



Northwestern Division Missouri River Basin Water Management Division

Missouri River Mainstem System 2002-2003 Annual Operating Plan



Annual Operating Plan Process 50 Years Serving the Misssouri River Basin

January 2003



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

This Annual Operating Plan (AOP) presents information regarding the Corps of Engineers' operation of the Missouri River Mainstem Reservoir System (System) through December 2003. The information provided in this AOP is based on 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 inflow scenarios based on water supply records from 1898 to 1997. This approach provides a good range of water management simulations for dry, average, and wet conditions.

The AOP 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 2009, 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, Nebraska.

The AOP presents a "steady release" schedule during the nesting season of the interior least tern and piping plover, which are listed for protection under the Endangered Species Act. Under a steady release schedule, enough water would be released to meet minimum navigation flow targets, support river recreation, and meet water quality standards. A release of 30,000 cubic feet per second from Gavins Point Dam, near Yankton, South Dakota, would provide minimum navigation service at least 90 percent of the time between June 15 and August 15. Downstream tributary contributions could provide enough water to allow for lower releases.

The U.S. Fish and Wildlife Service (USFWS) has confirmed to the Corps that steady to declining releases from June 15 through August 15 would comply with the ESA. The Corps is currently consulting with the USFWS on a slightly different plan for the tern and plover nesting season, which is referred to as a "flow-to-target" operation. Under this plan, releases would be gradually increased throughout the nesting season to meet minimum flow targets as the downstream tributaries dry up. The flow-to-target plan simultaneously meets downstream needs and conserves nearly 250,000 acre-feet of water in the three large upstream reservoirs. The outcome of this consultation will assist in determining the final operation during the nesting season.

A draft of this AOP was made available to the public in late September 2002. As part of the Corps' government-to-government consultation on the AOP, two meetings were held at reservations at the request of Tribes with the Three Affiliated Tribes on October 15, 2002 at New Town, North Dakota and the Cheyenne River Sioux Tribe on October 16, 2002 at Eagle Butte, South Dakota. Three fall public meetings on the Draft AOP were held on October 15, 2002 at Bismarck, North Dakota; October 16, 2002 at Omaha, Nebraska; and October 17, 2002 at Jefferson City, Missouri. The primary purposes of these five meetings were 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 the Tribes, 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 five meetings are available upon request, as outlined below. A press release announcing the publication of the 2002-2003 AOP was provided on January 15, 2003 and is shown as Exhibit 1.

In addition to the AOP, two separate documents are also available entitled: "System Description and Operation" and "Summary of Actual 2001-2002 Operations." To receive copies of those documents you may contact the Water Management Division at 12565 West Center Road, Omaha, Nebraska 68144-3869, phone (402) 697-2676. Both documents are also available at the "Reports and Publications" link on our web site at: www.nwd.usace.army.mil/rcc.

I thank you for your interest in the operation of the System. 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.

Sincerely,

David A. Fastabend Brigadier General, U.S. Army Division Engineer

MISSOURI RIVER MAINSTEM RESERVOIR SYSTEM

Annual Operating Plan 2002-2003

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ABBREVIATIONS

AOP	-	annual operating plan
ac.ft.	-	acre-feet
AF	-	acre-feet
В	-	Billion
cfs	-	cubic feet per second
COE	-	Corps of Engineers
CY	-	calendar year (January 1 to December 31)
elev	-	elevation
ft	-	feet
FY	-	fiscal year (October 1 to September 30)
GIS	-	Geographic Information System
GWh	-	gigawatt hour
KAF	-	1,000 acre-feet
Kcfs	-	1,000 cubic feet per second
kW	-	kilowatt
kWh	-	kilowatt hour
М	-	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
RCC	-	Reservoir Control Center
RM	-	river mile
tern	-	interior least tern
tw	-	tailwater
USFWS	-	United States Fish and Wildlife Service
USGS	-	United States Geological Survey
yr	-	year

DEFINITION OF TERMS

<u>Acre-foot</u> (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.

<u>Cubic foot per second</u> (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.

<u>Discharge</u> 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.

<u>Drainage area</u> 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.

<u>Drainage basin</u> 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.

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

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

<u>Streamflow</u> 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 MAINSTEM RESERVOIR SYSTEM

Annual Operating Plan 2002 - 2003

I. FOREWORD

This Annual Operating Plan (AOP) presents pertinent information and plans for operating the Missouri River Mainstem Reservoir System (System) through December 2003 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 (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, to meet emergencies, or to meet the provisions of other applicable law, including the Endangered Species Act (ESA) and the conclusion of ongoing Corps and USFWS consultation under Section 7 of that Act. Results of a 5-year extension to the AOP studies (March 2004 to March 2009) are presented to serve as a guide for Western Area Power Administration's (WAPA) power marketing activities and those other interests that require information on reservoir conditions for long term planning.

Prior to the 1998-1999 AOP, a System description and discussion of the typical operation, a historic summary of the previous year's operation, and the plan for future operation was included in one document. Since the 1998-1999 AOP this information has been published in separate reports available upon request. This document provides the plan for future operation of the System. To receive a copy of either the updated version of the "System Description and Operation," dated Spring 2002, or the "Summary of Actual 2001-2002 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 2003. As the cover reflects, this year represents the 50th year that an AOP has been prepared for the operation of the System. This process has served the Corps and the Basin well as a forum for discussion of the next year's operating plan.

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 Mainstem 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 typically is 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 9, 2002, Omaha, Nebraska on April 10, 2002 and Kansas City, Missouri on April 11, 2002. The attendees were given an update regarding the outlook for 2002 runoff and projected operation for the remainder of 2002. Three fall public meetings on the Draft AOP were held on October 15, 2002 at Bismarck, North Dakota, October 16, 2002 at Omaha, Nebraska and October 17, 2002 at Jefferson City, Missouri. As part of the Corps' government-to-government consultation on the AOP, two meetings were held at reservations at the request of Tribes. One was held at the Three Affiliated Tribes Reservation on October 15, 2002 at New Town, North Dakota and the second was at the Cheyenne River Reservation on October 16, 2002 at Eagle Butte, South Dakota.

Preliminary Draft AOP data was presented to the Missouri River Natural Resources Committee (MRNRC) on August 15, 2002. The MRNRC chose not to provide pre-draft comments.

III. MASTER MANUAL REVIEW AND UPDATE AND ESA CONSULTATIONS

In August 2001, the Corps released the Revised Draft Missouri River Environmental Impact Statement (RDEIS) on the Missouri River Master Water Control Manual Review and Update (Review and Update), which presented the impacts associated with a number of potential Water Control Plan alternatives. The Corps is in the process of re-initiating formal consultation with the Unite States Fish and Wildlife Service (USFWS) on the current Water Control Plan. Completion of formal consultation and a Biological Opinion is anticipated within the 135 days allowed by regulation, which will be followed by completion of the Final Environmental Impact Statement (FEIS) for the Review and Update and preparation of a Record of Decision. Implementation of a revised Water Control Plan is anticipated in 2004.

This AOP presents a "steady-release" schedule during the nesting season of the interior least tern and piping plover. The two birds are listed for protection under the ESA. The System release rate shown of 30,000 cubic per second (cfs) from Gavins Point Dam, near Yankton, South Dakota, would provide minimum navigation service at least 90 percent of the time between June 15 and August 15. Downstream tributary contributions could provide enough water to allow for lower releases. The USFWS has confirmed to the Corps that steady to declining releases from June 15 through August 15 would comply with the ESA.

The Corps is also currently in the process of initiating formal consultation with the USFWS under Section 7 of the ESA on a slightly different plan for the tern and plover nesting season, which is referred to as a "flow-to-target" operation. Under this plan, releases would be gradually increased throughout the nesting season to meet minimum flow targets as the tributaries dry up. Nests threatened by rising water or erosion would be moved to higher ground when possible. Threatened chicks and eggs would be collected by biologists for captive rearing at our "bird house" at Gavins Point Dam and subsequently released. We prefer the flow-to-target plan because it simultaneously meets downstream needs and saves nearly 250,000 acre feet of water in the three biggest reservoirs that could reduce the anticipated decline in the reservoirs by 4 to 18 inches, depending on the contributions by the downstream tributaries. Based on the results of the consultation, the flow-to-target plan could possibly replace the steady-release plan for the 2003 nesting season.

IV. FUTURE WATER SUPPLY - AUGUST 2002 - DECEMBER 2003

Due to continued drought throughout much of the Missouri River Basin, Simulation forecasts for the regulation of the six System reservoirs were updated to reflect December 1 rather than August 1, 2002 conditions. The August 1 forecast of annual runoff above Sioux City, Iowa was 17.0 million acrefeet (MAF), but the December 1 forecast and actual 2002 runoff above Sioux City was 16.0 MAF. The December 1 most likely runoff scenario was used as input to the Basic reservoir regulation Simulation (Simulation) in the AOP studies for December 2002. Normal runoff was used in the Basic Simulation for January and February 2003. Two other runoff scenarios based on the December 1 most likely runoff scenarios, which are input to 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 December 2002 to February 2003 period.

Simulations for the March 1, 2003 to February 29, 2004 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 2004. 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 2004.

Upper Decile runoff (34.5 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 in 2 chance of being exceeded. Lower Quartile runoff (19.5 MAF) has a 1 in 4 chance of the occurrence of less runoff, and Lower Decile (15.5 MAF) has a 1 in 10 chance of the 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 $\underline{1}$ / at Sioux City, the corresponding post-1949 water use effects, and the net flow $\underline{2}$ / available above Sioux City are shown in *Table I*, where several water supply conditions are quantified for the periods December 2002 through February 2003 and the runoff year March 2003 through February 2004. The natural water supply for CY 2002 (actual January 2002 through November 2002 runoff plus the December 1 most likely runoff scenario is estimated to total approximately 16.0 MAF.

<u> </u>
700
100
000
000
200
000
100
300

TABLE I NATURAL AND GROSS WATER SUPPLY AT SIOUX CITY

 $\underline{1}$ / 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. $\underline{2}$ / The word "Net" represents the total streamflow after deduction of the post-1949 irrigation, upstream storage, and other use effects.

V. ANNUAL OPERATING PLAN FOR 2002-2003

A. <u>General</u>. The anticipated operation described in this AOP is designed to meet the operational objectives presented in the current Missouri River Master Water Control Manual (Master Manual), which was first published in the 1960's. Consideration has been given to all of the authorized project purposes, and to the needs of threatened and endangered (T&E) species, and relies on a wealth of operational experience. Operational experience available for preparation of the 2002-2003 AOP includes 13 years of operation at Fort Peck Reservoir (1940) by itself plus 49 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 late1980'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 operational 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, may be 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 Corps' obligations, in consultation with the USFWS, under the ESA. After each runoff year (March 1 through February 28) an analysis is performed to determine how much additional water conservation, if any, is needed to compensate for releases in excess of the specific technical criteria in that runoff year's operation. Although July 1, 2002 System storage was only 48.8 MAF, no additional System releases were made for any project purpose above the specific technical criteria in the 2001 runoff year. Therefore, no additional conservation measures beyond the specific technical criteria presented in the Master Manual will be implemented in the 2002 runoff year.

Two sets of Simulations for the 2003 runoff year are shown in the final section of this AOP. The first set, studies 4 through 8 assume a steady-release from Gavins Point Dam from mid-May through August to prevent T&E bird species from nesting at low elevations and thereby help protect them from inundation. The Upper Decile and Upper Quartile runoff Simulations shown as studies 4 and 5 have a 27,200 cfs system release to meet minimum service targets from mid-May through August 2003. The Median, Lower Quartile, and Lower Decile Simulations assume a steady 30,000 cfs System release, reflecting continued dry conditions below Gavins Point Dam. System releases shown in previous AOPs were not absolute and adjustments were made as necessary to meet the navigation service level as determined by the March 15 and July 1 System storage checks. The assumption for this AOP is that the 30,000 cfs steady release would not be exceeded, and therefore, target flows may not be met at all

times if extremely dry conditions persist downstream. An analysis of previous drought years indicates a 30,000 cfs Gavins Point Dam release will provide minimum service or greater flows at Kansas City 90 percent of the time. Temporary reductions in releases will be made during this period if significant runoff occurs below the System. Steady-Release Simulations for Median, Lower Quartile, and Lower Decile extensions from March 1, 2004 through March 1, 2009 are shown in studies 9 through 23. The second set of Simulations, studies 24 through 28, assume a flow-to-target regulation that was used during the 2001 and portions of the 2002 T&E bird species nesting season. A flow-to-target regulation would typically result in increased System releases as the T&E nesting season progresses. This is due to reduced tributary inflows downstream as the summer heat builds, evaporation increases and precipitation wanes. Increasing releases as the nesting season progresses can inundate nests and chicks on low-lying habitat. Because fledge ratio (numbers of chicks reared to flight stage) goals for the Missouri River are being met, the Corps is continuing to consult with the USFWS to determine whether under the flow-to-target scenario, low-lying T&E species' nests and chicks at risk of inundation from increasing releases could be moved to higher terrain or a captive rearing facility. Flow-to-target extensions are shown as studies 29 through 43.

