upper Quartile and Upper Decile.

Upper Quartile or greater runoff occur. No reservoir unbalancing is shown for the Median, Lower Quartile, and Lower Decile studies.

Summary of Reservoir Regulation Activities for Endangered Species and Fish Propagation Enhancement

As discussed in the section above, the 2001-2002 AOP includes provisions for unbalancing the Fort Peck, Garrison, and Oahe reservoirs for Upper Quartile and greater runoff scenarios. Unbalancing is intended to benefit T&E species production in the long term by maintaining and exposing sandbar and shoreline habitat. The unbalancing is also beneficial to reservoir fisheries in the long term by ensuring a periodic rise in reservoir elevation sufficient to provide good spawning conditions and inundating vegetation, thereby increasing young-of-the-year fish survival.

Fort Peck will have a 4,000 cfs reduction in flows during the tern and plover nesting season for Upper Decile runoff and a 5,000 cfs reduction for the Upper Quartile scenario. The resulting stage difference will provide excellent nesting habitat. Median runoff and below will have a constant 8,500 to 9,000 cfs discharge through the nesting season. This release scenario should result in good habitat conditions for nesting terns and plovers.

If flood flows enter the Missouri River below the project during the nesting season, hourly releases will be lowered to no less than 3,000 cfs in order to keep traditional riverine fish rearing areas continuously inundated while helping to lower river stages at downstream nesting sites. April releases should be adequate for trout spawning below the project. A rising pool in the April-to-May sport fish spawning season will be dependent upon the ever changing daily inflow pattern to the reservoir but appears possible with all AOP Simulations. The T&E flow modification "mini-test" will only be possible under the Upper Decile and Upper Quartile runoff scenarios. The test involves releasing water through the spillway for 4 weeks beginning in late May or early June. Fort Peck Lake must be at elevation 2229 msl to allow releases through the spillway.

Garrison will have a reduction in flows during the tern and plover nesting season under all runoff scenarios. The reductions will be in the 500 to 1,000 cfs range. Hourly peaking will be limited to no more than 30,000 cfs for 6 hours if the daily average release is lower than 28,000 cfs. This will limit peak stages below the project for nesting birds.

Lake Sakakawea elevations will not reach levels considered necessary for optimum fish spawning during the month of May for any of the runoff scenarios. In addition to the runoff conditions, the actual timing of the rise in lake elevation will be dependent upon the pattern of inflow at that time.

Oahe releases in the spring and summer will back up those from Gavins Point. Oahe's elevation in the spring will be steady or rising given median or higher runoff. Under all AOP Simulations, the Oahe pool will fall during the summer.

Fort Randall will be operated to provide for a pool elevation near 1355 during the fish spawn period, and the lake will not be drawn down below elevation 1337.5 feet msl in the fall to ensure adequate supply for water intakes. Hourly releases from Fort Randall, during the 2002 nesting season will be limited to 37,000 cfs. Daily average flows may be increased every third day to preserve the capability of increasing releases later in the summer if conditions turn dry.

Gavins Point. For the Upper Quartile and below scenarios, based on the results of last year's operation, releases will not be increased in May when terns and plovers begin to initiate nesting. The release rate will be based on an assessment of flows needed to support the immediate navigation target. This will result in increased flows during the nesting season. Based on 2001 nesting season results, it is anticipated that sufficient habitat will be available above the release rates to provide for successful nesting thereby saving water in the upstream reservoirs. A steady release rate will be undertaken for the Upper Decile condition. The release will be set in mid-May at the flow anticipated to be needed to evacuate excess flood storage from the System. The resulting steady release prevents inundation of nests and chicks. Flows during the nesting season will be near or above what they were this past nesting season for all runoff conditions. Cycling releases every third day is not planned during the 2002 nesting season except during downstream flood control operations.

The Gavins Point pool will be operated near 1206.0 feet msl in the spring and early summer with variations day to day due to rainfall runoff. Greater fluctuations occur in the river, increasing the risk of nest inundation in the upper end of the Gavins Point pool. Several factors contribute to the increased risk of nest inundation in the upper end of the Gavins Point pool. First, because there are greater numbers of endangered species nesting below the Gavins Point project that must be preserved, Gavins Point releases are restricted during the nesting season. Second, unexpected rainfall runoff between Fort Randall and Gavins Point can result in sudden pool rises because the Gavins Point project has a smaller storage capacity than the other System reservoirs. Third, the operation of Gavins Point for downstream flood control may necessitate sudden release reductions to prevent downstream bird losses. And finally, high releases required in wet years make nest inundation more likely. When combined, all these factors make it difficult and sometimes impossible to prevent inundation of nests in the upper end of Lewis and Clark Lake. The pool will be increased to elevation 1208.0 feet msl following the nesting season.

V. SUMMARY OF RESULTS EXPECTED IN 2001-2002

With System operations in accordance with the 2001-2002 AOP outlined in the preceding pages, the following results can be expected.

A. Flood Control. All runoff scenarios studied will begin next year's runoff season on March 1, 2002 substantially below the desired 57.1 MAF base of annual flood control and multiple use zone. Therefore, the entire System flood control zone plus an additional 7.0 to 9.5 MAF of the carryover multiple use zone will be available to store runoff. The System will be

available to significantly reduce peak discharges for all floods that may originate above the System.

Remaining storage in the carryover multiple use zone will be adequate to provide support for all of the other multiple purposes of the System, although recreation access may be difficult at some locations for the lower runoff scenarios.

B. Water Supply and Water Quality Control. Although below normal winter releases are being provided for all five runoff scenarios, all water supply and water quality requirements on the Missouri River both below Gavins Point Dam and between System reservoirs should be met for all flow conditions studied. It is possible with the low winter releases that ice formation or ice jams may temporarily reduce river stages to levels below which some intakes can draw water. Therefore, during severe cold spells it may be necessary to increase Gavins Point releases as was required during the recent drought years to help alleviate water supply problems. Temporary increases in Fort Peck winter releases may be needed if downstream stages become unacceptably low.

C. Irrigation. Scheduled releases from the System reservoirs will be ample to meet the volumes of flow required for irrigation diversions from the Missouri River. Some access problems may be experienced, however, if drought conditions persist. Tributary irrigation water usage is fully accounted for in the estimates of water supply.

D. Navigation. Service to navigation in 2002 would be scheduled above full service flow support for the Upper Decile runoff scenario. Navigation support for Upper Quartile runoff will be 2,300 cfs under full service in the spring and near full service the remainder of the season. The three studies of Median, Lower Quartile, and Lower Decile have reductions below full service as shown in *Table III*. Although these Simulations provide a comparison of typical flow support under varying runoff conditions that cover 80 percent of the historic runoff conditions, the actual rate of flow support for the 2002 navigation season will be based on actual System storage on March 15 and July 1, 2002.

In addition to greater than full service flow, the Upper Decile Simulation shows an 8-month navigation season with a 10-day extension. Upper Quartile, Median, Lower Quartile, and Lower Decile Simulations show an 8-month navigation season. The anticipated service level and season length for all runoff conditions simulated are shown in *Table III*.

E. Power. *Tables VI* and *VII* give the estimated monthly System load requirements and hydropower supply of the Eastern Division, Pick-Sloan Missouri Basin Program (P-S MBP), from August 2001 through December 2002. Estimates of monthly peak demands and energy include customer requirements for firm, short-term firm, summer firm, peaking, and various other types of power sales, System losses, and the effects of diversity. Also included in the estimated requirements are deliveries of power to the Western Division, P-S MBP, to help meet its firm power commitments.

TABLE VI
PEAKING CAPABILITY AND SALES
(1,000 kW at plant)

2001	Estimated Committed Sales*	Expected C of E Capability					Expected Bureau Capability**					Expected Total System Capability				
		120%	Basic	80%			120%	Basic	80%			120%	Basic	80%		
Aug	2124	2238	2236	2233			192	190	191			2430	2426	2424		
Sep	1525	2225	2221	2215			194	190	192			2419	2411	2407		
Oct	1452	2199	2193	2184			196	193	194			2395	2386	2378		
Nov	1763	2159	2150	2137			195	192	193			2354	2342	2330		
Dec	1943	2129	2118	2104			193	190	192			2322	2308	2296		
2002																
Jan	2221	2140	2128	2113			191	188	190			2331	2316	2303		
Feb	1855	2152	2138	2121			188	188	189			2340	2326	2310		
		<u>U.D.</u>	<u>U.Q.</u>	<u>Med.</u>	<u>L.Q.</u>	<u>L.D.</u>	<u>U.D.</u>	<u>U.Q.</u>	<u>Med.</u>	<u>L.Q.</u>	<u>L.D.</u>	<u>U.D.</u>	<u>U.Q.</u>	<u>Med.</u>	<u>L.Q.</u>	<u>L.D.</u>
Mar	1727	2218	2210	2188	2161	2158	191	191	194	189	189	2409	2401	2382	2350	2347
Apr	1487	2240	2227	2195	2159	2154	192	192	192	190	190	2432	2419	2387	2349	2344
May	1386	2258	2243	2206	2160	2150	195	195	195	195	195	2453	2438	2401	2355	2345
Jun	1662	2293	2280	2237	2184	2160	202	202	203	199	199	2495	2482	2440	2383	2359
Jul	2267	2310	2289	2239	2181	2150	204	204	204	200	199	2514	2493	2443	2381	2349
Aug	2133	2297	2278	2225	2165	2132	202	202	202	200	198	2499	2480	2427	2365	2330
Sep	1475	2292	2270	2216	2152	2115	203	202	202	200	197	2495	2472	2418	2352	2312
Oct	1400	2276	2252	2195	2129	2090	202	202	202	201	197	2478	2454	2397	2330	2287
Nov	1783	2236	2215	2158	2092	2052	200	201	201	200	195	2436	2416	2359	2292	2247
Dec	1965	2212	2198	2142	2074	2027	195	196	198	198	193	2407	2394	2340	2272	2220

* Estimated sales, including system reserves. Power in addition to hydro production needed for these load requirements will be obtained from other power systems by interchange or purchase.

** Total output of Canyon Ferry and 1/2 of the output of Yellowtail powerplant.

TABLE VII
ENERGY GENERATION AND SALES
(Million kWh at plant)

2001	Estimated Committed Sales*	Expected C of E Generation					Expected Bureau Generation **					Expected Total System Generation				
		120%	Basic	80%			120%	Basic	80%			120%	Basic	80%		
Aug	831	703	713	723			47	42	40			750	755	763		
Sep	714	689	697	726			46	40	39			735	737	765		
Oct	716	575	583	614			45	39	38			620	622	652		
Nov	778	517	525	542			47	38	36			564	563	578		
Dec	911	475	472	454			57	43	37			532	515	491		
2002																
Jan	906	475	466	452			57	42	37			532	508	489		
Feb	853	471	468	452			51	40	33			522	508	485		
		<u>U.D.</u>	<u>U.Q.</u>	<u>Med.</u>	<u>L.Q.</u>	<u>L.D.</u>	<u>U.D.</u>	<u>U.Q.</u>	<u>Med.</u>	<u>L.Q.</u>	<u>L.D.</u>	<u>U.D.</u>	<u>U.Q.</u>	<u>Med.</u>	<u>L.Q.</u>	<u>L.D.</u>
Mar	792	530	527	513	548	553	85	84	46	36	36	615	611	559	584	589
Apr	735	647	646	628	666	660	87	86	52	34	34	734	732	680	700	694
May	684	894	749	714	775	767	90	86	63	39	39	984	835	777	814	806
Jun	743	921	743	723	769	757	133	118	69	52	52	1054	861	792	821	809
Jul	811	1022	955	900	885	867	139	115	80	55	54	1161	1070	980	940	921
Aug	829	1039	998	924	869	849	98	93	74	59	58	1137	1091	998	928	907
Sep	714	918	847	793	728	719	94	89	71	57	56	1012	936	864	785	775
Oct	722	795	710	649	598	588	93	89	71	57	55	888	799	720	655	643
Nov	774	777	667	590	527	515	89	85	79	58	52	866	752	669	585	567
Dec	910	848	674	616	599	571	91	92	81	60	53	939	766	697	659	624
CY TOT	9473	9337	8462	7984	7868	7750	1107	1045	768	577	559	10444	9507	8752	8445	8309

* Estimated sales including system reserves and losses. Power in addition to hydro production needed for these load requirements will be obtained from other systems by interchange or purchase.

** Total output Canyon Ferry and 1/2 output of Yellowtail powerplant.

F. Recreation, Fish and Wildlife. The basic operations of the System will continue to provide recreation and fish and wildlife opportunities in the project areas and along the Missouri River as well as other benefits of a controlled river. Special operational adjustments incorporating specific objectives for these purposes will be accomplished whenever possible. Conditions should be favorable for the many visitors who enjoy the camping, boating, fishing, hunting, swimming, picnicking, and other recreational activities associated with the System reservoirs and for increasing usage of the regulated reaches of the Missouri River downstream of the reservoirs.

Boat ramps that were lowered and low water ramps that were constructed during the drought of the late 1980's to early 1990's should be adequate to provide lake access next year even under the Lower Decile runoff scenario. However, boat ramps in a few areas where the ramps could not be extended may become unusable. This will affect the normal use patterns, as visitors will have to seek out areas with usable boat ramps. Boat ramp elevations for Fort Peck, Garrison, Oahe and Fort Randall were added in 2001 to our web site at: www.nwd-mr.usace.army.mil/rcc.

The effects of the simulated System operation during 2001-2002 on fish and wildlife are included in the section entitled, "Summary of Reservoir Regulation Activities for Endangered Species and Fish Propagation Enhancement."

G. System Storage. If presently anticipated runoff estimates based upon normal precipitation materialize, System storage will total about 48.9 MAF by the close of CY 2001. This year-end storage would be 0.5 MAF less than the 49.4 MAF experienced on December 31, 2000, and 6.6 MAF less than the 1967 to 2000 average. Since the System first filled to normal operating levels in 1967, the lowest end-of-December storage was 40.9 MAF in 1990. The previous lowest storage prior to the recent 6 consecutive years of drought was 50.9 MAF in 1981. The end-of-year storages have ranged from a maximum of 60.9 MAF, which occurred in 1975, to the 1990 minimum of 40.9 MAF. Under the five runoff scenarios of inflow analyzed for this AOP, the total System storage at the end of next year on December 31, 2002, would be approximately as shown on *Table VIII*.

H. Summary of Water Use by Functions. Anticipated water use in CY 2001, under the Basic Simulation, is shown in *Table IX*. Actual water use data for CY 2000 are included for information and comparison.

Under the simulated operations, estimated water use in CY 2002, which will be subject to reappraisal next year, also is shown in *Table IX* for the various Simulations.

TABLE VIII
ANTICIPATED DECEMBER 31, 2002 STORAGE IN SYSTEM

Water Supply Condition	Total (12/31/02)	Above Minimum Pools 1/	Unfilled Carryover Storage 2/	Total Change CY 2002
(Volumes in 1,000 Acre-Feet)				
Upper Decile	57,600	39,500	0	7,800
Upper Quartile	56,600	38,500	500	6,800
Median	51,300	33,200	5,800	2,400
Lower Quartile	45,900	27,800	11,200	-2,000
Lower Decile	42,800	24,700	14,300	-5,100

- 1/ Net usable storage above 18.1 million-acre-foot System minimum pool level established for power, recreation, irrigation diversions, and other purposes.
- 2/ System base of flood control zone containing 57.1 million acre-feet.

TABLE IX
MISSOURI RIVER MAIN STEM SYSTEM
WATER USE FOR CALENDAR YEARS 2000, 2001, AND 2002 ABOVE SIOUX CITY, IOWA
in Million Acre-Feet (MAF)

	CY 2000 Actual	CY 2001 Basic Simulation	Simulations for Calendar Year 2002					
			Upper Decile	Upper Quartile	Median	Lower Quartile	Lower Decile	
Upstream Depletions (1)								
Irrigation, Tributary Reservoir Evaporation & Other Uses	1.9	2.3						
Tributary Reservoir Storage Change	-0.4	-0.2						
Total Upstream Depletions	1.5	2.1	2.5	2.5	2.9	2.6	2.3	
System Reservoir Evaporation (2)	2.7	2.0	1.2	1.3	1.6	1.9	1.8	
Sioux City Flows								
Navigation Season								
Unregulated Flood Inflows Between Gavins Point & Sioux City (3)	0.0	0.8						
Navigation Service Requirement 15.6 Supplementary Releases	15.6	14.2	17.5	16.0	14.2	13.6	13.3	
Endangered Species (4)	0.8	0.0	0.0	0.0	0.0	0.0	0.0	
Flood Evacuation (5)	0.0	0.0	1.2	0.0	0.0	0.0	0.0	
Nonnavigation Season								
Flows	4.0	3.5	3.8	4.0	3.5	3.4	3.3	
Flood Evacuation Releases (6)	0.0	0.0	0.5	0.0	0.0	0.0	0.0	
System Storage Change	-8.1	-0.5	7.8	6.8	2.4	-2.0	-5.2	
Total	16.5	22.0	34.5	30.6	24.6	19.5	15.5	
Project Releases								
Fort Peck	5.7	4.3	5.2	4.7	4.9	4.6	4.7	
Garrison	14.9	9.6	16.0	14.4	13.1	12.8	12.3	
Oahe	18.9	11.0	16.9	15.4	14.8	15.3	15.4	
Big Bend	17.8	10.8	16.8	15.3	14.7	15.2	15.2	
Fort Randall	18.1	12.1	18.0	16.2	15.3	15.3	15.3	
Gavins Point	20.0	13.9	20.1	18.0	16.6	16.4	16.3	

- (1) Tributary uses, above the 1949 level of development including agricultural depletions and tributary storage effects.
- (2) Net Evaporation is shown for 2001.
- (3) Incremental inflows to reach which exceed those usable in support of navigation at the target level, even if Gavins Point releases were held to as low as 6,000 cfs.
- (4) Increased releases required to maintain navigation release flexibility during the endangered species nesting season.
- (5) Includes flood control releases for flood control storage evacuation and releases used to extend the navigation season beyond the normal December 1 closing date at the mouth of the Missouri River.
- (6) Releases for flood control storage evacuation in excess of a 15,000 cfs Fort Randall release.

VI. TENTATIVE PROJECTION OF OPERATIONS THROUGH MARCH 2008

The 5-year extension to the Annual Operating Plan (March 2003 to March 2008) has been prepared to serve as a guide for Western Area Power Administration's power marketing activities and to provide data to allow basin interests to conduct long term planning. As discussed in Section IV, Chapter A, adjustments to the specific technical criteria presented in the existing Master Manual are necessary to continue to meet the operational objectives of the existing Master Manual during drought periods. This is due to increased release requirements for water supply during low runoff periods. The specific details of these adjustments are not certain, absent the completion of review of possible options by the MRBA, the MRNRC, and any other interested parties.

The navigation service level and season length criteria described in Section IV, Chapter A were applied to the extensions. Gavins Point releases are not increased in mid-May for terns and plovers, which conserves about 500,000 acre-feet annually for Median runoff. The minimum winter release of 13,000 cfs for downstream water supply discussed in Section IV is shown in the Lower Quartile and Lower Decile extensions. For any given year, when July 1 System storage is less than 52 MAF and the previous winter's System release is in excess of the September 1 storage check, the extra water released is recovered by shortening the navigation season. This difference is limited to 3,000 cfs during the winter months (13,000 cfs current water supply minimum compared to a 10,000 cfs practical open water minimum assumed by the existing Master Manual).

A. Median Runoff. System storage would begin in March 2003 at 51.3 MAF and would rise to 54.6 MAF by March 2008. The September 1 storage check provided for in the current Master Manual, which sets the Fort Randall winter release, is followed. Fort Randall winter releases vary from 13,700 cfs in 2003-2004 to 15,000 cfs during the last two winters of the simulation period. Fort Peck Lake, Lake Sakakawea, and Lake Oahe were unbalanced each March 1 as shown on *Table X*. This follows the pattern of "high," "float," "low" described in *Table IV*. The amount of unbalancing was generally 4-feet at Fort Peck Lake and 3-feet at Lakes Sakakawea and Oahe.. Fort Peck releases were set at 12,800 cfs in June 2003, reflecting the "mini-test" described in Section IV, Chapter D. The full test, in which up to 19,000 cfs would be spilled for 5 days, is shown in June 2004. An 8-month navigation season with reductions in full service flows of 1,500 cfs in 2003 and 500 cfs in 2004 is shown. Full service flows and an 8-month navigation season are provided through 2007.

TABLE X
MARCH 1 RESERVOIR UNBALANCING, AOP EXTENSIONS

<u>Year</u>	<u>Fort Peck</u>	<u>Garrison</u>	<u>Oahe</u>
2004	+4.0 feet	-2.8	0.0feet
2005	0.0	+3.0	-3.0
2006	-4.2	-0.3	+3.0
2007	+4.0	-3.0	0.0
2008	0.0	+3.0	-3.0

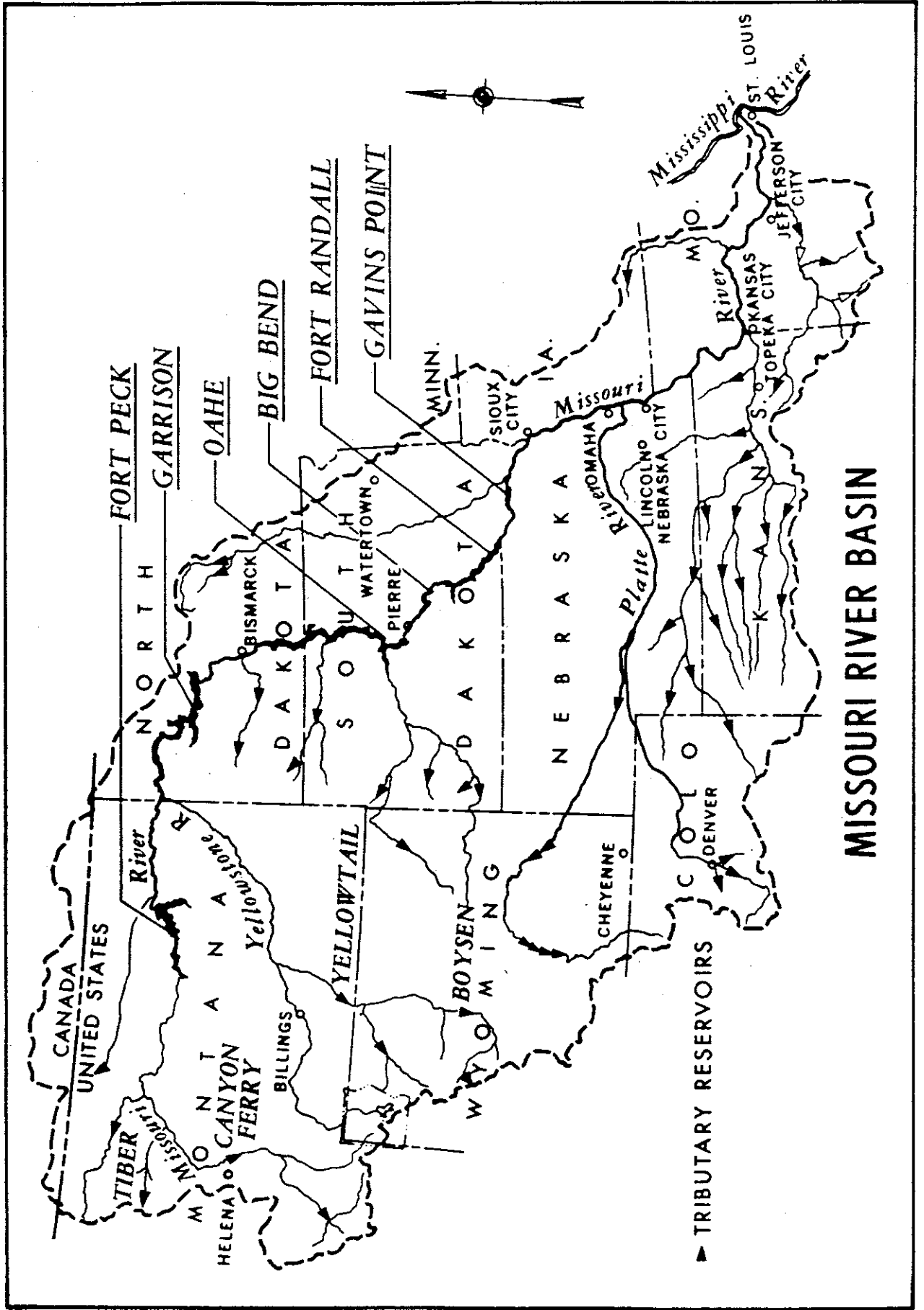
B. Lower Quartile Runoff. System storage begins the period at 45.7 MAF and rises to 48.6 MAF by March 2008 with navigation service levels increasing from minimum service to 2,000 cfs above minimum service during the simulation period. The navigation season is shortened 11 days in 2003, 13 days in 2004 and 11 days in 2005 as System storage increases. No shortening is shown for 2006 and 2007 since July 1 System storage is above 52 MAF.. A 13,000 cfs winter release is shown for the entire study period. Since the upper three reservoirs do not refill under Lower Quartile and Lower Decile runoff, their percent of remaining carryover multiple use storage is balanced each March 1.

C. Lower Decile Runoff. System storage begins the period at 42.5 MAF and falls to 35.5 MAF by March 2008. The navigation season is shortened 18 days in 2003, 19 days in 2004 and 18 days in 2005, 2006, and 2007 to compensate for additional releases the previous winter. The July 1 storage check shortens the navigation season an extra 2 weeks (32 day total) in 2005 and an extra 3 weeks (39 day total) in 2006 and 2007 due to low System storage. Service level is minimum service 2003 through 2007. A 13,000 cfs winter release is shown for the entire study period.

Plate 11 presents System storage, Gavins Point regulated flow, and System peaking capability for Median, Lower Quartile, and Lower Decile for both sets of guidelines, for the period 2003 through March 2008. Peak power, or peaking capability, is the amount of power available when all powerplants are operating at maximum.

Plate 12 presents reservoir elevations for Fort Peck, Garrison, Oahe, and Fort Randall for Median, Lower Quartile, and Lower Decile for the period 2003 through March 2008.

A Summary of Engineering Data for the Main Stem Reservoir System is shown on **Plate 2**.



MISSOURI RIVER BASIN

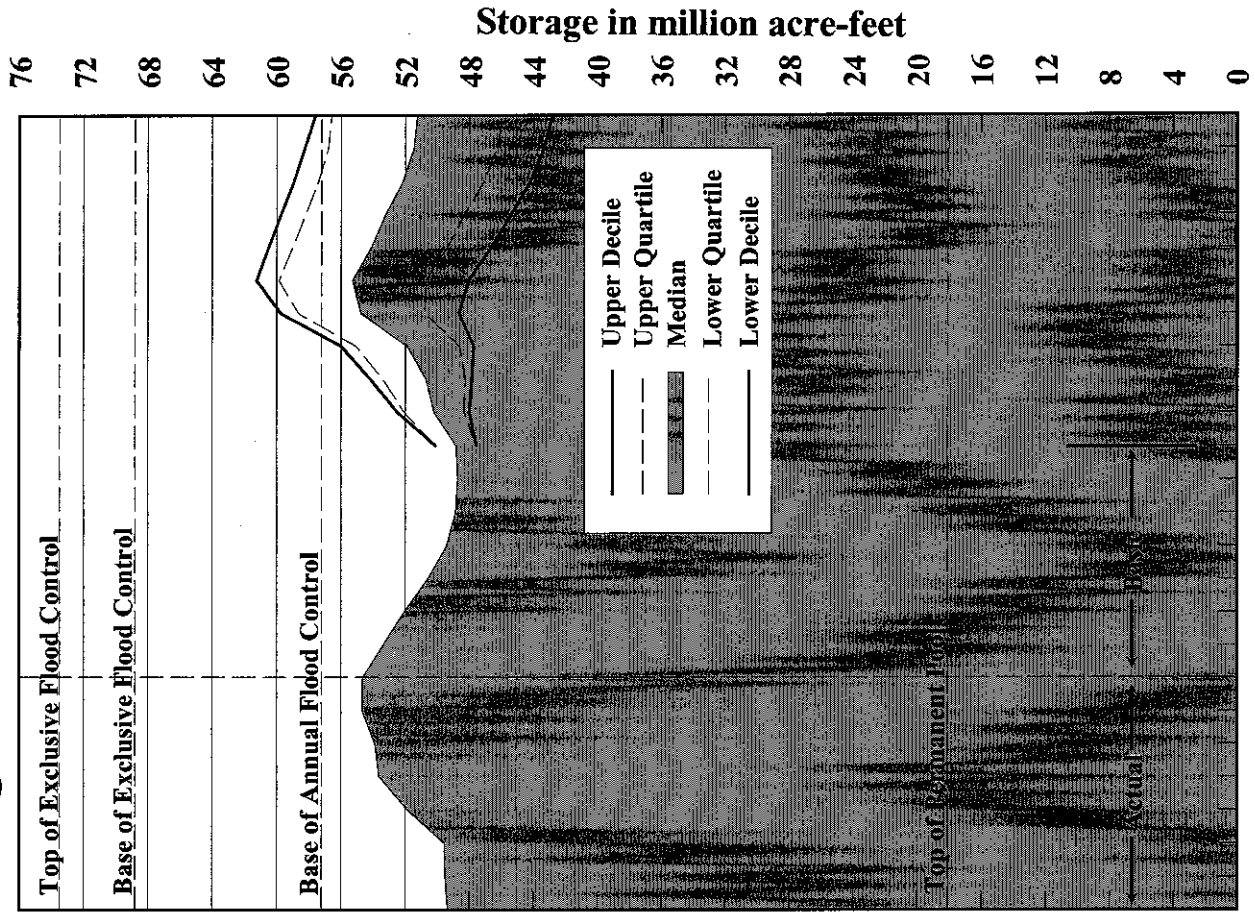
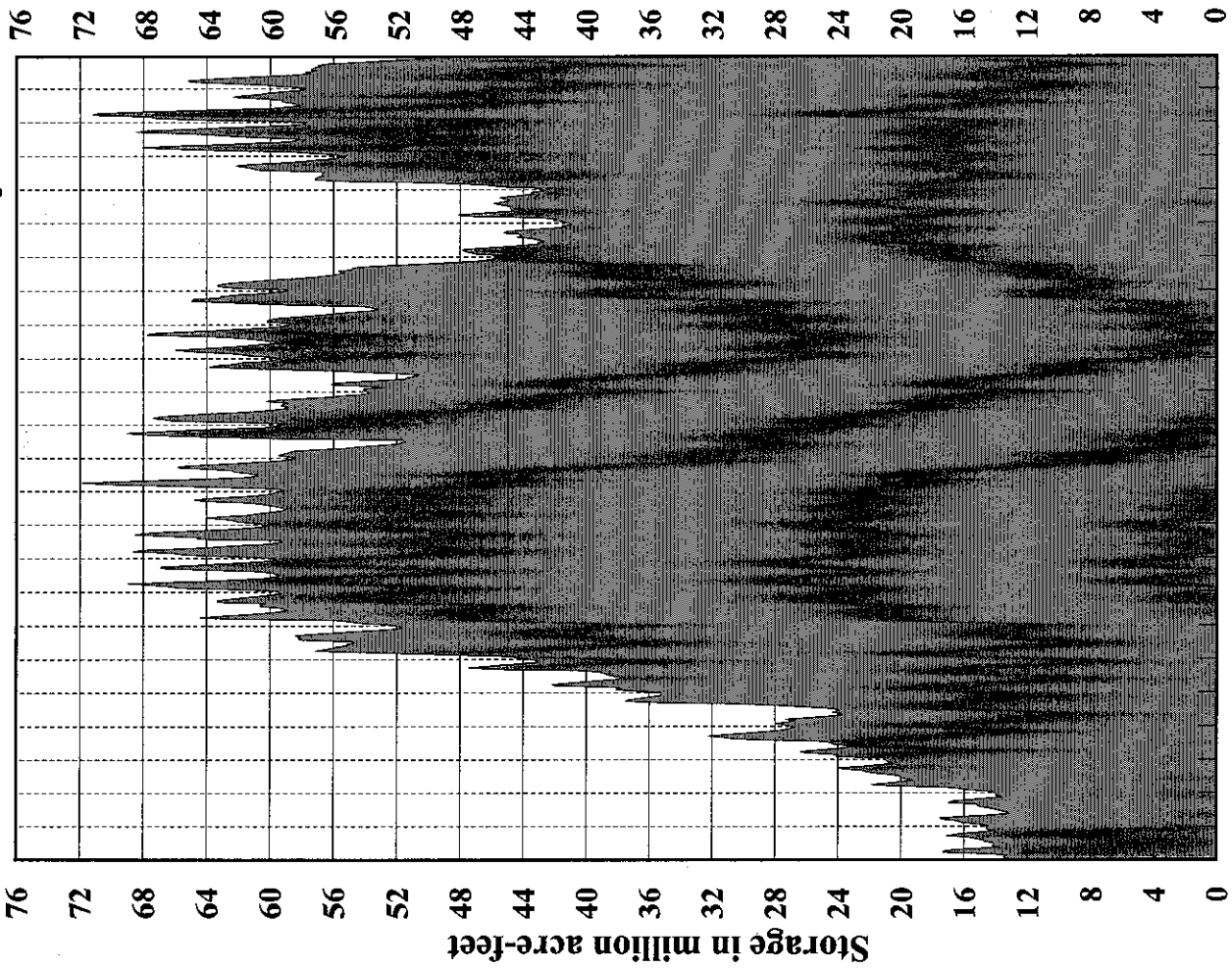
Summary of Engineering Data -- Missouri River Main Stem System