System releases during the navigation season except for the mid-May through August Median, Lower Quartile, and Lower Decile Steady-Release Simulations are based on a service level determination in accordance with the March 15 and July 1 storage checks presented in the current Master Manual. Average releases necessary to meet full service flow targets during the navigation season are shown in *Table II*. Under the Steady-Release Simulation, System release would be set in mid-May to the level expected to be required to meet downstream flow targets through August. This results in releases that exceed the amount necessary to meet downstream flow targets during the early portion of the T&E bird nesting season.

TABLE II GAVINS POINT RELEASES NEEDED TO MEET FULL SERVICE FLOW TARGETS 1950 - 1996 (Discharges in 1,000 cfs)

Runoff									
<u>Scenario</u>	Apr	May	<u>Jun</u>	Jul	Aug	Sep	Oct	Nov	Average
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

System releases under the Flow-to-Target Simulation would be set at only the level necessary to meet downstream flow targets. The flow-to-target regulation would conserve more water in the

System, which would keep the lake levels at the upper three System projects at relatively higher levels. Although the maximum mid-May through August flow-to-target release for Median runoff is shown as 27,200 cfs in study 26 and 28,300 cfs in the Lower Quartile and Lower Decile runoff studies 27 and 28, releases could be greater if needed to maintain the appropriate level of downstream flow support. A flow-to-target regulation would conserve approximately 200,000 to 800,000 AF as compared to a steady-release regulation.

The specific technical criteria for the September 1 storage check to determine winter release rates were not used in the Simulations. A minimum release of 13,000 cfs was used for all Simulations for the winter 2002-2003 and the winter 2003-2004. This will provide downstream winter flows sufficient to allow the operation of downstream powerplants, as provided for in the current Master Manual, and is based on past operational experience.

Application of the specific technical criteria for the September 1 storage check would result in winter releases in 2003-2004 for the Upper Decile and Upper Quartile Simulations above the 13,000 cfs level, but System winter releases will be held to 13,000 cfs as a water conservation measure during the current drought.

The 13,000 cfs winter release will reduce System storage an additional 536,000 AF for both the Basic and 80 percent Simulations for winter 2002-2003 compared to the application of the specific technical criteria. Because releases in July and August 2002 were lower than those needed to provide minimum service, 378,000 AF of storage was conserved as compared to regulation under the specific technical criteria. Therefore, the net reduction in storage in the 2002 runoff year, as compared to regulation under the specific technical criteria, is 158,000 AF.

Only the Median, Lower Quartile, and Lower Decile Simulations show System storage below 52 MAF on July 1, 2003. The Simulations for those three runoff scenarios also show that application of the specific technical criteria result in minimum service throughout the 2003 navigation season. Shortening of the 2003 navigation season is therefore the only available option for additional water conservation. If the Simulations verify, the 2003 navigation season would be shortened by 5 days for Median, Lower Quartile and Lower Decile runoff to compensate for the additional water released during the winter 2002-2003. The Upper Quartile and Upper Decile Simulations show that System storage on July 1 will be above 52 MAF, and therefore would follow the specific technical criteria.

During the late 1980's to early 1990's drought years, a two-day-down, one-day-up peaking cycle was utilized. This regulation provided for lower flows for two out of three days to conserve water in the System while ensuring that T&E bird species did not nest on low-lying habitat. We have not included a peaking cycle in any of the Simulations because of concerns voiced by the USFWS regarding negative impacts to river fish. Intrasystem releases are adjusted to best serve the multiple-purpose functions of the projects with special emphasis placed on regulation for non-listed fisheries starting in early April and for T&E bird species beginning in early May and continuing through August. System releases for all runoff conditions are at less than full service flows due to low System storage.

A reanalysis of the average monthly Gavins Point releases needed to meet service level target requirements was completed in 1999. The study used the Daily Routing Model (DRM) 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 Dam 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 2002-2003 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. As explained previously, the Steady-Release Median, Lower Quartile, and Lower Decile Simulations utilize a 30,000 cfs release from mid-May through August rather than the minimum service releases computed from *Table II*. This release is higher than the *Table II* values and reflects lower downstream tributary flow contributions than was used when the table was prepared.

None of the Simulations reach the desired 57.1 MAF System storage level on March 1, 2004. The Median and above Simulations include releases that provide a steady to rising lake level in the three large upper reservoirs during the spring fish spawn period. Similar regulation in the past has resulted in a higher fish reproduction success. As previously stated, Gavins Point releases will not be cycled to conserve water under any of the five studied runoff scenarios. However, it may be necessary to cycle releases for flood control operations during the T&E species nesting season.

Actual System operation from January 1 through November 30, 2002 and the operating plans for each project for the remainder of 2002 with the Basic Simulation and for CY 2003 using the five runoff scenarios described on page 3 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 2001.

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 2001 through November 2002. **Plate 10** presents past and simulated gross monthly, average power generation, and gross peaking capability for the System.

B. <u>Operation for the Balance of the 2002 Navigation Season</u>. Gavins Point releases were held to a rate of 25,500 cfs from July 1 through August 14 due to T&E bird species nesting below Fort Randall and Gavins Point Dams. This nesting activity resulted in flows of up to 7,000 cfs less than minimum service being provided at Kansas City and downstream on the Missouri River. After T&E bird species nesting activity concluded, releases were increased from 25,500 cfs to 31,000 cfs by

August 15 to meet downstream minimum service flow requirements. Releases through the fall season were adjusted as needed to provide minimum service (6,000 cfs less than full service) flow support to navigation as computed by the July 1 System storage check. System storage was 48.2 MAF on July 1, 2002, substantially less than the 59.0 MAF minimum storage required to provide full service flows. The current storage is also much less than the 50.5 MAF 1 July check for greater than minimum service flows; therefore, a significant System storage gain will have to occur before a service level greater than minimum service is provided. A full 8-month navigation season was provided in 2002.

System storage declined to 49.3 MAF on December 1 at the close of the 2001 navigation season. The winter of 2001-2002 brought virtually no significant plains snowpack. The mountain snowpack peaked in the reach above Fort Peck at 91 percent of normal on May 11th, which was about 26 days later than normal. The mountain snowpack in the reach between Fort Peck and Garrison peaked at 85 percent of normal on April 22nd. The total runoff for 2002 was 16.0 MAF, the 10th lowest in 105 years of record, and is near a lower decile runoff. January and February were 116 and 85 percent of normal, respectively. March fell to only 41 percent, and April was 60 percent of normal with no plains snowpack to melt. The months of May, June, and July were well below average at 52, 79, and 62 percent of normal and September was only 66 percent of normal. October was only 61 percent of normal and 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.

Energy generation by the System powerplants for the period August 1 to December 1 was 2.9 billion kilowatt hours (kWh), 0.9 billion kWh below normal.

<u>Fort Peck</u> Dam releases ranged from 4,000 to 9,300 cfs for the remainder of the 2002 navigation season. Fort Peck Lake declined 2.2 feet from elevation 2219.0 feet mean sea level (msl) to 2216.8 feet msl by the end of the navigation season, 17.5 feet lower than the 1967-2001 long-term average.

<u>Garrison</u> Dam releases ranged from 12,800 to 21,700 cfs through the remainder of the 2002 navigation season. The level of Lake Sakakawea declined by 6.8 feet from elevation 1831.4 feet msl to 1824.6 feet msl by November 30, 13.6 feet below the long-term average.

<u>Oahe</u> Dam releases were reduced from an August average of 29,200 cfs to 9,300 cfs in late November as the navigation season ended. Lake Oahe lowered 7.4 feet from an August 1 elevation of 1590.8 feet msl to the November 30 elevation of 1583.4 feet msl, 18.4 feet below the long-term average.

<u>Big Bend</u> Dam releases paralleled those from Oahe. Lake Sharpe generally fluctuated between 1420.0 and 1421.0 feet msl for weekly cycling during high power load periods. Actual elevations ranged from 1419.3 feet msl to 1421.1 feet msl during the period of August through November. Reservoir fluctuations of a foot are scheduled during 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.

<u>Fort Randall Dam</u> releases generally paralleled those from Gavins Point. Lake Francis Case was lowered one month early to elevation 1338.2 feet msl by October 31 to permit the permanent protection of a Native American gravesite located at White Swan. Project personnel requested a further lowering to elevation 1335.0 feet msl by November 11, 2002 to permit placement of rock below the normal annual minimum elevation. The lowering of Lake Francis Case will provide sufficient capacity to store a reasonable level of power releases from Oahe and Big Bend during the winter season.

<u>Gavins Point</u> Dam releases ranged from 25,500 to 31,000 cfs during the remainder of the navigation season. Lewis and Clark Lake rose about 3 feet from elevation 1205.2 to elevation 1208.0 feet msl during the remainder of the navigation season that ended December 1. 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 2001-2002 periods. The State of South Dakota experienced damage to recreation areas last winter and an agreement was reached between the Corps and the State to lower the target elevation by one-half foot to elevation 1207.5 feet msl from late summer through winter 2002-2003.

C. Operating Plan for the Winter of 2002-2003. Due to low System storage, the specific technical criteria presented in the current Master Manual for the September 1 storage check were not used to determine winter 2002-2003 and winter 2003-2004 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, and minimum service releases if system storage is at or below 43.0 MAF. Average full and minimum service winter release rates from Fort Randall Dam are 15,000 and 5,000 cfs, respectively. The storage on September 1, 2002 was 46.9 MAF, 11.1 MAF less than the 58.0 MAF required to provide a full service release of 15,000 cfs from Fort Randall Dam. The September 1 storage check specifies a Fort Randall Dam winter release rate of only 7,600 cfs. This corresponds to a Gavins Point Dam winter release of 9,000 cfs, which is much too low based on operational experience with winter ice. Therefore, winter System releases in all Simulations are set to a minimum of 13,000 cfs for the winter of 2002-2003 and the winter of 2003-2004. 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 2002 navigation season on December 1, 2002 until the opening of the 2003 navigation season on April 1, 2003, operations are expected to be as follows:

<u>Fort Peck Dam</u> releases are expected to average 10,000 cfs in December and 11,000 cfs in January and February. The December release is equal to the 1967-2001 average and the January and February releases are 500 cfs and 1,000 cfs below average, respectively. The Basic Simulation shows Fort Peck Lake will lower 4.6 feet to elevation 2212.2 feet msl by the end of the winter period. Carryover multiple purpose storage in the three large upper reservoirs will be near a balanced condition on March 1, 2003. The lake is expected to rise 1.3 feet to elevation 2213.5 feet msl by March 31, 19.2 feet below normal.

<u>Garrison Dam</u> releases will be adjusted to serve winter power loads and balance System storage. Releases will follow a more typical pattern than last year's record low 13,000 cfs winter release. Releases will be scheduled at 20,000 cfs at the time of normal freeze-in and likely will have to be reduced for a short period to 18,000 cfs during the freeze-in in the Bismarck area in an attempt to not exceed the target 13-foot stage at the Bismarck gage. Flood stage is 16 feet. Garrison Dam releases are expected to average 20,000 cfs at the beginning of the winter period and gradually increase to 23,000 cfs in January and February, 1,200 to 2,500 cfs less than normal. Lake Sakakawea is expected to lower from near elevation 1824.6 feet msl to elevation 1819.5 feet msl by March 1, 18.0 feet below the base of the annual flood control storage zone. The Median Simulation indicates the lake will rise to elevation 1820.8 feet msl by March 31, which would be 14.9 feet below normal.

<u>Oahe Dam</u> releases for the winter season will provide backup for the Fort Randall and Gavins Point Dam releases plus fill the recapture space available in Lake Francis Case 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 13,000 and 16,000 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 rise from elevation 1583.6 feet msl at the end of the 2002 navigation season to elevation 1589.0 by March 1, then rise to elevation 1592.3 feet msl by the end of March, 14.3 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.

<u>Fort Randall Dam</u> releases will average near 11,000 cfs. Lake Francis Case is expected to rise from 1338.2 feet msl at the end of the 2002 navigation season to near elevation 1350.0 feet msl, the seasonal base of flood control, by March 1. However, if the plains snowpack flood potential downstream of Oahe Dam is quite low at that time, measures will be taken to raise Lake Francis Case to near elevation 1353.0 feet msl 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 mid-October through December, due to the damming effect of this delta area.

<u>Gavins Point Dam</u> releases were gradually reduced beginning the last week of November to a winter level of 13,000 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 1207.5 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 Dam to Gavins Point Dam reach.

System storage for all five runoff conditions will be substantially below the base of the annual flood control zone by March 1, 2003, the beginning of next year's runoff season.

D. <u>Operations During the 2003 Navigation Season</u>. 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. The normal 8-month navigation season length is shortened for Median, Lower Quartile, and Lower Decile as shown in *Table III* to compensate for the extra water released during winter 2002-2003. Releases from Fort Peck, Garrison, and Fort Randall Dams 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 all five runoff scenarios are shown during the tern and plover nesting season (mid-May to the end of August) to keep birds from nesting at low elevations for the Steady-Release Simulations. The Flow-to-Target Simulations follow March 15 and July 1 System storage checks. All runoff scenarios except Lower Quartile and Lower Decile would provide steady to rising pool levels in the spring fish spawn period.</u>

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, 2003, the normal navigation season opening date. The corresponding dates at upstream locations are: Sioux City, March 23; Omaha, March 25; Nebraska City, March 26; and Kansas City, March 28. The studies illustrated on *Plates 3 through 8* and summarized in *Table III* are based on providing less than full service flows, a full 8-month season for Upper Decile and Upper Quartile runoff scenarios, and a shortened season for Median, Lower Quartile, and Lower Decile runoff. Upper Decile releases are 6,000 cfs less than full service (minimum service) in the spring and 3,100 cfs less than full service in the summer and fall for the Steady-Release Simulations. July 1 System storage in the Upper Decile Flow-to-Target Simulation specifies 2,800 less than full service in the summer and fall. Releases for Upper Quartile runoff are 6,000 cfs below full service in the spring and 4,500 cfs less than full service during the summer and fall for the Steady-Release Simulation. Summer and fall Upper Quartile flow-to-target releases are 4,200 cfs below full service. Minimum service flows for less than an 8-month navigation season will be provided should Median, Lower Quartile, or Lower Decile runoff occur.

Navigation flow support for the 2003 season will be determined by actual System storage on March 15 and July 1. Gavins Point Dam releases may be quite variable during the 2003 navigation season but are expected to range from 21,000 to 30,000 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* for the Steady-Release Simulations. Flow-to-target plots are not shown because the difference cannot be seen at the scale provided except for the median Gavins Point Dam release shown on *Plate 4*. Ample storage space exists in the System to control flood inflows under all conditions studied. *Table III* summarizes the navigation service support projected for the 2003 navigation season for the Steady-Release and Flow-to-Target Simulations.

The two modified reservoir operations shown in the previous two AOPs cannot be accomplished in 2003 due to low System storage. When System storage recovers sufficiently, both these operations will be pursued based on recommendations presented to the Corps by the USFWS.

The first of these two modified operations are tests of flow modifications for T&E species. When Fort Peck Lake has adequate water above the spillway crest by mid to late May of any year, 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 if it were used more frequently. 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 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 2003 for any of the five runoff scenarios. 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 in the year following the "mini-test" to determine if warm water releases will benefit the native river fishery. Peak outflows during the full test would be maintained for 2 weeks within the 4-week test period.

TABLE III NAVIGATION SERVICE SUPPORT FOR THE 2003 SEASON

	Runoff	2003 System	n Storage	Flow Level	Flow Level Above or						
	Scenario	March 15	July 1	Below Fu	Ill Service	of Season					
	(MAF)	(MAF)	(MAF)	<u>(</u> ir	n cfs)	(Months)					
				Spring	Summer/Fall						
U.D.	34.5	45.2	54.6	-6,000	-3,100	8					
U.Q.	30.6	45.0	52.6	-6,000	-4,500	8					
Med	24.6	44.0	49.0	-6,000	-6,000	8 - 5 days					
L.Q.	19.5	43.3	46.0	-6,000	-6,000	8 - 5 days					
L.D.	15.5	43.1	43.8	-6,000	-6,000	8 - 5 days					

STEADY-RELEASE

FLOW-TO-TARGET

Runoff	2003 System	n Storage	Flow Level	Flow Level Above or					
Scenario	March 15	July 1	Below Fu	Below Full Service					
(MAF)	(MAF)	(MAF)	(in	cfs)	(Months)				
			Spring	Summer/Fall					
34.5	45.2	55.1	-6,000	-2,800	8				
30.6	45.0	53.0	-6,000	-4,200	8				
24.6	44.0	49.7	-6,000	-6,000	8 - 5 days				
19.5	43.3	46.5	-6,000	-6,000	8 - 5 days				
15.5	43.1	44.3	-6,000	-6,000	8 - 5 days				
	Runoff Scenario (MAF) 34.5 30.6 24.6 19.5 15.5	Runoff 2003 System Scenario March 15 (MAF) (MAF) 34.5 45.2 30.6 45.0 24.6 44.0 19.5 43.3 15.5 43.1	Runoff2003 System Storage March 15July 1 (MAF)(MAF)(MAF)(MAF)34.545.255.130.645.053.024.644.049.719.543.346.515.543.144.3	Runoff 2003 System Storage Flow Level Scenario March 15 July 1 Below Fu (MAF) (MAF) (MAF) (in 34.5 45.2 55.1 -6,000 30.6 45.0 53.0 -6,000 24.6 44.0 49.7 -6,000 19.5 43.3 46.5 -6,000 15.5 43.1 44.3 -6,000	Runoff2003 System StorageFlow Level Above orScenarioMarch 15July 1Below Full Service(MAF)(MAF)(MAF)(in cfs)34.545.255.1-6,000-2,80030.645.053.0-6,000-4,20024.644.049.7-6,000-6,00019.543.346.5-6,000-6,00015.543.144.3-6,000-6,000				

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 the large reservoirs will be balanced on March 1, 2003. Should Upper Decile or Upper Quartile runoff occur in 2003, studies indicate Fort Peck Lake will be 4.0 feet above a balanced condition, Lake Sakakawea will be nearly 3.0 feet below a balanced condition, and Lake Oahe will be balanced on March 1, 2004. Reservoir unbalancing is computed based on the percentage of the carryover multiple purpose pool that remains in Fort Peck Lake, Lake Sakakawea, and Lake Oahe. This would permit the Fort Peck Dam T&E flow modification "mini-test" in the spring of 2004, as described in the previous paragraph. Median or lower runoff does not sufficiently refill the reservoirs in 2003 and no unbalancing or "mini-test" would occur in spring 2004. 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 2003. The AOP Extension Simulations shown as studies 9-13 for Median runoff with steady-release indicate no

unbalancing can occur until March 1, 2007 if the *Table V* guidelines are followed. Studies 29-33 indicated unbalancing would be possible by March 1, 2006 for Median flow-to-target.

Summary of Reservoir Regulation Activities for T&E Species and Fish Propagation Enhancement

As discussed in the section above, the 2002-2003 AOP includes no provisions for unbalancing the Fort Peck, Garrison, and Oahe reservoirs for any of the runoff scenarios. The criteria for unbalancing are based on recommendations provided by the MRNRC and the USFWS. Under all Simulations, System storage will be below the minimum levels under which unbalancing is recommended by either the MRNRC or the USFWS.

As stated previously, this AOP presents a steady-release schedule during the nesting season of the interior least tern and piping plover. The USFWS has confirmed to the Corps that steady-to-declining releases from June 15 through August 15 would comply with the ESA. The Corps is also currently in the process of initiating formal consultation with the USFWS under Section 7 of the ESA on a flow-to-target operation. Based on the results of the consultation, the flow-to-target plan could possibly replace the steady-release plan for the 2003 nesting season.

	Fort	Peck	Garı	rison	Oahe			
Year	March 1	Rest of Year	March 1	Rest of Year	March 1	Rest of year		
1	High	Float	Low	Hold Peak	Raise & hold during spawn	Float		
2	Raise & hold during spawn	Float	High	Float	Low	Hold peak		
3	Low	Hold peak	Raise & hold during spawn	Float	High	Float		

TABLE IVRESERVOIR UNBALANCING SCHEDULE

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

Also, as previously stated, the Corps is in the process of re-initiating formal consultation with the USFWS on the current Water Control Plan. Completion of formal consultation and a Biological Opinion is anticipated within the 135 days allowed by regulation, which will be followed by completion of the Final Environmental Impact Statement (FEIS) for the Review and Update and preparation of a Record of Decision. Implementation of a revised Water Control Plan is anticipated in 2004. In addition to water management, other activities are also being undertaken by the Corps to assist in the survival of the endangered species on the Missouri River. Habitat creation for terns, plovers and pallid sturgeon, pallid sturgeon hatchery propagation, and a variety of studies are examples of some of these activities. A complete discussion of these activities can be found in the report entitled "Annual Report for the Missouri River Biological Opinion for 2001" prepared by the Omaha District, U.S. Army Corps of Engineers.

<u>Fort Peck</u> releases during the bird nesting season will range from 8,000 cfs for Upper Decile runoff to 10,000 cfs for Median and below runoff. This regulation should result in habitat conditions for nesting terns and plovers similar to what was available in 2002.

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 not be run under

any runoff scenario. Fort Peck Lake must be at elevation 2229 msl to allow releases through the spillway.

<u>Garrison Dam</u> releases will be reduced 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.

<u>Lake Sakakawea</u> 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.

<u>Oahe Dam</u> releases in the spring and summer will back up those from Gavins Point Dam. Oahe Reservoir elevation in the spring will be steady or rising given Median or higher runoff. The actual timing of the rise in lake elevation will be dependent upon the pattern of inflow at that time. Under all AOP Simulations, the Oahe pool will fall during the summer.

<u>Fort Randall Dam</u> will be operated to provide for a pool elevation near 1355 feet msl during the fish spawn period, provided water can be supplied from other reservoirs for downstream uses, 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 Dam during the 2003 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.

<u>Gavins Point Dam.</u> Under the steady-release plan, Gavins Point Dam releases will be increased in May for all runoff scenarios when terns and plovers begin to initiate nesting. The release rate will be no more than 30,000 cfs, but could be set at a lower level, based on an assessment in mid-May of flows needed to support the service level targets in August. This will result in steady flows during the nesting season. Based on 2002 nesting season results, it is anticipated that sufficient habitat will be available above the release rates to provide for successful nesting. The resulting steady release prevents inundation of nests and chicks. Cycling releases every third day is not planned during the 2003 nesting season except during downstream flood control operations. If the results of ESA consultation allows for the replacement of the steady-release plan with the flow-to-target regulation, releases will be set to meet the specified navigation service level with increases made as necessary during the T&E bird species nesting season.

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 T&E species nesting below the Gavins Point Dam project that must be preserved, Gavins Point Dam releases are restricted during the nesting season. Second, unexpected rainfall runoff between Fort Randall Dam and Gavins Point Dam 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 1207.5 feet msl following the nesting season

VI. SUMMARY OF RESULTS EXPECTED IN 2002-2003

With System operations in accordance with the 2002-2003 AOP outlined in the preceding pages, the following results can be expected.

A. <u>Flood Control</u>. All runoff scenarios studied will begin next year's runoff season on March 1, 2003, 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 13.5 to 14.6 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. <u>Water Supply and Water Quality Control</u>. 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, experience has shown that for brief periods it may be necessary to increase Gavins Point releases to help alleviate water supply problems.

C. <u>Irrigation</u>. 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. <u>Navigation</u>. Service to navigation in 2003 would be scheduled below full service flow support for all five runoff scenarios. Reductions below full service for the Steady-Release and Flow-to-Target Simulations are 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 2003 navigation season will be based on actual System storage on March 15 and July 1, 2003.

Upper Decile and Upper Quartile Simulations show an 8-month navigation season. The Median, Lower Quartile and Lower Decile Simulations shorten the season 5 days. The anticipated service level and season length for all runoff conditions simulated are shown in *Table III*.

E. <u>Power</u>. *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 December 2002 through December 2003. 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.

F. <u>Recreation, Fish and Wildlife</u>. 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 managed system. 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 Reservoirs were added in 2001 to the Missouri River Basin Water Management Division web site at: www.nwd-mr.usace.army.mil/rcc.

The effects of the simulated System operation during 2002-2003 on fish and wildlife are included in the section entitled, "Summary of Reservoir Regulation Activities for T&E Species and Fish Propagation Enhancement."