Item No.	Subject	Fort Peck Lake	Garrison Dam - Lake Sakakawea	Oahe Dam - Lake Oahe
1	Location of Dam	Near Glasgow, Montana	Near Garrison, ND	Near Pierre, SD
2	River Mile - 1960 Mileage	Mile 1771.5	Mile 1389.9	Mile 1072.3
3	Total & incremental drainage areas in square miles	57,500	181,400 (2)	243,490 (1)
			123,900	62,090
4	Approximate length of full reservoir (in valley miles)	134, ending near Zortman, MT	178, ending near Trenton, ND	231, ending near Bismarck, ND
5	Shoreline in miles (3)	1520 (elevation 2234)	1340 (elevation 1837.5)	2250 (elevation 1607.5)
6	Average total & incremental inflow in cfs	10,200	25,600	28,900
			15,400	3,300
7	Max. discharge of record near damsite in cfs	137,000 (June 1953)	348,000 (April 1952)	440,000 (April 1952)
8	Construction started - calendar yr.	1933	1946	1948
9	In operation (4) calendar yr.	1940	1955	1962
Dam and Embankment				
10	Top of dam, elevation in feet msl	2280.5	1875	1660
11	Length of dam in feet	21,026 (excluding spillway)	11,300 (including spillway)	9,300 (excluding spillway)
12	Damming height in feet (5)	220	180	200
13	Maximum height in feet (5)	250.5	210	245
14	Max. base width, total & w/o berms in feet	3500, 2700	3400, 2050	3500, 1500
15	Abutment formations (under dam & embankment)	Bearpaw shale and glacial fill	Fort Union clay shale	Pierre shale
16	Type of fill	Hydraulic & rolled earth fill	Rolled earth filled	Rolled earth fill & shale berms
17	Fill quantity, cubic yards	125,628,000	66,500,000	55,000,000 & 37,000,000
18	Volume of concrete, cubic yards	1,200,000	1,500,000	1,045,000
19	Date of closure	24 June 1937	15 April 1953	3 August 1958
Spillway Data				
20	Location	Right bank - remote	Left bank - adjacent	Right bank - remote
21	Crest elevation in feet msl	2225	1825	1596.5
22	Width (including piers) in feet	820 gated	1336 gated	456 gated
23	No., size and type of gates	16 - 40' x 25' vertical lift gates	28 - 40' x 29' Tainter	8 - 50' x 23.5' Tainter
24	Design discharge capacity, cfs	275,000 at elev 2253.3	827,000 at elev 1858.5	304,000 at elev 1644.4
25	Discharge capacity at maximum operating pool in cfs	230,000	660,000	80,000
Reservoir Data (6)				
26	Max. operating pool elev. & area	2250 msl 246,000 acres	1854 msl 380,000 acres	1620 msl 374,000 acres
27	Max. normal op. pool elev. & area	2246 msl 240,000 acres	1850 msl 364,000 acres	1617 msl 360,000 acres
28	Base flood control elev & area	2234 msl 212,000 acres	1837.5 msl 307,000 acres	1607.5 msl 312,000 acres
29	Min. operating pool elev. & area	2160 msl 90,000 acres	1775 msl 128,000 acres	1540 msl 117,000 acres
Storage allocation & capacity				
30	Exclusive flood control	2250-2246 975,000 a.f.	1854-1850 1,489,000 a.f.	1620-1617 1,102,000 a.f.
31	Flood control & multiple use	2246-2234 2,717,000 a.f.	1850-1837.5 4,222,000 a.f.	1617-1607.5 3,201,000 a.f.
32	Carryover multiple use	2234-2160 10,785,000 a.f.	1837.5-1775 13,130,000 a.f.	1607.5-1540 13,461,000 a.f.
33	Permanent	2160-2030 4,211,000 a.f.	1775-1673 4,980,000 a.f.	1540-1415 5,373,000 a.f.
34	Gross	2250-2030 18,688,000 a.f.	1854-1673 23,821,000 a.f.	1620-1415 23,137,000 a.f.
35	Reservoir filling initiated	November 1937	December 1953	August 1958
36	Initially reached min. operating pool	27 May 1942	7 August 1955	3 April 1962
37	Estimated annual sediment inflow	18,100 a.f. 1030 yrs.	25,900 a.f. 920 yrs.	19,800 a.f. 1170 yrs.
Outlet Works Data				
38	Location	Right bank	Right Bank	Right Bank
39	Number and size of conduits	2 - 24' 8" diameter (nos. 3 & 4)	1 - 26' dia. and 2 - 22' dia.	6 - 19.75' dia. upstream, 18.25' dia. downstream
40	Length of conduits in feet (8)	No. 3 - 6,615, No. 4 - 7,240	1529	3496 to 3659
41	No., size, and type of service gates	1 - 28' dia. cylindrical gate 6 ports, 7.6' x 8.5' high (net opening) in each control shaft	1 - 18' x 24.5' Tainter gate per conduit for fine regulation	1 - 13' x 22' per conduit, vertical lift, 4 cable suspension and 2 hydraulic suspension (fine regulation)
42	Entrance invert elevation (msl)	2095	1672	1425
43	Avg. discharge capacity per conduit & total	Elev. 2250	Elev. 1854	Elev. 1620
44	Present tailwater elevation (ft msl)	2032-2036 22,500 cfs - 45,000 cfs 5,000 - 35,000 cfs	1670-1680 30,400 cfs - 98,000 cfs 15,000 - 60,000 cfs	1423-1428 18,500 cfs - 111,000 cfs 20,000-55,000 cfs
Power Facilities and Data				
45	Avg. gross head available in feet (14)	194	161	174
46	Number and size of conduits	No. 1-24'8" dia., No. 2-22'4" dia.	5 - 29' dia., 25' penstocks	7 - 24' dia., imbedded penstocks
47	Length of conduits in feet (8)	No. 1 - 5,653, No. 2 - 6,355	1829	From 3,280 to 4,005
48	Surge tanks	PH#1: 3-40' dia., PH#2: 2-65' dia.	65' dia. - 2 per penstock	70' dia., 2 per penstock
49	No., type and speed of turbines	5 Francis, PH#1-2: 128.5 rpm, 1-164 rpm, PH#2-2: 128.6 rpm	5 Francis, 90 rpm	7 Francis, 100 rpm
50	Discharge cap. at rated head in cfs	PH#1, units 1&3 170', 2-140' 8,800 cfs, PH#2-4&5 170'-7,200 cfs	150' 41,000 cfs	185' 54,000 cfs
51	Generator nameplate rating in kW	1&3: 43,500; 2: 18,250; 4&5: 40,000	3 - 109,250, 2 - 95,000	112,290
52	Plant capacity in kW	185,250	517,750	786,030
53	Dependable capacity in kW (9)	181,000	388,000	534,000
54	Avg. annual energy, million kWh (12)	1,156	2,462	2,905
55	Initial generation, first and last unit	July 1943 - June 1961	January 1956 - October 1960	April 1962 - June 1963
56	Estimated cost September 1999 completed project (13)	\$158,428,000	\$305,274,000	\$346,521,000

Summary of Engineering Data -- Missouri River Main Stem System

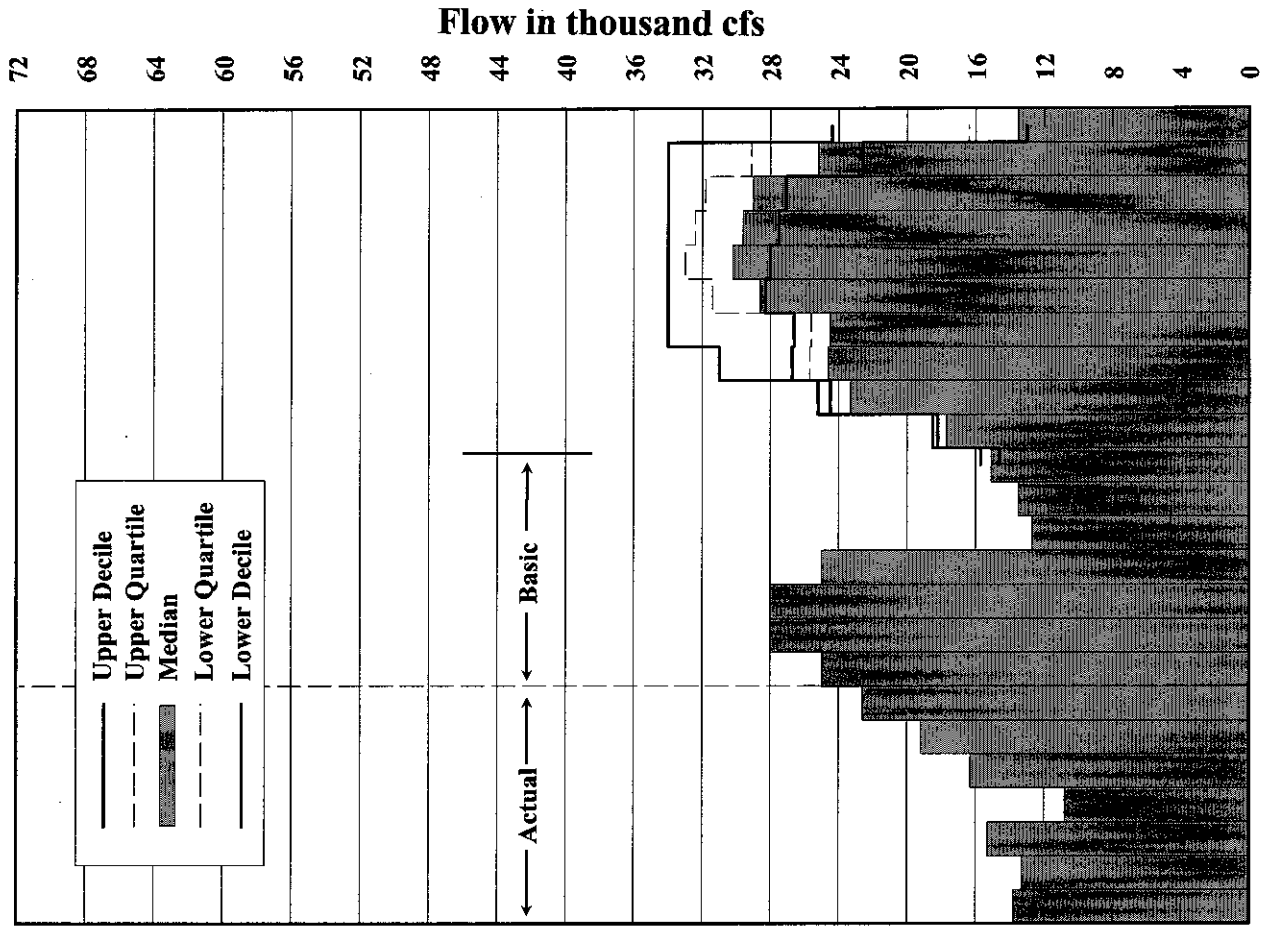
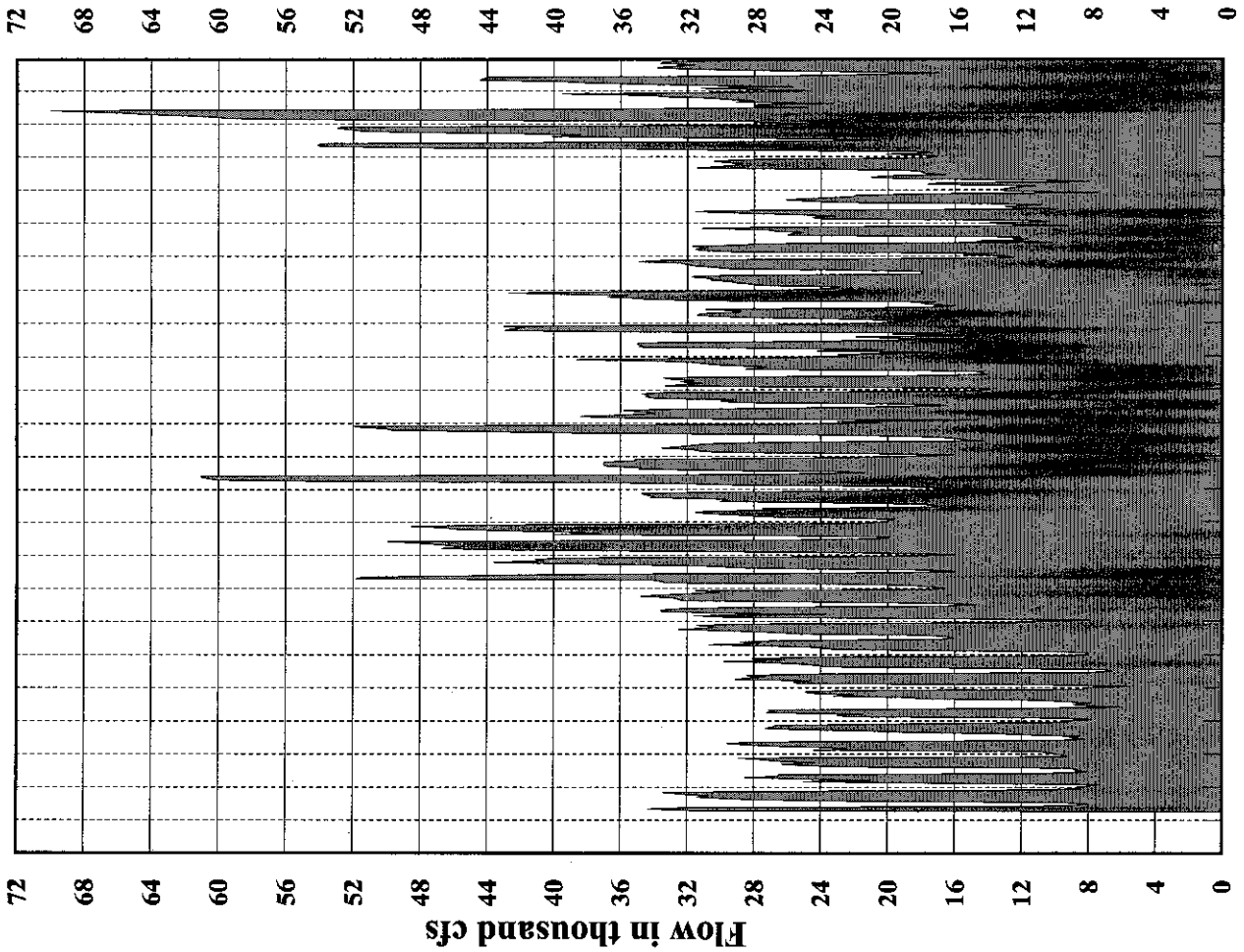
Big Bend Dam - Lake Sharpe		Fort Randall Dam - Lake Francis Case		Gavins Point Dam - Lewis & Clark Lake		Total	Item No.	Remarks
21 miles upstream Chamberlain, SD		Near Lake Andes, SD		Near Yankton, SD			1	(1) Includes 4,280 square miles of non-contributing areas. (2) Includes 1,350 square miles of non-contributing areas. (3) With pool at base of flood control. (4) Storage first available for regulation of flows. (5) Damming height is height from low water to maximum operating pool. Maximum height is from average streambed to top of dam. (6) Based on latest available storage data. (7) River regulation is attained by flows over low-crested spillway and through turbines. (8) Length from upstream face of outlet or to spiral case. (9) Based on 8th year (1961) of drought drawdown (From study 8-83-1985). (10) Affected by level of Lake Francis case. Applicable to pool at elevation 1350. (11) Spillway crest. (12) 1967-2000 Average (13) Source: Annual Report on Civil Works Activities of the Corps of Engineers. Extract Report Fiscal Year 1999. (14) Based on Study 8-83-1985
Mile 987.4		Mile 880.0		Mile 811.1			2	
249,330 (1)	5,840	263,480 (1)	14,150	279,480 (1)	16,000		3	
80, ending near Pierre, SD		107, ending at Big Bend Dam		25, ending near Niobrara, NE		755 miles	4	
200 (elevation 1420)		540 (elevation 1350)		90 (elevation 1204.5)		5,940 miles	5	
28,900		30,000	1,100	32,000	2,000		6	
440,000 (April 1952)		447,000 (April 1952)		480,000 (April 1952)			7	
1959		1946		1952			8	
1964		1953		1955			9	
1440		1395		1234			10	
10,570 (including spillway)		10,700 (including spillway)		8,700 (including spillway)		71,596	11	
78		140		45		863 feet	12	
95		165		74			13	
1200, 700		4300, 1250		850, 450			14	
Pierre shale & Niobrara chalk		Niobrara chalk		Niobrara chalk & Carlile shale			15	
Rolled earth, shale, chalk fill		Rolled earth fill & chalk berms		Rolled earth & chalk fill			16	
17,000,000		28,000,000 & 22,000,000		7,000,000		358,128,000 cu. yds	17	
540,000		961,000		308,000		5,554,000 cu. yds.	18	
24 July 1963		20 July 1952		31 July 1955			19	
Left bank - adjacent		Left bank - adjacent		Right bank - adjacent			20	
1385		1346		1180			21	
376 gated		1000 gated		664 gated			22	
8 - 40' x 38' Tainter		21 - 40' x 29' Tainter		14 - 40' x 30' Tainter			23	
390,000 at elev 1433.6		620,000 at elev 1379.3		584,000 at elev 1221.4			24	
270,000		508,000		345,000			25	
1423 msl	61,000 acres	1375 msl	102,000 acres	1210 msl	31,000 acres	1,194,000 acres	26	
1422 msl	60,000 acres	1365 msl	95,000 acres	1208 msl	28,000 acres	1,147,000 acres	27	
1420 msl	57,000 acres	1350 msl	77,000 acres	1204.5 msl	24,000 acres	989,000 acres	28	
1415 msl	51,000 acres	1320 msl	38,000 acres	1204.5 msl	24,000 acres	450,000 acres	29	
1423-1422	60,000 a.f.	1375-1365	985,000 a.f.	1210-1208	59,000 a.f.	4,670,000 a.f.	30	
1422-1420	117,000 a.f.	1365-1350	1,309,000 a.f.	1208-1204.5	90,000 a.f.	11,656,000 a.f.	31	
		1350-1320	1,607,000 a.f.			38,983,000 a.f.	32	
1420-1345	1,682,000 a.f.	1320-1240	1,517,000 a.f.	1204.5-1160	321,000 a.f.	18,084,000 a.f.	33	
1423-1345	1,859,000 a.f.	1375-1240	5,418,000 a.f.	1210-1160	470,000 a.f.	73,393,000 a.f.	34	
November 1963		January 1953		August 1955			35	
25 March 1964		24 November 1953		22 December 1955			36	
4,300 a.f.	430 yrs.	18,300 a.f.	250 yrs.	2,600 a.f.	180 yrs.	92,500 a.f.	37	
None (7)		Left Bank		None (7)			38	
		4 - 22' diameter					39	
		1013					40	
		2 - 11' x 23' per conduit, vertical lift, cable suspension					41	
1385 (11)		1229		1180 (11)			42	
		Elev 1375					43	
		32,000 cfs - 128,000 cfs					44	
1351-1355(10)	25,000-100,000 cfs	1228-1239	5,000-60,000 cfs	1155-1163	15,000-60,000 cfs		44	
70		117		48		764 feet	45	
None: direct intake		8 - 28' dia., 22' penstocks		None: direct intake			46	
		1,074				55,083	47	
None		59' dia, 2 per alternate penstock		None			48	
8 Fixed blade, 81.8 rpm		8 Francis, 85.7 rpm		3 Kaplan, 75 rpm		36 units	49	
67'	103,000 cfs	112'	44,500 cfs	48'	36,000 cfs		50	
3 - 67,276, 5 - 58,500		40,000		44,100			51	
494,320		320,000		132,300		2,435,650 kw	52	
497,000		293,000		74,000		1,967,000 kw	53	
1,054		1,862		758		10,197 million kWh	54	
October 1964 - July 1966		March 1954 - January 1956		September 1956 - January 1957		July 1943 - July 1966	55	
	\$107,498,000		\$199,066,000		\$49,617,000		56	
						\$1,166,404,000		
							Corps of Engineers, U.S. Army Compiled by Northwestern Division Missouri River Region May 2001	

System Storage

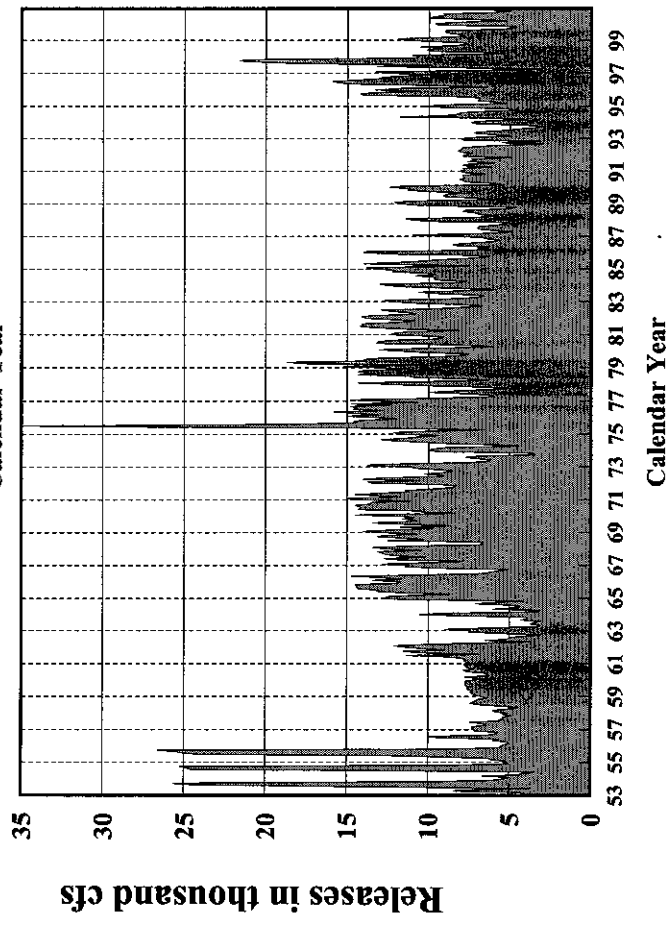
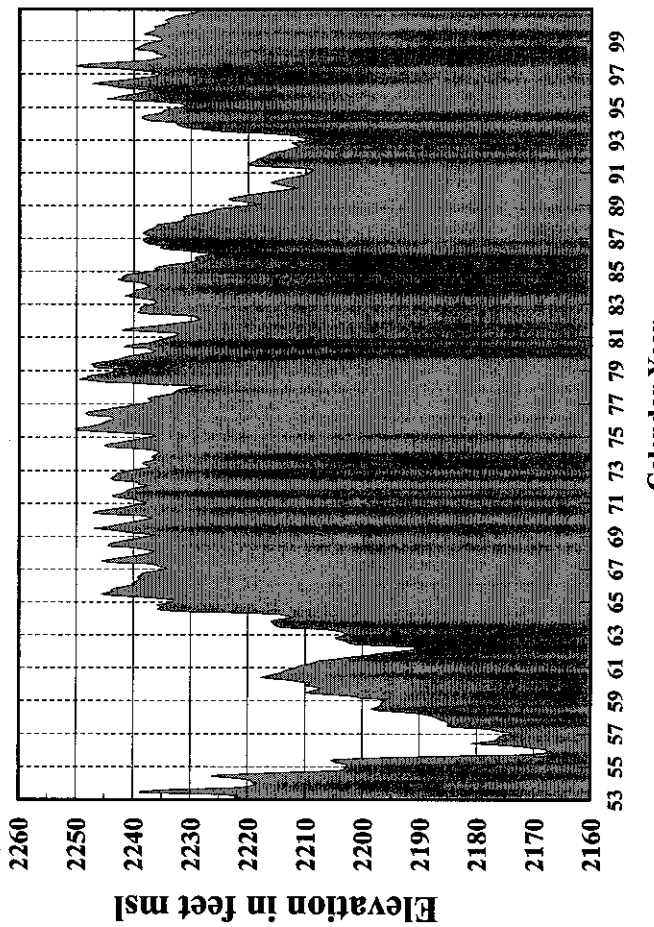
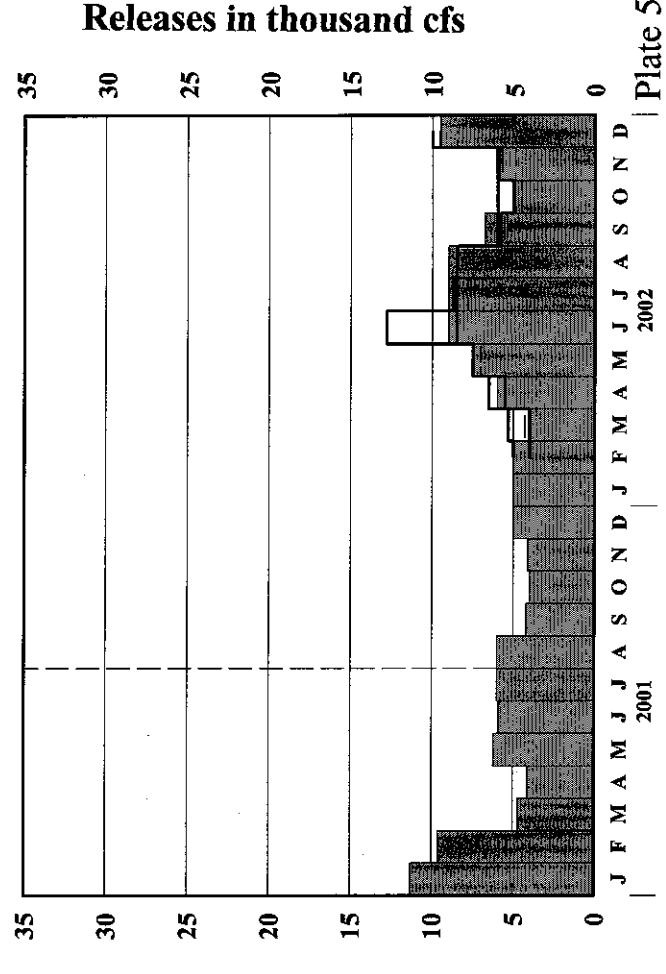
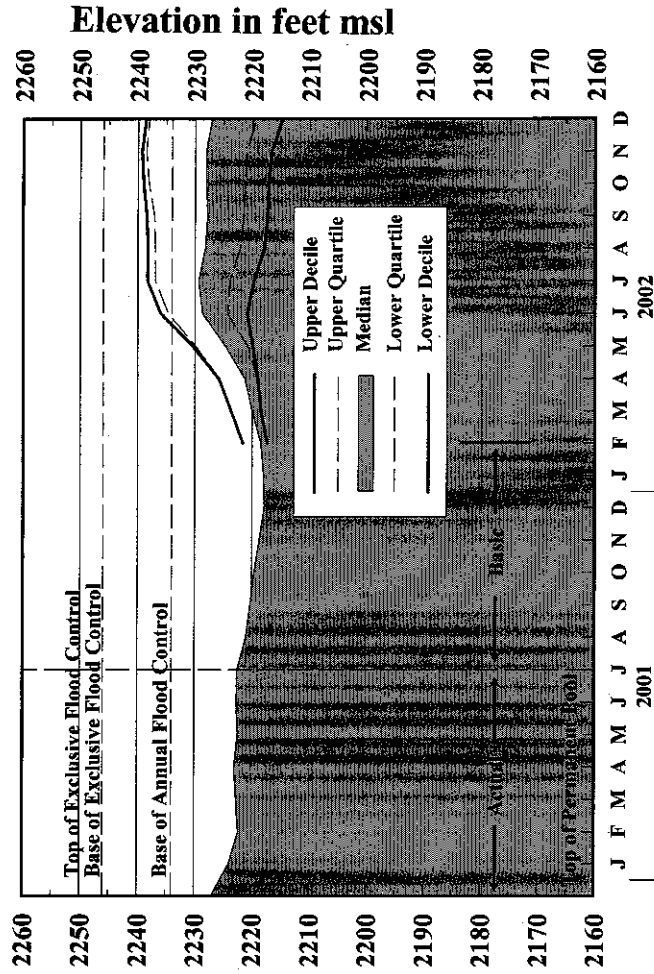


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2001 2002

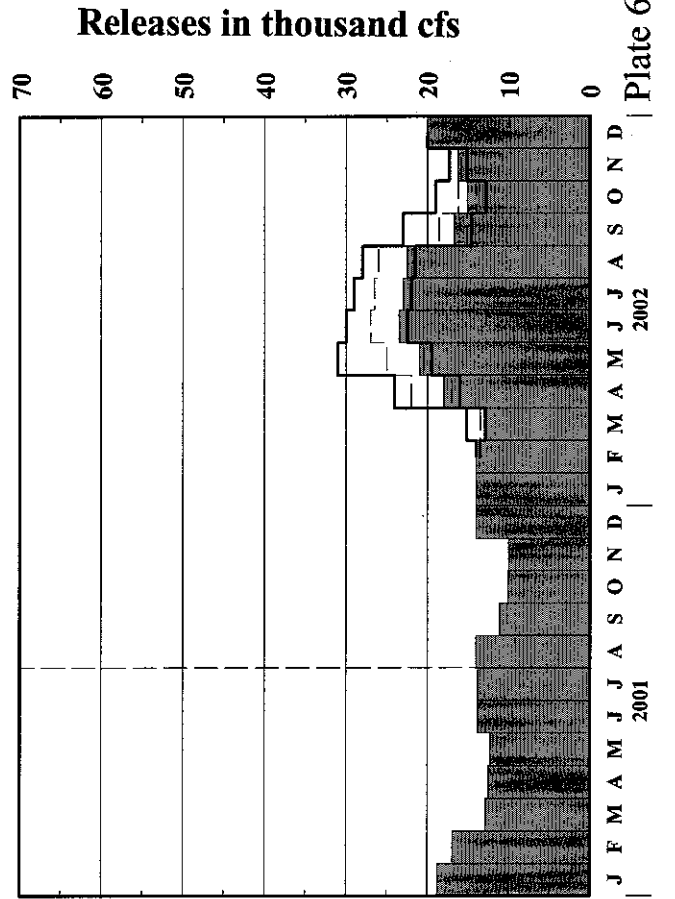
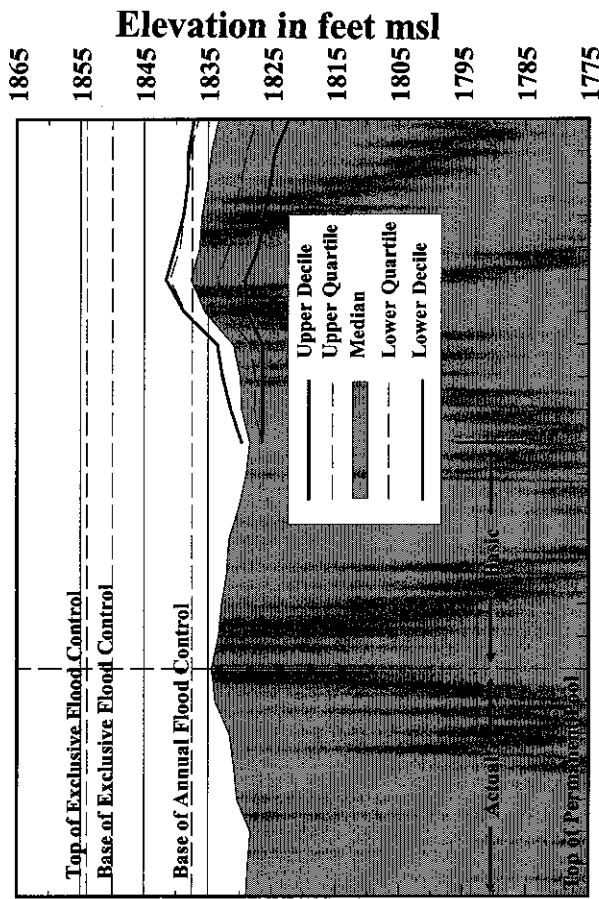
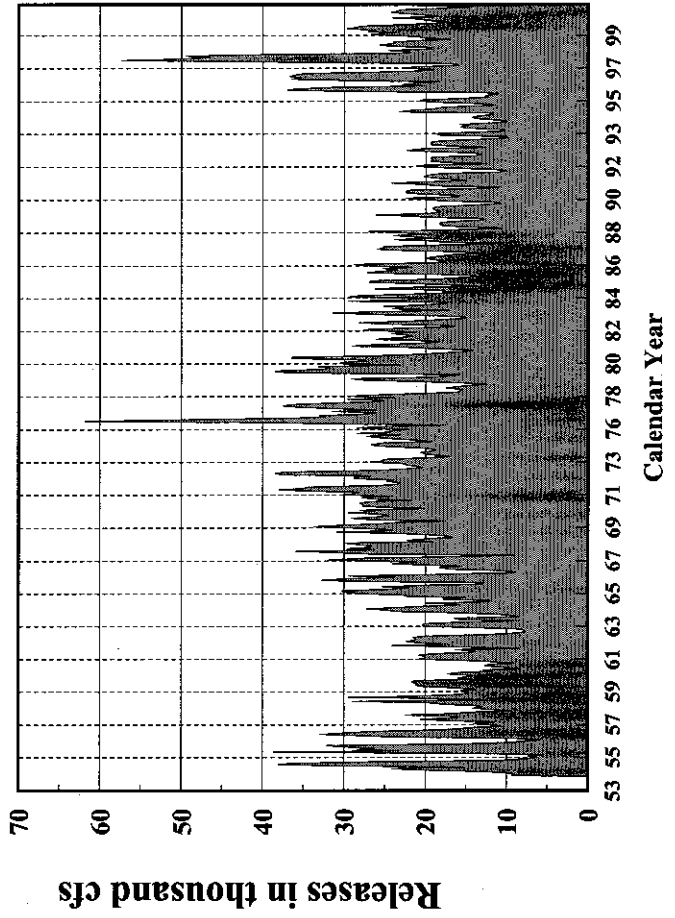
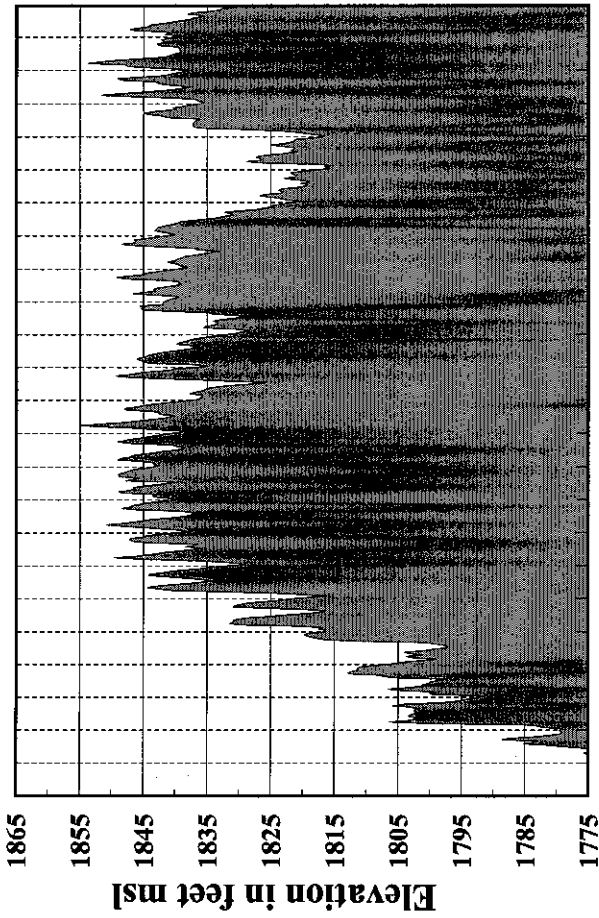
Gavins Point Releases



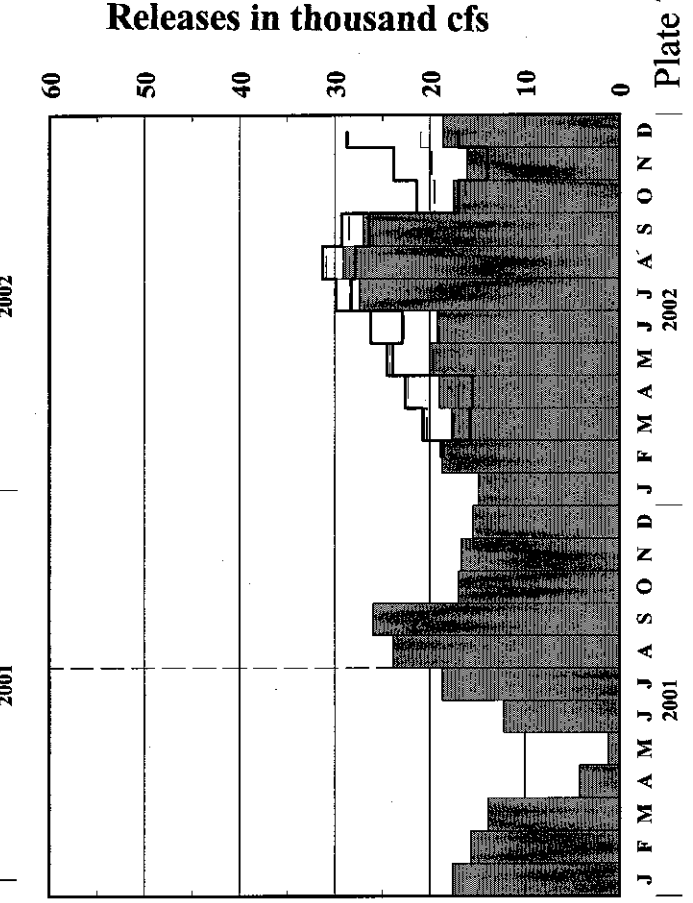
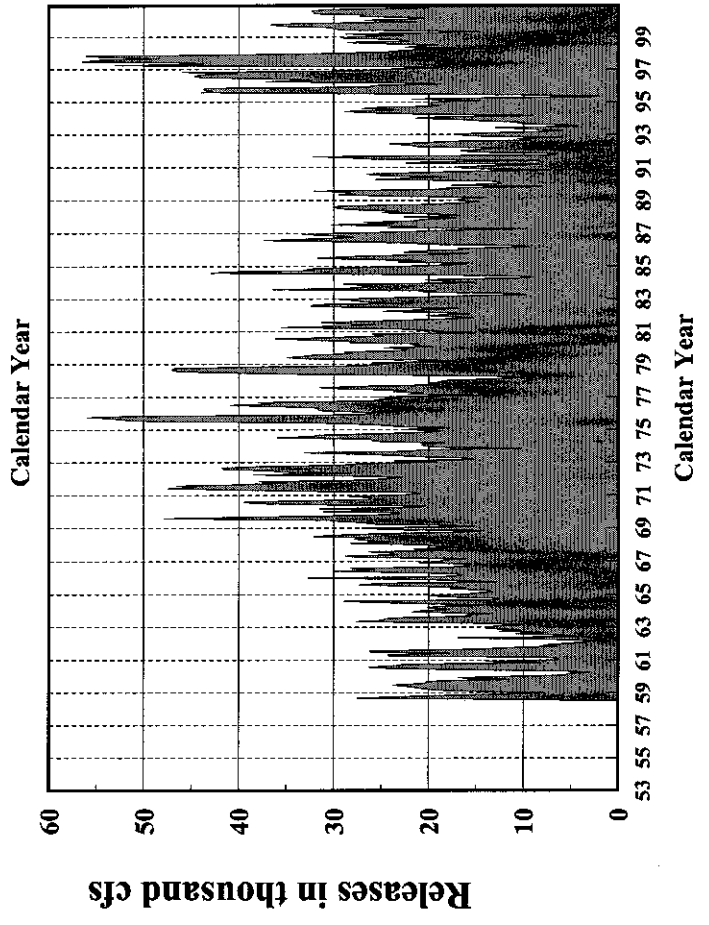
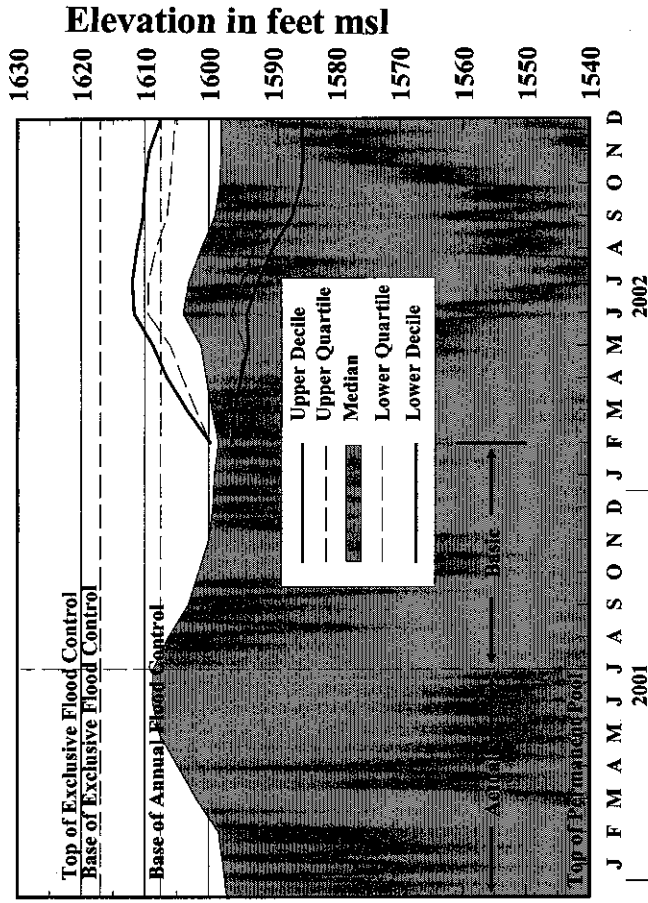
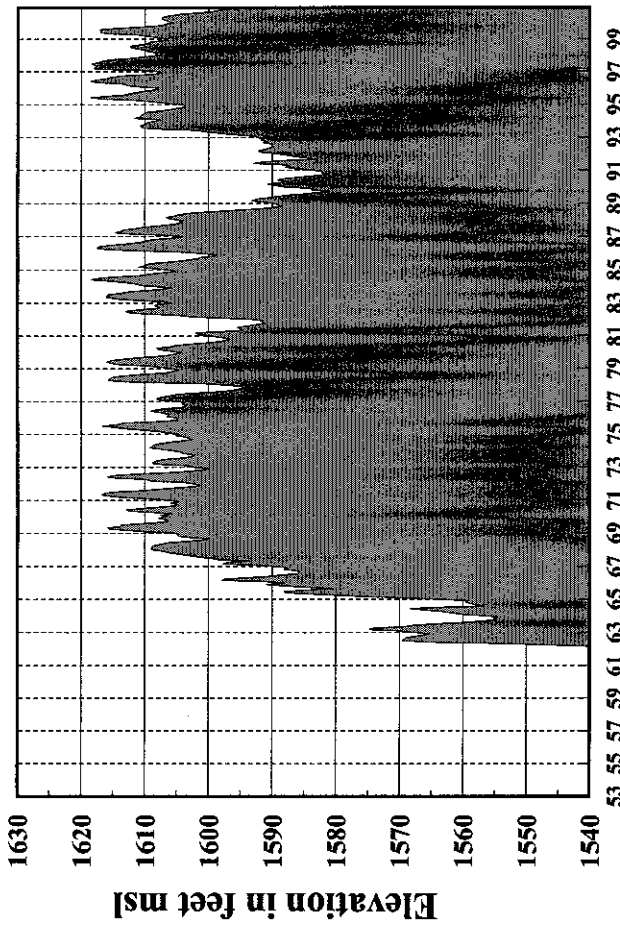
Fort Peck Elevations and Releases



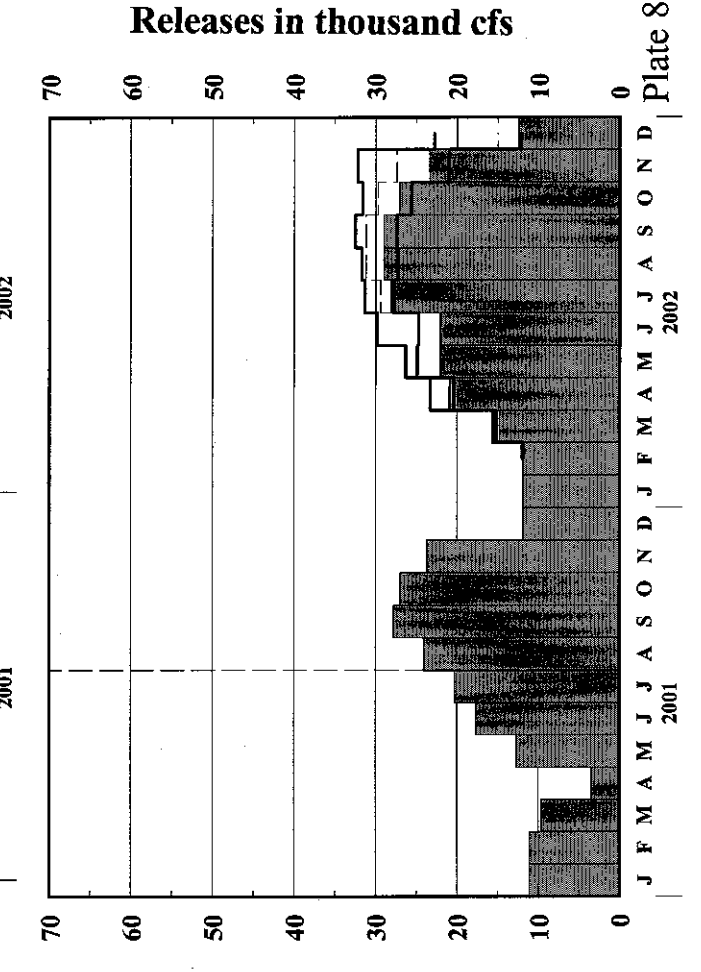
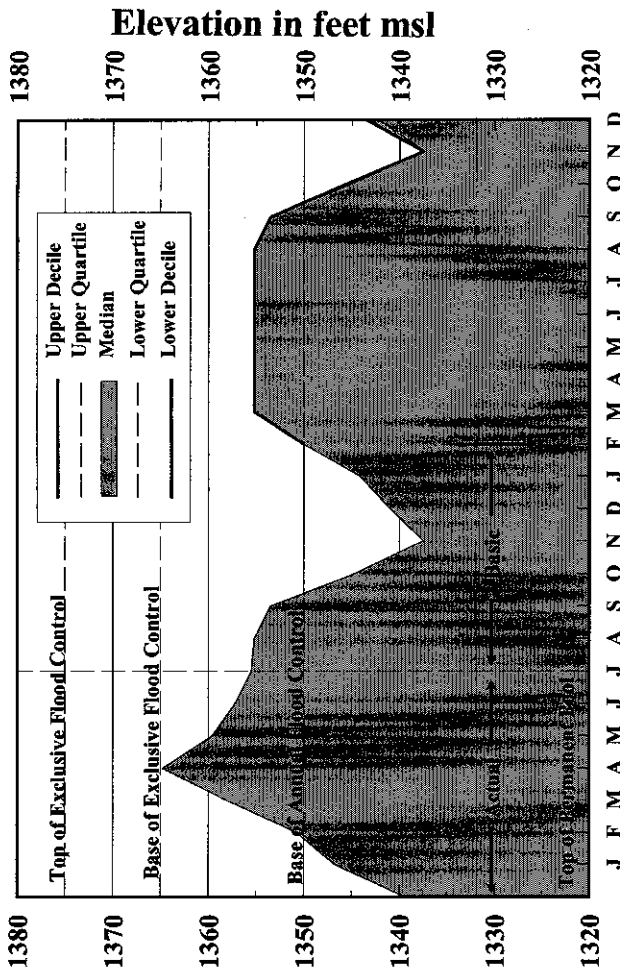
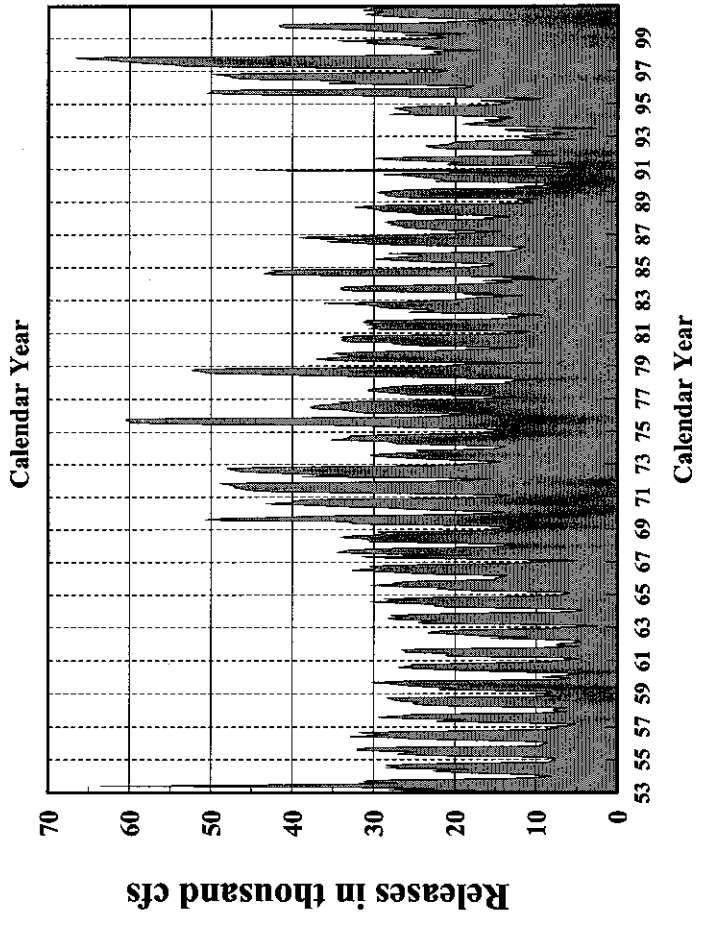
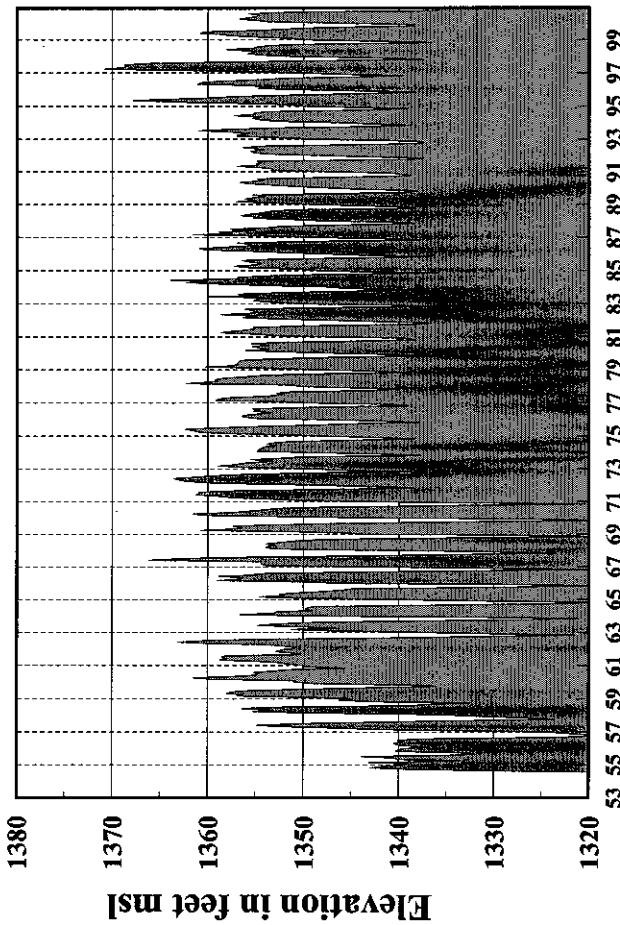
Garrison Elevations and Releases



Oahe Elevations and Releases

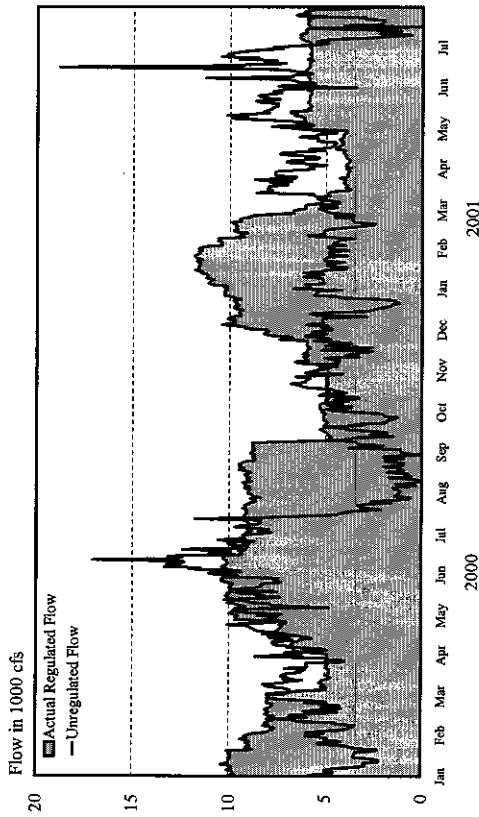


Fort Randall Elevations and Releases

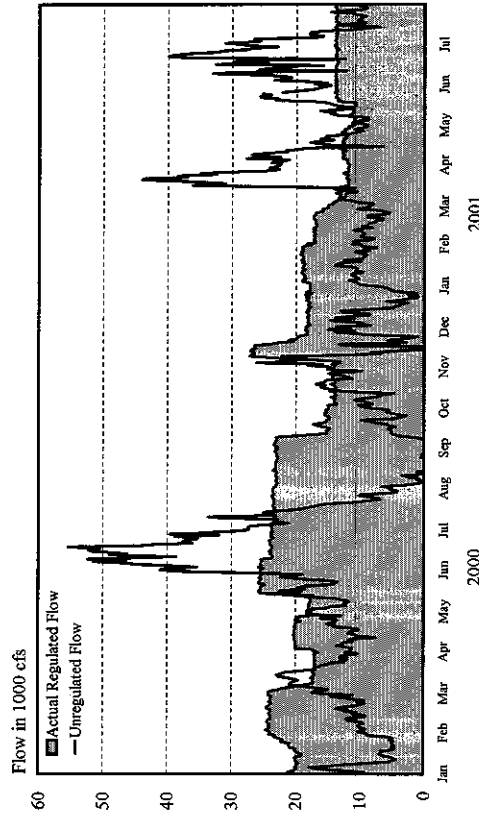


Reservoir Release and Unregulated Flow

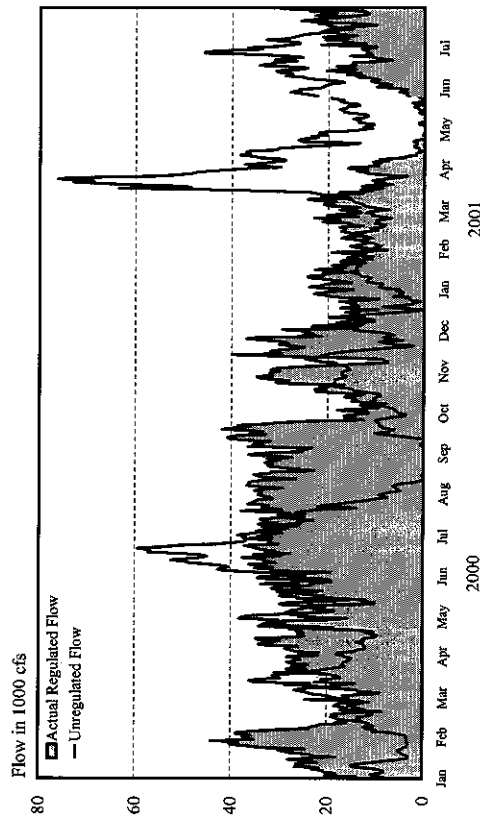
Fort Peck



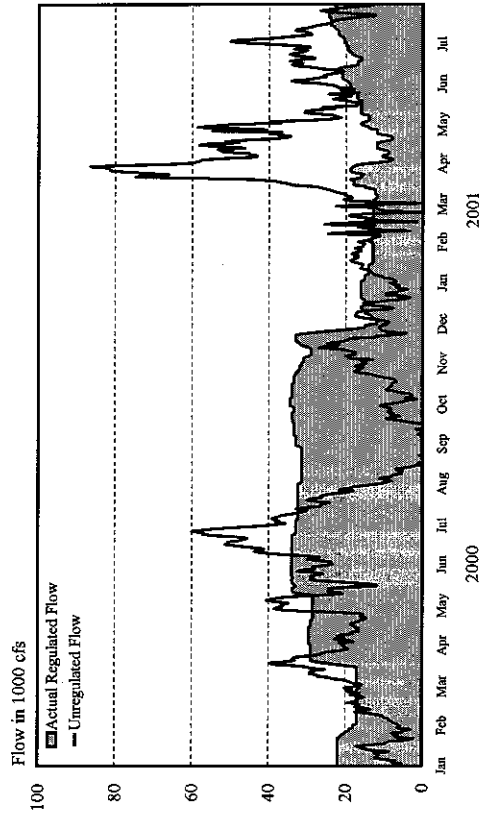
Garrison



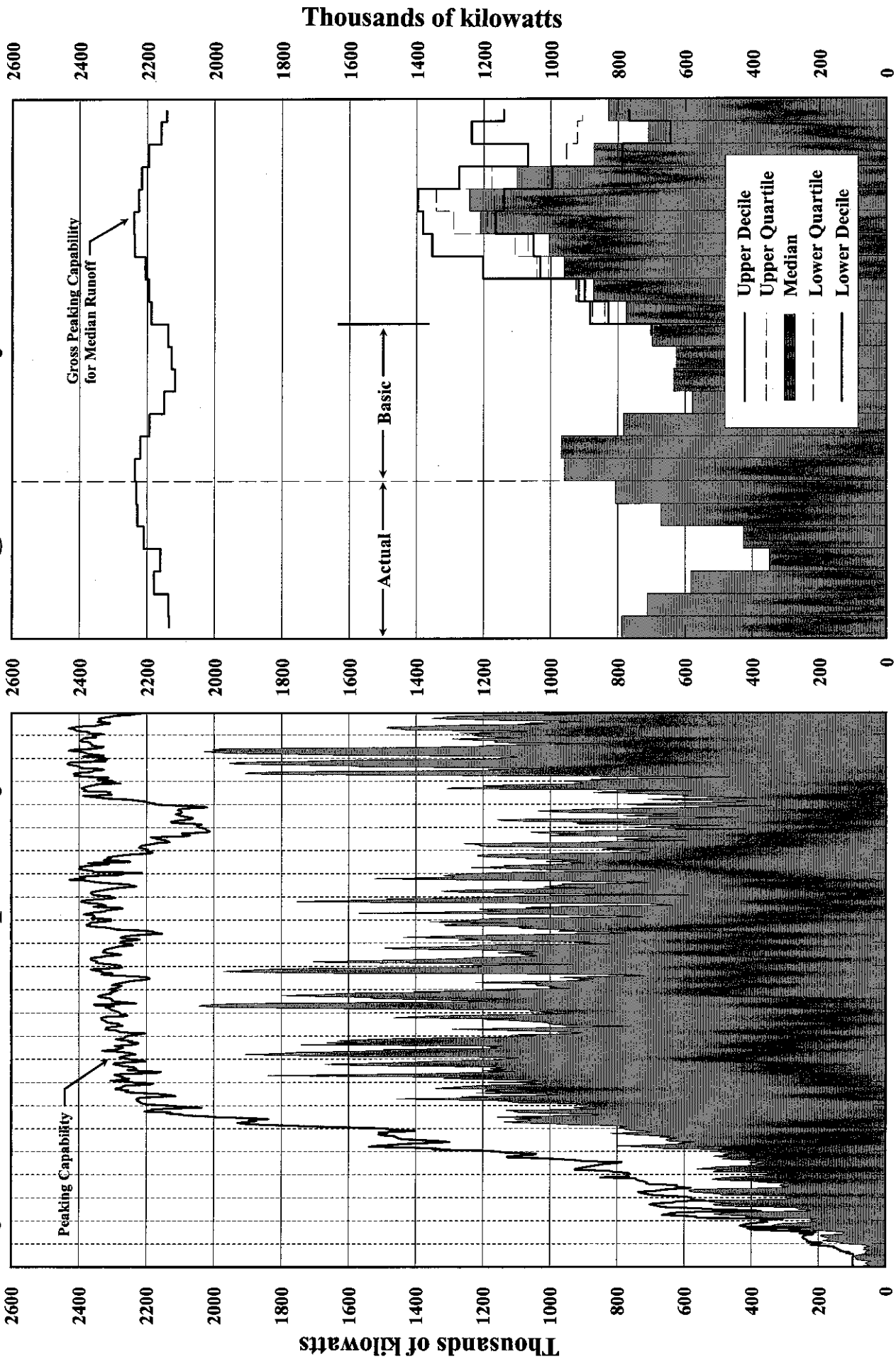
Oahe



Gavins Point



System Gross Capability and Average Monthly Generation



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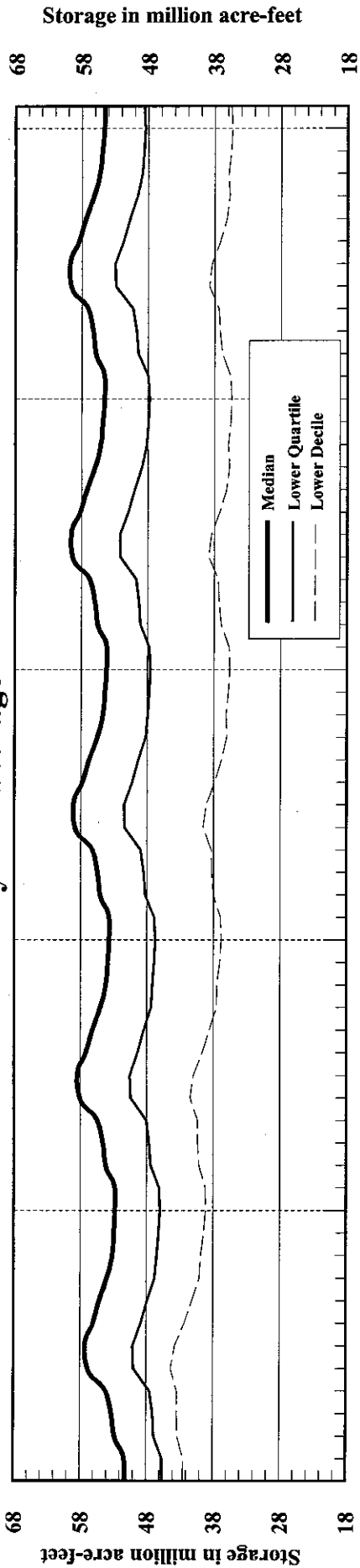
Calendar Year

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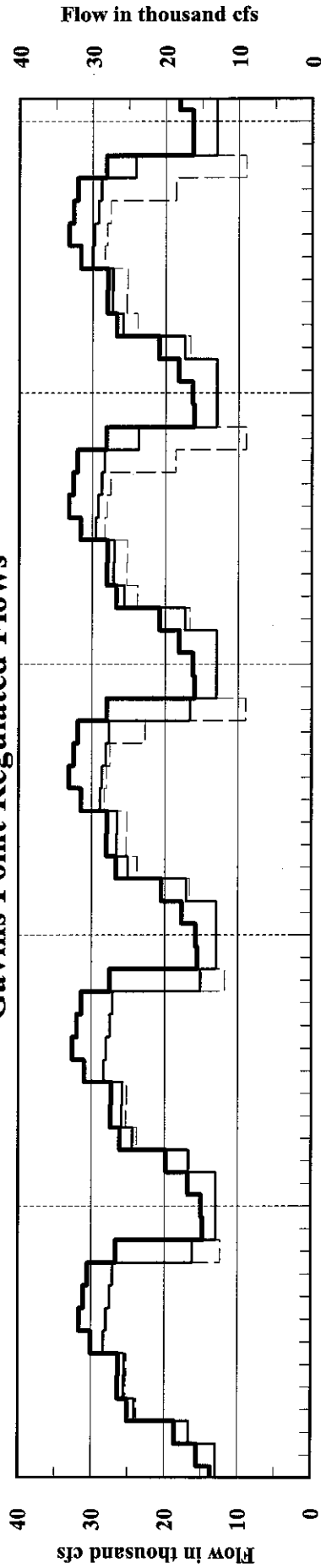
2001

Plate 10

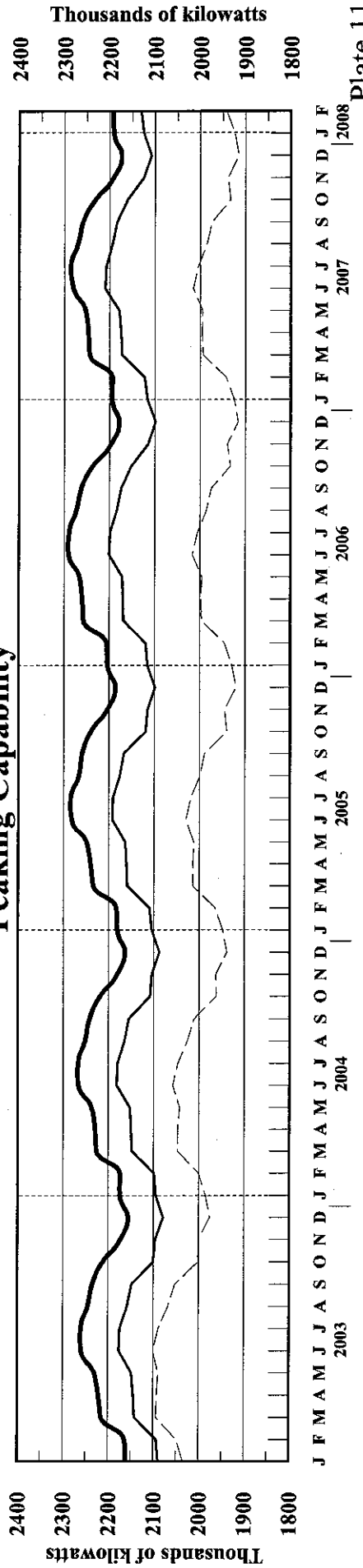
Tentative Five Year Extensions of 2001-2002 AOP System Storage



Gavins Point Regulated Flows

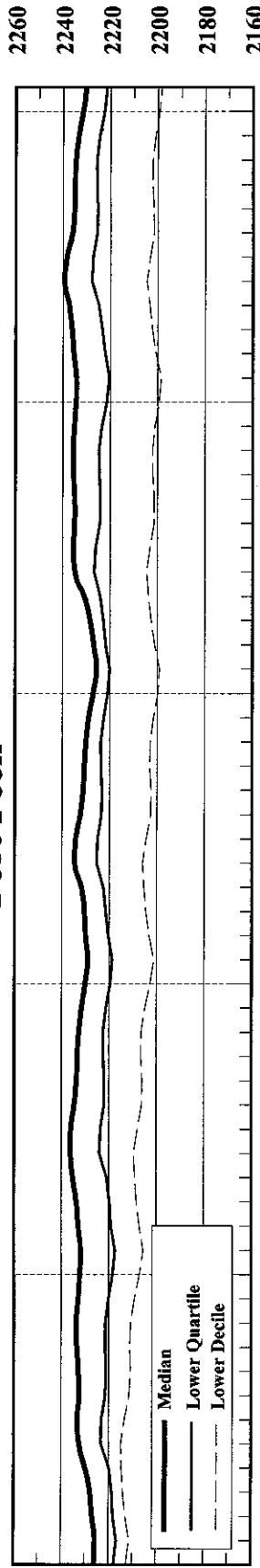


Peaking Capability

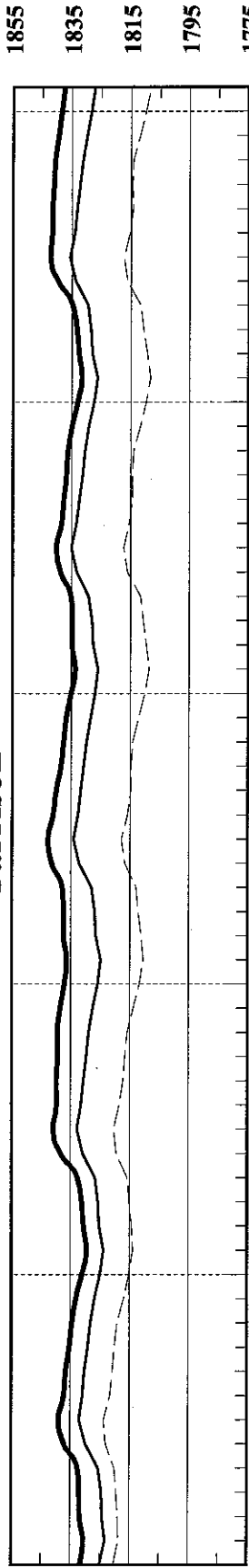


Tentative Five Year Extensions of 2001-2002 AOP

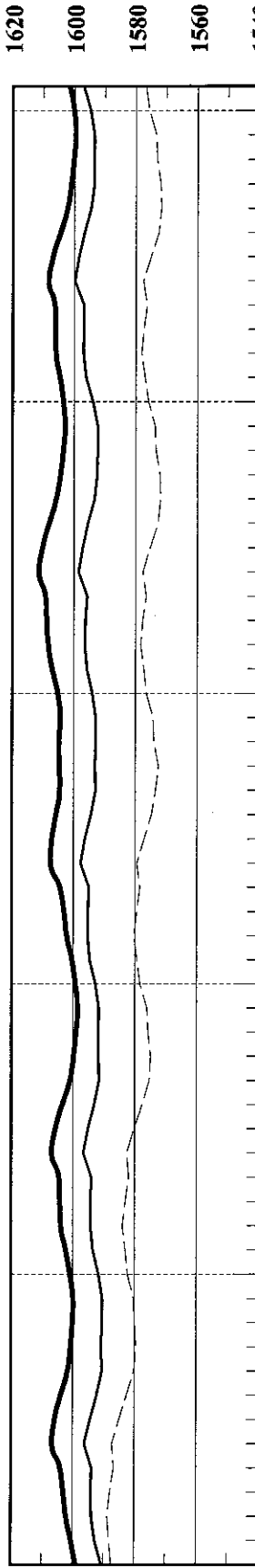
Fort Peck



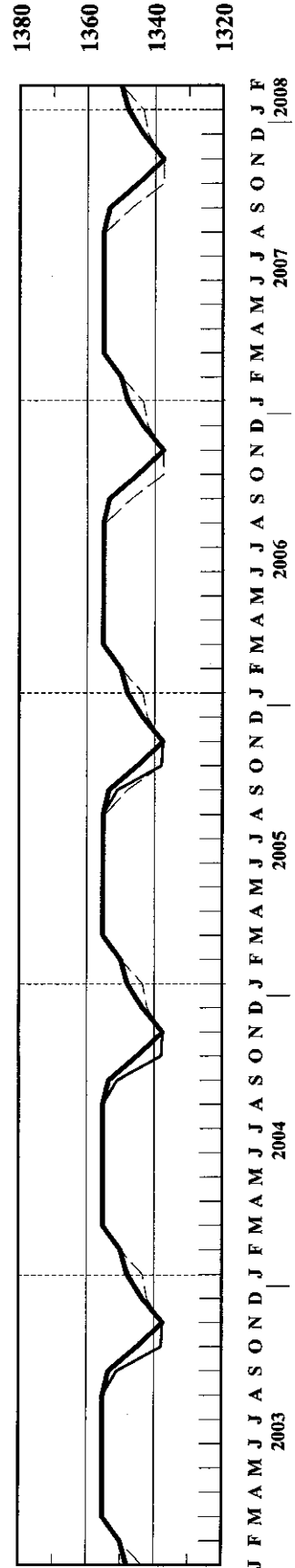
Garrison



Oahe



Fort Randall





News Release

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Date: Dec. 10, 2001

FOR IMMEDIATE RELEASE

OMAHA -- The U.S. Army Corps of Engineers will publish its Final Annual Operating Plan for the Missouri River Mainstem Reservoir System later this month.