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

	Estimated																
(Committed													Exp	ected To	otal	
Sales* Expected C of E Capability			у	E	Expected Bureau Capability**						System Capability						
2002			<u>120%</u>	<u>Basic</u>	<u>80%</u>			<u>12</u>	20%	<u>Basic</u>	<u>80%</u>			<u>120%</u>	<u>Basic</u>	<u>80%</u>	
Aug	2133																
Sep	1475																
Oct	1400																
Nov	1783																
Dec	1965		1993	1989	1989				190	181	170			2183	2170	2159	
2003																	
Jan	2214		2016	2007	2007				185	178	167			2201	2185	2174	
Feb	1837		2034	2018	2018				183	177	164			2217	2195	2182	
		<u>U.D.</u>	<u>U.Q.</u>	Med.	<u>L.Q.</u>	<u>L.D.</u>	<u>U.</u>	<u>D. U</u>	J.Q.	Med.	<u>L.Q.</u>	<u>L.D.</u>	<u>U.D.</u>	<u>U.Q.</u>	Med	<u>L.Q.</u>	<u>L.D.</u>
Mar	1678	2106	2099	2082	2064	2061	19)2 ·	192	182	163	163	2298	2291	2264	2227	2224
Apr	1480	2130	2118	2091	2063	2058	19	95 ⁻	195	190	164	164	2325	2313	2281	2227	2222
May	1385	2153	2134	2100	2064	2051	20)1 2	203	199	174	174	2354	2337	2299	2238	2225
Jun	1660	2194	2169	2128	2087	2057	2	11 2	212	207	182	182	2405	2381	2335	2269	2239
Jul	2276	2209	2181	2129	2081	2044	2	13 2	213	209	184	180	2422	2394	2338	2265	2224
Aug	2124	2205	2175	2113	2061	2020	20)9 2	209	206	182	176	2414	2384	2319	2243	2196
Sep	1475	2201	2172	2108	2051	2007	20)8 2	208	206	184	178	2409	2380	2314	2235	2185
Oct	1400	2191	2161	2093	2019	1974	20)7 2	207	208	187	180	2398	2368	2301	2206	2154
Nov	1769	2160	2128	2062	1993	1947	20)6 2	206	204	187	179	2366	2334	2266	2180	2126
Dec	1960	2147	2114	2038	1974	1919	20	00 2	200	198	185	177	2347	2314	2236	2159	2096

* Estimated sales, including system reserves. Power in addition to hydro production needed for these load requirements wil 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 VI PEAKING CAPABILITY AND SALES (Flow to Target Regulation) (1,000 kW at plant)

(Estimated Committed	-		0 - 4 5 6				F				.++		Exp	ected To	otal				
0000	Sales	EX	pected			<u>y</u>		Expe	ected B	ureau C	apability		System Capability							
2002	_		<u>120%</u>	Basic	<u>80%</u>				<u>120%</u>	Basic	<u>80%</u>			<u>120%</u>	Basic	<u>80%</u>				
Aug Sep	2133 1475																			
Oct	1400																			
Nov	1783																			
Dec	1965		1993	1989	1989				190	181	170			2183	2170	2159				
2003	_																			
Jan	2214		2016	2007	2007				185	178	167			2201	2185	2174				
Feb	1837		2034	2018	2018				183	177	164			2217	2195	2182				
		U.D.	U.Q.	Med.	L.Q.	L.D.	ι	J.D.	U.Q.	Med.	L.Q.	L.D.	U.D.	U.Q.	Med	L.Q.	L.D.			
							-													
Mar	1678	2106	2099	2082	2064	2061		192	192	182	163	163	2298	2291	2264	2227	2224			
Apr	1480	2130	2118	2091	2063	2058		195	195	190	164	164	2325	2313	2281	2227	2222			
May	1385	2156	2137	2103	2066	2054		201	203	199	174	174	2357	2340	2302	2240	2228			
Jun	1660	2203	2178	2140	2094	2066		211	212	207	182	182	2414	2390	2347	2276	2248			
Jul	2276	2216	2189	2144	2090	2054		213	213	209	184	180	2429	2402	2353	2274	2234			
Aug	2124	2208	2181	2132	2071	2032		209	209	206	182	176	2417	2390	2338	2253	2208			
Sep	1475	2204	2177	2126	2062	2020		208	208	206	184	178	2412	2385	2332	2246	2198			
Oct	1400	2193	2165	2111	2031	1987		207	207	208	187	180	2400	2372	2319	2218	2167			
Nov	1769	2161	2132	2079	2005	1960		206	206	204	187	179	2367	2338	2283	2192	2139			
Dec	1960	2148	2118	2055	1987	1931		200	200	198	185	177	2348	2318	2253	2172	2108			

* Estimated sales, including system reserves. Power in addition to hydro production needed for these load requirements wil 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 (Steady Release Regulation) (Million kWh at plant)

Estimated Committed Sales*		Fxr	pected (C of F G	eneratio	on	Exp	ected Bi	ireau G	eneratio		Expected Total System Generation						
2002	00.00		<u>120%</u>	Basic	80%			<u>120%</u>	Basic	<u>80%</u>			<u>120%</u>	Basic	80%			
Aug Sep Oct Nov Dec	829 714 722 774 910		515	519	527			59	48	41			574	567	568			
2003 Jan Feb	896 850		588 526	578 519	566 517			58 51	48 43	37 32			646 577	626 562	603 549			
		<u>U.D.</u>	<u>U.Q.</u>	Med.	<u>L.Q.</u>	<u>L.D.</u>	<u>U.D.</u>	<u>U.Q.</u>	Med.	<u>L.Q.</u>	<u>L.D.</u>	<u>U.D.</u>	<u>U.Q.</u>	Med	<u>L.Q.</u>	<u>L.D.</u>		
Mar Apr Jun Jul Aug Sep Oct Nov Dec	785 737 685 745 829 835 713 720 774 <u>884</u>	391 479 642 717 802 821 744 606 651 <u>593</u>	420 502 660 740 819 831 725 582 582 532 589	435 555 720 819 904 867 692 556 451 <u>566</u>	480 631 783 832 909 899 672 558 471 <u>586</u>	488 623 774 816 889 877 680 568 469 <u>543</u>	68 77 108 118 143 99 95 93 89 <u>91</u>	70 77 102 122 131 93 88 89 85 <u>91</u>	48 44 47 53 77 73 70 69 79 80	38 36 40 54 52 51 49 49 52 <u>53</u>	38 36 40 54 51 50 48 48 45 <u>46</u>	459 556 750 835 945 920 839 699 740 <u>684</u>	490 579 762 862 950 924 813 671 617 <u>680</u>	483 599 767 872 981 940 762 625 530 <u>646</u>	518 667 823 886 961 950 721 607 523 639	526 659 814 870 940 927 728 616 514 589		
CY TOT	9453	7560	7514	7662	7904	7810	1090	1057	731	543	525	8650	8571	8393	8447	8335		

* 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.

TABLE VII ENERGY GENERATION AND SALES (Flow to Target Regulation) (Million kWh at plant)

	Estimated Committed Sales*	Ext	oected (C of E G	eneratio	on	Exp	ected Bu	ureau G	eneratio	n **		Exp Svste	ected To m Gene	otal ration	
2002			120%	Basic	80%			120%	Basic	80%			120%	Basic	80%	
Δυα	829															
Sen	714															
Oct	722															
Nov	774															
Dec	910		515	519	527			59	48	41			574	567	568	
2003																
Jan	896		588	578	566			58	48	37			646	626	603	
Feb	850		526	519	517			51	43	32			577	562	549	
				Mod					Mod	1.0				Mad		
		<u>U.D.</u>	<u>U.Q.</u>	ivied.	<u>L.Q.</u>	<u>L.D.</u>	<u>U.D.</u>	<u>U.Q.</u>	ivied.	<u>L.Q.</u>	<u>L.D.</u>	<u>U.D.</u>	<u>U.Q.</u>	ivied	<u>L.Q.</u>	<u>L.D.</u>
Mar	785	391	420	435	480	488	68	70	48	38	38	459	490	483	518	526
Apr	737	479	502	551	631	623	77	77	44	36	36	556	579	595	667	659
May	685	585	603	613	715	715	108	102	47	40	40	693	705	660	755	755
Jun	745	606	630	633	720	714	118	122	53	54	54	724	752	686	774	768
Jul	829	843	824	796	862	851	143	131	77	52	51	986	955	873	914	902
Aug	835	890	867	822	845	828	99	93	73	51	50	989	960	895	896	878
Sep	713	749	722	694	687	687	95	88	70	49	48	844	810	764	736	735
Oct	720	606	581	546	569	560	93	89	69	49	48	699	670	615	618	608
Nov	774	552	531	448	477	466	89	85	79	52	45	641	616	527	529	511
Dec	<u>884</u>	<u>589</u>	<u>590</u>	<u>570</u>	<u>588</u>	<u>545</u>	<u>91</u>	<u>91</u>	<u>80</u>	<u>53</u>	<u>46</u>	<u>680</u>	<u>681</u>	<u>650</u>	<u>641</u>	<u>591</u>
CY TOT	9453	7404	7384	7205	7657	7560	1090	1057	731	543	525	8494	8441	7936	8200	8085

* 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.

G. <u>System Storage</u>. System storage totaled 42.7 MAF on December 31, 2002, exactly the same as occurred on December 31, 1992, which was near the end of the last drought. This year-end storage is 6.2 MAF less than the 48.9 MAF experienced on December 31, 2001, and 12.6 MAF less than the 1967 to 2001 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 1988-1992 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. Total System storage on December 31, 2003 is presented in *Table VIII*.

H. <u>Summary of Water Use by Functions</u>. Anticipated water use in CY 2002, under the Basic Simulation, is shown in *Tables IX and X*. Actual water use data for CY 2001 are included for information and comparison.

Under the simulated operations, estimated water use in CY 2003, which will be subject to reappraisal next year, also is shown in *Table IX* for the Steady-Release Simulations and in *Table X* for the Flow-to-Target Simulations. Note that System releases are lower for the Flow-to-Target Simulation since no additional releases are made for T&E bird species.

TABLE VIIIANTICIPATED DECEMBER 31, 2003 STORAGE IN SYSTEM

	Above	Unfilled	Total
Total	Minimum	Carryover	Change
(12/31/03)	Pools 1/	Storage 2/	CY 2003
	(Volumes in	n 1,000 Acre-Feet)	
55,100	37,000	2,000	12,100
52,200	34,100	4,900	9,200
46,200	28,100	10,900	3,400
41,200	23,100	15,900	-1,500
38,000	19,900	19,100	-4,700
	Total (12/31/03) 55,100 52,200 46,200 41,200 38,000	Above Total Minimum (12/31/03) Pools 1/ (Volumes in 55,100 37,000 52,200 34,100 46,200 28,100 41,200 23,100 38,000 19,900	AboveUnfilledTotalMinimumCarryover(12/31/03)Pools 1/Storage 2/(Volumes in 1,000 Acre-Feet)(Volumes in 1,000 Acre-Feet)55,10037,0002,00052,20034,1004,90046,20028,10010,90041,20023,10015,90038,00019,90019,100

STEADY-RELEASE SIMULATIONS

FLOW-TO-TARGET SIMULATIONS

		Above	Unfilled	Total
Water Supply	Total	Minimum	Carryover	Change
Condition	(12/31/03)	Pools 1/	Storage 2/	CY 2003/3
		(Volumes in	n 1,000 Acre-Feet)	
Upper Decile	55,200	37,100	1,900	12,200
Upper Quartile	52,500	34,400	4,600	9,500
Median	47,300	29,200	9,800	4,500
Lower Quartile	41,800	23,700	15,300	-900
Lower Decile	38,600	20,500	18,500	-4,100

 $\underline{1}$ Net usable storage above 18.1 MAF System minimum pool level

established for power, recreation, irrigation diversions, and other purposes.

2/ System base of flood control zone containing 57.1 MAF.

<u>3</u>/ Less storage is saved than is indicated for Median, Lower Quartile, and Lower Decile Flow-to-Target Simulations compared to Steady-Release Simulations due to differences in mid-May through August releases.

TABLE IX MISSOURI RIVER MAINSTEM SYSTEM WATER USE FOR CALENDAR YEARS 2001, 2002, AND 2003 ABOVE SIOUX CITY, IOWA in Million Acre-Feet (MAF)

		CV 2001	CV 2002		S S Cal	teady-Rele	ease	
		Actual	Basic Simulation	Upper Decile	Upper Quartile	Median	Lower Quartile	Lower Decile
Upstream Depletions	(1)							
Irrigation, Tributary Reservoir								
Evaporation & Other Uses		2.0	2.0					
Tributary Reservoir Storage Chang	ge	<u>- 0.1</u>	- 0.4					
Total Upstream Depletions		1.9	1.6	2.6	2.5	3.0	2.6	2.2
System Reservoir Evaporation	(2)	2.7	2.1	1.1	1.1	1.6	1.8	1.7
Sioux City Flows								
Navigation Season								
Unregulated Flood Inflows Betw	veen							
Gavins Point & Sioux City	(3)	0.0	0.0					
Navigation Service Requirement		14.6	15.2	15.1	14.2	13.0	13.0	12.9
Supplementary Releases								
T&E Species	(4)	0.0	-0.4	0.6	0.5	0.5	0.2	0.2
Flood Evacuation	(5)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Non-navigation Season								
Flows		3.8	3.5	3.3	3.3	3.1	3.4	3.2
Flood Evacuation Releases	(6)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
System Storage Change		- 0.5	<u>- 6.0</u>	<u>11.8</u>	9.0	<u>3.4</u>	<u>- 1.5</u>	<u>-4.7</u>
Total		22.5	16.0	34.5	30.6	24.6	19.5	15.5
Project Releases								
Fort Peck		4.3	4.8	5.1	5.3	6.0	5.7	5.8
Garrison		9.6	11.8	14.0	14.0	13.8	13.8	13.4
Oahe		11.2	14.9	12.6	13.0	13.8	15.1	15.2
Big Bend		10.5	14.0	12.6	12.9	13.7	15.0	15.1
Fort Randall		12.0	15.2	13.8	13.8	14.4	15.1	15.1
Gavins Point		13.9	16.0	15.8	15.6	15.7	16.2	16.2

(1) Tributary uses, above the 1949 level of development including agricultural depletions and tributary storage effects.

(2) Net evaporation is shown for 2003.

(3) Incremental inflows to reach which exceed those usable in support of navigation at the target level, even if Gavins Point Dam releases were held to as low as 6,000 cfs.

(4) Increased releases required to maintain navigation release flexibility during the T&E species nesting season. During 2002, releases fell below minimum service support flows because of T&E nesting resulting in a negative value instead of zero.

(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 Dam release.

TABLE X MISSOURI RIVER MAINSTEM SYSTEM WATER USE FOR CALENDAR YEARS 2001, 2002, AND 2003 ABOVE SIOUX CITY, IOWA in Million Acre-Feet (MAF)

		CY 2001	CY 2002		F S Cale	low-to-Tar imulations f endar Year 2	get For 2003	
		Actual	Basic Simulation	Upper Decile	Upper Quartile	Median	Lower Quartile	Lower Decile
Upstream Depletions	(1)							
Irrigation, Tributary Reservoir								
Evaporation & Other Uses		2.0	2.0					
Tributary Reservoir Storage Chang	e	<u>- 0.1</u>	<u>-0.4</u>	2.7	20	2.0	2.4	2.1
Total Upstream Depletions		1.9	1.6	2.7	2.6	2.8	2.4	2.1
System Reservoir Evaporation	(2)	2.7	2.1	1.2	1.2	1.5	1.7	1.5
Sioux City Flows								
Navigation Season								
Unregulated Flood Inflows Betw	veen							
Gavins Point & Sioux City	(3)	0.0	0.0					
Navigation Service Requirement		14.6	15.2	15.1	14.0	12.4	12.9	12.7
Supplementary Releases								
T&E Species	(4)	0.0	-0.4	0.0	0.0	0.0	0.0	0.0
Flood Evacuation	(5)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Non-navigation Season								
Flows	(0)	3.8	3.5	3.3	3.3	3.4	3.4	3.3
Flood Evacuation Releases	(6)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
System Storage Change		- 0.5	<u>- 6.0</u>	<u>12.2</u>	9 <u>.5</u>	<u>4.5</u>	<u>-0.9</u>	<u>-4.1</u>
Total		22.5	16.0	34.5	30.6	24.6	19.5	15.5
Project Releases								
Fort Peck		4.3	4.8	5.1	5.3	5.6	5.6	5.7
Garrison		9.6	11.8	14.0	13.9	13.3	13.6	13.2
Oahe		11.2	14.9	12.5	12.7	12.6	14.5	14.5
Big Bend		10.5	14.0	12.4	12.6	12.5	14.3	14.4
Fort Randall		12.0	15.2	13.6	13.5	13.3	14.5	14.5
Gavins Point		13.9	16.0	15.7	15.3	14.6	15.6	15.6

(1) Tributary uses, above the 1949 level of development including agricultural depletions and tributary storage effects.

(2) Net evaporation is shown for 2003.

(3) Incremental inflows to reach which exceed those usable in support of navigation at the target level, even if Gavins Point Dam releases were held to as low as 6,000 cfs.

(4) Increased releases required to maintain navigation release flexibility during the T&E species nesting season. During 2002, releases fell below minimum service support flows because of T&E nesting resulting in a negative value instead of zero.

(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 Dam release.

VII. TENTATIVE PROJECTION OF OPERATIONS THROUGH MARCH 2009

The 5-year extension to the AOP (March 2004 to March 2009) has been prepared to serve as a guide for Western Area Power Association's (WAPA) 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 Tribes, Missouri River Basin Association, 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. Two sets of Simulations, Steady-Release and Flow-to-Target, are shown as studies 9-23 and 35-43 with pertinent data in graphical form on *Plates 11* and *12*. 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 and for Median Steady-Release. System storage recovers sufficiently in the Median Flow-to-Target Simulations to provide a 17,000 cfs release during winter 2007-2008 and 2008-2009. 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). The extra water released from mid-May through August by the Steady-Release Lower Quartile and Lower Decile Extension Simulations is compensated with a further shortening of the navigation season the following year. Navigation service support and season length, end of year system storage, and the winter release rate for the extensions are shown on *Table XI*.

			NAVIG	TABLE ATION SER	XICE SUPP	ORT				
	20	04	20	05	20	06	20	07	20	08
	Steady Release	Flow to Target	Steady Release	Flow to Target	Steady Release	Flow to Target	Steady Release	Flow to Target	Steady Release	Flow to Target
MEDIAN Flow Level Below Full Service (kcfs) Spring	-5.0	-4.1	-2.7	-1.8	-1.1	-0.2	-0.2	0	O	0
Summer/Fall	-4.6	-3.6	-2.7	-1.6	-1.4	-0.3	-0.6	0	0	0
Season Length (Months)	ω	8	8	8	8	8	8	ω	ω	8
Dec 31 Storage (MAF)	49.5	50.8	51.7	53.0	53.1	54.3	54.0	55.2	54.4	55.3
Winter Release (kcfs)	13.0	13.0	13.0	13.0	13.0	13.0	13.0	17.0	13.0	17.0
LOWER QUARTILE Flow Level Below Full Service (kcfs) Spring	0.9-	0.9-	- 6 . 0	0.9-	- 6 . 0	0.9-	-6.0	- 5 - 8	-5.1	-4.7
Summer/Fall	-6.0	-6.0	-6.0	-6.0	-6.0	-6.0	-6.0	-6.0	-5.4	-4.9
Season Length (Months)	8-20 days	8-16 days	8-24 days	8-16 days	8-24 days	8-16 days	8-24 days	8-16 days	8-24 days	8-14 days
Dec 31 Storage (MAF)	41.6	42.7	42.9	43.6	44.6	45.2	46.2	46.8	48.4	48.5
Winter Release (kcfs)	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0
LOWER DECILE Flow Level Below Full Service (kcfs) Spring	0.9-	0.9-	- 6 . 0	0.0-	- 6.0	- 6.	-6.0	0.0-	0.9-	0.0-
Summer/Fall	-6.0	-6.0	-6.0	-6.0	-6.0	-6.0	-6.0	-6.0	-6.0	-6.0
Season Length (Months)	8-38 days	8-24 days	8-53 days	8-37 days	8-69 days	8-46 days	8-53 days	8-46 days	8-53 days	8-46 days
Dec 31 Storage (MAF)	35.0	35.3	33.9	33.9	34.0	33.4	34.3	33.7	34.7	34.0
Winter Release (kcfs)	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0

A. <u>Median Runoff – Steady-Release</u>. System storage would begin in March 2004 at 46.4 MAF and would rise to 54.5 MAF by March 2009. Winter System releases remain at 13,000 cfs throughout the study period. Fort Peck Lake, Lake Sakakawea, and Lake Oahe rise to the elevations described in *Table V* that permit unbalancing by March 1, 2007. 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 2006, 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 2007. An 8-month navigation season is shown. Full service flows are not provided until 2008.

TABLE XII MARCH 1 RESERVOIR UNBALANCING, AOP EXTENSIONS

Year	Fort Peck	Garrison	Oahe
2007	+4.3	-3.0	0.0
2008	0.0	+3.0	-3.0
2009	-4.3	0.0	+3.0

STEADY-RELEASE SIMULATIONS (Feet)

B. <u>Median Runoff – Flow-to-Target</u>. System storage would begin in March 2004 at 47.6 MAF and would rise to 55.0 MAF by March 2009. Winter releases remain at 13,000 cfs through winter 2006-2007, then rise to 17,000 cfs for winter 2007-2008 and 2008-2009. Reservoir unbalancing is initiated by March 1, 2006, one year earlier than the Steady-Release Simulation. The Fort Peck "minitest" and full test are also accomplished one year earlier compared to the Steady-Release Simulation, in 2005 and 2006, respectively. Full service flows are provided in 2007 and 2008.

TABLE XIIIMARCH 1 RESERVOIR UNBALANCING, AOP EXTENSIONS

FLOW-TO-TARGET SIMULATIONS (Feet)

Year	Fort Peck	Garrison	Oahe
2006	0.0	+3.0	-3.0
2007	-3.5	-0.8	+3.0
2008	+4.2	-3.0	0.0
2009	0.0	+3.0	-3.0

C. <u>Lower Quartile Runoff – Steady-Release</u>. System storage begins the period at 40.9 MAF and rises to 48.4 MAF by March 2009 with navigation service levels increasing from minimum service to 900 cfs above minimum service during the simulation period. The navigation season is shortened 20 days in 2004 and 24 days from 2005 through 2008. 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.</u>

D. <u>Lower Quartile Runoff – Flow-to-Target</u>. System storage begins the period at 41.5 MAF and rises to 48.5 MAF by March 2009 with navigation service levels increasing from minimum service to 1,100 cfs above minimum service during the simulation period. The navigation season is shortened 16 days from 2004 through 2007 and 14 days in 2008. A 13,000 cfs winter release is shown for the entire study period.

E. <u>Lower Decile Runoff – Steady-Release</u>. System storage begins the period at 37.5 MAF and falls to 34.7 MAF by March 2009. The navigation season is shortened 38 days in 2004, 53 days in 2005, 2007, and 2008 and 69 days in 2006. System storage recovers sufficiently after the 69-day shortening in 2006 to permit the lesser 53-day shortening in 2007 and 2008. Service level is minimum service, 2003 through 2007. A 13,000 cfs winter release is shown for the entire study period.

F. <u>Lower Decile Runoff – Flow-to-Target</u>. System storage begins the period at 38.2 MAF and falls to 34.0 MAF by March 2009. The navigation season is shortened 24 days in 2004, 37 days in 2005, and 46 days in 2006, 2007, and 2008. A 13,000 cfs winter release is shown for the entire study period.

Plate 11 presents System storage, Gavins Point, and System peaking capability for Median, Lower Quartile, and Lower Decile for both sets of guidelines, for the period 2004 through March 2009. 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 2004 through March 2009.

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


PLATE 1

	Summ	ary of Engineering Data	Missouri River Mainstem S	System
Item	Subject	Fort Peck Lake	Garrison Dam -	Oahe Dam -
1	Location of Dam	Near Glasgow, Montana	Lake Sakakawea Near Garrison ND	Near Pierre, SD
2	River Mile - 1960 Mileage	Mile 1771.5	Mile 1389.9	Mile 1072.3
3	Total & incremental drainage	57,500	181,400 (2) 123,900	243,490 (1) 62,090
4	areas in square miles 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 15,400	28,900 3,300
7	Max. discharge of record near damsite in cfs	137,000 (June 1953)	348,000 (April 1952)	440,000 (April 1952)
8 9	Construction started - calendar yr. In operation (4) calendar yr.	1933 1940	1946 1955	1948 1962
10	Dam and Embankment		10-5	1.660
10	Length of dam in feet	2280.5 21.026 (excluding spillway)	1875 11 300 (including spillway)	1660 9 300 (excluding spillway)
12	Damming height in feet (5)	220 (excluding spinway)	180	200
13	Maximum height in feet (5)	250.5	210	245
14	Max. base width, total & w/o	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 19	Volume of concrete, cubic yards Date of closure	1,200,000 24 June 1937	1,500,000 15 April 1953	1,045,000 3 August 1958
	Spillway Data	İ	<u>^</u>	
20	Location	Right bank - remote	Left bank - adjacent	Right bank - remote
21	Crest elevation in feet msl Width (including piers) in feet	2225 820 geted	1825 1226 geted	1596.5 456 geted
22	No size and type of gates	16 - 40' x 25' vertical lift gates	28 - 40' x 29' Tainter	450 galed 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	230,000	660,000	80,000
	operating pool in cfs			
26	<u>Reservoir Data (6)</u> Max operating pool elev & area	2250 msl 246 000 acres	1854 msl 380 000 acres	1620 msl 374 000 acres
20	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 Storage allocation & capacity	2160 msl 90,000 acres	1775 msl 128,000 acres	1540 msl 117,000 acres
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.
34	Gross	2100-2030 4,211,000 a.i. 2250-2030 18 688 000 a f	1/75-1075 4,980,000 a.1. 1854-1673 23 821 000 a f	1540-1415 $5,575,000$ a.i. $1620-1415$ $23\ 137\ 000$ 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.
38	Location	Right hank	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'
40	Length of conduits in feet (8)	No. 3 - 6.615 No. 4 - 7.240	1529	dia. downstream
40	No., size, and type of service gates	1 - 28' dia. cylindrical gate	1 - 18' x 24.5' Tainter gate per	1 - 13' x 22' per conduit, vertical
		6 ports, 7.6' x 8.5' high (net	conduit for fine regulation	lift, 4 cable suspension and
		opening) in each control shaft		2 hydraulic suspension (fine
42	Entrance invert elevation (msl)	2095	1672	regulation)
43	Avg. discharge capacity per conduit	Elev. 2250	Elev. 1854	Elev. 1620
44	& total	22,500 cfs - 45,000 cfs	30,400 cfs - 98,000 cfs	18,500 cfs - 111,000 cfs
44	Power Facilities and Data	2052-2050 5,000 - 55,000 CIS	15,000- 00,000 CIS	1725-1720 20,000-55,000 CIS
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 49	No., type and speed of turbines	5 Francis, PH#1-2: 128.5 rpm,	5 Francis, 90 rpm	70 dia., 2 per pensiock 7 Francis, 100 rpm
50	Discharge cap at rated head in cfs	1-164 rpm , PH#2-2: 128.6 rpm PH#1, units 1&3 170', 2-140'	150' 41 000 cfs	185' 54 000 cfs
50	Essentinge cup: at rated near in ers	8,800 cfs, PH#2-4&5 170'-7,200 cfs	1,000 015	
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	786,030 534,000
53 54	Avg. annual energy million kWh (12)	1.142	2.429	2 867
55	Initial generation, first and last unit	July 1943 - June 1961	January 1956 - October 1960	April 1962 - June 1963
56	Estimated cost September 1999			
L	completed project (13)	\$158,428,000	\$305,274,000	\$346,521,000