A draft of the plan was published in late September and made available to the public. Three public meetings were conducted on the draft plan from Oct. 15-17 at Williston, N.D., Sioux City, Iowa, and Jefferson City, Mo.

"Our challenge is to meet the multiple purposes for which the Missouri River main stem system was authorized. With the upper basin suffering from a moderate drought, the focus for the upcoming year will be one of water conservation," said Col. David Fastabend, Northwestern Division Engineer. "We expect a navigation season of normal length but, unless the drought breaks, anticipate reduced service levels. The Final AOP is very similar to the draft presented at the October public meetings," added Colonel Fastabend. In addition to the water management computer simulations shown in the draft, the final includes 5-year extensions to the simulations. These extended simulations are presented to aid basin interests in long-term planning.

A minimum winter release rate of 13,000 cubic feet per second was used in the AOP studies. "Releases this winter should be high enough to provide adequate service to

Exhibit 1

downstream intakes," said Colonel Fastabend. "During ice formation periods, we will continue to provide modest short-term increases in Gavins Point releases to help alleviate water supply intake problems along the river."

Releases to support navigation next year will be in accordance with the operational objectives presented in the existing Master Water Control Manual. "Flow support for the 2002 navigation season will begin on schedule on April 1, but at reduced levels. The exact flows will be set on March 15," he added."

The Corps will distribute the final AOP later this month. It will also be available at www.nwd.usace.army.mil, or by writing to Water Management Division, Northwestern Division, 12565 W. Center Rd, Omaha, NE 68144. Public meetings will be conducted in April 2002 to update the spring runoff outlook and review the operational plans for the remainder of the year. Specific dates and locations will be announced prior to the meetings.

Daily reservoir and river information is available from the water management section of the Northwestern Division homepage at www.nwd.usace.army.mil.

VALUES IN 1000 AF EXCEPT AS INDICATED

2002

	31JUL01	31AUG	2001 30SEP	31OCT	15NOV	22NOV	30NOV	31DEC	31JAN	28FEB
--FORT PECK--										
NAT INFLOW	1610	180	170	200	100	47	53	180	315	365
DEPLETION	-63	-9	-62	3	19	9	10	-20	-13	1
EVAPORATION	359	73	92	80	36	17	19	42		
MOD INFLOW	1314	116	140	117	45	21	24	158	328	364
RELEASE	2005	369	251	247	119	56	71	307	307	278
STOR CHANGE	-692	-253	-111	-130	-74	-34	-47	-149	21	86
STORAGE	12712	12459	12348	12218	12144	12110	12063	11914	11934	12020
ELEV FTMSL	2222.3	2221.0	2220.3	2219.6	2219.2	2219.0	2218.7	2217.9	2218.0	2218.5
DISCH KCFS	6.0	6.0	4.2	4.0	4.0	4.0	4.5	5.0	5.0	5.0
POWER										
AVE POWER MW		78	55	52	52	52	58	64	64	64
PEAK POW MW		197	196	195	195	195	194	193	193	194
ENERGY GWH	313.5	58.2	39.5	38.7	18.6	8.7	11.1	47.8	47.7	43.2
--GARRISON--										
NAT INFLOW	1810	300	230	310	110	51	59	130	260	360
DEPLETION	-152	27	-102	51	-59	-27	-31	-29	-3	21
CHAN STOR	10		18	2	0			-5	-5	
EVAPORATION	438	90	112	98	44	21	23	50		
REG INFLOW	3539	552	489	410	244	114	133	411	570	617
RELEASE	5233	861	658	620	298	139	159	861	861	778
STOR CHANGE	-1694	-309	-169	-209	-54	-25	-26	-450	-290	-161
STORAGE	17179	16870	16701	16492	16438	16413	16387	15937	15646	15485
ELEV FTMSL	1834.4	1833.3	1832.8	1832.0	1831.8	1831.8	1831.7	1830.1	1829.0	1828.4
DISCH KCFS	13.8	14.0	11.1	10.1	10.0	10.0	10.0	14.0	14.0	14.0
POWER										
AVE POWER MW		171	135	122	121	121	121	168	166	165
PEAK POW MW		365	363	361	360	360	360	355	352	350
ENERGY GWH	762.1	127.3	96.9	91.0	43.6	20.3	23.2	124.8	123.8	111.2
--CAHE--										
NAT INFLOW	365	90	100	40	18	8	9		10	90
DEPLETION	161	80	21	-5	3	1	1	13	18	29
CHAN STOR	-2	-1	12	4	0			-17		
EVAPORATION	451	97	117	99	44	20	23	50		
REG INFLOW	4984	773	632	569	269	125	143	781	853	839
RELEASE	7963	1469	1544	1044	531	251	215	955	915	1039
STOR CHANGE	-2979	-696	-913	-474	-262	-126	-72	-174	-62	-200
STORAGE	19147	18451	17538	17064	16802	16677	16605	16431	16369	16168
ELEV FTMSL	1608.5	1606.3	1603.2	1601.6	1600.6	1600.2	1600.0	1599.3	1599.1	1598.4
DISCH KCFS	18.7	23.9	26.0	17.0	17.8	18.1	13.5	15.5	14.9	18.7
POWER										
AVE POWER MW		307	329	213	222	225	168	192	183	230
PEAK POW MW		698	682	674	669	666	665	662	661	657
ENERGY GWH	1207.6	228.7	236.7	158.4	80.0	37.7	32.2	142.8	136.5	154.5
--BIG BEND--										
EVAPORATION	97	20	25	22	10	5	5	11		
REG INFLOW	7865	1450	1519	1022	521	247	210	944	915	1039
RELEASE	7896	1481	1519	1022	521	247	210	943	915	1039
STORAGE	1713	1682	1682	1682	1682	1682	1682	1682	1682	1682
ELEV FTMSL	1420.5	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0
DISCH KCFS	16.6	24.1	25.5	16.6	17.5	17.8	13.2	15.3	14.9	18.7
POWER										
AVE POWER MW		113	121	82	88	89	67	77	73	90
PEAK POW MW		509	517	538	538	538	538	538	538	529
ENERGY GWH	463.8	84.1	87.1	60.8	31.7	15.0	12.8	57.3	54.6	60.3
--FORT RANDALL--										
NAT INFLOW	135	25	25	5	3	1	1	5	20	50
DEPLETION	34	15	7	1	1	0	1	3	3	3
EVAPORATION	109	25	31	25	9	4	4	10		
REG INFLOW	7889	1465	1506	1001	513	243	207	936	932	1086
RELEASE	8331	1481	1652	1661	807	377	229	732	732	861
STOR CHANGE	-442	-16	-146	-659	-294	-133	-22	204	200	425
STORAGE	3566	3550	3404	2744	2450	2317	2295	2499	2699	3124
ELEV FTMSL	1355.4	1355.2	1353.5	1344.7	1340.2	1337.9	1337.5	1341.0	1344.1	1350.0
DISCH KCFS	20.3	24.1	27.8	27.0	27.1	27.1	14.4	11.9	11.9	11.9
POWER										
AVE POWER MW		202	231	215	204	197	105	88	90	94
PEAK POW MW		352	345	308	288	277	276	292	306	332
ENERGY GWH	799.2	150.5	166.2	160.0	73.4	33.2	20.1	65.3	67.3	63.2
--GAVINS POINT--										
NAT INFLOW	590	100	65	70	35	16	19	60	100	125
DEPLETION	28	10	-5	2	5	2	3	10	1	
CHAN STOR	15	-7	-7	1	0	0	23	5		
EVAPORATION	36	7	9	8	4	2	2	4		
REG INFLOW	8871	1557	1706	1722	833	389	266	782	831	786
RELEASE	8864	1537	1666	1722	833	389	266	782	831	839
STOR CHANGE	7	20	40							-53
STORAGE	351	371	411	411	411	411	411	411	411	358
ELEV FTMSL	1205.7	1206.5	1208.0	1208.0	1208.0	1208.0	1208.0	1208.0	1208.0	1206.0
DISCH KCFS	22.6	25.0	28.0	28.0	28.0	28.0	16.8	12.7	13.5	15.1
POWER										
AVE POWER MW		86	98	99	99	99	60	45	48	54
PEAK POW MW		115	117	117	117	117	117	78	78	76
ENERGY GWH	377.6	63.9	70.4	73.8	35.7	16.7	11.5	33.8	35.9	36.0
--GAVINS POINT - SIOUX CITY--										
NAT INFLOW	450	150	55	50	23	11	12	30	35	85
DEPLETION	107	32	21	9	5	2	3	11	12	12
REGULATED FLOW AT SIOUX CITY										
KAF	9207	1655	1700	1763	851	397	275	801	854	912
KCFS		26.9	28.6	28.7	28.6	28.6	17.3	13.0	13.9	16.4
--TOTAL--										
NAT INFLOW	4960	845	645	675	288	134	153	405	740	1075
DEPLETION	115	155	-120	61	-27	-12	-12	-12	18	66
CHAN STOR	23	-8	23	7	0	0	19	-18		
EVAPORATION	1491	312	387	332	147	68	77	168		
STORAGE	54668	53383	52084	50611	49928	49609	49443	48873	48742	48839
SYSTEM POWER										
AVE POWER MW		958	968	783	786	783	578	634	626	697
PEAK POW MW		2236	2221	2193	2166	2153	2150	2118	2128	2138
ENERGY GWH	3923.7	712.7	696.9	582.7	282.9	131.6	110.9	471.8	465.8	468.4
DAILY GWH		23.0	23.2	18.8	18.9	18.8	13.9	15.2	15.0	16.7
	INI-SUM	31AUG	30SEP	31OCT	15NOV	22NOV	30NOV	31DEC	31JAN	28FEB

31JUL01		2001		VALUES IN 1000 AF EXCEPT AS INDICATED								2002
INI-SUM	31AUG	30SEP	31OCT	15NOV	22NOV	30NOV	31DEC	31JAN	28FEB			
--FORT PECK--												
NAT INFLOW	1932	216	204	240	120	56	64	216	378	438		
DEPLETION	-173	26	-38	10	14	7	7	-79	-90	-29		
EVAPORATION	245	55	69	60	14	7	8	31				
MOD INFLOW	1860	135	173	170	92	43	49	264	468	467		
RELEASE	2002	369	252	244	118	55	71	307	307	278		
STOR CHANGE	-142	-234	-79	-74	-26	-12	-22	-44	161	189		
STORAGE	12712	12478	12399	12325	12299	12287	12264	12221	12381	12570		
ELEV FTMSL	2222.3	2221.1	2220.6	2220.2	2220.1	2220.0	2219.9	2219.6	2220.5	2221.6		
DISCH KCFS	6.0	6.0	4.2	4.0	4.0	4.0	4.5	5.0	5.0	5.0		
POWER												
AVE POWER MW		78	55	52	51	51	58	65	65	65		
PEAK POW MW		197	197	196	196	196	196	195	196	198		
ENERGY GWH	314.5	58.2	39.6	38.3	18.5	8.6	11.2	48.1	48.2	43.7		
--GARRISON--												
NAT INFLOW	2172	360	276	372	132	62	70	156	312	432		
DEPLETION	-21	54	-67	78	-47	-22	-25	-16	4	19		
CHAN STOR	10		18	3	0		-5	-5				
EVAPORATION	300	68	85	74	18	8	9	38				
REG INFLOW	3905	607	528	467	279	130	152	436	615	691		
RELEASE	5251	861	655	612	296	139	159	861	892	778		
STOR CHANGE	-1347	-254	-127	-146	-17	-9	-7	-425	-276	-87		
STORAGE	17179	16925	16798	16653	16636	16627	16620	16195	15919	15832		
ELEV FTMSL	1834.4	1833.5	1833.1	1832.6	1832.5	1832.5	1831.0	1830.0	1829.7			
DISCH KCFS	13.8	14.0	11.0	10.0	10.0	10.0	14.0	14.5	14.0			
POWER												
AVE POWER MW		171	134	121	121	121	121	169	173	167		
PEAK POW MW		365	364	363	362	362	358	355	354			
ENERGY GWH	767.9	127.3	96.6	90.2	43.5	20.4	23.3	125.5	129.0	112.0		
--OAHE--												
NAT INFLOW	438	108	120	48	21	10	11		12	108		
DEPLETION	161	80	21	-5	3	1	1	13	18	29		
CHAN STOR	-2	-1	12	4		0	0	-17	-2	2		
EVAPORATION	311	73	89	75	18	8	9	38				
REG INFLOW	5216	815	677	594	297	139	159	792	883	859		
RELEASE	7816	1431	1511	1014	509	243	204	955	917	1032		
STOR CHANGE	-2600	-616	-835	-420	-212	-104	-45	-162	-33	-174		
STORAGE	19147	18531	17697	17277	17065	16961	16917	16754	16721	16547		
ELEV FTMSL	1608.5	1606.5	1603.7	1602.3	1601.6	1601.2	1601.0	1600.5	1600.4	1599.7		
DISCH KCFS	18.7	23.3	25.4	16.5	17.1	17.5	12.9	15.5	14.9	18.6		
POWER												
AVE POWER MW		300	323	208	214	218	160	193	185	230		
PEAK POW MW		700	685	677	674	672	671	668	667	664		
ENERGY GWH	1190.2	222.9	232.2	154.5	77.1	36.6	30.8	143.7	137.8	154.6		
--BIG BEND--												
EVAPORATION	66	15	19	16	4	2	2	9				
REG INFLOW	7750	1416	1493	998	505	241	202	946	917	1032		
RELEASE	7781	1447	1493	998	505	241	202	946	917	1032		
STORAGE	1713	1682	1682	1682	1682	1682	1682	1682	1682	1682		
ELEV FTMSL	1420.5	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0		
DISCH KCFS	16.6	23.5	25.1	16.2	17.0	17.3	12.7	15.4	14.9	18.6		
POWER												
AVE POWER MW		110	119	80	85	87	64	77	74	89		
PEAK POW MW		509	517	538	538	538	538	538	538	529		
ENERGY GWH	457.0	82.2	85.6	59.4	30.8	14.7	12.3	57.4	54.8	59.9		
--FORT RANDALL--												
NAT INFLOW	162	30	30	6	3	1	2	6	24	60		
DEPLETION	34	15	7	1	1	0	1	3	3	3		
EVAPORATION	75	19	24	18	4	2	2	7				
REG INFLOW	7834	1443	1492	984	504	240	202	942	938	1089		
RELEASE	8276	1459	1637	1645	798	372	224	738	738	666		
STOR CHANGE	-443	-16	-145	-660	-294	-132	-22	204	200	423		
STORAGE	3566	3550	3405	2745	2451	2319	2297	2500	2700	3123		
ELEV FTMSL	1355.4	1355.2	1353.5	1344.7	1340.2	1337.9	1337.5	1341.0	1344.1	1350.0		
DISCH KCFS	20.3	23.7	27.5	26.7	26.8	26.8	14.1	12.0	12.0	12.0		
POWER												
AVE POWER MW		199	229	213	201	195	102	89	91	95		
PEAK POW MW		352	345	308	288	277	276	292	306	332		
ENERGY GWH	794.0	148.3	164.8	158.5	72.5	32.8	19.6	65.9	67.9	63.8		
--GAVINS POINT--												
NAT INFLOW	708	120	78	84	42	20	22	72	120	150		
DEPLETION	28	10	-5	2	5	2	3	10	1			
CHAN STOR	15	-7	-7	1	0	0	23	4				
EVAPORATION	24	5	7	6	1	1	1	3				
REG INFLOW	8946	1557	1706	1722	833	389	266	800	857	816		
RELEASE	8939	1537	1666	1722	833	389	266	800	857	869		
STOR CHANGE	7	20	40							-53		
STORAGE	351	371	411	411	411	411	411	411	411	358		
ELEV FTMSL	1205.7	1206.5	1208.0	1208.0	1208.0	1208.0	1208.0	1208.0	1208.0	1206.0		
DISCH KCFS	22.6	25.0	28.0	28.0	28.0	28.0	16.8	13.0	13.9	15.7		
POWER												
AVE POWER MW		86	98	99	99	99	60	46	50	56		
PEAK POW MW		115	117	117	117	117	117	78	78	76		
ENERGY GWH	380.8	63.9	70.4	73.8	35.7	16.7	11.5	34.6	37.0	37.3		
--GAVINS POINT - SIOUX CITY--												
NAT INFLOW	540	180	66	60	27	13	14	36	42	102		
DEPLETION	107	32	21	9	5	2	3	11	12	12		
REGULATED FLOW AT SIOUX CITY												
KAP	9372	1685	1711	1773	855	399	278	825	887	959		
KCFS	27.4	28.8	28.8	28.7	28.7	17.5	13.4	14.4	17.3			
--TOTAL--												
NAT INFLOW	5952	1014	774	810	345	161	184	486	888	1290		
DEPLETION	136	217	-61	95	-20	-9	-10	-58	-52	34		
CHAN STOR	23	-7	23	8	0	0	18	-18	-2	2		
EVAPORATION	1022	235	292	251	59	27	31	127				
STORAGE	54668	53538	52392	51092	50543	50286	50191	49764	49815	50113		
SYSTEM POWER												
AVE POWER MW		945	957	772	773	773	566	639	638	701		
PEAK POW MW		2238	2225	2199	2174	2162	2159	2129	2140	2152		
ENERGY GWH	3904.5	702.8	689.2	574.7	278.2	129.8	108.7	475.2	474.5	471.4		
DAILY GWH		22.7	23.0	18.5	18.5	18.5	13.6	15.3	15.3	16.8		
INI-SUM	31AUG	30SEP	31OCT	15NOV	22NOV	30NOV	31DEC	31JAN	28FEB			

	VALUES IN 1000 AF EXCEPT AS INDICATED									
	31JUL01 INI-SUM	31AUG	2001 30SEP	31OCT	15NOV	22NOV	30NOV	31DEC	31JAN	28FEB
--FORT PECK--										
NAT INFLOW	1288	144	136	160	80	37	43	144	252	292
DEPLETION	-102	-10	-86	-31	10	4	5	-14	-2	22
EVAPORATION	447	92	115	100	45	21	24	52		
MOD INFLOW	943	62	107	91	26	12	14	106	254	270
RELEASE	1824	369	255	248	119	56	63	246	246	222
STOR CHANGE	-881	-307	-147	-157	-93	-44	-50	-140	8	48
STORAGE	12712	12405	12258	12101	12008	11965	11915	11775	11783	11831
ELEV FTMSL	2222.3	2220.7	2219.8	2219.0	2218.4	2218.2	2217.9	2217.1	2217.2	2217.4
DISCH KCFS	6.0	6.0	4.3	4.0	4.0	4.0	4.0	4.0	4.0	4.0
POWER										
AVE POWER MW		78	56	52	52	51	51	51	51	51
PEAK POW MW		197	196	195	194	194	193	192	192	192
ENERGY GWH	284.6	58.1	40.0	38.8	18.6	8.6	9.9	38.1	38.1	34.4
--GARRISON--										
NAT INFLOW	1448	240	184	248	88	41	47	104	208	288
DEPLETION	-202	15	-103	48	-59	-27	-31	-32	-16	3
CHAN STOR	20		17	3	0					
EVAPORATION	549	113	141	122	55	26	29	63		
REG INFLOW	2945	481	418	328	211	98	112	319	470	507
RELEASE	5166	861	655	615	297	139	159	830	861	750
STOR CHANGE	-2221	-380	-236	-287	-87	-41	-46	-511	-391	-243
STORAGE	17179	16799	16563	16276	16189	16149	16103	15592	15201	14958
ELEV FTMSL	1834.4	1833.1	1832.3	1831.3	1831.0	1830.8	1830.7	1828.8	1827.4	1826.5
DISCH KCFS	13.8	14.0	11.0	10.0	10.0	10.0	10.0	13.5	14.0	13.5
POWER										
AVE POWER MW		171	134	121	120	120	120	161	165	158
PEAK POW MW		364	362	359	358	357	357	352	347	345
ENERGY GWH	748.1	127.2	96.2	89.9	43.3	20.2	23.1	119.6	122.6	106.0
--OAHE--										
NAT INFLOW	292	72	80	32	14	7	7		8	72
DEPLETION	161	80	21	-5	3	1	1	13	18	29
CHAN STOR	0	-1	12	4		0	0	-15	-2	2
EVAPORATION	560	121	146	123	54	25	28	61		
REG INFLOW	4737	731	579	533	255	119	136	741	849	795
RELEASE	8266	1508	1641	1156	564	259	230	954	913	1042
STOR CHANGE	-3529	-777	-1061	-623	-309	-140	-93	-214	-64	-247
STORAGE	19147	18370	17309	16686	16377	16237	16143	15930	15866	15618
ELEV FTMSL	1608.5	1606.0	1602.4	1600.2	1599.1	1598.6	1598.3	1597.5	1597.3	1596.3
DISCH KCFS	18.7	24.5	27.6	18.8	18.9	18.7	14.5	15.5	14.8	18.8
POWER										
AVE POWER MW		315	348	234	234	230	178	190	181	228
PEAK POW MW		697	678	667	661	658	657	653	652	647
ENERGY GWH	1245.9	234.5	250.7	174.3	84.2	38.6	34.1	141.3	134.8	153.3
--BIG BEND--										
EVAPORATION	121	25	31	27	12	6	7	14		
REG INFLOW	8145	1483	1610	1129	551	254	223	940	913	1042
RELEASE	8175	1514	1610	1129	551	254	223	940	913	1042
STORAGE	1713	1682	1682	1682	1682	1682	1682	1682	1682	1682
ELEV FTMSL	1420.5	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0
DISCH KCFS	16.6	24.6	27.1	18.4	18.5	18.3	14.1	15.3	14.8	18.8
POWER										
AVE POWER MW		116	128	90	93	92	71	77	73	90
PEAK POW MW		509	517	538	538	538	538	538	538	529
ENERGY GWH	480.0	86.0	92.3	67.0	33.5	15.4	13.6	57.0	54.5	60.5
--FORT RANDALL--										
NAT INFLOW	108	20	20	4	2	1	1	4	16	40
DEPLETION	34	15	7	1	1	0	1	3	3	3
EVAPORATION	137	32	39	31	12	5	5	12		
REG INFLOW	8113	1488	1583	1101	541	249	219	928	926	1079
RELEASE	8556	1504	1729	1738	845	394	241	726	726	655
STOR CHANGE	-443	-16	-145	-637	-304	-145	-22	203	200	424
STORAGE	3566	3550	3405	2767	2463	2318	2296	2499	2699	3123
ELEV FTMSL	1355.4	1355.2	1353.5	1345.1	1340.4	1337.9	1337.5	1341.0	1344.1	1350.0
DISCH KCFS	20.3	24.5	29.1	28.3	28.4	28.4	15.2	11.8	11.8	11.8
POWER										
AVE POWER MW		205	241	225	214	207	110	87	90	93
PEAK POW MW		352	345	310	288	277	276	292	306	332
ENERGY GWH	821.1	152.8	173.8	167.6	76.9	34.7	21.1	64.8	66.7	62.7
--GAVINS POINT--										
NAT INFLOW	472	80	52	56	28	13	15	48	80	100
DEPLETION	28	10	-5	2	5	2	3	10	1	
CHAN STOR	15	-8	-9	1	0	0	24	6		
EVAPORATION	45	8	11	10	5	2	2	5		
REG INFLOW	8970	1557	1766	1783	863	403	275	764	805	755
RELEASE	8963	1537	1726	1783	863	403	275	764	805	808
STOR CHANGE	7	20	40							-53
STORAGE	351	371	411	411	411	411	411	411	411	358
ELEV FTMSL	1205.7	1206.5	1208.0	1208.0	1208.0	1208.0	1208.0	1208.0	1208.0	1206.0
DISCH KCFS	22.6	25.0	29.0	29.0	29.0	29.0	17.3	12.4	13.1	14.6
POWER										
AVE POWER MW		77	78	78	102	102	62	44	47	52
PEAK POW MW		76	78	78	117	117	117	117	117	114
ENERGY GWH	339.4	57.2	55.8	58.2	36.7	17.1	11.9	33.0	34.7	34.7
--GAVINS POINT - SIOUX CITY--										
NAT INFLOW	372	120	44	40	18	8	10	36	28	68
DEPLETION	107	32	21	9	5	2	3	11	12	12
REGULATED FLOW AT SIOUX CITY										
KAF	9228	1625	1749	1814	876	409	281	789	821	864
KCFS	26.4	29.4	29.5	29.4	29.4	29.4	17.7	12.8	13.3	15.6
--TOTAL--										
NAT INFLOW	3980	676	516	540	230	107	123	336	592	860
DEPLETION	26	142	-145	24	-36	-17	-19	-9	16	69
CHAN STOR	36	-9	21	8	0	0	25	-9	-2	2
EVAPORATION	1859	391	484	413	183	85	96	208		
STORAGE	54668	53177	51627	49924	49130	48761	48550	47889	47642	47571
SYSTEM POWER										
AVE POWER MW		962	985	801	815	802	592	610	607	672
PEAK POW MW		2195	2176	2145	2156	2141	2137	2143	2152	2159
ENERGY GWH	3919.0	715.8	708.9	595.8	293.2	134.7	113.6	453.8	451.5	451.7
DAILY GWH		23.1	23.6	19.2	19.5	19.2	14.2	14.6	14.6	16.1
	INI-SUM	31AUG	30SEP	31OCT	15NOV	22NOV	30NOV	31DEC	31JAN	28FEB