 Si	immary of Engineering I	Data Missouri River Ma	ainstem System	1	-
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 Mile 987.4 249,330 (1) 5,840	Near Lake Andes, SD Mile 880.0 263,480 (1) 14,150	Near Yankton, SD Mile 811.1 279,480 (1) 16,000		1 2 3	 Includes 4,280 square miles of non-contributing areas.
80, ending near Pierre, SD	107, ending at Big Bend Dam	25, ending near Niobrara, NE	755 miles	4	(2) Includes 1,350 square miles of non-contributing
200 (elevation 1420) 28,900	540 (elevation 1350) 30,000 1,100	90 (elevation 1204.5) 32,000 2,000	5,940 miles	5 6	areas.(3) With pool at base of flood control.
440,000 (April 1952)	447,000 (April 1952)	480,000 (April 1952)		7	 (4) Storage first available for regulation of flows. (5) Demmine bright is bright
1959 1964	1946 1953	1952 1955		8 9	(5) Damming neight is neight from low water to maximum operating pool. Maximum
1440 10,570 (including spillway) 78 95 1200, 700	1395 10,700 (including spillway) 140 165 4300, 1250	1234 8,700 (including spillway) 45 74 850, 450	71,596 863 feet	10 11 12 13 14	 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
Pierre shale & Niobrara chalk Rolled earth, shale, chalk fill 17,000,000 540,000	Niobrara chalk Rolled earth fill & chalk berms 28,000,000 & 22,000,000 961,000 20, July 1052	Niobrara chalk & Carlile shale Rolled earth & chalk fill 7,000,000 308,000 21 July 1055	358,128,000 cu. yds 5,554,000 cu. yds.	15 16 17 18	 turbines. (8) Length from upstream face of outlet or to spiral case. (9) Based on 8th year (1961) of drought drawdown (Terrent to be 32 2005).
 Left bank - adjacent 1385 376 gated 8 - 40' x 38' Tainter 390,000 at elev 1433.6 270,000	Left bank - adjacent 1346 1000 gated 21 - 40' x 29' Tainter 620,000 at elev 1379.3 508,000	Right bank - adjacent 1180 664 gated 14 - 40' x 30' Tainter 584,000 at elev 1221.4 345,000		19 20 21 22 23 24 25	 (From study 8-85-1985). (10) Affected by level of Lake Francis case. Applicable to pool at elevation 1350. (11) Spillway crest. (12) 1967-2001 Average (13) Source: Annual Report on Civil Works Activities of the Corps of Engineers. Extract
 1423 msl 61,000 acres 1422 msl 60,000 acres 1420 msl 57,000 acres 1415 msl 51,000 acres	1375 msl 102,000 acres 1365 msl 95,000 acres 1350 msl 77,000 acres 1320 msl 38,000 acres	1210 msl 31,000 acres 1208 msl 28,000 acres 1204.5 msl 24,000 acres 1204.5 msl 24,000 acres 1204.5 msl 24,000 acres	1,194,000 acres 1,147,000 acres 989,000 acres 450,000 acres	26 27 28 29	Report Fiscal Year 1999. (14) Based on Study 8-83-1985
1423-1422 60,000 a.f. 1422-1420 117,000 a.f. 1420-1345 1,682,000 a.f. 1423-1345 1,859,000 a.f. November 1963 25 March 1964 4,300 a.f. 430 yrs.	1375-1365 985,000 a.f. 1365-1350 1,309,000 a.f. 1350-1320 1,607,000 a.f. 1320-1240 1,517,000 a.f. 1375-1240 5,418,000 a.f. January 1953 24 November 1953 18,300 a.f. 250 yrs.	1210-1208 59,000 a.f. 1208-1204.5 90,000 a.f. 1204.5-1160 321,000 a.f. 1210-1160 470,000 a.f. August 1955 22 December 1955 2,600 a.f. 180 yrs.	4,670,000 a.f. 11,656,000 a.f. 38,983,000 a.f. 18,084,000 a.f. 73,393,000 a.f. 92,500 a.f.	30 31 32 33 34 35 36 37	
None (7)	Left Bank 4 - 22' diameter 1013 2 - 11' x 23' per conduit, vertical	None (7)		38 39 40 41	
1385 (11)	lift, cable suspension 1229 Elev 1375 32,000 cfs - 128,000 cfs	1180 (11)		42 43	
 1351-1355(10) 25,000-100,000 cfs	1228-1239 5,000-60,000 cfs	1155-1163 15,000-60,000 cfs		44	
70 None: direct intake	117 8 - 28' dia., 22' penstocks	48 None: direct intake	764 feet	45 46	
None	1,074 59' dia, 2 per alternate penstock	None	55,083	47 48	
8 Fixed blade, 81.8 rpm 67' 103 000 cfs	8 Francis, 85./ rpm	3 Kaplan, 75 rpm 48' 36 000 cfs	36 units	49 50	
3 - 67,276, 5 - 58,500 494,320 497,000 1,041 October 1964 July 1966	40,000 320,000 293,000 1,843 March 1954 January 1956	44,100 132,300 74,000 754 September 1956 - January 1957	2,435,650 kw 1,967,000 kw 10,077 million kWh Luby 1943 - Luby 1966	51 52 53 54	Corps of Engineers, U.S. Army Compiled by Northwestern Division
 \$107.498.000	\$199.066.000	\$49.617.000	\$1,166.404.000	56	Missouri River Region May 2001
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Reservoir Release and Unregulated Flow

Garrison

Actual Regulated Flow

Flow in 1000 cfs

80

-Unregulated Flow_













Plate 9











News Release

US Army Corps of Engineers Northwestern Division Public Affairs Office 12565 West Center Road Omaha, Nebraska 68144-3869 Contact: Paul Johnston (402) 697-2552 Larry Cieslik (402) 697-2675 Date: Jan. 15, 2003

Phone: (402) 697-2552 Fax: (402) 697-2554

OMAHA – The Army Corps of Engineers will release its 2003 Annual Operating Plan for the Missouri River reservoir system by the end of January.

It will describe how releases from the system of reservoirs will be managed throughout the year. Given low water levels in the reservoirs due to the current drought, the plan will provide only minimum flows for navigation. It is anticipated that the season will be shortened by five days in November. A final determination of the length of the shortening will be made after the water-in-storage check on March 1.

The AOP will present a "steady release" schedule during the nesting season of the interior least tern and piping plover. The two birds are listed for protection under the Endangered Species Act.

Enough water would be released to meet minimum navigation flow targets, support river recreation and meet water quality standards. A release rate of 30,000 cubic per second (cfs) from Gavins Point Dam, near Yankton, S.D., would provide minimum navigation service at least 90 percent of the time between June 15 and August 15. Downstream tributary contributions could provide enough water to allow for lower releases.

The U.S. Fish and Wildlife Service has confirmed to the Corps that steady to declining releases from June 15 through August 15 would comply with the Endangered Species Act.

The Corps informed the USFWS that it prefers a slightly different plan for the tern and plover nesting season, which is referred to as a "flow-to-target" operation. Under this plan, releases would be gradually increased throughout the nesting season to meet minimum flow targets as the tributaries dry up. Nests threatened by rising water or erosion would be moved to higher ground when possible.

Threatened chicks and eggs would be collected by biologists for captive rearing at the Corps' "bird house" at Gavins Point and subsequently released.

"We prefer the 'flow to target' option because it simultaneously meets downstream needs and saves nearly 250,000 acre feet of water in the three biggest reservoirs," said Brig. Gen. David Fastabend, Northwestern Division Engineer. "That could reduce the anticipated decline in the reservoirs by 4 to 18 inches, depending on the contributions by the downstream tributaries," he said.

The Corps and the USFWS have agreed to consult on the flow-to-target plan to see if it could possibly replace the steady release plan for the 2003 nesting season.

"We will await the results of our consultation with the USFWS before the operation during the nesting season is finalized, said General Fastabend."

The final Annual Operating Plan will be published late this month. Copies will be provided to an extensive mailing list. It will also be available at <u>www.nwd.usace.army.mil</u> or by writing to: Water Management Division, 12565 West Center Road, Omaha, NE 68144.

TIME OF STUDY 09:56:15

301	IOV02 INI-SUM	31DEC	200 31JAN	2 28FEB
FORT PECH NAT INFLOW DEPLETION	(960 -205	280	315	365
EVAPORATION MOD INFLOW	1 41 1124	41	399	414
RELEASE	1902	615	676	611
STORAGE	11715	11411	11134	10937
ELEV FTMSL DISCH KCFS	2216.8 5.6	2215.0	2213.4 11.0	2212.2
POWER AVE POWER M	īw	126	134	133
PEAK POW MW	1 202 4	145	143	142
ENERGI GNA	203.4	93.9	100.0	89.6
NAT INFLOW	840	220	260	360
DEPLETION CHAN STOR	21 -57	-18 -46	7-11	32
EVAPORATION	46	46		
RELEASE	3909	1230	1402	939 1277
STOR CHANGE STORAGE	-1291 14442	-469 13973	-483 13490	-338 13151
ELEV FTMSL DISCH KCFS	1824.6	1822.7	1820.8	1819.5
POWER	 W	20.0	22.0	23.0
PEAK POW MW		334	329	255 325
ENERGI GWH	531.8	169.6	190.6	171.7
OAHE NAT INFLOW	100		10	90
DEPLETION CHAN STOR	61	13	18	30
EVAPORATION	41	-10	-14	-1
RELEASE	3882 2611	1166 793	1380 945	1336 872
STOR CHANGE STORAGE	1272 12495	373	435	464
ELEV FTMSL	1583.6	1585.2	1587.1	1589.0
POWER	23.5	12.9	15.4	15./
PEAK POWER MW	Ň	147 596	177 606	183 616
ENERGY GWH	363.8	109.4	131.6	122.8
BIG BEND- EVAPORATION	11	11		
REG INFLOW	2599	782	945	872
STORAGE	1712	1682	945 1682	872 1682
ELEV FTMSL DISCH KCFS	1420.5 21.2	1420.0	1420.0 15.4	1420.0
POWER AVE POWER MV	Ň	67	76	75
PEAK POW MW ENERGY GWH	156 4	538	538	529
FORT RANDAT	J	12.5	50.2	50.8
NAT INFLOW	90	20	20	50
EVAPORATION	10	10	د	د
REG INFLOW RELEASE	2700 1951	819 695	962 701	919 555
STOR CHANGE	749	124	261	364
ELEV FTMSL	1338.9	1341.0	1345.0	1350.0
POWER		11.3	11.4	10.0
PEAK POW MW		84 299	87 318	80 338
ENERGY GWH	181.4	62.7	65.0	53.7
GAVINS POIN NAT INFLOW	T 305	80	100	125
DEPLETION CHAN STOR	11 24	10	1	
EVAPORATION REG INFLOW	4	4		
RELEASE	2318	782 797	800	683 722
STORAGE	-54 412	-15 397	397	-39 358
ELEV FTMSL DISCH KCFS	1208.0 1 24.2	13.0	1207.5 : 13.0	13 0
POWER AVE POWER MW		46	46	10.0
PEAK POW MW ENERGY GWH	99 5	78	78	76
GAVINS POIN			34.4	30.8
NAT INFLOW	150	30	35	85
REGULATED FLOW	AT SIOU	11 X CITY	12	13
KCFS	2432	816 13.3	823 13.4	794 14.3
TOTAL				
NAT INFLOW DEPLETION	2445 -67	630 -53	740 -43	1075
CHAN STOR EVAPORATION	-58 154	-35	- 25	2
STORAGE SYSTEM POWEP	43151	42830	42765	43019
AVE POWER MW		698	776	773
ENERGY GWH	1616.3	519.5	2012 577.7	2025 519.1
SUTET CMU		16.8	18.6	18.5