DATE OF STUDY 11/07/01
 TIME OF STUDY 10:16:30

2001-2002 AOP UPPER DECILE RUNOFF SIMULATION

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STUDY NO 4

28FEB02		2002												2003			
INI-SUM	15MAR	22MAR	31MAR	30APR	31MAY	30JUN	31JUL	31AUG	30SEP	31OCT	15NOV	22NOV	30NOV	31DEC	31JAN	28FEB	
--FORT PECK--																	
NAT INFLOW	9600	319	149	192	797	1604	2491	1219	456	379	531	210	98	112	346	297	400
DEPLETION	239	-28	-13	-17	20	243	555	151	-104	-107	-53	-18	-8	-10	-117	-147	-109
EVAPORATION	324							21	67	85	75	18	8	10	39		
MOD INFLOW	9037	347	162	208	777	1361	1936	1047	493	401	509	210	98	112	424	444	509
RELEASE	5739	149	69	107	387	461	762	535	523	357	366	156	73	127	584	584	500
STOR CHANGE	3298	198	92	101	390	900	1174	512	-30	44	143	54	25	-15	-161	-140	9
STORAGE	12570	12769	12861	12962	13352	14252	15426	15939	15908	15952	16095	16149	16175	16160	15999	15859	15868
ELEV FTMSL	2221.6	2222.7	2223.2	2223.7	2225.8	2230.4	2236.0	2238.3	2238.2	2238.4	2239.0	2239.3	2239.4	2239.3	2238.6	2238.0	2238.0
DISCH KCFS	5.0	5.0	5.0	6.0	6.5	7.5	12.8	8.7	8.5	6.0	6.0	5.2	5.2	8.0	9.5	9.5	9.0
POWER																	
AVE POWER MW		65	66	79	86	100	98	113	117	83	82	72	72	111	131	131	124
PEAK POW MW		199	199	200	202	206	210	212	211	212	212	212	212	212	212	211	211
ENERGY GWH	887.8	23.5	11.0	17.0	61.8	74.5	70.7	83.9	87.1	59.6	61.2	26.0	12.2	21.2	97.5	97.3	83.2
--GARRISON--																	
NAT INFLOW	14199	515	240	309	1376	1934	3530	2647	841	574	652	260	121	139	278	348	434
DEPLETION	950	-18	-9	-11	-42	249	850	514	47	-118	1	-94	-44	-50	-132	-117	-76
CHAN STOR	-42			-10	-5	-10	-53	40	2	25	0	7	-27	-15			5
EVAPORATION	352							24	75	93	80	19	9	10	41		
REG INFLOW	18595	683	318	417	1800	2136	3388	2685	1243	980	937	498	229	278	938	1049	1015
RELEASE	17215	417	194	321	1428	1906	1785	1783	1722	1369	1168	506	236	286	1230	1476	1388
STOR CHANGE	1380	266	124	96	372	230	1603	902	-479	-388	-231	-8	-7	-7	-292	-427	-374
STORAGE	15832	16098	16223	16318	16690	16920	18523	19424	18946	18558	18327	18319	18312	18304	18013	17586	17212
ELEV FTMSL	1829.7	1830.6	1831.1	1831.4	1832.7	1833.5	1838.8	1841.6	1840.2	1838.9	1838.2	1838.2	1838.2	1838.1	1837.2	1835.8	1834.5
DISCH KCFS	14.0	14.0	14.0	18.0	24.0	31.0	30.0	29.0	28.0	23.0	19.0	17.0	17.0	18.0	20.0	24.0	25.0
POWER																	
AVE POWER MW		167	168	216	288	359	357	357	348	290	238	213	213	225	249	296	306
PEAK POW MW		357	358	359	363	365	381	395	385	381	379	379	379	379	376	372	368
ENERGY GWH	2544.7	60.1	28.2	46.6	207.4	267.2	257.2	265.7	259.2	208.5	177.3	76.7	35.8	43.3	185.5	220.5	205.6
--OAH--																	
NAT INFLOW	3850	559	261	335	474	347	881	297	123	163	102	109	51	58	22	10	59
DEPLETION	557	22	10	13	45	61	117	134	87	22	-7	2	1	1	11	15	24
CHAN STOR	-48			-17	-25	-28	4	4	4	19	15	8	-4	-8	-16	-4	
EVAPORATION	368							25	78	97	84	20	9	11	43		
REG INFLOW	20092	953	445	626	1832	2164	2553	1925	1683	1431	1208	601	277	328	1190	1455	1419
RELEASE	17818	460	233	276	920	1467	1561	1841	1926	1745	1314	634	294	492	1767	1621	1269
STOR CHANGE	2274	493	212	351	912	697	992	85	-243	-313	-106	-33	-17	-163	-577	-166	151
STORAGE	16547	17040	17252	17603	18515	19212	20204	20288	20046	19732	19626	19593	19577	19414	18837	18671	18821
ELEV FTMSL	1599.7	1601.5	1602.2	1603.4	1606.5	1608.7	1611.7	1612.0	1611.3	1610.3	1610.0	1609.9	1609.8	1609.3	1607.5	1607.0	1607.5
DISCH KCFS	18.6	15.5	16.8	15.5	15.5	23.9	26.2	29.9	31.3	29.3	21.4	21.3	21.1	31.0	28.7	26.4	22.8
POWER																	
AVE POWER MW		192	210	194	197	307	342	393	411	383	279	278	276	402	371	339	294
PEAK POW MW		673	677	683	700	711	727	729	725	720	718	718	717	715	705	702	705
ENERGY GWH	2793.9	69.2	35.2	42.0	141.7	228.7	246.4	292.6	305.7	275.9	207.7	100.1	46.3	77.2	276.1	251.9	197.4
--BIG BEND--																	
EVAPORATION	71							5	15	19	16	4	2	2	9		
REG INFLOW	17748	460	233	276	920	1467	1561	1836	1911	1726	1298	630	292	489	1758	1621	1269
RELEASE	17748	460	233	276	920	1467	1561	1836	1911	1726	1298	630	292	489	1758	1621	1269
STORAGE	1682	1682	1682	1682	1682	1682	1682	1682	1682	1682	1682	1682	1682	1682	1682	1682	1682
ELEV FTMSL	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0
DISCH KCFS	18.6	15.5	16.8	15.5	15.5	23.9	26.2	29.9	31.1	29.0	21.1	21.2	21.0	30.8	28.6	26.4	22.8
POWER																	
AVE POWER MW		73	78	72	72	112	123	140	145	137	103	106	105	154	140	128	109
PEAK POW MW		517	509	509	509	509	509	509	509	517	538	538	538	538	538	538	529
ENERGY GWH	1025.4	26.4	13.2	15.6	52.1	83.1	88.4	104.0	108.2	99.0	76.8	38.1	17.7	29.5	104.5	95.1	73.6
--FORT RANDALL--																	
NAT INFLOW	1501	190	89	114	298	159	224	111	72	92	60	5	2	3	23	10	49
DEPLETION	80	1	1	1	4	9	12	18	15	7	1	1	0	1	3	3	3
EVAPORATION	82							6	19	24	19	4	2	2	8		
REG INFLOW	19086	649	321	389	1214	1617	1773	1923	1950	1787	1338	630	292	489	1770	1628	1315
RELEASE	19085	357	187	389	1214	1617	1773	1923	1950	1931	1940	959	447	511	1404	1371	1111
STOR CHANGE	1	292	134					0	-144	-602	-329	-155	-22	366	257	204	
STORAGE	3123	3415	3549	3549	3549	3549	3549	3549	3549	3405	2803	2474	2319	2297	2663	2920	3124
ELEV FTMSL	1350.0	1353.6	1355.2	1355.2	1355.2	1355.2	1355.2	1355.2	1355.2	1353.5	1345.6	1340.6	1337.9	1337.5	1343.5	1347.2	1350.0
DISCH KCFS	12.0	12.0	13.5	21.8	20.4	26.3	29.8	31.3	31.7	32.5	31.6	32.2	32.2	32.2	22.8	22.3	20.0
POWER																	
AVE POWER MW		99	113	183	172	220	249	261	265	269	252	243	234	231	169	172	159
PEAK POW MW		346	352	352	352	352	352	352	352	345	312	289	278	276	304	320	332
ENERGY GWH	1865.7	35.6	19.0	39.5	123.5	164.0	179.4	194.5	197.1	193.8	187.1	87.4	39.3	44.3	125.8	128.3	107.0
--GAVINS POINT--																	
NAT INFLOW	2252	107	50	64	246	319	281	211	170	135	157	60	28	32	95	106	191
DEPLETION	114	0	0	0	5	19	24	39	10	-5	2	5	2	3	10	1	
CHAN STOR	-16				-11	-7		-3	-1	2	-1	0	0	17	1	4	
EVAPORATION	26							2	5	7	6	1	1	3			
REG INFLOW	21181	464	234	437	1458	1906	2023	2091	2104	2063	2091	1012	472	540	1503	1477	1306
RELEASE	21181	464	234	437	1458	1906	2023	2091	2091	2023	2091	1012	472	540	1503	1477	1359
STOR CHANGE								13	40								-53
STORAGE	358	358	358	358	358	358	358	358	371	411	411	411	411	411	411	411	358
ELEV FTMSL	1206.0	1206.0	1206.0	1206.0	1206.0	1206.0	1206.0	1206.0	1206.5	1208.0	1208.0	1208.0	1208.0	1208.0	1208.0	1208.0	1206.0
DISCH KCFS	15.7	15.6	16.9	24.5	24.5	31.0	34.0	34.0	34.0	34.0	34.0	34.0	34.0	34.0	24.4	24.0	24.5
POWER																	
AVE POWER MW		54	59	84	84	103	110	110	110	112	114	114	114	114	79	79	78
PEAK POW MW		114	114	114	114	114	114	114	115	117	117	117	117	117	78	78	76
ENERGY GWH	843.7	19.6	9.8	18.2	60.5	76.7	79.0	81.6	82.0	80.8	84.5	40.9	19.1	21.8	58.4	58.5	52.2
--GAVINS POINT - SIOUX CITY--																	
NAT INFLOW	3100	195	91	117	1006	553	318	246	184	127	66	26	12	14	30	12	105
DEPLETION	239	6	3	3	19	34	29	36	33	21	9	5	2	3	11	12	13
REGULATED FLOW AT SIOUX CITY																	
KAF	24042		322	551	2445	2425	2312	2301	2242	2129	2148	1032	482	550	152		

TIME OF STUDY 10:15:55

STUDY NO 6

	VALUES IN 1000 AF EXCEPT AS INDICATED																																													
	28FEB02 INI-SUM	15MAR	2002			30APR			31MAY			30JUN			31JUL			31AUG			30SEP			31OCT			15NOV			22NOV			2003			30NOV			31DEC			31JAN			28FEB	
--FORT PECK--																																														
NAT INFLOW	7400	264	123	158	628	1210	1851	829	324	319	398	188	88	100	310	261	349																													
DEPLETION	165	14	7	8	45	128	533	129	-88	-98	-66	-34	-16	-18	-122	-155	-102																													
EVAPORATION	415							25	80	99	87	39	18	21	45																															
MOD INFLOW	6820	250	117	150	583	1082	1318	675	332	318	377	182	85	97	387	416	451																													
RELEASE	5513	119	56	71	357	461	536	553	553	407	316	149	97	111	584	615	528																													
STOR CHANGE	1307	131	61	79	226	621	782	121	-221	-90	61	33	-12	-14	-199	-77																														
STORAGE	12020	12152	12213	12292	12518	13138	13921	14042	13821	13731	13793	13826	13814	13800	13603	13404	13327																													
ELEV FTMSL	2218.5	2219.2	2219.6	2220.0	2221.3	2224.7	2228.7	2229.4	2228.2	2227.8	2228.1	2228.3	2228.2	2228.1	2227.1	2226.1	2225.7																													
DISCH KCFS	5.0	4.0	4.0	4.0	6.0	7.5	9.0	9.0	9.0	6.8	5.1	5.0	7.0	7.0	9.5	10.0	9.5																													
POWER																																														
AVE POWER MW		52	52	52	78	98	120	120	120	91	69	67	94	94	127	133	126																													
PEAK POW MW		195	195	196	197	201	204	205	204	204	204	204	204	204	203	202	202																													
ENERGY GWH	884.8	18.6	8.7	11.2	56.1	73.1	86.1	89.6	89.5	65.8	51.1	24.1	15.7	18.0	94.1	98.7	84.5																													
--GARRISON--																																														
NAT INFLOW	11001	469	219	282	853	1423	2958	2066	581	497	454	192	89	102	253	237	326																													
DEPLETION	1313	36	17	21	79	262	787	509	70	-91	33	-90	-42	-48	-103	-82	-46																													
CHAN STOR	-46	10			-21	-15	-15			21	17	1	-20	0	-25	-5	5																													
EVAPORATION	485							29	94	117	101	46	21	24	52																															
REG INFLOW	14671	563	258	331	1111	1607	2691	2081	971	900	652	386	187	237	863	929	905																													
RELEASE	14076	357	167	268	1071	1291	1398	1414	1383	994	927	448	236	286	1230	1383	1222																													
STOR CHANGE	595	206	91	64	39	316	1293	667	-413	-94	-274	-63	-49	-49	-367	-455	-317																													
STORAGE	15485	15691	15783	15846	15886	16201	17494	18161	17748	17654	17379	17317	17268	17219	16852	16397	16080																													
ELEV FTMSL	1828.4	1829.2	1829.5	1829.7	1829.9	1831.0	1835.5	1837.7	1836.3	1836.0	1835.1	1834.9	1834.7	1834.5	1833.3	1831.7	1830.6																													
DISCH KCFS	14.0	12.0	12.0	15.0	18.0	21.0	23.5	23.0	22.5	16.7	15.1	15.1	17.0	18.0	20.0	22.5	22.0																													
POWER																																														
AVE POWER MW		142	143	178	214	250	284	284	279	207	186	185	209	220	244	271	263																													
PEAK POW MW		353	354	354	355	358	371	378	374	373	370	369	369	368	365	360	357																													
ENERGY GWH	2068.0	51.2	24.0	38.5	153.9	185.9	204.7	211.5	207.5	148.8	138.4	66.7	35.0	42.3	181.2	201.7	176.6																													
--OAH--																																														
NAT INFLOW	2300	317	148	190	364	236	689	162	33	118	14	5	2	3	-20		40																													
DEPLETION	557	22	10	13	45	61	117	134	87	22	-7	2	1	1	11	15	24																													
CHAN STOR	-35	9		-13	-13	-13	-11	2	2	25	7	-8	-4	-9	-11	2																														
EVAPORATION	455							29	89	110	94	42	20	22	49																															
REG INFLOW	15329	661	304	432	1377	1453	1960	1416	1242	1005	861	410	210	261	1141	1358	1240																													
RELEASE	14743	524	260	303	1132	1229	1143	1683	1789	1606	1076	509	234	214	1142	1076	823																													
STOR CHANGE	586	136	44	129	245	224	817	-268	-546	-601	-215	-99	-25	47	-1	281	417																													
STORAGE	16168	16305	16349	16477	16722	16947	17764	17496	16950	16349	16133	16034	16009	16056	16056	16337	16754																													
ELEV FTMSL	1598.4	1598.9	1599.0	1599.5	1600.4	1601.2	1604.0	1603.1	1601.2	1599.0	1598.2	1597.9	1597.8	1598.0	1598.0	1599.0	1600.5																													
DISCH KCFS	18.7	17.6	18.7	17.0	19.0	20.0	19.2	27.4	29.1	27.0	17.5	17.1	16.9	13.5	18.6	17.5	14.8																													
POWER																																														
AVE POWER MW		216	230	209	235	248	241	344	363	333	215	209	206	165	227	215	183																													
PEAK POW MW		660	660	663	667	672	686	682	672	660	657	655	654	655	655	660	668																													
ENERGY GWH	2209.4	77.9	38.7	45.2	169.4	184.7	173.5	256.2	270.0	239.9	160.0	75.4	34.7	31.7	169.0	159.9	123.1																													
--BIG BEND--																																														
EVAPORATION	103							6	20	25	22	10	5	5	11																															
REG INFLOW	14640	524	260	303	1132	1229	1143	1677	1769	1581	1055	499	230	209	1130	1076	823																													
RELEASE	14640	524	260	303	1132	1229	1143	1677	1769	1581	1055	499	230	209	1130	1076	823																													
STORAGE	1682	1682	1682	1682	1682	1682	1682	1682	1682	1682	1682	1682	1682	1682	1682	1682	1682																													
ELEV FTMSL	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0																													
DISCH KCFS	18.7	17.6	18.7	17.0	19.0	20.0	19.2	27.3	28.8	26.6	17.2	16.8	16.5	13.1	18.4	17.5	14.8																													
POWER																																														
AVE POWER MW		83	88	79	89	94	90	128	135	126	84	84	83	66	91	85	71																													
PEAK POW MW		517	509	509	509	509	509	509	509	517	538	538	538	538	538	537	529																													
ENERGY GWH	844.6	30.1	14.7	17.2	64.1	69.6	64.7	95.0	100.2	90.7	62.7	30.3	14.0	12.7	67.6	63.2	47.8																													
--FORT RANDALL--																																														
NAT INFLOW	900	122	57	73	115	140	185	74	57	42	2	2	1	1	10		19																													
DEPLETION	80	1	1	1	4	9	12	18	15	7	1	1	0	1	3	3	3																													
EVAPORATION	118							8	25	31	25	10	4	4	10																															
REG INFLOW	15342	645	317	375	1243	1360	1316	1725	1786	1584	1031	490	226	205	1127	1073	839																													
RELEASE	15342	354	183	375	1243	1360	1316	1725	1786	1728	1668	794	371	227	761	762	689																													
STOR CHANGE	0	291	134					0	0	-144	-637	-304	-145	-22	366	311	150																													
STORAGE	3124	3415	3549	3549	3549	3549	3549	3549	3549	3405	2768	2464	2319	2297	2663	2974	3124																													
ELEV FTMSL	1350.0	1353.6	1355.2	1355.2	1355.2	1355.2	1355.2	1355.2	1355.2	1353.5	1345.1	1340.4	1337.9	1337.5	1343.5	1348.0	1350.0																													
DISCH KCFS	11.9	11.9	13.1	21.0	20.9	22.1	22.1	28.1	29.0	29.0	27.1	26.7	26.7	14.3	12.4	12.4	12.4																													
POWER																																														
AVE POWER MW		98	110	177	176	186	186	235	243	241	216	201	195	104	92	97	100																													
PEAK POW MW		346	352	352	352	352	352	352	352	345	310	289	278	276	304	324	331																													
ENERGY GWH	1513.5	35.3	18.6	38.2	126.5	138.2	133.8	174.8	180.8	173.8	160.9	72.4	32.7	19.9	68.7	72.1	67.0																													
--GAVINS POINT--																																														
NAT INFLOW	1450	92	43	55	148	174	166	86	103	77	122	50	23	27	77	79	127																													
DEPLETION	114	0	0	0	5	19	24	39	10	-5	2	5	2	3	10	1																														
CHAN STOR	-2		-2	-15	0	-2	0	-11	-2	0	4	1	0	23	3	0	0																													
EVAPORATION	38							2	7	9	8	4	2	2	4																															
REG INFLOW	16637	447	224	416	1386	1513	1458	1759	1870	1801	1783	836	390	271	827	840	816																													
RELEASE	16637	447	224	416	1386	1513	1458	1759	1857	1761	1783	836	390	271	827	840	869																													
STOR CHANGE								13	40								-53																													
STORAGE	358	358	358	358	358	358	358	358	371	411	411	411	411	411	411	411	358																													
ELEV FTMSL	1206.0	1206.0	1206.0	1206.0	1206.0	1206.0	1206.0	1206.0	1206.5	1208.0	1208.0	1208.0	1208.0	1208.0	1208.0	1208.0	1208.0																													
DISCH KCFS	15.1	15.0	16.1	23.3	23.3	24.6	24.5	28.6	30.2	29.6	29.0	28.1	28.1	17.1	13.5	13.7	15.6																													
POWER																																														
AVE POWER MW		52	56	80	80	84	84	97	102	102	102	100	100	61	48	49	55																													
PEAK POW MW		114	114	114	114	114	114	114	115	117	117	117	117	117	78	78	76																													
ENERGY GWH	697.7	18.8	9.4	17.3	57.7	62.8	60.5	72.4	75.7	73.6	75.9																																			

DATE OF STUDY 11/07/01
 TIME OF STUDY 08:47:29

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 STUDY NO 7

	VALUES IN 1000 AF EXCEPT AS INDICATED																
	28FEB02 INI-SUM	15MAR	2002 22MAR	31MAR	30APR	31MAY	30JUN	31JUL	31AUG	30SEP	31OCT	15NOV	22NOV	2003 30NOV	31DEC	31JAN	28FEB
--FORT PECK--																	
NAT INFLOW	6000	242	113	145	525	925	1454	633	263	252	324	167	78	89	295	212	283
DEPLETION	333	24	11	15	99	162	308	163	-24	-84	-50	-20	-9	-11	-86	-100	-65
EVAPORATION	484							30	93	116	101	46	21	24	53		
MOD INFLOW	5183	218	102	131	426	763	1146	440	194	220	273	141	66	75	328	312	348
RELEASE	5319	119	56	71	327	461	506	523	523	336	301	146	83	111	615	615	528
STOR CHANGE	-136	99	46	59	99	302	640	-82	-329	-116	-28	-4	-17	-36	-286	-303	-180
STORAGE	11831	11930	11976	12035	12134	12436	13076	12994	12665	12549	12521	12517	12500	12464	12178	11875	11695
ELEV FTMSL	2217.4	2218.0	2218.3	2218.6	2219.1	2220.8	2224.3	2223.9	2222.1	2221.5	2221.3	2221.3	2221.2	2221.0	2219.4	2217.7	2216.7
DISCH KCFS	4.0	4.0	4.0	4.0	5.5	7.5	8.5	8.5	8.5	5.6	4.9	4.9	6.0	7.0	10.0	10.0	9.5
POWER																	
AVE POWER MW		51	51	51	71	97	111	112	111	74	64	64	78	91	129	128	121
PEAK POW MW		193	194	194	195	197	200	200	198	197	197	197	197	197	195	193	191
ENERGY GWH	833.7	18.5	8.6	11.1	51.0	72.1	79.9	83.1	82.7	53.0	47.4	22.9	13.1	17.5	96.0	95.3	81.3
--GARRISON--																	
NAT INFLOW	9400	443	207	266	712	1197	2521	1765	496	417	400	164	76	87	222	165	262
DEPLETION	1078	23	11	14	48	144	588	424	57	-88	47	-62	-29	-33	-40	-23	-2
CHAN STOR	-57				-16	-21	-10	0	29	8			-11	-10	-31		5
EVAPORATION	577							35	112	139	121	54	25	29	62		
REG INFLOW	13007	540	252	324	976	1493	2428	1828	850	731	540	317	152	192	784	803	797
RELEASE	13879	357	167	268	1012	1261	1398	1414	1383	904	858	415	236	286	1230	1414	1277
STOR CHANGE	-872	183	85	56	-36	233	1030	414	-533	-173	-317	-98	-84	-93	-445	-611	-481
STORAGE	14958	15141	15226	15282	15246	15479	16509	16923	16390	16217	15899	15801	15717	15623	15178	14567	14086
ELEV FTMSL	1826.5	1827.2	1827.5	1827.7	1827.6	1828.4	1832.1	1833.5	1831.7	1831.1	1829.9	1829.6	1829.3	1828.9	1827.3	1825.0	1823.2
DISCH KCFS	13.5	12.0	12.0	15.0	17.0	20.5	23.5	23.0	22.5	15.2	14.0	14.0	17.0	18.0	20.0	23.0	23.0
POWER																	
AVE POWER MW		140	141	176	199	240	279	278	271	182	167	166	201	213	235	266	262
PEAK POW MW		347	348	348	348	350	361	365	360	358	355	354	353	352	347	340	335
ENERGY GWH	1981.8	50.5	23.6	38.0	143.4	178.7	200.8	206.5	201.8	131.4	124.1	59.8	33.8	40.8	174.5	197.8	176.2
--OAHE--																	
NAT INFLOW	1449	154	72	92	229	130	577	102	24	65	9				-35	-6	36
DEPLETION	557	22	10	13	45	61	117	134	87	22	-7	2	1	1	11	15	24
CHAN STOR	-44	7		-13	-9	-16	-14	2	2	34	6		-15	-5	-10	-14	
EVAPORATION	509							32	100	123	105	47	22	25	55		
REG INFLOW	14217	496	228	334	1187	1314	1845	1352	1223	857	775	366	199	255	1120	1379	1289
RELEASE	15128	557	300	391	1327	1490	1351	1729	1707	1547	1004	436	202	197	1135	1012	743
STOR CHANGE	-910	-61	-72	-58	-140	-176	493	-377	-484	-690	-229	-70	-3	58	-16	367	546
STORAGE	15618	15558	15486	15428	15288	15112	15605	15228	14744	14055	13825	13755	13753	13811	13795	14162	14708
ELEV FTMSL	1596.3	1596.1	1595.8	1595.6	1595.1	1594.4	1596.3	1594.8	1593.0	1590.2	1589.3	1589.0	1589.0	1589.2	1589.1	1590.6	1592.8
DISCH KCFS	18.8	18.7	21.6	21.9	22.3	24.2	22.7	28.1	27.8	26.0	16.3	14.7	14.5	12.4	18.5	16.5	13.4
POWER																	
AVE POWER MW		227	261	265	269	291	274	338	331	306	191	171	169	145	215	193	158
PEAK POW MW		646	645	644	641	638	647	640	631	617	612	611	611	612	612	619	630
ENERGY GWH	2177.4	81.6	43.9	57.2	193.3	216.3	196.9	251.8	246.3	220.5	142.0	61.6	28.4	27.8	160.0	143.3	106.5
--BIG BEND--																	
EVAPORATION	129							8	24	31	27	12	6	7	14		
REG INFLOW	14999	557	300	391	1327	1490	1351	1721	1682	1516	977	424	196	190	1121	1012	743
RELEASE	14999	557	300	391	1327	1490	1351	1721	1682	1516	977	424	196	190	1121	1012	743
STORAGE	1682	1682	1682	1682	1682	1682	1682	1682	1682	1682	1682	1682	1682	1682	1682	1682	1682
ELEV FTMSL	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0
DISCH KCFS	18.8	18.7	21.6	21.9	22.3	24.2	22.7	28.0	27.4	25.5	15.9	14.3	14.1	12.0	18.2	16.5	13.4
POWER																	
AVE POWER MW		89	101	103	104	113	106	131	128	121	78	72	71	61	90	80	64
PEAK POW MW		518	510	509	509	509	509	509	509	517	538	538	538	538	538	538	529
ENERGY GWH	864.2	31.9	17.0	22.2	75.2	84.4	76.6	97.5	95.3	87.0	58.1	25.8	12.0	11.6	67.0	59.6	43.2
--FORT RANDALL--																	
NAT INFLOW	500	68	32	41	64	51	130	26	49	23	1				5	-5	15
DEPLETION	80	1	1	1	4	9	12	18	15	7	1	1	0	1	3	3	3
EVAPORATION	147							10	32	39	31	12	5	5	13		
REG INFLOW	15272	623	331	431	1387	1532	1469	1719	1684	1493	946	411	190	184	1110	1004	755
RELEASE	15270	351	194	414	1387	1532	1469	1719	1684	1637	1583	715	335	207	744	732	566
STOR CHANGE	1	272	137	17				0	0	-144	-637	-304	-145	-22	366	272	189
STORAGE	3123	3395	3532	3549	3549	3549	3549	3549	3549	3405	2768	2464	2319	2297	2663	2935	3124
ELEV FTMSL	1350.0	1353.4	1355.0	1355.2	1355.2	1355.2	1355.2	1355.2	1355.2	1353.5	1345.1	1340.4	1337.9	1337.5	1343.5	1347.5	1350.0
DISCH KCFS	11.8	11.8	14.0	23.2	23.3	24.9	24.7	28.0	27.4	27.5	25.7	24.0	24.2	13.0	12.1	11.9	10.2
POWER																	
AVE POWER MW		97	117	195	196	209	207	234	229	229	205	181	176	95	90	93	82
PEAK POW MW		345	351	352	352	352	352	352	352	345	310	288	277	276	303	321	331
ENERGY GWH	1509.0	34.9	19.7	42.1	140.8	155.5	149.1	174.2	170.7	164.7	152.9	65.3	29.6	18.2	67.2	69.1	55.0
--GAVINS POINT--																	
NAT INFLOW	1251	91	43	55	124	138	143	81	80	58	105	47	22	25	70	68	101
DEPLETION	114	0	0	0	5	19	24	39	10	-5	2	5	2	3	10	1	
CHAN STOR	2		-4	-18	0	-3	0	-6	1	0	3	3	0	20	2	0	3
EVAPORATION	48							3	9	11	10	5	2	2	5		
REG INFLOW	16361	443	233	452	1505	1648	1589	1752	1747	1688	1679	756	353	247	800	799	671
RELEASE	16361	443	233	452	1505	1648	1589	1752	1734	1648	1679	756	353	247	800	799	724
STOR CHANGE								13	40								-53
STORAGE	358	358	358	358	358	358	358	358	371	411	411	411	411	411	411	411	358
ELEV FTMSL	1206.0	1206.0	1206.0	1206.0	1206.0	1206.0	1206.0	1206.0	1206.5	1208.0	1208.0	1208.0	1208.0	1208.0	1208.0	1208.0	1206.0
DISCH KCFS	14.6	14.9	16.8	25.3	25.3	26.8	26.7	28.5	28.2	27.7	27.3	25.4	25.4	15.6	13.0	13.0	13.0

28FEB02		2002											2003										
INI-SUM		15MAR	22MAR	31MAR	30APR	31MAY	30JUN	31JUL	31AUG	30SEP	31OCT	15NOV	22NOV	30NOV	31DEC	31JAN	28FEB						
--FORT PECK--																							
NAT INFLOW	5100	234	109	140	515	783	996	439	253	242	320	159	74	85	271	205	275						
DEPLETION	283	24	11	15	99	162	308	100	-42	-104	-70	-16	-7	-9	-71	-75	-42						
EVAPORATION	469							29	90	113	98	44	21	24	51								
MOD INFLOW	4348	210	98	126	416	621	688	310	205	233	292	130	61	69	291	280	317						
RELEASE	5411	119	56	71	327	461	506	523	523	344	308	149	97	111	615	646	555						
STOR CHANGE	-1063	91	42	55	89	160	182	-212	-318	-111	-17	-19	-36	-42	-324	-366	-238						
STORAGE	11831	11922	11965	12019	12108	12268	12450	12238	11920	11809	11793	11774	11737	11696	11372	11007	10768						
ELEV FTMSL	2217.4	2217.9	2218.2	2218.5	2219.0	2219.9	2220.9	2219.7	2217.9	2217.3	2217.2	2217.1	2216.9	2216.7	2214.8	2212.6	2211.2						
DISCH KCFS	4.0	4.0	4.0	4.0	5.5	7.5	8.5	8.5	8.5	5.8	5.0	5.0	7.0	7.0	10.0	10.5	10.0						
POWER																							
AVE POWER MW		51	51	51	71	97	110	110	109	74	64	64	89	89	126	131	124						
PEAK POW MW		193	194	194	195	196	197	196	193	192	192	192	192	191	189	186	184						
ENERGY GWH	834.6	18.5	8.6	11.1	51.0	71.9	79.2	81.8	81.2	53.3	47.7	23.0	15.0	17.1	94.0	97.8	83.4						
--GARRISON--																							
NAT INFLOW	7299	270	126	162	700	903	2020	1277	361	277	390	161	75	86	108	160	223						
DEPLETION	837	23	11	14	48	144	488	338	28	-91	40	-64	-30	-34	-41	-26	-10						
CHAN STOR	-63				-16	-21	-10	0		28	8	0	-21	0	-31	-5	5						
EVAPORATION	546							34	106	132	114	51	24	27	58								
REG INFLOW	11264	366	171	220	964	1199	2027	1428	749	609	553	323	157	204	674	826	794						
RELEASE	13260	357	167	268	952	1199	1339	1353	1322	896	768	372	236	286	1230	1322	1194						
STOR CHANGE	-1996	9	4	-48	12	0	689	75	-573	-288	-216	-49	-79	-82	-555	-496	-400						
STORAGE	14958	14967	14972	14924	14935	14936	15624	15699	15126	14839	14623	14574	14495	14414	13858	13363	12962						
ELEV FTMSL	1826.5	1826.5	1826.6	1826.4	1826.4	1826.4	1828.9	1829.2	1827.1	1826.1	1825.2	1825.1	1824.8	1824.5	1822.3	1820.3	1818.7						
DISCH KCFS	13.5	12.0	12.0	15.0	16.0	19.5	22.5	22.0	21.5	15.1	12.5	12.5	17.0	18.0	20.0	21.5	21.5						
POWER																							
AVE POWER MW		140	140	175	186	226	263	259	252	175	145	144	196	206	227	241	238						
PEAK POW MW		345	345	344	345	345	352	353	347	343	341	341	340	339	332	327	322						
ENERGY GWH	1849.9	50.4	23.5	37.7	133.9	168.3	189.2	192.9	187.5	126.3	107.8	52.0	32.9	39.6	169.1	179.0	159.7						
--OAH--																							
NAT INFLOW	1049	197	92	118	183	100	215	82	21	64	5	-5	-2	-3	-48	-12	41						
DEPLETION	557	22	10	13	45	61	117	134	87	22	-7	2	1	1	11	15	24						
CHAN STOR	-38	7		-13	-4	-16	-14	2	2	30	13	0	-22	-5	-10	-7							
EVAPORATION	488							31	97	118	100	45	21	24	52								
REG INFLOW	13227	539	249	360	1086	1222	1423	1272	1162	851	692	320	190	253	1109	1288	1211						
RELEASE	15288	554	322	400	1345	1507	1360	1735	1711	1571	1045	435	201	195	1047	837	1021						
STOR CHANGE	-2061	-15	-74	-40	-260	-285	63	-463	-550	-720	-353	-115	-11	58	62	451	190						
STORAGE	15618	15604	15530	15490	15230	14945	15008	14545	13996	13275	12922	12808	12797	12855	12917	13368	13557						
ELEV FTMSL	1596.3	1596.3	1596.0	1595.9	1594.9	1593.8	1594.0	1592.2	1590.0	1587.0	1585.5	1585.0	1584.9	1585.2	1585.4	1587.4	1588.2						
DISCH KCFS	18.8	18.6	23.2	22.4	22.6	24.5	22.9	28.2	27.8	26.4	17.0	14.6	14.5	12.3	17.0	13.6	18.4						
POWER																							
AVE POWER MW		226	281	271	272	293	273	335	327	306	195	167	165	140	194	156	213						
PEAK POW MW		647	646	645	640	635	636	627	616	600	592	590	589	591	592	602	607						
ENERGY GWH	2172.9	81.3	47.2	58.5	196.1	218.2	196.6	249.1	243.0	220.0	144.9	60.0	27.7	26.9	144.3	116.3	142.8						
--BIG BEND--																							
EVAPORATION	129							8	24	31	27	12	6	7	14								
REG INFLOW	15159	554	322	400	1345	1507	1360	1727	1687	1540	1018	423	195	189	1033	837	1021						
RELEASE	15159	554	322	400	1345	1507	1360	1727	1687	1540	1018	423	195	189	1033	837	1021						
STORAGE	1682	1682	1682	1682	1682	1682	1682	1682	1682	1682	1682	1682	1682	1682	1682	1682	1682						
ELEV FTMSL	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0						
DISCH KCFS	18.8	18.6	23.2	22.4	22.6	24.5	22.9	28.1	27.4	25.9	16.6	14.2	14.1	11.9	16.8	13.6	18.4						
POWER																							
AVE POWER MW		88	109	105	106	115	107	131	128	123	81	72	71	60	84	67	88						
PEAK POW MW		518	510	509	509	509	509	509	509	517	538	538	538	538	538	538	529						
ENERGY GWH	874.4	31.7	18.3	22.7	76.2	85.4	77.1	97.8	95.5	88.3	60.5	25.8	11.9	11.5	62.2	50.2	59.3						
--FORT RANDALL--																							
NAT INFLOW	300	55	26	33	43	35	120	13	36	-10	-52	-3	-1	-1		-6	12						
DEPLETION	80	1	1	1	4	9	12	18	15	7	1	1	0	1	3	3	3						
EVAPORATION	147							10	32	39	31	12	5	5	13								
REG INFLOW	15232	608	347	432	1384	1533	1468	1712	1676	1484	934	407	189	182	1017	828	1030						
RELEASE	15231	351	195	415	1384	1533	1468	1712	1676	1628	1571	711	334	203	744	738	566						
STOR CHANGE	1	257	153	17				0	0	-144	-637	-304	-145	-22	273	90	464						
STORAGE	3123	3379	3532	3549	3549	3549	3549	3549	3549	3405	2768	2464	2319	2297	2570	2660	3124						
ELEV FTMSL	1350.0	1353.2	1355.0	1355.2	1355.2	1355.2	1355.2	1355.2	1355.2	1353.5	1345.1	1340.4	1337.9	1337.5	1342.1	1343.5	1350.0						
DISCH KCFS	11.8	11.8	14.0	23.3	23.3	24.9	24.7	27.8	27.3	27.4	25.6	23.9	24.0	12.8	12.1	12.0	10.2						
POWER																							
AVE POWER MW		97	117	195	195	209	207	233	228	228	204	180	176	93	90	91	81						
PEAK POW MW		344	351	352	352	352	352	352	352	345	310	288	277	276	297	303	332						
ENERGY GWH	1502.1	34.9	19.7	42.1	140.6	155.6	149.0	173.4	169.9	163.8	151.8	65.0	29.5	17.9	66.7	68.0	54.1						
--GAVINS POINT--																							
NAT INFLOW	1200	87	41	52	120	131	138	76	76	55	104	45	21	24	67	65	98						
DEPLETION	114	0	0	0	5	19	24	39	10	-5	2	5	2	3	10	1							
CHAN STOR	2		-4	-18	0	-3	0	-6	1	0	3	3	0	20	1	0	3						
EVAPORATION	48							3	9	11	10	5	2	2	5								
REG INFLOW	16271	439	231	450	1499	1642	1583	1740	1735	1676	1666	750	350	243	797	802	668						
RELEASE	16271	439	231	450	1499	1642	1583	1740	1722	1636	1666	750	350	243	797	802	721						
STOR CHANGE								13	40								-53						
STORAGE	358	358	358	358	358	358	358	358	371	411	411	411	411	411	411	411	358						
ELEV FTMSL	1206.0	1206.0	1206.0	1206.0	1206.0	1206.0	1206.0	1206.0	1206.5	1208.0	1208.0	1208.0	1208.0	1208.0	1208.0	1208.0	1206.0						
DISCH KCFS	14.6	14.7	16.6	25.2	25.2	26.7	26.6	28.3	28.0	27.5	27.1	25.2</											

TIME OF STUDY 10:15:55

STUDY NO 9

	VALUES IN 1000 AF EXCEPT AS INDICATED												2004					
	28FEB03 INI-SUM	15MAR	22MAR	31MAR	30APR	31MAY	30JUN	31JUL	31AUG	30SEP	31OCT	15NOV	22NOV	30NOV	31DEC	31JAN	29FEB	
--FORT PECK--																		
NAT INFLOW	7400	264	123	158	628	1210	1851	829	324	319	398	188	88	100	310	261	349	
DEPLETION	365	-2	-1	-1	51	337	545	177	-83	-143	-71	-37	-17	-20	-130	-137	-103	
EVAPORATION	446							27	85	107	94	43	20	23	49			
MOD INFLOW	6589	266	124	160	577	873	1306	625	322	355	375	182	85	97	391	398	452	
RELEASE	5361	149	69	89	417	461	762	492	461	305	246	119	55	111	553	553	518	
STOR CHANGE	1228	117	55	70	160	412	544	133	-139	50	129	63	29	-14	-163	-155	-66	
STORAGE	13327	13445	13499	13570	13730	14142	14686	14820	14681	14731	14861	14923	14953	14939	14776	14621	14555	
ELEV FTMSL	2225.7	2226.3	2226.6	2226.9	2227.8	2229.9	2232.5	2233.2	2232.5	2232.7	2233.4	2233.7	2233.8	2233.7	2232.9	2232.2	2231.9	
DISCH KCFS	9.5	5.0	5.0	5.0	7.0	7.5	12.8	8.0	7.5	5.1	4.0	4.0	4.0	7.0	9.0	9.0	9.0	
POWER																		
AVE POWER MW		66	67	67	93	100	97	102	102	70	54	54	54	95	122	122	122	
PEAK POW MW		202	203	203	204	205	207	208	207	208	208	208	208	208	208	207	207	
ENERGY GWH	816.0	23.9	11.2	14.4	67.2	74.7	69.9	75.7	75.6	50.1	40.4	19.6	9.1	18.3	90.8	90.6	84.6	
--GARRISON--																		
NAT INFLOW	11001	469	219	282	853	1423	2958	2066	581	497	454	192	89	102	253	237	326	
DEPLETION	1038	1	0	1	3	233	800	514	18	-126	3	-87	-41	-46	-97	-82	-56	
CHAN STOR	4	46			-20	-5	-54	48	5	24	11	0	-30	-20				
EVAPORATION	490							30	96	118	102	46	21	24	52			
REG INFLOW	14838	663	288	370	1246	1646	2866	2061	933	833	606	352	164	205	831	872	900	
RELEASE	15121	476	222	286	1190	1476	1888	1506	1476	1039	946	458	214	317	1230	1476	1323	
STOR CHANGE	-282	187	66	85	56	170	1378	555	-542	-205	-340	-106	-49	-112	-398	-603	-423	
STORAGE	16080	16267	16333	16418	16474	16644	18023	18577	18035	17830	17490	17384	17335	17223	16825	16221	15798	
ELEV FTMSL	1830.6	1831.2	1831.5	1831.8	1832.0	1832.6	1837.2	1839.0	1837.3	1836.6	1835.4	1835.1	1834.9	1834.5	1833.2	1831.1	1829.6	
DISCH KCFS	22.0	16.0	16.0	16.0	20.0	24.0	25.0	24.5	24.0	17.5	15.4	15.4	20.0	20.0	24.0	24.0	23.0	
POWER																		
AVE POWER MW		192	192	192	240	288	305	306	299	217	190	189	189	245	243	288	273	
PEAK POW MW		359	359	360	361	363	376	381	376	374	371	370	369	368	364	358	354	
ENERGY GWH	2230.9	69.0	32.3	41.6	173.1	214.6	219.9	227.3	222.8	156.2	141.6	68.2	31.8	47.0	181.1	214.4	190.1	
--OAAE--																		
NAT INFLOW	2300	317	148	190	364	236	689	162	33	118	14	5	2	3	-20		40	
DEPLETION	570	22	10	13	45	62	120	138	90	23	-7	2	1	1	11	15	25	
CHAN STOR	-5	26			-17	-17	-4	2	2	27	9			-20	0	-17	4	
EVAPORATION	472							30	93	114	98	44	20	23	50			
REG INFLOW	16374	796	360	462	1492	1633	2053	1503	1328	1047	878	417	195	276	1148	1444	1342	
RELEASE	15844	656	157	337	1239	1340	1250	1775	1881	1695	1169	553	255	238	1222	1156	922	
STOR CHANGE	530	141	202	126	253	293	803	-272	-553	-648	-291	-136	-60	39	-73	287	420	
STORAGE	16754	16895	17097	17223	17476	17769	18572	18300	17747	17099	16808	16672	16611	16650	16577	16864	17284	
ELEV FTMSL	1600.5	1601.0	1601.7	1602.1	1603.0	1604.0	1606.7	1605.8	1603.9	1601.7	1600.7	1600.2	1600.0	1600.1	1599.9	1600.9	1602.3	
DISCH KCFS	14.8	22.0	11.3	18.9	20.8	21.8	21.0	28.9	30.6	28.5	19.0	18.6	18.4	15.0	19.9	18.8	16.0	
POWER																		
AVE POWER MW		274	142	236	261	275	267	368	387	357	237	231	228	185	246	233	200	
PEAK POW MW		671	674	677	681	687	701	696	686	674	669	666	665	666	665	670	678	
ENERGY GWH	2405.8	98.5	23.8	50.9	188.0	204.3	192.6	274.0	288.1	256.9	176.1	83.1	38.2	35.6	182.9	173.5	139.4	
--BIG BEND--																		
EVAPORATION	103							6	20	25	22	10	5	5	11			
REG INFLOW	15741	656	157	337	1239	1340	1250	1769	1861	1670	1147	544	251	232	1210	1156	922	
RELEASE	15741	656	157	337	1239	1340	1250	1769	1861	1670	1147	544	251	232	1210	1156	922	
STORAGE	1682	1682	1682	1682	1682	1682	1682	1682	1682	1682	1682	1682	1682	1682	1682	1682	1682	
ELEV FTMSL	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	
DISCH KCFS	14.8	22.0	11.3	18.9	20.8	21.8	21.0	28.8	30.3	28.1	18.7	18.3	18.0	14.6	19.7	18.8	16.0	
POWER																		
AVE POWER MW		103	53	88	97	102	98	135	142	133	92	92	91	74	97	91	77	
PEAK POW MW		510	509	509	509	509	509	509	509	517	538	538	538	538	538	537	529	
ENERGY GWH	907.7	37.2	8.9	19.1	70.2	75.9	70.8	100.2	105.4	95.8	68.1	33.0	15.2	14.2	72.3	67.9	53.5	
--FORT RANDALL--																		
NAT INFLOW	900	122	57	73	115	140	185	74	57	42	2	2	1	1	10		19	
DEPLETION	80	1	1	1	4	9	12	18	15	7	1	1	0	1	3	3	3	
EVAPORATION	118							8	25	31	25	10	4	4	10			
REG INFLOW	16443	777	214	409	1350	1471	1423	1817	1878	1674	1123	535	247	229	1207	1153	938	
RELEASE	16444	369	197	409	1350	1471	1423	1817	1878	1818	1760	839	392	250	841	842	788	
STOR CHANGE	0	408	17					0	0	-144	-637	-304	-145	-22	366	311	150	
STORAGE	3124	3532	3549	3549	3549	3549	3549	3549	3549	3405	2768	2464	2319	2297	2663	2974	3124	
ELEV FTMSL	1350.0	1355.0	1355.2	1355.2	1355.2	1355.2	1355.2	1355.2	1355.2	1353.5	1345.1	1340.4	1337.9	1337.5	1343.5	1348.0	1350.0	
DISCH KCFS	12.4	12.4	14.2	22.9	22.7	23.9	23.9	29.5	30.5	30.5	28.6	28.2	28.2	15.8	13.7	13.7	13.7	
POWER																		
AVE POWER MW		103	120	192	191	201	247	255	254	228	212	206	114	102	107	110	110	
PEAK POW MW		352	352	352	352	352	352	352	352	345	310	289	278	276	304	324	331	
ENERGY GWH	1620.6	36.9	20.1	41.6	137.2	149.3	144.5	183.9	190.0	182.6	169.7	76.4	34.5	22.0	75.8	79.6	76.5	
--GAVINS POINT--																		
NAT INFLOW	1450	92	43	55	148	174	166	86	103	77	122	50	23	27	77	79	127	
DEPLETION	114	0	0	0	5	19	24	39	10	-5	2	5	2	3	10	1		
CHAN STOR	-4	0	-3	-17	0	-2	0	-11	-2	0	4	1	0	23	4	0		
EVAPORATION	38							2	7	9	8	4	2	2	4			
REG INFLOW	17737	462	237	448	1494	1623	1565	1851	1962	1891	1875	881	411	295	908	920	915	
RELEASE	17737	462	237	448	1494	1623	1565	1851	1949	1851	1875	881	411	295	908	920	968	
STOR CHANGE								13	40								-53	
STORAGE	358	358	358	358	358	358	358	358	371	411	411	411	411	411	411	411	358	
ELEV FTMSL	1206.0	1206.0	1206.0	1206.0	1206.0	1206.0	1206.0	1206.0	1206.5	1208.0	1208.0	1208.0	1208.0	1208.0	1208.0	1208.0	1206.0	
DISCH KCFS	15.6	15.5	17.1	25.1	25.1	26.4	26.3	30.1	31.7	31.1	30.5	29.6	29.6	18.6	14.8	15.0	16.8	
POWER																		
AVE POWER MW		54	59	86	86	90	101	105	106	106	106	104	104	66	53	53	60	
PEAK POW MW		114	114	114	114	114	114	115	117	117	117	117	117	117	78	78	76	
ENERGY GWH	737.8	19.5	10.0	18.6	61.9	67.1	64.7	75.2	78.3	76.1	78.6	37.3	17.4	12.8	39.2	39.7	41.5	
--GAVINS POINT - SIOUX CITY--																		
NAT INFLOW	1550	169	79	102	199	310	224	129	96	60	42	16	7	9	21	5	82	
DEPLETION	241	6	3	3	20	34	29	36	33	22	9	5	2	3	11	12	13	
REGULATED FLOW AT SIOUX CITY																		
KAF	19046	625	313	546	1673	1899	1760	1944	2012	1889	1908	892	416	301	918	913	1037	
KCFS	21.0	22.5	30.6	28.1	30.9	29.6												

TIME OF STUDY 10:15:55

STUDY NO 10

	VALUES IN 1000 AF EXCEPT AS INDICATED																
	29FEB04 INI-SUM	15MAR	2004 22MAR	31MAR	30APR	31MAY	30JUN	31JUL	31AUG	30SEP	31OCT	15NOV	22NOV	2005 30NOV	31DEC	31JAN	28FEB
--FORT PRCK--																	
NAT INFLOW	7400	264	123	158	628	1210	1851	829	324	319	398	188	88	100	310	261	349
DEPLETION	379	-2	-1	-1	54	333	553	183	-79	-143	-76	-39	-18	-21	-132	-139	-93
EVAPORATION	451							28	87	109	94	43	20	23	49		
MOD INFLOW	6570	267	124	160	574	877	1298	618	316	353	380	183	86	98	393	400	442
RELEASE	7134	179	69	89	417	553	1083	646	615	556	448	238	125	159	615	676	666
STOR CHANGE	-564	88	55	71	157	324	215	-27	-299	-203	-68	-55	-39	-61	-221	-276	-224
STORAGE	14555	14643	14698	14769	14926	15250	15465	15437	15139	14936	14868	14813	14774	14714	14492	14216	13991
ELEV FTMSL	2231.9	2232.3	2232.6	2232.9	2233.7	2235.2	2236.2	2236.1	2234.7	2233.7	2233.4	2233.1	2232.9	2232.7	2231.6	2230.2	2229.1
DISCH KCFS	9.0	6.0	5.0	5.0	7.0	9.0	18.2	10.5	10.0	9.3	7.3	8.0	9.0	10.0	10.0	11.0	12.0
POWER																	
AVE POWER MW		81	68	68	95	123	53	144	136	127	99	109	122	135	135	148	161
PEAK POW MW		207	207	208	208	209	210	210	209	208	208	208	208	207	207	206	205
ENERGY GWH	1030.8	29.2	11.4	14.7	68.4	91.1	38.4	106.8	101.5	91.5	73.6	39.1	20.5	26.0	100.5	110.1	108.0
--GARRISON--																	
NAT INFLOW	11001	469	219	282	853	1423	2958	2066	581	497	454	192	89	102	253	237	326
DEPLETION	882	1	0	1	7	184	777	496	24	-129	1	-99	-46	-53	-116	-100	-66
CHAN STOR	-32	31	10		-20	-20	-93	76	5	6	20	-7	-10	-10	0	-10	-10
EVAPORATION	518							31	99	124	109	49	23	26	56		
REG INFLOW	16703	678	298	370	1242	1772	3171	2261	1077	1064	812	472	228	278	928	1004	1049
RELEASE	14697	506	236	303	1071	1353	1458	1476	1445	1011	940	455	236	286	1230	1414	1277
STOR CHANGE	2006	172	62	67	171	419	1713	785	-368	53	-128	18	-8	-8	-302	-411	-229
STORAGE	15798	15970	16032	16099	16270	16689	18402	19187	18819	18873	18745	18762	18754	18746	18444	18033	17804
ELEV FTMSL	1829.6	1830.2	1830.4	1830.6	1831.2	1832.7	1838.4	1840.9	1839.8	1839.9	1839.5	1839.6	1839.6	1839.5	1838.6	1837.2	1836.5
DISCH KCFS	23.0	17.0	17.0	17.0	18.0	22.0	24.5	24.0	23.5	17.0	15.3	15.3	17.0	18.0	20.0	23.0	23.0
POWER																	
AVE POWER MW		202	203	203	215	264	301	302	297	215	193	193	215	227	251	287	285
PEAK POW MW		356	356	357	359	363	380	387	384	384	383	383	383	383	380	376	374
ENERGY GWH	2204.0	72.7	34.0	43.8	155.0	196.6	216.5	224.8	221.0	154.6	143.8	69.6	36.1	43.6	187.0	213.3	191.4
--OAHE--																	
NAT INFLOW	2300	317	148	190	364	236	689	162	33	118	14	5	2	3	-20		40
DEPLETION	585	22	10	13	46	64	123	143	93	23	-8	2	1	1	11	16	25
CHAN STOR	-1	25			-4	-16	-10	2	2	27	7	0	-7	-4	-9	-13	
EVAPORATION	468							30	93	113	97	43	20	23	49		
REG INFLOW	15943	825	373	480	1385	1508	2014	1467	1294	1020	873	415	210	260	1141	1385	1292
RELEASE	16482	695	173	354	1299	1401	1309	1830	1936	1748	1224	580	268	248	1271	1206	939
STOR CHANGE	-539	131	200	126	86	107	704	-363	-642	-729	-351	-165	-57	12	-130	180	353
STORAGE	17284	17414	17614	17740	17827	17934	18638	18275	17633	16904	16553	16388	16331	16343	16213	16392	16745
ELEV FTMSL	1602.3	1602.8	1603.5	1603.9	1604.2	1604.5	1606.9	1605.7	1603.5	1601.0	1599.8	1599.2	1599.0	1599.0	1598.5	1599.2	1600.4
DISCH KCFS	16.0	23.3	12.5	19.8	21.8	22.8	22.0	29.8	31.5	29.4	19.9	19.5	19.3	15.6	20.7	19.6	16.9
POWER																	
AVE POWER MW		293	157	250	276	288	281	380	398	367	247	241	237	193	254	241	209
PEAK POW MW		680	684	686	687	689	702	695	684	671	664	661	660	660	658	661	668
ENERGY GWH	2499.8	105.3	26.5	54.1	198.6	214.6	202.1	282.6	296.1	264.1	183.6	86.6	39.9	37.0	188.9	179.3	140.6
--BIG BEND--																	
EVAPORATION	103							6	20	25	22	10	5	5	11		
REG INFLOW	16379	695	173	354	1299	1401	1309	1824	1917	1724	1202	570	263	243	1260	1206	939
RELEASE	16379	695	173	354	1299	1401	1309	1824	1917	1724	1202	570	263	243	1260	1206	939
STORAGE	1682	1682	1682	1682	1682	1682	1682	1682	1682	1682	1682	1682	1682	1682	1682	1682	1682
ELEV FTMSL	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0
DISCH KCFS	16.0	23.3	12.5	19.8	21.8	22.8	22.0	29.7	31.2	29.0	19.6	19.2	18.9	15.3	20.5	19.6	16.9
POWER																	
AVE POWER MW		109	58	93	102	107	103	139	146	137	96	96	95	77	101	95	81
PEAK POW MW		510	509	509	509	509	509	509	509	517	538	538	538	538	538	537	529
ENERGY GWH	944.3	39.4	9.8	20.1	73.6	79.4	74.2	103.3	108.5	98.8	71.4	34.6	16.0	14.8	75.2	70.8	54.5
--FORT RANDALL--																	
NAT INFLOW	900	122	57	73	115	140	185	74	57	42	2	2	1	1	10		19
DEPLETION	80	1	1	1	4	9	12	18	15	7	1	1	0	1	3	3	3
EVAPORATION	118							8	25	31	25	10	4	4	10		
REG INFLOW	17081	816	230	427	1410	1532	1482	1872	1933	1727	1178	561	259	239	1256	1203	955
RELEASE	17081	408	213	427	1410	1532	1482	1872	1933	1871	1816	865	404	261	890	892	805
STOR CHANGE	0	408	17					0	0	-144	-637	-304	-145	-22	366	311	150
STORAGE	3124	3532	3549	3549	3549	3549	3549	3549	3549	3405	2768	2464	2319	2297	2663	2974	3124
ELEV FTMSL	1350.0	1355.0	1355.2	1355.2	1355.2	1355.2	1355.2	1355.2	1355.2	1353.5	1345.1	1340.4	1337.9	1337.5	1343.5	1348.0	1350.0
DISCH KCFS	13.7	13.7	15.3	23.9	23.7	24.9	24.9	30.4	31.4	31.4	29.5	29.1	29.1	16.5	14.5	14.5	14.5
POWER																	
AVE POWER MW		113	129	201	199	209	209	255	263	261	235	219	212	119	108	113	116
PEAK POW MW		352	352	352	352	352	352	352	352	345	310	289	278	276	304	324	331
ENERGY GWH	1682.4	40.8	21.7	43.3	143.2	155.5	150.5	189.4	195.5	187.9	174.9	78.8	35.6	22.9	80.2	84.2	78.2
--GAVINS POINT--																	
NAT INFLOW	1450	92	43	55	148	174	166	86	103	77	122	50	23	27	77	79	127
DEPLETION	114	0	0	0	5	19	24	39	10	-5	2	5	2	3	10	1	
CHAN STOR	-3	-3	-16	0	-2	0	-11	-2	0	4	1	0	23	4	0		
EVAPORATION	-38							2	7	9	8	4	2	2	4		
REG INFLOW	18376	501	253	466	1553	1685	1624	1906	2018	1944	1931	907	423	306	957	970	932
RELEASE	18376	501	253	466	1553	1685	1624	1906	2005	1904	1931	907	423	306	957	970	985
STOR CHANGE								13	40								-53
STORAGE	358	358	358	358	358	358	358	358	371	411	411	411	411	411	411	411	358
ELEV FTMSL	1206.0	1206.0	1206.0	1206.0	1206.0	1206.0	1206.0	1206.0	1206.5	1208.0	1208.0	1208.0	1208.0	1208.0	1208.0	1208.0	1206.0
DISCH KCFS	16.8	16.8	18.2	26.1	26.1	27.4	27.3	31.0									

VALUES IN 1000 AF EXCEPT AS INDICATED

Table with columns for months (28FEB05, 15MAR, 2005, 31MAR, 30APR, 31MAY, 30JUN, 31JUL, 31AUG, 30SEP, 31OCT, 15NOV, 22NOV, 2006, 30NOV, 31DEC, 31JAN, 28FEB) and rows for various hydrological and power metrics (NAT INFLOW, DEPLETION, EVAPORATION, etc.) for different locations like FORT PECK, GARRISON, OAH, BIG BEND, FORT RANDALL, GAVINS POINT, and SIOUX CITY.

VALUES IN 1000 AF EXCEPT AS INDICATED

Table with columns for months (INI-SUM, 15MAR, 22MAR, 31MAR, 30APR, 31MAY, 30JUN, 31JUL, 31AUG, 30SEP, 31OCT, 15NOV, 22NOV, 30NOV, 31DEC, 31JAN, 28FEB) and rows for various hydrological and power metrics (NAT INFLOW, DEPLETION, EVAPORATION, etc.) for different locations like FORT PECK, GARRISON, OPAHE, BIG BEND, FORT RANDALL, GAVINS POINT, and SIOUX CITY.

VALUES IN 1000 AF EXCEPT AS INDICATED

	28FEB07 INI-SUM	15MAR	2007 22MAR	31MAR	30APR	31MAY	30JUN	31JUL	31AUG	30SEP	31OCT	15NOV	22NOV	2008 30NOV	31DEC	31JAN	29FEB
--FORT PECK--																	
NAT INFLOW	7400	264	123	158	628	1210	1851	829	324	319	398	188	88	100	310	261	349
DEPLETION	410	-2	-1	-1	53	335	565	205	-66	-144	-78	-40	-18	-21	-133	-139	-104
EVAPORATION	459							29	89	110	96	43	20	23	50		
MOD INFLOW	6531	267	124	160	575	875	1286	595	301	353	380	184	86	98	393	400	453
RELEASE	7388	179	69	89	417	615	833	830	799	536	427	206	96	159	615	799	719
STOR CHANGE	-857	88	55	71	158	260	453	-235	-498	-183	-47	-23	-11	-61	-222	-399	-266
STORAGE	15092	15180	15235	15305	15464	15724	16177	15942	15444	15262	15215	15192	15182	15121	14899	14500	14234
ELEV FTMSL	2234.4	2234.9	2235.1	2235.4	2236.2	2237.4	2239.4	2238.4	2236.1	2235.2	2235.0	2234.9	2234.9	2234.6	2233.5	2231.6	2230.3
DISCH KCFS	8.0	6.0	5.0	5.0	7.0	10.0	14.0	13.5	13.0	9.0	6.9	6.9	6.9	10.0	10.0	13.0	12.5
POWER																	
AVE POWER MW		82	68	68	96	137	190	185	178	123	95	95	95	136	136	175	168
PEAK POW MW		209	209	209	210	211	212	212	210	209	209	209	209	209	208	207	206
ENERGY GWH	1216.7	29.5	11.5	14.8	69.0	101.9	137.0	137.4	132.2	88.5	70.5	34.1	15.9	26.1	101.1	130.3	117.0
--GARRISON--																	
NAT INFLOW	11001	469	219	282	853	1423	2958	2066	581	497	454	192	89	102	253	237	326
DEPLETION	1185	-6	-3	-4	-8	214	836	575	40	-138	-11	-85	-39	-45	-67	-49	-25
CHAN STOR	-46	20	10		-20	-30	-40	5	5	39	20	0	0	-30	0	-29	5
EVAPORATION	531							32	102	128	112	50	23	27	57		
REG INFLOW	16627	675	301	375	1257	1794	2915	2294	1243	1081	800	432	202	249	878	1056	1075
RELEASE	14879	506	236	303	1071	1353	1428	1445	1414	1129	955	462	250	301	1230	1414	1381
STOR CHANGE	1749	169	65	71	186	441	1487	849	-171	-48	-155	-30	-48	-52	-352	-358	-306
STORAGE	16365	16533	16599	16670	16856	17297	18784	19633	19462	19414	19259	19230	19181	19129	18777	18419	18113
ELEV FTMSL	1831.6	1832.2	1832.4	1832.6	1833.3	1834.8	1839.7	1842.3	1841.7	1841.6	1841.1	1841.0	1840.9	1840.7	1839.6	1838.5	1837.5
DISCH KCFS	23.0	17.0	17.0	17.0	18.0	22.0	24.0	23.5	23.0	19.0	15.5	15.5	18.0	19.0	20.0	23.0	24.0
POWER																	
AVE POWER MW		205	205	206	218	268	298	297	292	241	198	197	228	240	253	289	299
PEAK POW MW		361	362	363	365	369	383	398	395	394	388	387	387	386	383	380	377
ENERGY GWH	2249.3	73.7	34.5	44.4	157.1	199.2	214.4	221.2	217.5	173.8	147.0	71.0	38.3	46.2	188.1	214.8	208.2
--OAH--																	
NAT INFLOW	2300	317	148	190	364	236	689	162	33	118	14	5	2	3	-20		40
DEPLETION	626	23	11	14	47	67	132	156	103	25	-9	2	1	1	12	17	26
CHAN STOR	-5	25			-4	-16	-8	2	2	16	14	0	-11	-4	-4	-13	-4
EVAPORATION	475							31	94	115	98	44	20	23	50		
REG INFLOW	16073	824	373	480	1384	1506	1977	1422	1252	1124	894	422	221	276	1143	1384	1390
RELEASE	16971	631	272	381	1334	1438	1945	1867	1973	1784	1261	598	276	260	1318	1238	995
STOR CHANGE	-898	193	101	99	50	68	632	-445	-721	-660	-366	-176	-55	16	-175	146	395
STORAGE	17939	18132	18233	18332	18381	18449	19081	18636	17915	17255	16889	16712	16657	16673	16499	16645	17040
ELEV FTMSL	1604.6	1605.2	1605.5	1605.9	1606.0	1606.3	1608.3	1606.9	1604.5	1602.2	1601.0	1600.3	1600.1	1600.2	1599.6	1600.1	1601.5
DISCH KCFS	17.4	21.2	19.6	21.3	22.4	23.4	22.6	30.4	32.1	30.0	20.5	20.1	19.9	16.4	21.4	20.1	17.3
POWER																	
AVE POWER MW		269	250	272	286	299	291	390	408	377	256	250	246	203	265	249	215
PEAK POW MW		693	695	696	697	698	709	702	689	677	670	667	666	666	663	666	673
ENERGY GWH	2592.7	97.0	42.0	58.8	206.2	222.4	209.3	290.2	303.4	271.1	190.3	89.8	41.4	38.9	197.1	185.1	149.7
--BIG BEND--																	
EVAPORATION	103							6	20	25	22	10	5	5	11		
REG INFLOW	16868	631	272	381	1334	1438	1345	1861	1953	1759	1239	588	271	254	1307	1238	995
RELEASE	16868	631	272	381	1334	1438	1345	1861	1953	1759	1239	588	271	254	1307	1238	995
STOR CHANGE	1682	1682	1682	1682	1682	1682	1682	1682	1682	1682	1682	1682	1682	1682	1682	1682	1682
STORAGE	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0
ELEV FTMSL	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0
DISCH KCFS	17.4	21.2	19.6	21.3	22.4	23.4	22.6	30.3	31.8	29.6	20.2	19.8	19.5	16.0	21.3	20.1	17.3
POWER																	
AVE POWER MW		100	92	100	105	109	106	142	149	140	99	99	98	81	105	98	83
PEAK POW MW		516	510	509	509	509	509	509	509	517	538	538	538	538	538	537	529
ENERGY GWH	972.8	36.1	15.4	21.6	75.6	81.5	76.2	105.4	110.6	100.9	73.5	35.7	16.5	15.5	78.0	72.6	57.8
--FORT RANDALL--																	
NAT INFLOW	900	122	57	73	115	140	185	74	57	42	2	2	1	1	10		19
DEPLETION	80	1	1	1	4	9	12	18	15	7	1	1	0	1	3	3	3
EVAPORATION	118							8	25	31	25	10	4	4	10		
REG INFLOW	17571	752	329	453	1445	1569	1518	1909	1970	1763	1215	579	268	251	1303	1235	1011
RELEASE	17571	446	227	436	1445	1569	1518	1909	1970	1907	1852	883	413	272	937	924	861
STOR CHANGE	0	306	102	17	0	0	0	-144	-637	-304	-145	-22	366	311	150		
STORAGE	3124	3430	3532	3549	3549	3549	3549	3549	3549	3405	2768	2464	2319	2297	2663	2974	3124
ELEV FTMSL	1350.0	1353.8	1355.0	1355.2	1355.2	1355.2	1355.2	1355.2	1355.2	1353.5	1345.1	1340.4	1337.9	1337.5	1343.5	1348.0	1350.0
DISCH KCFS	15.0	15.0	16.3	24.4	24.3	25.5	25.5	31.0	32.0	32.0	30.1	29.7	29.7	17.2	15.2	15.0	15.0
POWER																	
AVE POWER MW		123	137	205	204	214	214	259	268	266	240	223	216	124	113	117	120
PEAK POW MW		347	351	352	352	352	352	352	352	345	310	289	278	276	304	324	331
ENERGY GWH	1729.3	44.3	23.0	44.3	146.8	159.2	154.0	193.0	199.1	191.4	178.4	80.4	36.3	23.9	84.4	87.2	83.6
--GAVINS POINT--																	
NAT INFLOW	1450	92	43	55	148	174	166	86	103	77	122	50	23	27	77	79	127
DEPLETION	114	0	0	0	5	19	24	39	10	-5	2	5	2	3	10	1	
CHAN STOR	-1	0	-3	-16	0	-2	0	-11	-2	0	4	1	0	23	4	0	0
EVAPORATION	38							2	7	9	8	4	2	2	4		
REG INFLOW	18867	539	268	477	1589	1722	1660	1943	2054	1980	1968	925	432	317	1004	1002	988
RELEASE	18867	539	268	477	1589	1722	1660										