INI-SUM 31DEC 31JAN 28FEB

2002-2003 AOP BASIC FORECAST

VALUES IN 1000 AF EXCEPT AS INDICATED

99001 9901 4 PAGE 1

STUDY NO 1

2003

TIME OF STUDY 09:55:27

3 ONC	VO2 INI-SUM	31DEC	200 31JAN	2 28FEB
FORT PECK- NAT INFLOW DEPLETION	- 1152 -382	336 -127	378 -150	438 -105
MOD INFLOW	31 1503	31 432	528	543
RELEASE STOR CHANGE	2105 -602	615 -183	769 -241	722 -179
STORAGE ELEV FTMSL	11715 2216.8	11532 2215.7	11292 2214.3	11113 2213.3
DISCH KCFS POWER	5.6	10.0	12.5	13.0
AVE POWER MW PEAK POW MW		126 146	145 144	143
ENERGY GWH	298.1	94.1	107.7	96.3
GARRISON-	- 1008	264	312	432
DEPLETION	38	-12	12	432 38
EVAPORATION	- /8	-46	-26	- 5
REGINFLOW	2963 4038	810 1230	1042 1476	$1111 \\ 1333$
STOR CHANGE STORAGE	-1076 14442	-420 14022	-434 13589	-222 13366
ELEV FTMSL DISCH KCFS	1824.6	1822.9	1821.2	1820.4
POWER AVE POWER MW		228	270	268
PEAK POW MW	550 3	335	330	327
ONE-	550.5	109.7	200.0	1/9.8
NAT INFLOW	120		12	108
CHAN STOR	-30	-10	18 -20	30
EVAPORATION REG INFLOW	31 4037	31 1176	1450	1411
RELEASE STOR CHANGE	2529 1508	773 403	912 538	845 566
STORAGE ELEV FTMSL	12495 1583.6	12898	13437	14003
DISCH KCFS	23.5	12.6	14.8	15.2
AVE POWER MW		143	171	178
ENERGY GWH	353.3	106.6	127.2	119.4
BIG BEND-	-			
REG INFLOW	2520	9 764	912	845
RELEASE STORAGE	2550 1712	794 1682	912 1682	845 1682
ELEV FTMSL DISCH KCFS	1420.5 21.2	1420.0 12.9	1420.0	1420.0 15.2
POWER AVE POWER MW		65	73	73
PEAK POW MW ENERGY GWH	151.7	538 48.4	538 54.3	529 49.0
FORT RANDALI	.			
NAT INFLOW DEPLETION	108 9	24 3	24 3	60 3
EVAPORATION REG INFLOW	8 2642	8 808	933	902
RELEASE STOR CHANGE	1893	683	683	528
STORAGE	2375	2500	2750	3124
DISCH KCFS	22.9	1341.0	1344.8 11.1	1350.0 9.5
AVE POWER MW		83	85	76
ENERGY GWH	175.9	61.6	63.3	338 51.0
GAVINS POINT		0.6	100	
DEPLETION	11	10	120	150
EVAPORATION	25	3		3
RELEASE	2323	802	802 802	681 720
STOR CHANGE STORAGE	-54 412	-15 397	397	-39 358
ELEV FTMSL DISCH KCFS	1208.0 24.2	1207.5 13.0	1207.5 13.0	1206.0 13.0
POWER AVE POWER MW		46	46	46
PEAK POW MW ENERGY GWH	99.7	78 34.5	78 34.4	76 30.7
GAVINS POINT	- SIOU	X CITY-	-	
DEPLETION	180	36 11	42 12	102 13
KAF	AT SIO 2467	JX CITY 827	832	809
KCFS		13.4	13.5	14.6
NAT INFLOW	2934	756	888	1290
CHAN STOR	-227	-102	-104 -46	-21 -2
STORAGE	116 43151	116 43032	43146	43646
AVE POWER MW		692	790	783
PEAK POW MW ENERGY GWH	L629.0	1993 515.0	2016 587.8	2034 526.2
DAILY GWH		16.6	19.0	18.8

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2002-2003 AOP 120 PERCENT SIMULATION 99001 9901 9901 PAGE 1

VALUES IN 1000 AF EXCEPT AS INDICATED

STUDY NO 2

2003

TIME OF STUDY 09:55:55

3 O N	IOV02 INI-SUI	M 31DE	200 C 31JAN)2 1 28FEB
FORT PECK NAT INFLOW DEPLETION	 761 -96	8 22 5 -8	4 252 3 -19	292
EVAPORATION MOD INFLOW RELEASE STOR CHANGE STORAGE ELEV FTMSL DISCH KCFS POWER	5: 811 1749 -932 11715 2216.8 5.6	$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	1 6 271 5 603 9 -332 6 11025 7 2212.8 0 9.8	286 528 -242 10783 2211.3 9.5
AVE POWER M PEAK POW MW ENERGY GWH	W 264.8	12 14 93.	6 123 4 142 8 91.4	118 141 79.6
GARRISON NAT INFLOW DEPLETION CHAN STOR EVAPORATION REIG INFLOW RELEASE STOR CHANGE STORAGE ELEV FTMSL DISCH KCFS POWEP	 672 -50 -41 58 2368 3832 -1464 14442 1824.6 18.0	2 17 4 - 5 - 72 - 123 - 50 - 1393 - 1822.0 - 20.0	6 208 9 -14 6 2 8 6 827 0 1353 4 -526 8 13412 6 1820.5 0 22.0	288 3 3 816 1250 -434 12978 1818.8 22.5
AVE POWER MU PEAK POW MW ENERGY GWH	∜ 520.6	221 334 169.9	3 247 4 328 5 183.7	249 323 167.4
OAHE NAT INFLOW DEPLETION CHAN STOR EVAPORATION REG INFLOW RELEASE STOR CHANGE STORAGE ELEV FTMSL DISCH KCFS DOWERCFS	80 61 -22 51 3778 2699 1079 12495 1583.6 23.5	13 -10 51 1156 822 333 12828 1585.0 13.4	8 3 4 5 1333 9 5 376 376 376 376 376 376 13205 1586.7 15.6	72 30 -2 1289 920 369 13574 1588.2 16.6
POWER AVE POWER MW PEAK POW MW ENERGY GWH	375.3	152 595 113.3	179 604 132.9	192 612 129.0
BIG BEND- EVAPORATION REG INFLOW RELEASE STORAGE ELEV FTMSL DISCH KCFS POWER AVE POWER MW PEAK POW MW	- 2685 2715 1712 1420.5 21.2	14 808 838 1682 1420.0 13.6 69	956 956 1682 1420.0 15.6 77	920 920 1682 1420.0 16.6 79
ENERGY GWH	161.4 L	51.1	56.9	529
NAT INFLOW DEPLETION EVAPORATION REG INFLOW RELEASE STOR CHANGE STORAGE ELEV FIMSL DISCH KCPS POWER	72 9 13 2765 2016 749 2375 1338.9 22.9	16 3 13 838 713 125 2500 1341.0 11.6	16 3 969 719 250 2750 1344.8 11.7	40 3 957 583 374 3124 1350.0 10.5
AVE POWER MW PEAK POW MW ENERGY GWH	187.3	87 300 64.4	90 317 66.7	84 338 56.3
- GAVINS POINT NAT INFLOW DEPLETION CHAN STOR EVAPORATION REG INFLOW RELEASE STOR CHANGE STOR CHANGE ELEV FTMSL DISCH KCFS	244 11 23 5 2266 2320 -54 412 1208.0 24.2	64 10 21 5 783 -15 397 1207.5 13.0	80 1 0 798 798 397 1207.5 13.0	100 2 685 724 -39 358 206.0 13.0
POWER AVE POWER MW PEAK POW MW ENERGY GWH	99.6	46 78 34.4	46 78 34.3	46 76 30.9
GAVINS POINT NAT INFLOW DEPLETION REGULATED FLOW KAF KCFS	- SIOUX 120 36 AT SIOU 2404	CITY- 24 11 JX CITY 811 13.2	28 12 814 13.2	68 13 779 14.0
TOTAL NAT INFLOW DEPLETION CHAN STOR EVAPORATION STORAGE SYSTEM POWER AVE POWER MW	1956 -29 -41 192 43151	504 -85 -36 192 42701 708	592 1 -8 42470	860 55 3 42499
PEAK POW MW ENERGY GWH 1 DAILY GWH	L609.0	1989 526.5 17.0	2007 565.9 18.3	2018 516.6 18.5
IN	II-SUM	31DEC	31JAN	28FEB

2002-2003 AOP 80 PERCENT SIMULATION

VALUES IN 1000 AF EXCEPT AS INDICATED

99001 9901 9901 PAGE 1

STUDY NO 3 2003

INI-SUM 15MAR

22MAR

31MAR

30APR

31MAY

30JUN

31JUL

31AUG

30SEP

2002-2003 AOP UPPER DECILE RUNOFF SIMULATION 99001 9901 9901 PAGE TIME OF STUDY 09:55:27 CWCP, STEADY RELEASE STUDY NO VALUES IN 1000 AF EXCEPT AS INDICATED 28FEB03 INI-SUM 15MAR 22MAR 31MAR 30APR 31MAY 30JUN 31JUL 31AUG 30SEP 310CT 15NOV 22NOV 3 ONOV 31DEC 31JAN 29FEB -FORT PECK-NAT INFLOW -11 9 DEPLETION EVAPORATION -31 -15 -19 -96 - 51 -20 17 -105 - 9 -116 -122 -150 487 402 MOD INFLOW RELEASE 424 476 490 975 75 265 STOR CHANGE 11113 . . STORAGE -68 2218.7 ELEV FTMSL 2213.3 13.0 2214.5 5.0 2215.1 4.0 2215.9 2224.1 2231.9 2234.4 8.0 2234.5 2234.8 DISCH KCFS 2236.0 2236.5 2236.7 2236.7 2236.4 2236.2 36.5 4.0 4.0 5.5 8.0 8.0 5.5 POWER 4.0 4.0 4.0 6.0 8.0 8.0 8.0 AVE POWER MW 163 PEAK POW MI ENERGY GWH 8.5 37.0 54.2 19.7 751.4 22.7 11.0 53.5 77.0 80.9 81.2 40.6 81.8 9.2 15.8 81.7 76.4 -GARRISON NAT INFLOW DEPLETION -3 11 -121 25 -98 CHAN STOR -46 - 52 -132 -116 -83 -16 -26 -20 EVAPORATION -20 REG INFLOW 1322 RELEASE 697 1722 23 STOR CHANGE STORAGE 13782 -113 -288 -30 -388 -428 1826.7 21.0 ELEV FTMSL DISCH KCFS 1820.4 1821.3 1821.6 1822.0 824 1 1832.9 1837.0 1836.6 1836.6 21.5 1836.6 1836.8 1836.9 1836.8 835.5 24.0 16.0 15.0 15.0 834.0 1833.0 18.0 22.5 22.0 16.0 POWER 13.7 13.7 18.0 20.0 22.5 22.0 AVE POWER MW PEAK POW MW 372 192.0 198.4 376 28.7 375 43.0 ENERGY GWH 2026.0 64.6 147.3 28.4 36.6 180.0 200.6 143.2 127.0 61.5 183.9 204.8 186.0 -OAHE NAT INFLOW 10 11 DEPLETION 11 -13 CHAN STOR - 7 0 -13 86 74 - 6 EVAPORATION -18 - 8 -10 REG INFLOW RELEASE 797 670 69 17778 793 121 STOR CHANGE 16771 17708 17061 STORAGE -220 - 89 ELEV FTMSL 1590.0 15.2 1593.2 594.4 1603.8 595.8 1598.8 1600.5 1604.0 603.3 1601.6 15.7 DISCH KCFS 1601.8 1601.5 1601.6 1602.0 1602.4 1603.9 8.5 11.4 11.8 11.7 17.4 1606.0 19.4 23.1 24.5 24.6 15.9 15.8 POWER 12.2 17.5 15.4 11.6 AVE POWER MW PEAK POW MW 664 674 678 23.0 702 218.1 ENERGY GWH 1896.5 29.5 144.7 36.6 31.0 103.0 160.4 175.8 230.8 223.1 148.2 33.1 71.2 164.2 103.7 -BIG BEND-EVAPORATION REG INFLOW 12419 694 1682 158 211 1418 1682 1493 RELEASE 1682 216 192 1682 STORAGE 1682 1682 ELEV FTMSL 1420.0 1420.0 15.2 8.5 420.0 1420.0 1420.0 420.0 1420.0 20.0 DISCH KCFS 420.0 1420.0 1420.0 120.0 1420.0 11.4 11.8 20.0 20.0 1420 0 11.7 17.4 19.4 23.1 24.3 24.3 15.6 POWER 15.6 15.6 12.1 17.4 15.4 11.6 AVE POWER MW PEAK POW MW ENERGY GWH 12.0 529 11.7 717.7 14.6 9.0 55.7 39.3 60.5 65.5 80.3 84.6 83.1 57.1 28.3 13.2 64.0 38.9 FORT RANDALL NAT INFLOW DEPLETION 7 3 EVAPORATION ĩ REG INFLOW 152 291 325 я 1531 RELEASE 215 -22 STOR CHANGE 257 204 STORAGE -625 2780 -144 -314 -147 ELEV FTMSL 1350.0 1353.6 9.5 5.1 337.9 355.2 355.2 19.8 1355.2 23.0 355.2 1355.2 1355.2 DISCH KCFS 1355.2 1353.5 1345.3 40.4 43.5 47.2 8.1 18.2 16.6 337.5 50.0 24 5 24.9 27.8 POWER 26.4 26.2 26.2 13.5 8.9 AVE POWER MW PEAK POW MW 355 349 11.5 153.5 ENERGY GWH 1363.5 15.3 33.3 50.0 101.3 124.7 139.6 156.1 167.1 157.7 32.2 71.4 18.9 65 0 65.8 -GAVINS POINT NAT INFLOW DEPLETION CHAN STOR 8 0-6 ō -6 - 5 0 -19 ž 23 -6 EVAPORATION - 3 - 1 - 5 REG INFLOW RELEASE STOR CHANGE STORAGE 371 ELEV FTMSL DISCH KCFS 1207.5 1207.5 1206.0 1206.0 1206.0 1206.0 20.7 1206.0 24.6 1207.5 1206.0 20.7 1206.0 27.2 1206.0 1206.5 1207.5 13.0 9.0 11.3 .5 1207.5 13.0 1207.5 1206.0 POWER 27.2 29.5 28.9 28.0 16.8 13.0 13.0 AVE POWER MW 114 PEAK POW MW 51.4 78 78 76 73.1 ENERGY GWH 664.5 11.4 11.4 6.6 15.4 66.8 69.0 69.3 35.3 75.1 16.5 34.4 34.4 31.8 -GAVINS POINT - SIOUX CITY-NAT INFLOW DEPLETION NAT 3 34 29 DEPLETION 241 6 REGULATED FLOW AT SIOUX CITY 9 2 KAF 15.3 17.6 KCFS 27.1 37.3 33.0 28.7 32.1 30.6 29.7 31.3 29.8 28.7 17.5 - TOTAL -13.3 13.0 14.6 NAT INFLOW DEPLETION CHAN STOR -235 -179 -49 27 -105 -56 -14 -10 - 35 -49 -213 EVAPORATION - 1 -164 7 STORAGE -25 -10 SYSTEM POWER AVE POWER MW 2097 PEAK POW MW ENERGY GWH 2194 2209 2205 820.5 26.5 165.1 11.0 2191 605.8 479.2 16.0 641.8 20.7 2147 743.8 24.8 7419.5 139.3 287.3 19.2 132.9 130.4 87.0 12.4 587.2 18.9 DAILY GWH 716.6 23.9 802.4 86.9 593.4