VALUES IN 1000 AF EXCEPT AS INDICATED

	28FEB03 INI-SUM	15MAR	2003 22MAR	31MAR	30APR	31MAY	30JUN	31JUL	31AUG	30SEP	31OCT	15NOV	22NOV	2004 30NOV	31DEC	31JAN	29FEB
--FORT PECK--																	
NAT INFLOW	6556	264	123	158	574	1011	1589	692	287	275	354	183	85	98	322	231	309
DEPLETION	331	3	2	2	74	293	432	160	-64	-130	-64	-31	-14	-16	-107	-118	-91
EVAPORATION	483							29	92	116	101	46	21	24	53		
MOD INFLOW	5742	261	122	156	500	718	1157	503	259	289	317	168	78	89	376	349	400
RELEASE	5608	134	62	80	417	492	536	553	553	328	276	133	64	143	615	646	575
STOR CHANGE	135	127	59	76	83	226	621	-51	-295	-39	41	34	14	-53	-239	-297	-175
STORAGE	11695	11822	11881	11957	12041	12267	12888	12838	12543	12504	12545	12560	12594	12540	12302	12005	11830
ELEV FTMSL	2216.7	2217.4	2217.7	2218.1	2218.6	2219.9	2223.3	2223.0	2221.4	2221.2	2221.4	2221.6	2221.7	2221.4	2220.1	2218.4	2217.4
DISCH KCFS	9.5	4.5	4.5	4.5	7.0	8.0	9.0	9.0	9.0	5.5	4.5	4.5	4.6	9.0	10.0	10.5	10.0
POWER																	
AVE POWER MW		58	58	58	90	103	117	118	117	72	58	58	60	117	129	135	128
PEAK POW MW		192	193	193	194	196	199	199	197	197	197	198	198	197	196	194	192
ENERGY GWH	877.8	20.7	9.7	12.5	64.7	76.6	84.2	87.7	87.3	51.7	43.5	21.0	10.2	22.5	96.3	100.4	88.9
--GARRISON--																	
NAT INFLOW	10069	475	221	285	763	1282	2701	1891	532	446	428	175	82	93	238	177	280
DEPLETION	1274	27	13	16	48	203	775	494	57	-97	36	-77	-36	-41	-65	-49	-30
CHAN STOR	-5	53			-26	-10	-10			36	11	0	-2	-45	-10	-5	5
EVAPORATION	572							35	110	138	120	54	25	28	61		
REG INFLOW	13826	634	271	349	1105	1560	2451	1916	918	769	558	332	155	204	846	866	890
RELEASE	13658	476	222	286	1071	1230	1279	1291	1261	952	876	424	199	301	1230	1353	1208
STOR CHANGE	168	158	49	63	34	331	1172	624	-343	-184	-318	-92	-43	-98	-383	-486	-318
STORAGE	14086	14244	14294	14357	14391	14722	15893	16518	16175	15992	15674	15582	15539	15441	15058	14571	14254
ELEV FTMSL	1823.2	1823.8	1824.0	1824.2	1824.4	1825.6	1829.9	1832.1	1830.9	1830.3	1829.1	1828.8	1828.6	1828.3	1826.9	1825.0	1823.8
DISCH KCFS	23.0	16.0	16.0	16.0	18.0	20.0	21.5	21.0	20.5	16.0	14.2	14.2	14.3	19.0	20.0	22.0	21.0
POWER																	
AVE POWER MW		182	183	183	206	230	251	251	246	191	169	169	169	223	234	254	240
PEAK POW MW		337	337	338	339	342	355	361	358	356	352	351	351	350	346	340	337
ENERGY GWH	1931.5	65.7	30.7	39.6	148.4	170.9	181.0	186.6	182.8	137.7	126.1	60.7	28.4	42.9	173.9	189.0	167.2
--OAHE--																	
NAT INFLOW	1761	187	87	112	278	158	701	124	29	79	11				-42	-7	44
DEPLETION	570	22	10	13	45	62	120	138	90	23	-7		2	1	11	15	25
CHAN STOR	9	32			-9	-9			2	2	8		0	-22	-5	-9	5
EVAPORATION	512							32	99	123	106	48	22	26	56		
REG INFLOW	14347	673	299	385	1295	1317	1854	1247	1102	906	796	375	175	253	1117	1321	1232
RELEASE	14174	475	265	355	1229	1392	1233	1706	1675	1320	737	646	96	137	1140	1007	760
STOR CHANGE	173	198	34	29	66	-76	621	-459	-573	-414	59	-272	79	116	-24	315	472
STORAGE	14708	14907	14941	14970	15036	14960	15581	15122	14549	14136	14194	13922	14002	14118	14094	14409	14881
ELEV FTMSL	1592.8	1593.6	1593.7	1593.9	1594.1	1593.8	1596.2	1594.4	1592.2	1590.5	1590.8	1589.7	1590.0	1590.5	1590.4	1591.6	1593.5
DISCH KCFS	13.4	16.0	19.1	19.9	20.7	22.6	20.7	27.7	27.2	22.2	12.0			21.7	6.9	18.5	13.2
POWER																	
AVE POWER MW		190	228	238	247	271	249	333	324	261	141	254	81	101	218	193	157
PEAK POW MW		634	635	635	636	635	647	638	627	619	620	614	616	618	618	624	633
ENERGY GWH	2038.6	68.5	38.4	51.4	177.9	201.3	179.5	248.1	241.0	188.2	105.0	91.6	13.6	19.5	161.9	143.5	109.3
--BIG BEND--																	
EVAPORATION	129							8	24	31	27	12	6	7	14		
REG INFLOW	14045	475	265	355	1229	1392	1233	1698	1651	1289	710	634	90	130	1126	1007	760
RELEASE	14045	475	265	355	1229	1392	1233	1698	1651	1289	710	634	90	130	1126	1007	760
STOR CHANGE	1682	1682	1682	1682	1682	1682	1682	1682	1682	1682	1682	1682	1682	1682	1682	1682	1682
STORAGE	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0
ELEV FTMSL	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0
DISCH KCFS	13.4	16.0	19.1	19.9	20.7	22.6	20.7	27.6	26.8	21.7	11.6			21.3	6.5	18.3	16.4
POWER																	
AVE POWER MW		76	90	93	97	106	97	129	126	103	58	107	33	42	90	80	63
PEAK POW MW		517	510	509	509	509	509	509	509	525	538	538	538	538	538	538	529
ENERGY GWH	810.9	27.2	15.1	20.1	69.6	78.9	69.8	96.2	93.5	74.3	43.5	38.5	5.5	8.0	67.3	59.3	44.1
--FORT RANDALL--																	
NAT INFLOW	643	88	41	53	82	66	167	33	63	30	2				6	-6	19
DEPLETION	80	1	1	1	4	9	12	18	15	7	1			1	3	3	3
EVAPORATION	141							10	32	38	27			5	13		
REG INFLOW	14463	561	305	407	1307	1449	1388	1703	1667	1274	679	622	87	124	1116	998	776
RELEASE	14463	289	170	390	1307	1449	1388	1703	1667	1621	1563	643	87	124	750	726	587
STOR CHANGE	0	272	136	17				0	0	-347	-884	-21	0	0	366	272	189
STORAGE	3124	3396	3532	3549	3549	3549	3549	3549	3549	3202	2317	2297	2297	2297	2663	2935	3124
ELEV FTMSL	1350.0	1353.4	1355.0	1355.2	1355.2	1355.2	1355.2	1355.2	1355.2	1351.0	1337.9	1337.5	1337.5	1337.5	1343.5	1347.4	1350.0
DISCH KCFS	10.2	9.7	12.2	21.8	22.0	23.6	23.3	27.7	27.1	27.2	25.4	21.6	6.2	7.8	12.2	11.8	10.2
POWER																	
AVE POWER MW		80	103	183	185	198	196	232	227	224	195	156	45	57	91	92	82
PEAK POW MW		345	351	352	352	352	352	352	352	335	276	276	276	276	303	321	331
ENERGY GWH	1422.4	28.8	17.2	39.6	132.9	147.2	141.0	172.6	169.0	161.5	144.8	56.1	7.6	10.9	67.7	68.5	57.0
--GAVINS POINT--																	
NAT INFLOW	1135	98	46	59	132	147	153	87	85	62	112	50	23	27	75	73	107
DEPLETION	114	0	0	0	5	19	24	39	10	-5	2	5	2	3	10	1	
CHAN STOR	-1	1	-5	-18	0	-3	0	-8	1	0	3	7	28	-3	-8	1	3
EVAPORATION	48							3	9	11	10	5	2	2	5		
REG INFLOW	15635	388	211	430	1434	1574	1517	1740	1735	1676	1666	690	134	143	802	798	697
RELEASE	15635	388	211	430	1434	1574	1517	1740	1722	1636	1666	690	134	143	802	798	750
STOR CHANGE								13	40								53
STORAGE	358	358	358	358	358	358	358	358	371	411	411	411	411	411	411	411	358
ELEV FTMSL	1206.0	1206.0	1206.0	1206.0	1206.0	1206.0	1206.0	1206.0	1206.0	1208.0	1208.0	1208.0	1208.0	1208.0	1208.0	1208.0	1206.0
DISCH KCFS	13.0	13.0	15.2	24.1	24.1	25.6	25.5	28.3	28.0	27.5	27.1	23.2	9.6	9.0	13.0	13.0	13.0
POWER																	
AVE POWER MW		46	53	83	83	88	87	96	96	96	96	83	34	32	47	46	46
PEAK POW MW		114	114	114	114	114	114	114	115	117	117	117	117	117	78	78	76
ENERGY GWH	657.7	16.4	8.9	17.9	59.5	65.2	62.8	71.7	71.3	69.2	71.5	29.8	5.8	6.2	34.6	34.5	32.3
--GAVINS POINT - SIOUX CITY--																	
NAT INFLOW	1135	145	68	87	113	219	158	95	70	44	31	16	7	9	16	-3	60
DEPLETION	241	6	3	3	20	34	29	36	33	22	9	5	2	3	11	12	13
REGULATED FLOW AT SIOUX CITY																	
KAF	16529		276	514	1527	1759	164										

VALUES IN 1000 AF EXCEPT AS INDICATED

	29FEB04	15MAR	2004	31MAR	30APR	31MAY	30JUN	31JUL	31AUG	30SEP	31OCT	15NOV	22NOV	2005	31DEC	31JAN	28FEB
	INI-SUM		22MAR											30NOV			
--FORT PECK--																	
NAT INFLOW	6613	267	124	160	579	1019	1603	698	289	278	357	185	86	98	325	233	312
DEPLETION	376	-10	-5	-6	50	310	508	167	-61	-131	-70	-32	-15	-17	-110	-120	-82
EVAPORATION	487							30	93	116	102	46	22	25	53		
MOD INFLOW	5750	277	129	166	529	709	1095	501	257	293	325	170	79	91	382	353	394
RELEASE	5517	134	62	80	417	492	536	553	306	257	125	58	127	615	646	555	
STOR CHANGE	234	143	67	86	112	217	559	-52	-296	-14	68	46	21	-36	-233	-293	-161
STORAGE	11830	11973	12039	12125	12238	12455	13014	12962	12666	12652	12720	12766	12787	12750	12517	12225	12063
ELEV FTMSL	2217.4	2218.2	2218.6	2219.1	2219.7	2220.9	2224.0	2223.7	2222.1	2222.0	2222.4	2222.6	2222.8	2222.6	2221.3	2219.6	2218.7
DISCH KCFS	10.0	4.5	4.5	4.5	7.0	8.0	9.0	9.0	9.0	5.2	4.2	4.2	4.2	8.0	10.0	10.5	10.0
POWER																	
AVE POWER MW		58	58	58	90	103	117	118	118	67	55	55	55	105	130	136	129
PEAK POW MW		194	194	195	196	197	200	200	198	198	198	199	199	199	197	195	194
ENERGY GWH	867.4	20.8	9.7	12.5	65.0	77.0	84.6	87.9	87.5	48.4	40.7	19.7	9.3	20.1	96.8	100.9	86.4
--GARRISON--																	
NAT INFLOW	10134	478	223	287	768	1290	2718	1903	535	449	431	176	82	94	240	178	282
DEPLETION	1079	15	7	9	30	235	753	508	49	-100	4	-95	-44	-51	-101	-84	-56
CHAN STOR	0	58			-26	-10	-10			39	10			-39	-21	-5	5
EVAPORATION	575							35	111	139	121	54	25	29	62		
REG INFLOW	13997	655	279	358	1128	1536	2490	1913	928	756	574	341	159	204	874	902	899
RELEASE	13712	476	194	250	1012	1261	1339	1353	1322	965	873	422	196	301	1230	1353	1166
STOR CHANGE	284	179	84	108	117	276	1151	561	-394	-209	-299	-81	-36	-98	-356	-450	-268
STORAGE	14254	14433	14517	14625	14742	15018	16169	16730	16336	16127	15828	15747	15710	15612	15256	14806	14538
ELEV FTMSL	1823.8	1824.5	1824.8	1825.3	1825.7	1826.7	1830.9	1832.9	1831.5	1830.7	1829.7	1829.4	1829.3	1828.9	1827.6	1825.9	1824.9
DISCH KCFS	21.0	16.0	14.0	14.0	17.0	20.5	22.5	22.0	21.5	16.2	14.2	14.2	14.1	19.0	20.0	22.0	21.0
POWER																	
AVE POWER MW		183	161	162	196	237	265	264	259	194	169	169	167	224	235	255	242
PEAK POW MW		339	340	341	342	345	358	363	359	357	354	353	353	352	348	343	340
ENERGY GWH	1950.4	66.0	27.1	34.9	141.3	176.6	190.6	196.5	192.4	140.0	126.0	60.7	28.1	43.1	174.7	190.0	162.5
--OAAHE--																	
NAT INFLOW	1794	190	89	114	283	161	714	127	30	80	11				-43	-7	45
DEPLETION	585	22	10	13	46	64	123	143	93	23	-8	2	1	1	11	16	25
CHAN STOR	0	23	9		-14	-16	-9	2	2	24	9	0	0	-23	-5	-9	5
EVAPORATION	518							32	100	124	108	48	23	26	56		
REG INFLOW	14403	667	282	351	1235	1342	1921	1307	1161	923	794	372	173	252	1115	1320	1191
RELEASE	14113	470	266	360	1244	1409	1246	1704	1672	1319	738	579	96	137	1139	1008	727
STOR CHANGE	291	197	16	-9	-9	-67	675	-398	-511	-397	56	-207	77	115	-24	313	464
STORAGE	14881	15077	15094	15085	15076	15009	15684	15286	14775	14378	14434	14227	14304	14419	14395	14708	15171
ELEV FTMSL	1593.5	1594.3	1594.3	1594.3	1594.3	1594.0	1596.6	1595.1	1593.1	1591.5	1591.7	1590.9	1591.2	1591.7	1591.6	1592.8	1594.6
DISCH KCFS	13.2	15.8	19.1	20.1	20.9	22.9	20.9	27.7	27.2	22.2	12.0		19.5	6.9	8.6	16.4	13.1
POWER																	
AVE POWER MW		189	229	241	250	274	252	334	325	263	142	229	82	102	219	194	157
PEAK POW MW		637	637	637	637	636	649	641	631	623	625	621	622	624	624	630	639
ENERGY GWH	2038.1	68.1	38.5	52.1	180.3	203.9	181.6	248.6	241.6	189.1	105.6	82.6	13.7	19.6	162.8	144.6	105.4
--BIG BEND--																	
EVAPORATION	129							8	24	31	27	12	6	7	14		
REG INFLOW	13984	470	266	360	1244	1409	1246	1697	1648	1288	710	567	90	130	1125	1008	727
RELEASE	13984	470	266	360	1244	1409	1246	1697	1648	1288	710	567	90	130	1125	1008	727
STOR CHANGE	1682	1682	1682	1682	1682	1682	1682	1682	1682	1682	1682	1682	1682	1682	1682	1682	1682
STORAGE	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0
ELEV FTMSL	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0
DISCH KCFS	13.2	15.8	19.1	20.1	20.9	22.9	20.9	27.6	26.8	21.7	11.6	19.1	6.5	8.2	18.3	16.4	13.1
POWER																	
AVE POWER MW		75	90	94	98	107	98	129	125	103	58	96	33	42	90	80	63
PEAK POW MW		517	510	509	509	509	509	509	509	525	538	538	538	538	538	538	529
ENERGY GWH	807.2	26.9	15.1	20.4	70.5	79.8	70.6	96.1	93.3	74.3	43.5	34.5	5.5	8.0	67.2	59.3	42.3
--FORT RANDALL--																	
NAT INFLOW	659	90	42	54	84	67	171	34	65	31	2				7	-7	20
DEPLETION	80	1	1	1	4	9	12	18	15	7	1	1	0	1	3	3	3
EVAPORATION	141							10	32	38	27	10	5	5	13		
REG INFLOW	14418	558	307	412	1324	1467	1405	1703	1666	1274	679	555	86	124	1116	998	744
RELEASE	14418	286	171	395	1324	1467	1405	1703	1666	1621	1563	576	86	124	750	726	555
STOR CHANGE	0	273	136	17	0	0	0	0	-347	-884	-21	0	0	0	366	272	189
STORAGE	3124	3396	3532	3549	3549	3549	3549	3549	3549	3202	3218	2297	2297	2297	2663	2935	3124
ELEV FTMSL	1350.0	1353.4	1355.0	1355.2	1355.2	1355.2	1355.2	1355.2	1355.2	1351.0	1337.9	1337.5	1337.5	1337.5	1343.5	1347.5	1350.0
DISCH KCFS	10.2	9.6	12.3	22.1	22.3	23.9	23.6	27.7	27.1	27.2	25.4	19.4	6.2	7.8	12.2	11.8	10.0
POWER																	
AVE POWER MW		79	103	186	187	200	198	232	227	224	195	140	45	57	91	92	80
PEAK POW MW		345	351	352	352	352	352	352	352	335	276	276	276	276	303	321	331
ENERGY GWH	1418.9	28.5	17.4	40.2	134.6	148.9	142.7	172.5	168.9	161.5	144.8	50.4	7.6	10.9	67.7	68.5	54.0
--GAVINS POINT--																	
NAT INFLOW	1342	98	46	59	133	148	154	87	86	62	112	51	24	27	75	73	108
DEPLETION	114	0	0	0	5	19	24	39	10	-5	2	5	2	3	10	1	
CHAN STOR	-1	1	-5	-19	0	-3	0	-8	1	0	3	11	24	-3	-8	1	3
EVAPORATION	48							3	9	11	10	5	2	2	5		
REG INFLOW	15597	386	212	436	1452	1593	1535	1740	1735	1676	1666	628	129	143	802	798	667
RELEASE	15597	386	212	436	1452	1593	1535	1740	1722	1636	1666	628	129	143	802	798	720
STOR CHANGE									13	40							-53
STORAGE	358	358	358	358	358	358	358	358	371	411	411	411	411	411	411	411	358
ELEV FTMSL	1206.0	1206.0	1206.0	1206.0	1206.0	1206.0	1206.0	1206.0	1206.5	1208.0	1208.0	1208.0	1208.0	1208.0	1208.0	1208.0	1206.0
DISCH KCFS	13.0	13.0	15.3	24.4	24.4	25.9	25.8	28.3	28.0	27.5	27.1	21.1	9.3	9.0	13.0	13.0	13.0
POWER																	
AVE POWER MW		45	53	84	84	89	88	96	96	96	96	75	33	32	47	46	46
PEAK POW MW		114	114	114	114	114	114	114	115	117	117	117	117	117	78	78	76
ENERGY GWH	655.8	16.3	8.9	18.1	60.3	65.9	63.6	71.7	71.3	69.2	71.5	27.1	5.6	6.2	34.6	34.5	31.0
--GAVINS POINT - SIOUX CITY--																	
NAT INFLOW	1160	149	69	89	116	224	161	97	72	45	31	16	7	9	17	-3	61
DEPLETION	247	6	3	4	20	34	30	36									

VALUES IN 1000 AF EXCEPT AS INDICATED

Table with columns for months (INI-SUM, 15MAR, 22MAR, 31MAR, 30APR, 31MAY, 30JUN, 31JUL, 31AUG, 30SEP, 31OCT, 15NOV, 22NOV, 30NOV, 31DEC, 31JAN, 28FEB) and rows for various hydrological and power metrics (e.g., NAT INFLOW, DEPLETION, EVAPORATION, STORAGE, ELEV FTMSL, DISCH KCFS, POWER, AVE POWER MW, PEAK POW MW, ENERGY GWH) for locations like FORT PRICK, GARRISON, OAHE, BIG BEND, FORT RANDALL, GAVINS POINT, and SIOUX CITY.

	VALUES IN 1000 AF EXCEPT AS INDICATED															STUDY NO 18			
	28FEB07 INI-SUM	15MAR	2007 22MAR	31MAR	30APR	31MAY	30JUN	31JUL	31AUG	30SEP	31OCT	15NOV	22NOV	2008 30NOV	31DEC	31JAN	29FEB		
--FORT PECK--																			
NAT INFLOW	7022	283	132	170	615	1083	1702	741	307	295	379	196	91	104	345	248	331		
DEPLETION	409	-11	-5	-6	50	312	521	189	-48	-132	-72	-33	-15	-18	-110	-120	-93		
EVAPORATION	504							31	96	121	106	48	22	26	55				
MOD INFLOW	6109	294	137	176	565	771	1181	521	259	306	345	181	84	96	400	368	424		
RELEASE	5918	134	62	80	357	492	625	615	584	352	295	143	67	127	615	738	633		
STOR CHANGE	190	160	75	96	208	279	556	-94	-326	-45	50	38	18	-31	-215	-370	-209		
STORAGE	12362	12522	12596	12692	12900	13179	13735	13642	13316	13271	13321	13359	13377	13346	13131	12761	12552		
ELEV FTMSL	2220.4	2221.3	2221.7	2222.2	2223.4	2224.9	2227.8	2227.3	2225.6	2225.4	2225.6	2225.8	2225.9	2225.8	2224.6	2222.6	2221.5		
DISCH KCFS	11.0	4.5	4.5	4.5	6.0	8.0	10.5	10.0	9.5	5.9	4.8	4.8	4.8	8.0	10.0	12.0	11.0		
POWER																			
AVE POWER MW		59	59	59	79	105	139	133	126	78	64	64	64	106	132	157	143		
PEAK POW MW		197	198	198	199	201	204	203	202	201	202	202	202	202	201	199	197		
ENERGY GWH	943.9	21.1	9.9	12.7	56.6	78.3	100.2	99.0	93.8	56.4	47.4	22.9	10.7	20.4	98.2	116.9	99.6		
--GARRISON--																			
NAT INFLOW	10598	500	233	300	803	1349	2842	1990	559	470	451	185	86	98	251	186	295		
DEPLETION	1139	-1	0	-1	-1	216	764	537	50	-131	14	-86	-40	-46	-65	-45	-26		
CHAN STOR	0	68			-15	-21	-26	5	5	36	11	0	-33	-20	-21	10			
EVAPORATION	591							36	115	143	124	56	26	29	63				
REG INFLOW	14786	702	296	381	1146	1604	2677	1944	846	846	620	358	167	209	847	948	964		
RELEASE	14555	446	194	250	1012	1353	1458	1476	1445	1071	919	445	264	317	1230	1353	1323		
STOR CHANGE	231	256	102	131	134	252	1219	561	-461	-225	-299	-87	-97	-108	-383	-404	-359		
STORAGE	14904	15160	15262	15393	15527	15778	16997	17558	17097	16872	16573	16486	16389	16281	15899	15494	15135		
ELEV FTMSL	1826.3	1827.3	1827.6	1828.1	1828.6	1829.5	1833.8	1835.7	1834.1	1833.3	1832.3	1832.0	1831.7	1831.3	1829.9	1828.5	1827.2		
DISCH KCFS	23.0	15.0	14.0	14.0	17.0	22.0	24.5	24.0	23.5	18.0	14.9	14.9	19.0	20.0	20.0	22.0	23.0		
POWER																			
AVE POWER MW		175	164	165	200	259	293	293	287	219	181	181	228	240	238	260	269		
PEAK POW MW		347	348	349	351	354	366	372	367	365	362	361	360	359	355	351	347		
ENERGY GWH	2105.6	63.0	27.6	35.5	144.0	192.9	211.1	218.0	213.8	157.8	134.9	65.0	38.4	46.0	177.4	193.1	187.0		
--OAHÉ--																			
NAT INFLOW	2048	217	101	130	324	183	815	144	34	92	13				-49	-8	51		
DEPLETION	626	23	11	14	47	67	132	156	103	25	-9	2	1	1	12	17	26		
CHAN STOR	-1	36	4		-13	-22	-11	2	2	24	14		-19	-5	0	-9	-5		
EVAPORATION	536							34	105	129	111	50	23	27	58				
REG INFLOW	15440	677	290	367	1275	1447	2130	1432	1273	1033	844	393	221	285	1111	1319	1343		
RELEASE	15203	586	149	356	1305	1476	1291	1798	1763	1616	1083	476	220	205	1120	1009	750		
STOR CHANGE	236	90	140	10	-30	-29	839	-367	-490	-583	-239	-82	1	80	-9	310	593		
STORAGE	15548	15638	15779	15789	15759	15730	16568	16202	15712	15129	14890	14808	14809	14889	14881	15191	15784		
ELEV FTMSL	1596.1	1596.4	1596.9	1597.0	1596.9	1596.8	1599.8	1598.5	1596.7	1594.5	1593.5	1593.2	1593.2	1593.5	1593.5	1594.7	1597.0		
DISCH KCFS	13.1	19.7	10.7	20.0	21.9	24.0	21.7	29.2	28.7	27.2	17.6	16.0	15.8	12.9	18.2	16.4	13.0		
POWER																			
AVE POWER MW		239	131	243	267	291	266	359	349	327	211	191	189	155	217	197	158		
PEAK POW MW		648	650	650	650	649	665	658	649	638	633	632	632	633	633	639	650		
ENERGY GWH	2227.2	86.0	22.0	52.4	191.9	216.7	191.3	267.1	259.5	235.5	156.9	68.7	31.7	29.7	161.8	146.3	109.9		
--BIG BEND--																			
EVAPORATION	129							8	24	31	27	12	6	7	14				
REG INFLOW	15074	586	149	356	1305	1476	1291	1791	1738	1586	1056	463	214	199	1106	1009	750		
RELEASE	15074	586	149	356	1305	1476	1291	1791	1738	1586	1056	463	214	199	1106	1009	750		
STORAGE	1682	1682	1682	1682	1682	1682	1682	1682	1682	1682	1682	1682	1682	1682	1682	1682	1682		
ELEV FTMSL	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0		
DISCH KCFS	13.1	19.7	10.7	20.0	21.9	24.0	21.7	29.1	28.3	26.6	17.2	15.6	15.4	12.5	18.0	16.4	13.0		
POWER																			
AVE POWER MW		92	50	93	103	112	102	136	132	126	84	78	78	63	89	80	63		
PEAK POW MW		510	509	509	509	509	509	509	509	517	538	538	538	538	538	538	529		
ENERGY GWH	868.6	33.3	8.4	20.2	73.9	83.6	73.1	101.4	98.4	90.9	62.7	28.2	13.1	12.1	66.1	59.4	43.6		
--FORT RANDALL--																			
NAT INFLOW	779	106	49	64	100	79	203	41	76	36	2				8	-8	23		
DEPLETION	80	1	1	1	4	9	12	18	15	7	1	1	0	1	3	3	3		
EVAPORATION	147							10	32	39	31	12	5	5	13				
REG INFLOW	15626	691	198	419	1401	1546	1482	1804	1768	1575	1026	450	209	193	1098	998	770		
RELEASE	15627	283	181	419	1401	1546	1482	1804	1768	1719	1663	754	354	215	732	726	581		
STOR CHANGE	0	408	17	0	0	0	0	0	-144	-637	-304	-145	-22	366	272	189			
STORAGE	3124	3532	3549	3549	3549	3549	3549	3549	3549	3405	2768	2464	2319	2297	2663	2935	3124		
ELEV FTMSL	1350.0	1355.0	1355.2	1355.2	1355.2	1355.2	1355.2	1355.2	1355.2	1353.5	1345.1	1340.4	1337.9	1337.5	1343.5	1347.4	1350.0		
DISCH KCFS	10.0	9.5	13.0	23.5	23.5	25.1	24.9	29.3	28.7	28.9	27.0	25.4	25.5	13.6	11.9	11.8	10.1		
POWER																			
AVE POWER MW		79	110	197	198	211	209	245	241	240	216	191	186	99	89	92	81		
PEAK POW MW		351	352	352	352	352	352	352	352	345	310	288	277	276	303	321	331		
ENERGY GWH	1543.9	28.4	18.5	42.6	142.3	156.8	150.4	182.6	179.0	172.9	160.5	68.8	31.2	18.9	66.1	68.5	56.5		
--GAVINS POINT--																			
NAT INFLOW	1401	103	48	62	139	155	160	91	89	65	117	53	25	28	78	77	113		
DEPLETION	114	0	0	0	5	19	24	39	10	-5	2	5	2	3	10	1			
CHAN STOR	-2	1	-7	-20	0	-3	0	-8	1	0	3	3	0	22	3	0	3		
EVAPORATION	48							3	9	11	10	5	2	2	5				
REG INFLOW	16864	387	222	461	1535	1679	1619	1845	1839	1778	1771	800	373	260	797	802	697		
RELEASE	16864	387	222	461	1535	1679	1619	1845	1826	1738	1771	800	373	260	797	802	750		
STOR CHANGE								13	40								-53		
STORAGE	358	358	358	358	358	358	358	358	371	411	411	411	411	411	411	411	358		
ELEV FTMSL	1206.0	1206.0	1206.0	1206.0	1206.0	1206.0	1206.0	1206.0	1206.5	1208.0	1208.0	1208.0	1208.0	1208.0	1208.0	1208.0	1206.0		
DISCH KCFS	13.0	13.0	16.0	25.8	25.8	27.3	27.2	30.0	29.7	29.2	28.8	26.9	26.9	16.4	13.0	13.0	13.0		
POWER																			
AVE POWER MW		45	56	88	88	93	93	101	101	101	102	95	95	58	46	47	46		
PEAK POW MW		114	114	114	114	114	114	115	117	117	117	117	117	117	78	78	76		
ENERGY GWH	705.7	16.4	9.4	19.1	63.5	69.3	66.8	75.0	74.8	72.9	75.5	34.4	16.0	11.2	34.4	34.6	32.3		
--GAVINS POINT - SIOUX CITY--																			
NAT INFLOW	1356	174	81	104	135	262	188	113	84	52	37	19	9	10	20	-4	72		
DEPLETION	254	6	3	4	21	35	30	37	35	23	10	6	3	3	12	13	14		
REGULATED FLOW AT SIOUX CITY																			
KAF	17966		300	561	1649	1906	1777	1921	1875</										

	VALUES IN 1000 AF EXCEPT AS INDICATED																											
	29FEB04		2004																		2005							
	INI-SUM	15MAR	22MAR	31MAR	30APR	31MAY	30JUN	31JUL	31AUG	30SEP	31OCT	15NOV	22NOV	30NOV	31DEC	31JAN	28FEB											
--FORT PECK--																												
NAT INFLOW	5615	258	120	155	567	862	1097	483	279	266	352	175	81	93	298	226	303											
DEPLETION	378	2	1	1	73	303	466	145	-51	-123	-55	-32	-15	-17	-106	-125	-90											
EVAPORATION	425	256	119	153	494	559	631	312	249	287	318	166	77	89	358	351	393											
MOD INFLOW	4812	256	119	153	494	559	631	312	249	287	318	166	77	89	358	351	393											
RELEASE	5455	119	56	71	298	461	536	553	553	297	249	121	97	143	615	676	611											
STOR CHANGE	-644	137	64	82	196	98	95	-241	-305	-9	69	46	-54	-257	-325	-218												
STORAGE	9823	9959	10023	10105	10301	10399	10494	10253	9948	9939	10008	10053	10034	9980	9722	9397	9179											
ELEV FTMSL	2205.4	2206.3	2206.6	2207.2	2208.4	2209.0	2209.6	2208.1	2206.2	2206.1	2206.6	2206.8	2206.7	2206.4	2204.8	2202.7	2201.2											
DISCH KCFS	11.5	4.0	4.0	4.0	5.0	7.5	9.0	9.0	9.0	5.0	4.1	4.1	7.0	9.0	10.0	11.0	11.0											
POWER																												
AVE POWER MW		48	49	49	61	92	110	110	109	60	49	49	85	109	120	131	130											
PEAK POW MW		178	178	179	180	181	182	180	177	177	178	178	178	178	176	173	171											
ENERGY GWH	797.5	17.4	8.2	10.5	43.9	68.3	79.4	81.9	81.2	43.5	36.6	17.7	14.3	20.9	89.4	97.3	87.1											
--GARRISON--																												
NAT INFLOW	8444	312	146	187	810	1045	2337	1477	418	320	451	187	87	99	125	185	258											
DEPLETION	1111	28	13	17	25	211	704	466	57	-117	10	-80	-37	-43	-67	-48	-27											
CHAM STOR	5	82			-11	-27	-16			43	10	-32	-22	-11	-11	0												
EVAPORATION	496							31	96	119	103	47	22	25	53													
REG INFLOW	12298	486	188	242	1072	1268	2152	1534	818	657	597	340	168	239	743	898	896											
RELEASE	13085	446	167	214	893	1107	1250	1291	1291	952	752	364	264	317	1230	1353	1194											
STOR CHANGE	-787	39	22	28	179	161	903	243	-473	-295	-156	-24	-96	-79	-487	-454	-298											
STORAGE	11813	11852	11874	11902	12081	12242	13144	13387	12914	12619	12463	12440	12344	12265	11779	11324	11026											
ELEV FTMSL	1813.9	1814.1	1814.2	1814.3	1815.1	1815.8	1819.5	1820.4	1818.5	1817.3	1816.7	1816.6	1816.2	1815.9	1813.8	1811.8	1810.5											
DISCH KCFS	21.0	15.0	12.0	12.0	15.0	15.0	21.0	21.0	21.0	16.0	12.2	12.2	19.0	20.0	20.0	22.0	21.5											
POWER																												
AVE POWER MW		160	129	129	161	194	229	233	232	176	134	133	206	216	214	232	224											
PEAK POW MW		309	309	309	311	313	324	327	321	318	316	316	315	314	308	302	298											
ENERGY GWH	1710.1	57.7	21.6	27.8	115.9	144.2	165.0	173.3	172.7	126.4	99.5	48.0	34.6	41.5	159.3	172.4	150.4											
--OAH--																												
NAT INFLOW	1263	238	111	143	220	120	259	99	25	77	6	-6	-3	-3	-58	-14	50											
DEPLETION	585	22	10	13	46	64	123	143	93	23	-8	2	1	1	11	16	25											
CHAM STOR	-4	30	15		-15	-15	-15			26	20	-37	-5	0	-11	3												
EVAPORATION	414							27	81	99	85	38	18	21	45													
REG INFLOW	13345	692	282	343	1052	1148	1370	1220	1142	933	702	318	206	287	1116	1312	1222											
RELEASE	14152	481	287	362	1243	1404	1231	1729	1696	1368	812	380	110	139	1059	833	1017											
STOR CHANGE	-807	211	-5	-19	-192	-256	139	-509	-554	-435	-111	-62	96	148	57	479	204											
STORAGE	12378	12588	12584	12565	12373	12117	12256	11747	11193	10758	10648	10586	10682	10831	10888	11367	11571											
ELEV FTMSL	1583.0	1584.0	1584.0	1583.9	1583.0	1581.9	1582.5	1580.2	1577.5	1575.3	1574.8	1574.5	1575.0	1575.7	1576.0	1578.3	1579.3											
DISCH KCFS	18.2	16.2	20.6	20.3	20.9	22.8	20.7	28.1	27.6	23.0	13.2	12.8	7.9	8.8	17.2	13.5	18.3											
POWER																												
AVE POWER MW		182	233	229	235	255	231	312	301	248	142	136	85	94	185	147	201											
PEAK POW MW		585	585	584	580	574	577	565	551	539	536	535	537	541	543	555	560											
ENERGY GWH	1883.1	65.7	39.2	49.5	169.3	189.9	166.4	231.9	224.0	178.3	105.3	49.1	14.2	18.1	137.8	109.4	134.9											
--BIG BEND--																												
EVAPORATION	129							8	24	31	27	12	6	7	14													
REG INFLOW	14023	481	287	362	1243	1404	1231	1722	1672	1337	785	368	104	132	1045	833	1017											
RELEASE	14023	481	287	362	1243	1404	1231	1722	1672	1337	785	368	104	132	1045	833	1017											
STOR CHANGE	1682	1682	1682	1682	1682	1682	1682	1682	1682	1682	1682	1682	1682	1682	1682	1682	1682											
STORAGE	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0											
ELEV FTMSL	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0											
DISCH KCFS	18.2	16.2	20.6	20.3	20.9	22.8	20.7	28.0	27.2	22.5	12.8	12.4	7.5	8.3	17.0	13.5	18.3											
POWER																												
AVE POWER MW		77	97	95	98	107	97	131	127	107	65	62	38	42	85	67	88											
PEAK POW MW		518	510	509	509	509	509	509	509	525	538	538	538	538	538	538	529											
ENERGY GWH	810.2	27.5	16.3	20.5	70.4	79.5	69.7	97.5	94.7	77.1	48.0	22.5	6.4	8.1	63.0	49.9	59.1											
--FORT RANDALL--																												
NAT INFLOW	404	74	35	44	58	47	161	18	48	-13	-69	-4	-2	-2	-8	16												
DEPLETION	80	1	1	1	4	9	12	18	15	7	1	1	0	1	3	3												
EVAPORATION	140							10	32	38	27	10	5	5	13													
REG INFLOW	14202	554	321	406	1297	1442	1380	1712	1673	1279	683	353	98	125	1029	822	1030											
RELEASE	14202	295	171	389	1297	1442	1380	1712	1673	1626	1567	374	98	125	756	732	566											
STOR CHANGE	0	259	150	17	17	0	0	0	0	-347	-884	-21	0	0	273	90	464											
STORAGE	3123	3382	3532	3549	3549	3549	3549	3549	3549	3202	2318	2297	2297	2296	2569	2659	3123											
ELEV FTMSL	1350.0	1353.2	1355.0	1355.2	1355.2	1355.2	1355.2	1355.2	1355.2	1351.0	1337.9	1337.5	1337.5	1337.5	1342.1	1343.5	1350.0											
DISCH KCFS	10.3	9.9	12.3	21.8	21.8	23.4	23.2	27.8	27.2	27.3	25.5	12.6	7.0	7.9	12.3	11.9	10.2											
POWER																												
AVE POWER MW		81	103	183	183	197	195	233	228	225	195	91	51	57	91	91	81											
PEAK POW MW		344	351	352	352	352	352	352	352	335	335	276	276	276	297	303	332											
ENERGY GWH	1396.7	29.3	17.3	39.5	131.9	146.4	140.2	173.4	169.6	162.0	145.1	32.9	8.6	11.0	67.8	67.4	54.1											
--GAVINS POINT--																												
NAT INFLOW	1242	90	42	54	124	136	143	79	79	57	108	47	22	25	69	67	101											
DEPLETION	114	0	0	0	5	19	24	39	10	-5	2	2	3	10	1													
CHAM STOR	-1	1	-5	-18	0	-3	0	-9	1	0	3	24	10	-2	-8	1	3											
EVAPORATION	48							3	9	11	10	5	2	2	5													
REG INFLOW	15281	386	209	425	1416	1556	1500	1740	1735	1676	1666	434	125	143	802	798	671											
RELEASE	15281	386	209	425	1416	1556	1500	1740	1722	1636	1666	434	125	143	802	798	724											
STOR CHANGE									13	40																		
STORAGE	358	358	358	358	358	358	358	358	371	411	411	411	411	411	411	411	358											
ELEV FTMSL	1206.0	1206.0	120																									

TIME OF STUDY 10:16:17

STUDY NO 21

	VALUES IN 1000 AF EXCEPT AS INDICATED																	
	28FEB05 INI-SUM	15MAR	2005 22MAR	31MAR	30APR	31MAY	30JUN	31JUL	31AUG	30SEP	31OCT	15NOV	22NOV	2006 30NOV	31DEC	31JAN	28FEB	
--FORT PECK--																		
NAT INFLOW	5748	264	123	158	580	882	1123	495	285	273	361	179	83	95	305	231	310	
DEPLETION	387	-3	-1	-2	76	307	474	152	-46	-124	-57	-33	-15	-18	-107	-126	-90	
EVAPORATION	411							25	78	98	86	39	18	21	45			
MOD INFLOW	4950	267	125	160	504	575	649	318	253	299	332	172	80	92	367	357	400	
RELEASE	5291	119	56	71	298	461	536	553	553	301	253	122	97	143	584	615	528	
STOR CHANGE	-341	148	69	89	206	114	113	-236	-301	-3	79	50	-17	-51	-217	-258	-128	
STORAGE	9179	9327	9396	9485	9692	9805	9919	9683	9382	9380	9459	9508	9492	9441	9224	8966	8838	
ELEV FTMSL	2201.2	2202.2	2202.7	2203.2	2204.6	2205.3	2206.0	2204.5	2202.6	2202.5	2203.1	2203.4	2203.3	2202.9	2201.5	2199.8	2199.0	
DISCH KCFS	11.0	4.0	4.0	4.0	5.0	7.5	9.0	9.0	9.0	5.1	4.1	4.1	7.0	9.0	9.5	10.0	9.5	
POWER																		
AVE POWER MW		47	48	48	60	90	108	108	107	60	49	49	83	107	112	117	111	
PEAK POW MW		172	173	174	175	176	177	175	173	173	173	174	174	173	171	169	168	
ENERGY GWH	760.5	17.1	8.0	10.3	43.1	67.0	78.0	80.4	79.7	43.3	36.5	17.7	14.0	20.5	83.5	87.2	74.3	
--GARRISON--																		
NAT INFLOW	8762	324	151	194	840	1084	2425	1533	433	332	468	194	90	103	130	192	268	
DEPLETION	1083	13	6	8	25	211	714	482	63	-120	6	-84	-39	-45	-73	-54	-31	
CHAN STOR	17	78			-11	-28	-17			43	10		-31	-22	-5	-6	6	
EVAPORATION	483							30	94	116	101	46	21	24	52			
REG INFLOW	12504	508	201	258	1101	1307	2230	1575	830	680	625	354	174	244	730	855	832	
RELEASE	12918	417	167	214	893	1138	1309	1322	1291	952	639	309	264	317	1230	1291	1166	
STOR CHANGE	-415	91	34	44	209	169	921	253	-461	-272	-14	45	-90	-73	-500	-436	-334	
STORAGE	11026	11117	11152	11195	11404	11573	12494	12747	12286	12014	11999	12044	11954	11881	11381	10945	10611	
ELEV FTMSL	1810.5	1810.9	1811.0	1811.2	1812.2	1812.9	1816.8	1817.9	1815.9	1814.8	1814.7	1814.9	1814.5	1814.2	1812.1	1810.1	1808.6	
DISCH KCFS	21.5	14.0	12.0	12.0	15.0	18.5	22.0	21.5	21.0	16.0	10.4	10.4	19.0	20.0	20.0	21.0	21.0	
POWER																		
AVE POWER MW		146	126	126	158	195	235	234	228	172	112	112	203	213	212	219	215	
PEAK POW MW		299	300	300	303	305	317	320	314	310	310	311	310	309	303	297	292	
ENERGY GWH	1660.1	52.6	21.1	27.2	113.4	145.1	169.4	174.1	169.6	124.1	83.3	40.3	34.2	41.0	157.4	162.6	144.8	
--OAHE--																		
NAT INFLOW	1323	249	116	149	231	126	271	103	26	81	7	-7	-3	-3	-61	-15	52	
DEPLETION	597	22	10	13	46	65	126	147	96	24	-8	2	1	1	11	16	25	
CHAN STOR	2	39	10		-16	-18	-18	3	3	27	31		-47	-5	0	-5		
EVAPORATION	399							25	78	96	82	37	17	20	44			
REG INFLOW	13247	683	283	350	1062	1180	1436	1255	1146	941	602	264	195	288	1114	1255	1193	
RELEASE	13673	475	284	359	1238	1401	1218	1728	1643	1190	764	211	122	137	1052	835	1016	
STOR CHANGE	-426	207	-1	-8	-176	-221	218	-473	-497	-249	-162	53	73	150	62	420	177	
STORAGE	11571	11778	11778	11769	11593	11373	11590	11117	10620	10371	10210	10263	10336	10486	10548	10969	11145	
ELEV FTMSL	1579.3	1580.3	1580.3	1580.3	1579.4	1578.4	1579.4	1577.1	1574.7	1573.4	1572.5	1572.8	1573.2	1574.0	1574.3	1576.4	1577.3	
DISCH KCFS	18.3	16.0	20.4	20.1	20.8	22.8	20.5	28.1	26.7	20.0	12.4	7.1	8.8	8.7	17.1	13.6	18.3	
POWER																		
AVE POWER MW		176	226	222	229	249	224	306	286	212	131	75	93	92	182	146	198	
PEAK POW MW		565	565	565	561	555	561	549	536	529	525	526	528	532	534	545	550	
ENERGY GWH	1789.5	63.4	37.9	47.9	165.0	185.4	161.4	227.5	213.1	152.9	97.8	27.0	15.7	17.7	135.4	108.4	133.1	
--BIG BEND--																		
EVAPORATION	129							8	24	31	27	12	6	7	14			
REG INFLOW	13544	475	284	359	1238	1401	1218	1721	1618	1159	737	198	116	131	1038	835	1016	
RELEASE	13544	475	284	359	1238	1401	1218	1721	1618	1159	737	198	116	131	1038	835	1016	
STORAGE	1682	1682	1682	1682	1682	1682	1682	1682	1682	1682	1682	1682	1682	1682	1682	1682	1682	
ELEV FTMSL	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	
DISCH KCFS	18.3	16.0	20.4	20.1	20.8	22.8	20.5	28.0	26.3	19.5	12.0	6.7	8.4	8.2	16.9	13.6	18.3	
POWER																		
AVE POWER MW		76	96	94	97	107	96	131	124	94	61	34	43	42	84	67	88	
PEAK POW MW		518	510	509	509	509	509	509	512	537	538	538	538	538	538	538	529	
ENERGY GWH	783.7	27.2	16.1	20.3	70.1	79.4	69.0	97.5	92.1	68.0	45.1	12.2	7.1	8.0	62.6	50.0	59.0	
--FORT RANDALL--																		
NAT INFLOW	433	80	37	48	62	50	174	19	52	-15	-75	-4	-2	-2	-9	17		
DEPLETION	80	1	1	1	4	9	12	18	15	7	1	0	1	0	3	3		
EVAPORATION	137							10	31	37	26	10	5	5	13			
REG INFLOW	13757	554	320	406	1296	1442	1380	1712	1624	1100	632	184	109	123	1022	823	1030	
RELEASE	13757	295	171	389	1296	1442	1380	1712	1673	1626	1288	205	110	123	750	732	566	
STOR CHANGE	0	259	149	17	0	0	0	-49	-526	-656	-21	0	0	272	91	464		
STORAGE	3123	3383	3532	3549	3549	3549	3549	3549	3500	2974	2318	2296	2296	2296	2568	2659	3123	
ELEV FTMSL	1350.0	1353.2	1355.0	1355.2	1355.2	1355.2	1355.2	1355.2	1354.6	1348.0	1337.9	1337.5	1337.5	1337.5	1342.1	1343.5	1350.0	
DISCH KCFS	10.2	9.9	12.3	21.8	21.8	23.4	23.2	27.8	27.2	27.3	21.0	6.9	7.9	7.8	12.2	11.9	10.2	
POWER																		
AVE POWER MW		81	103	183	183	197	195	233	227	222	159	50	57	56	90	91	81	
PEAK POW MW		344	351	352	352	352	352	352	350	323	277	276	276	276	297	303	332	
ENERGY GWH	1352.3	29.3	17.3	39.5	131.8	146.5	140.2	173.4	169.2	159.6	118.1	18.1	9.7	10.8	67.3	67.4	54.1	
--GAVINS POINT--																		
NAT INFLOW	1246	91	42	54	125	136	143	79	79	57	108	47	22	25	70	68	101	
DEPLETION	114	0	0	0	5	19	24	39	10	-5	2	5	2	3	10	1		
CHAN STOR	-2	1	-5	-18	0	-3	0	-9	1	0	12	26	-2	0	-8	1	3	
EVAPORATION	48							3	9	11	10	5	2	2	5			
REG INFLOW	14840	386	209	425	1416	1556	1500	1740	1735	1676	1396	268	125	143	797	799	671	
RELEASE	14840	386	209	425	1416	1556	1500	1740	1722	1636	1396	268	125	143	797	799	724	
STOR CHANGE								13	40								-53	
STORAGE	358	358	358	358	358	358	358	358	371	411	411	411	411	411	411	411	358	
ELEV FTMSL	1206.0	1206.0	1206.0	1206.0	1206.0	1206.0	1206.0	1206.0	1206.5	1208.0	1208.0	1208.0	1208.0	1208.0	1208.0	1208.0	1206.0	
DISCH KCFS	13.0	13.0	15.0	23.8	23.8	25.3	25.2	28.3	28.0	27.5	22.7	9.0	9.0	9.0	13.0	13.0	13.0	
POWER																		
AVE POWER MW		45	52	82	82	87	86	96	96	96	81	32	32	32	46	46	46	
PEAK POW MW		114	114	114	114	114	114	114	115	117	117	117	117	117	78	78	76	
ENERGY GWH	624.0	16.3	8.8	17.7	58.8	64.5	62.1	71.7	71.3	69.2	60.3	11.6	5.4	6.2	34.4	34.5	31.2	
--GAVINS POINT - SIOUX CITY--																		
NAT INFLOW	785	52	24	31	110	205	151	68	31	21	20	14	6	7	14	-7	38	
DEPLETION	248	6	3	4	20	34	30	37	34	22	9	6	3	3	12	13	13	
REGULATED FLOW AT SIOUX CITY																		
KAF	15377		230	452	1506	1727	1621	1771	1719	1635	1407	276	129	147	799	779	749	
KCFS		14.5	16.6	25.3	25.3	28.1	27.2	28.8	28.0	27.5	22.9	9.3	9.3	9.3	13.0	12.7</		

TIME OF STUDY 10:16:17

STUDY NO 22

VALUES IN 1000 AF EXCEPT AS INDICATED

	28FEB06 INI-SUM	15MAR	2006 22MAR	31MAR	30APR	31MAY	30JUN	31JUL	31AUG	30SEP	31OCT	15NOV	22NOV	2007 30NOV	31DEC	31JAN	28FEB
--FORT PECK--																	
NAT INFLOW	5919	272	127	163	598	909	1156	509	294	281	371	184	86	98	314	238	319
DEPLETION	399	-3	-1	-2	76	308	478	159	-42	-124	-58	-34	-16	-18	-108	-126	-91
EVAPORATION	407							25	78	97	85	39	18	21	45		
MOD INFLOW	5113	275	128	165	522	601	678	325	258	308	344	179	83	95	377	364	410
RELEASE	5164	119	56	71	298	430	536	553	523	305	256	124	69	127	553	615	528
STOR CHANGE	-51	156	73	93	224	171	142	-228	-264	2	87	55	14	-32	-176	-251	-118
STORAGE	8838	8994	9067	9160	9385	9555	9698	9470	9205	9208	9295	9350	9364	9332	9156	8905	8788
ELEV FTMSL	2199.0	2200.0	2200.5	2201.1	2202.6	2203.7	2204.6	2203.1	2201.4	2201.4	2202.0	2202.4	2202.4	2202.4	2201.1	2199.4	2198.6
DISCH KCFS	9.5	4.0	4.0	4.0	5.0	7.0	9.0	9.0	8.5	5.1	4.2	4.2	5.0	8.0	9.0	10.0	9.5
POWER																	
AVE POWER MW		47	47	47	59	83	107	107	101	61	49	50	59	95	106	117	110
PEAK POW MW		169	170	171	173	174	175	173	171	171	172	172	172	172	171	168	167
ENERGY GWH	738.0	16.9	7.9	10.2	42.6	62.0	77.4	79.8	74.8	43.7	36.7	17.8	10.0	18.2	78.9	87.0	74.2
--GARRISON--																	
NAT INFLOW	9185	340	158	204	881	1136	2542	1607	454	349	491	203	95	108	136	201	281
DEPLETION	1018	11	5	7	22	211	724	498	68	-123	1	-87	-41	-46	-99	-79	-54
CHAN STOR	0	62			-11	-22	-22		5	37	11	0	-9	-33	-11	-11	6
EVAPORATION	481							29	93	115	100	46	21	24	51		
REG INFLOW	12851	509	209	268	1145	1333	2331	1633	821	699	657	368	174	224	726	884	868
RELEASE	12911	387	167	214	893	1138	1279	1322	1291	952	635	307	264	317	1230	1322	1194
STOR CHANGE	-61	122	42	54	253	196	1052	311	-470	-253	22	61	-90	-93	-504	-438	-326
STORAGE	10611	10734	10776	10830	11083	11279	12331	12642	12172	11918	11940	12001	11911	11819	11315	10877	10551
ELEV FTMSL	1808.6	1809.1	1809.3	1809.6	1810.7	1811.6	1816.1	1817.4	1815.5	1814.4	1814.5	1814.7	1814.4	1814.0	1811.8	1809.8	1808.3
DISCH KCFS	21.0	13.0	12.0	12.0	15.0	18.5	21.5	21.5	21.0	16.0	10.3	10.3	19.0	20.0	20.0	21.5	21.5
POWER																	
AVE POWER MW		134	124	124	156	193	228	233	227	172	111	111	203	213	211	223	220
PEAK POW MW		294	295	295	299	301	315	318	312	309	310	310	309	308	302	296	292
ENERGY GWH	1650.5	48.1	20.8	26.8	112.1	143.6	164.4	173.5	169.1	123.7	82.5	40.0	34.1	40.9	157.0	166.0	147.8
--OAHE--																	
NAT INFLOW	1408	265	123	159	245	134	288	110	28	86	7	-7	-3	-3	-64	-16	56
DEPLETION	613	23	11	14	47	66	129	151	100	25	-8	2	1	1	11	16	26
CHAN STOR	-3	42	5		-16	-19	-16		3	27	31	-48	-6	0	-8		
EVAPORATION	392							25	76	93	81	37	17	20	43		
REG INFLOW	13311	671	285	359	1075	1187	1422	1256	1146	947	600	262	195	288	1111	1282	1224
RELEASE	13373	468	280	354	1232	1395	1200	1726	1638	1116	563	240	122	137	1053	835	1014
STOR CHANGE	-62	203	5	6	-157	-208	222	-470	-492	-169	37	22	73	150	58	447	210
STORAGE	11145	11349	11354	11359	11202	10994	11217	10746	10255	10086	10123	10145	10218	10369	10427	10874	11084
ELEV FTMSL	1577.3	1578.3	1578.3	1578.3	1577.6	1576.5	1577.6	1575.3	1572.8	1571.9	1572.1	1572.2	1572.6	1573.4	1573.7	1575.9	1577.0
DISCH KCFS	18.3	15.7	20.1	19.8	20.7	22.7	20.2	28.1	26.6	18.8	9.2	8.1	8.8	8.7	17.1	13.6	18.3
POWER																	
AVE POWER MW		171	220	216	225	245	218	302	282	197	96	85	92	92	181	145	197
PEAK POW MW		555	555	555	551	546	551	539	526	521	522	523	525	529	531	543	548
ENERGY GWH	1734.8	61.7	36.9	46.7	162.3	182.5	157.2	224.6	210.0	142.0	71.7	30.6	15.5	17.6	135.0	108.0	132.5
--BIG BEND--																	
EVAPORATION	129							8	24	31	27	12	6	7	14		
REG INFLOW	13244	468	280	354	1232	1395	1200	1719	1613	1085	536	228	116	131	1039	835	1014
RELEASE	13244	468	280	354	1232	1395	1200	1719	1613	1085	536	228	116	131	1039	835	1014
STORAGE	1682	1682	1682	1682	1682	1682	1682	1682	1682	1682	1682	1682	1682	1682	1682	1682	1682
ELEV FTMSL	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0
DISCH KCFS	18.3	15.7	20.1	19.8	20.7	22.7	20.2	28.0	26.2	18.2	8.7	7.7	8.3	8.2	16.9	13.6	18.3
POWER																	
AVE POWER MW		74	94	93	97	106	94	131	123	89	44	39	42	42	84	67	88
PEAK POW MW		518	510	509	509	509	509	509	512	538	538	538	538	538	538	538	529
ENERGY GWH	766.1	26.8	15.9	20.0	69.8	79.0	68.0	97.3	91.8	64.0	32.9	14.0	7.1	8.0	62.6	50.0	58.9
--FORT RANDALL--																	
NAT INFLOW	476	88	41	53	68	55	191	21	57	-16	-82	-4	-2	-2	-10	19	
DEPLETION	80	1	1	1	4	9	12	18	15	7	1	1	0	1	3	3	3
EVAPORATION	136							10	31	36	26	10	5	5	13		
REG INFLOW	13501	554	320	405	1296	1441	1379	1712	1624	1026	424	213	109	123	1023	822	1030
RELEASE	13501	295	171	388	1296	1441	1379	1712	1673	1626	1028	213	109	123	750	732	566
STOR CHANGE	0	260	149	17	0	0	0	0	-49	-600	-603	0	0	0	273	90	464
STORAGE	3123	3383	3532	3549	3549	3549	3549	3549	3500	2900	2296	2296	2296	2296	2569	2659	3123
ELEV FTMSL	1350.0	1353.2	1355.0	1355.2	1355.2	1355.2	1355.2	1355.2	1354.6	1347.0	1337.5	1337.5	1337.5	1337.5	1342.1	1343.5	1350.0
DISCH KCFS	10.2	9.9	12.3	21.8	21.8	23.4	23.2	27.8	27.2	27.3	16.7	7.2	7.8	7.7	12.2	11.9	10.2
POWER																	
AVE POWER MW		81	103	183	183	197	195	233	227	221	126	52	57	56	90	91	81
PEAK POW MW		344	351	352	352	352	352	352	350	318	275	276	276	276	297	303	332
ENERGY GWH	1327.7	29.3	17.3	39.4	131.8	146.3	140.1	173.4	169.2	158.9	93.9	18.8	9.6	10.8	67.3	67.4	54.1
--GAVINS POINT--																	
NAT INFLOW	1252	91	42	55	125	137	144	79	79	57	109	47	22	25	70	68	102
DEPLETION	114	0	0	0	5	19	24	39	10	-5	2	5	2	3	10	1	
CHAN STOR	-2	1	-5	-18	0	-3	0	-9	1	0	19	17	-1	0	-8	1	3
EVAPORATION	48							3	9	11	10	5	2	2	5		
REG INFLOW	14590	387	209	425	1416	1556	1500	1740	1735	1676	1144	268	125	143	797	799	672
RELEASE	14590	387	209	425	1416	1556	1500	1740	1722	1636	1144	268	125	143	797	799	725
STOR CHANGE								15	40								-53
STORAGE	358	358	358	358	358	358	358	358	371	411	411	411	411	411	411	411	358
ELEV FTMSL	1206.0	1206.0	1206.0	1206.0	1206.0	1206.0	1206.0	1206.0	1206.0	1208.0	1208.0	1208.0	1208.0	1208.0	1208.0	1208.0	1206.0
DISCH KCFS	13.0	13.0	15.0	23.8	23.8	25.3	25.2	28.3	28.0	27.5	18.6	9.0	9.0	9.0	13.0	13.0	13.0
POWER																	
AVE POWER MW		45	52	82	82	87	86	96	96	96	66	32	32	32	46	46	46
PEAK POW MW		114	114	114	114	114	114	114	115	117	117	117	117	117	78	78	76
ENERGY GWH	613.2	16.4	8.8	17.7	58.8	64.5	62.1	71.7	71.3	69.2	49.4	11.6	5.4	6.2	34.4	34.5	31.2
--GAVINS POINT - SIOUX CITY--																	
NAT INFLOW	862	57	27	34	121	225	166	74	34	23	22	15	7	8	16	-8	41
DEPLETION	251	6	3	4	21	35	30	37	34	22	10	6	3	3	12	13	13
REGULATED FLOW AT SIOUX CITY																	
KAF	15201		232	455	1516	1746	1636	1777	1722	1637	1156	277	129	148	801	778	753
KCFS	14.7	16.7	25.5	25.													

DATE OF STUDY 11/07/01
TIME OF STUDY 10:16:17

	VALUES IN 1000 AF EXCEPT AS INDICATED																
	28FEB07	15MAR	2007	31MAR	30APR	31MAY	30JUN	31JUL	31AUG	30SEP	31OCT	15NOV	22NOV	2008	31DEC	31JAN	29FEB
	INI-SUM		22MAR											30NOV	31DEC	31JAN	29FEB
--FORT PECK--																	
NAT INFLOW	5961	274	128	164	602	915	1164	513	296	283	374	185	86	99	317	240	321
DEPLETION	410	-3	-1	-2	76	309	482	166	-38	-124	-60	-33	-15	-18	-106	-124	-99
EVAPORATION	407							25	78	97	85	39	18	21	45	378	420
MOD INFLOW	5144	277	129	166	526	606	682	322	256	310	349	179	84	96	378	364	420
RELEASE	5169	119	56	71	298	430	506	523	523	307	258	125	97	143	553	615	546
STOR CHANGE	-25	158	74	95	228	176	176	-201	-266	3	91	55	-14	-47	-175	-251	-126
STORAGE	8788	8946	9019	9114	9342	9518	9694	9494	9227	9230	9321	9376	9362	9315	9140	8889	8763
ELEV FTMSL	2198.6	2199.7	2200.2	2200.8	2202.3	2203.4	2204.6	2203.3	2201.5	2201.6	2202.2	2202.5	2202.4	2202.1	2201.0	2199.3	2198.4
DISCH KCFS	9.5	4.0	4.0	4.0	5.0	7.0	8.5	8.5	8.5	5.2	4.2	4.2	7.0	9.0	10.0	10.0	9.5
POWER																	
AVE POWER MW		47	47	47	59	83	101	101	101	61	50	50	83	106	106	117	110
PEAK POW MW		169	169	170	172	174	175	174	171	171	172	173	172	172	171	168	167
ENERGY GWH	738.3	16.8	7.9	10.2	42.6	61.9	73.0	75.5	74.9	43.9	36.9	17.9	13.9	20.4	78.9	86.9	76.7
--GARRISON--																	
NAT INFLOW	9293	344	160	206	891	1150	2572	1626	460	353	496	205	96	109	137	204	284
DEPLETION	1064	0	0	0	-1	211	734	514	74	-126	-4	-91	-42	-49	-72	-50	-33
CHAN STOR	1	62			-11	-22	-17	0	36	11	0	-31	-22		-11	6	
EVAPORATION	481							29	93	115	100	46	21	24	52		
REG INFLOW	12918	525	216	278	1178	1347	2327	1605	816	707	668	375	183	255	711	858	869
RELEASE	12946	387	167	214	893	1138	1279	1322	1291	952	629	305	264	317	1230	1322	1237
STOR CHANGE	-28	138	49	64	286	210	1048	283	-476	-245	38	71	-80	-63	-519	-464	-368
STORAGE	10551	10689	10738	10802	11088	11297	12345	12628	12153	11907	11946	12017	11936	11873	11355	10890	10523
ELEV FTMSL	1808.3	1808.9	1809.2	1809.4	1810.7	1811.7	1816.2	1817.4	1815.4	1814.3	1814.5	1814.8	1814.5	1814.2	1811.9	1809.9	1808.2
DISCH KCFS	21.5	13.0	12.0	12.0	15.0	18.5	21.5	21.5	21.0	16.0	10.2	10.2	19.0	20.0	20.0	21.5	21.5
POWER																	
AVE POWER MW		133	124	124	156	193	228	233	227	172	110	110	203	213	211	223	220
PEAK POW MW		293	294	295	299	301	315	318	312	309	310	311	310	309	302	296	291
ENERGY GWH	1655.0	48.0	20.8	26.8	112.0	143.7	164.5	173.5	169.0	123.7	81.8	39.7	34.1	41.0	157.3	166.2	153.1
--QAHE--																	
NAT INFLOW	1429	269	125	161	249	136	293	112	29	87	7	-7	-3	-4	-65	-16	56
DEPLETION	626	23	11	14	47	67	132	156	103	25	-9	2	1	1	12	17	26
CHAN STOR	0	45	5		-16	-19	-16		3	28	32	-49	-6	0	-8		
EVAPORATION	391							25	75	93	81	37	17	20	43		
REG INFLOW	13358	678	287	362	1079	1188	1424	1253	1144	949	596	259	194	288	1109	1281	1267
RELEASE	13386	466	278	352	1230	1394	1196	1276	1636	1116	565	240	122	137	1053	835	1039
STOR CHANGE	-28	212	8	9	-151	-206	228	-473	-491	-168	31	19	73	150	57	446	227
STORAGE	11084	11296	11304	11314	11162	10956	11185	10712	10220	10053	10084	10103	10176	10326	10382	10828	11056
ELEV FTMSL	1577.0	1578.0	1578.0	1578.1	1577.4	1576.3	1577.5	1575.1	1572.6	1571.7	1571.9	1572.0	1572.3	1573.1	1573.4	1575.7	1576.8
DISCH KCFS	18.3	15.7	20.0	19.7	20.7	22.7	20.1	28.1	26.6	18.8	9.2	8.1	8.8	8.7	17.1	13.6	18.1
POWER																	
AVE POWER MW		170	218	215	225	245	217	302	282	197	97	85	92	92	181	145	195
PEAK POW MW		553	554	554	550	545	551	538	525	520	521	522	524	528	529	541	547
ENERGY GWH	1734.4	61.3	36.7	46.4	161.8	182.2	156.5	224.4	209.5	141.8	71.8	30.6	15.5	17.6	134.8	107.9	135.6
--BIG BEND--																	
EVAPORATION	129							8	24	31	27	12	6	7	14		
REG INFLOW	13257	466	278	352	1230	1394	1196	1719	1611	1085	538	228	116	131	1039	835	1039
RELEASE	13257	466	278	352	1230	1394	1196	1719	1611	1085	538	228	116	131	1039	835	1039
STOR CHANGE	1682	1682	1682	1682	1682	1682	1682	1682	1682	1682	1682	1682	1682	1682	1682	1682	1682
STORAGE	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0
ELEV FTMSL	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0
DISCH KCFS	18.3	15.7	20.0	19.7	20.7	22.7	20.1	28.0	26.2	18.2	8.7	7.7	8.3	8.2	16.9	13.6	18.1
POWER																	
AVE POWER MW		74	94	92	97	106	94	131	123	89	44	39	42	42	84	67	87
PEAK POW MW		518	510	509	509	509	509	509	512	538	538	538	538	538	538	538	529
ENERGY GWH	766.9	26.7	15.8	20.0	69.7	79.0	67.8	97.3	91.7	64.0	33.0	14.0	7.1	8.0	62.6	50.0	60.3
--FORT RANDALL--																	
NAT INFLOW	489	90	42	54	70	56	195	21	59	-16	-84	-4	-2	-2	-10	20	
DEPLETION	80	1	1	1	4	9	12	18	15	7	1	0	1	0	3	3	
EVAPORATION	136							10	31	36	26	10	5	5	13		
REG INFLOW	13527	554	320	405	1296	1441	1379	1712	1624	1026	424	213	109	123	1023	822	1056
RELEASE	13527	295	171	388	1296	1441	1379	1712	1673	1626	1028	213	109	123	750	732	592
STOR CHANGE	0	260	149	17				0	-49	-600	-603	0	0	0	273	90	464
STORAGE	3123	3383	3532	3549	3549	3549	3549	3549	3500	2900	2296	2296	2296	2296	2569	2659	3123
ELEV FTMSL	1350.0	1353.2	1355.0	1355.2	1355.2	1355.2	1355.2	1355.2	1354.6	1347.0	1337.5	1337.5	1337.5	1337.5	1342.1	1343.5	1350.0
DISCH KCFS	10.2	9.9	12.3	21.8	21.8	23.4	23.2	27.8	27.2	27.3	16.7	7.2	7.8	7.7	12.2	11.9	10.3
POWER																	
AVE POWER MW		81	103	183	183	197	195	233	227	221	126	52	57	56	90	91	81
PEAK POW MW		344	351	352	352	352	352	352	350	318	275	276	276	276	297	303	332
ENERGY GWH	1330.2	29.3	17.3	39.4	131.8	146.3	140.1	173.4	169.2	158.9	93.9	18.8	9.6	10.8	67.3	67.4	56.6
--GAVINS POINT--																	
NAT INFLOW	1252	91	42	55	125	137	144	79	79	57	109	47	22	25	70	68	102
DEPLETION	114	0	0	0	5	19	24	39	10	-5	2	5	2	3	10	1	
CHAN STOR	-2	1	-5	-18	0	-3	0	-9	1	0	19	17	-1	0	-8	1	3
EVAPORATION	48							3	9	11	10	5	2	2	5		
REG INFLOW	14615	387	209	425	1416	1556	1500	1740	1735	1676	1144	268	125	143	797	799	697
RELEASE	14615	387	209	425	1416	1556	1500	1740	1722	1636	1144	268	125	143	797	799	750
STOR CHANGE								13	40								-53
STORAGE	358	358	358	358	358	358	358	358	371	411	411	411	411	411	411	411	358
ELEV FTMSL	1206.0	1206.0	1206.0	1206.0	1206.0	1206.0	1206.0	1206.0	1206.0	1208.0	1208.0	1208.0	1208.0	1208.0	1208.0	1208.0	1206.0
DISCH KCFS	13.0	13.0	15.0	23.8	23.8	25.3	25.2	28.3	28.0	27.5	18.6	9.0	9.0	9.0	13.0	13.0	13.0
POWER																	
AVE POWER MW		45	52	82	82	87	86	96	96	96	66	32	32	32	46	46	46
PEAK POW MW		114	114	114	114	114	114	114	115	117	117	117	117	117	78	78	76
ENERGY GWH	614.3	16.4	8.8	17.7	58.8	64.5	62.1	71.7	71.3	69.2	49.4	11.6	5.4	6.2	34.4	34.5	32.3
--GAVINS POINT - SIOUX CITY--																	
NAT INFLOW	879	58	27	35	123	230	169	76	35	24	22	15	7	8	16	-8	42
DEPLETION	254	6	3	4	21	35	30	37	35	23	10	6	3	3	12	13	14
REGULATED FLOW AT SIOUX CITY																	
KAF	15240	438	233	456	1518	1751	1639	1779	1722	1637	1156	277	129	148	801	778	778
KCFS	14.7	16.8	25.5	25.5	28.5	27.5	28.9	28.0	27.5	18.8	9.3	9.3	9.3	13.0	12.7	13.5	
--TOTAL--																	
NAT INFLOW	19303	1125	525	675	2060	2624	4537	2427	958	788	924	441	206	235	475	478	825
DEPLETION																	