19.5

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2002-2003 AOP UPPER QUARTILE RUNOFF SIMULATION 99001 9901 9901 PAGE TIME OF STUDY 09:56:43 CWCP, STEADY RELEASE STUDY NO VALUES IN 1000 AF EXCEPT AS INDICATED 28FEB03 INI-SUM 15MAR 22MAR 31MAR 30APR 31MAY 30JUN 31JUL 31AUG 30SEP 31OCT 15NOV 22NOV 30NOV 31DEC 31JAN 29FEB -FORT PECK-NAT INFLOW DEPLETION -15 291 -95 62 -12 330 8356 -31 -19 -105 79 377 -73 - 27 EVAPORATION -14 -125 -150 -107 972 MOD INFLOW 238 RELEASE 179 97 -98 STOR CHANGE -97 12773 STORAGE 2213.3 13.0 2214.9 4.0 -11 ELEV FTMSL 2214.3 2215.6 2218.1 2222.7 2229.4 9.0 2231.5 9.0 2231.0 2231.4 2232.5 DISCH KCFS POWER 2232.8 2233.0 2233.0 2232.6 2232.2 2232.1 5.0 4.0 4.0 6.0 5.1 4.2 4.2 4.2 6.0 8.0 8.5 8.5 AVE POWER MW PEAK POW MW 22.7 11.0 ENERGY GWH 788.8 15.7 36.9 58.1 86.1 90.2 90.5 42.5 49.6 20.6 9.6 80.8 85.8 80.2 GARRISON NAT INFLOW DEPLETION -50 11 -121 39 -2 -94 ~44 CHAN STOR 354 -138 -120 -87 -21 -31 EVAPORATION -18 -20 - 5 REG INFLOW 268 1322 1230 RELEASE STOR CHANGE -123 -116 -38 16878 1820.4 -296 STORAGE - 51 - 399 -430 ELEV FTMSL DISCH KCFS 1821.2 1821.4 1821 7 1 823.3 1825.2 830.6 1833.4 834.3 1833.9 1833.5 833.5 833.4 1833.3 1831.9 24.0 16.0 15.0 1830.4 1829 3 15.0 18.0 20.5 22.5 22.0 21.5 17.1 13.4 13.4 POWER 13.4 18.0 20.0 22.5 22.0 AVE POWER MW PEAK POW MW 331 354 197.4 42.0 ENERGY GWH 1995.1 64.5 28.4 36.5 146.8 174.5 189.7 195.1 122.1 149.9 59.1 27.6 179.9 200.2 181.6 - - OAHE -NAT INFLOW DEPLETION 11 38 25 -14 -11 CHAN STOR EVAPORATION - 7 71 ĉ - 20 - 9 -11 REG INFLOW 12927 70 RELEASE 933 282 STOR CHANGE -35 STORAGE -365 599.7 25.1 ELEV FTMSL 1593.5 594.5 13.9 1590.0 1592.1 1596.9 1600.6 1598.1 1600.7 1598.3 1598.1 DISCH KCFS 15.2 1598.1 1598.1 1598.5 12.5 1600.3 1602.3 14.6 1598.8 13.3 18.5 20.6 24.0 POWER AVE POWER MW 24.0 15.2 15.2 15.0 17.8 15.4 12.8 674 PEAK POW MW ENERGY GWH 36.2 183.9 1928.7 111.4 62.2 10.2 116.5 169.1 222.5 231.3 213.3 139.0 67.2 31.1 29.5 163.1 142.4 -BIG BEND EVAPORATION 1473 REG INFLOW RELEASE 194 434 1682 1420.0 249 792 916 205 1084 734 1682 1682 STORAGE ELEV FTMSL 1420.0 1420.0 1420.0 1420.0 1420.0 1420.0 20.0 1420.0 420.0 DISCH KCFS 20.0 15.2 14.6 5.1 420.0 1420.0 1420 0 20.0 1420.0 13.9 13.3 18.5 20.6 23.9 24.8 POWER 23.7 14.9 14.9 12.2 . 8 17.6 15.4 12.8 AVE POWER MW 509 509 PEAK POW MW ENERGY GWH 54.5 741.9 24.6 14.1 42.7 4.0 44.9 64.6 69.6 83.4 86.4 80.9 27.0 11.8 12.5 64.8 56.0 --FORT RANDALL NAT INFLOW 1 18 DEPLETION EVAPORATION ō REG INFLOW ā RELEASE STOR CHANGE 213 237 224 3124 3532 1350.0 1355.0 STORAGE -630 2775 -310 -147 - 22 1355.2 20.8 354 9 ELEV FTMSL DISCH KCFS 340.4 355.2 55.2 18.6 55.2 1355.2 23.7 1355.2 1355.2 1353.5 1345.2 37.9 1343.5 11.8 9.5 5.6 8.5 1337.5 47.0 350.0 17.3 25.0 25.3 POWER 26.7 25.4 25.1 25.2 13.4 11.6 9.5 AVE POWER MW PEAK POW MW 355 144.0 ENERGY GWH 1376.4 16.9 12.2 34.1 131.0 53.3 105.3 156.8 158.7 160.7 151.9 68.6 31.0 18.8 65.8 67.5 --GAVINS POINT NAT INFLOW DEPLETION 0 39 - 7 3 CHAN STOR - 5 - 6 -19 EVAPORATION -6 - 2 - 1 - 3 ō REG INFLOW 1232 1672 RELEASE 750 STOR CHANGE STORAGE - 39 07.5 ELEV FTMSL 1206.0 1206.0 13.0 9.0 1206.0 1206.0 1207.5 1206.0 1206.0 27.2 1206.0 1206.0 1206.5 DISCH KCFS 1207.5 27.5 1207.5 1207.5 26.6 1207.5 1207.5 13.0 11.3 1206.0 24.6 POWER 27.2 28.1 16.3 13.0 13.0 AVE POWER MW 117 117 PEAK POW MW $114 \\ 6.7$ $114 \\ 15.4$ 51.4 62.7 78 76 70.2 ENERGY GWH 655.5 11.4 66.8 69.0 69.3 71.6 33.6 11.0 34.4 GAVINS POINT 34.4 32.0 CITY-SIOUX NAT INFLOW DEPLETION 29 241 6 AT SIOUX CITY 9 5 11 3 12 13 REGULATED FLOW KAF KCFS 14.9 27.1 26.6 17.2 34.0 14.3 30.6 30.9 29.9 29.1 28.2 29.4 27.1 16.8 13.2 13.0 - TOTAL-NAT INFLOW DEPLETION 725 -39 -179 56 104 -70 27 -50 -57 -16 -19 -46 CHAN STOR -108 -228 -153 -11 -239 EVAPORATION -26 -16 STORAGE SYSTEM POWER AVE POWER MW PEAK POW MW ENERGY GWH 2092 2172 724.5 24.1 2175 659.9 21.3 739.9 24.7 581.6 18.8 7486.4 202.4 276.1 127.4 18.2 69.9 10.0 147.3 501.6 128.9 588.9 586.2 DAILY GWH 819.3 831.3 16.4 26.4 26.8 501.2 18.4 16.1 19.0 18.9 17.3 INI-SUM 15MAR 22MAR 31MAR 30APR 31MAY 30JUN 31JUL 31AUG

30SEP

310CT

15NOV

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31JAN

29FEB

TIME OF STUDY 09:49:25 CWCP, STEADY RELEASE, 5-DAY SHORTENED SEASON

TIME OF 3		09:49:	25				CWCP VALU	, STEAD ES IN 1	Y RELEA 000 AF	SE, 5-1 EXCEPT	DAY SHO AS IND	RTENED	SEASON			STUD	Y NO	6
•	28FEE I	NI-SUM	1 15 MA	20 R 22MA	03 R 31MAJ	R 30APF	R 31MA	Y 30JU	N 31JU	L 31A	JG 305	EP 310	CT 15N0)V 22N	2 20 30 V	004 V 31DE	С 31.7А	N 29FFB
FORT PI NAT INFLC DEPLETION EVAPORATI	ECK DW N LON	7400 122 385	26	4 12	3 158 1 -2	628 2 70	3 121 30	0 185 4 31	1 82 6 13 2	9 3: 8 -8 3 -	24 3 37 - 74	19 3: 99 - 1 92 -	98 18 54 - 3 81 - 3	18 13 - 1	38 10 L5 -1	0 31 7 -12	0 26 2 -14	1 349 9 -114
RELEASE STOR CHAN STORAGE ELEV FTMS DISCH KCE	NGE SL	5917 976 10937 2212.2	26 179 89 11026 2212.8	7 12 7 6 5 5 5 1108 3 2213.	5 60 9 71 11152 2213.5	558 357 201 11353 2214.7	90 49 41 1176 2217.	6 153 2 59 4 94 7 1270 1 2222.	5 66 5 61 0 5 7 1276 3 2222.	8 33 5 61 3 -27 0 1248 6 2221	37 3 15 3 78 - 32 124 1 2220	26 31 80 29 54 8 28 125 .8 2221	$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	3 3 1 5 1254 5 2221	36 9 97 12 12 -2 14 1251 .4 2221	8 39 7 61 9 -22 5 1229 3 2220	2 41 5 64 5 -23 0 1205 0 2218	$\begin{array}{cccc} 0 & 463 \\ 6 & 604 \\ 6 & -141 \\ 4 & 11913 \\ 7 & 2217 \\ \end{array}$
POWER AVE POWER PEAK POW ENERGY GW	₹MW MW IH	920.4	75 142 27.1	5 63 2 141 10.6	3 63 3 143 5 13.6	54 6.0	10: 14: 75	2 10. 2 12: 7 15: 7 82:	0 10. 9 13 3 15	0 10. 0 13 3 15	0 6 1 15	.4 4 33 6 51 15	.8 4. 53 6 52 15	8 7. 3 9 2 15	.0 8. 91 10 52 15	0 10. 4 12: 2 15:) 10.1) 10.1) 13: 0 14:	5 10.5 3 133 9 148
GARRIS NAT INFLC DEPLETION	SON W	11001 1503	469	219	282 3 30	853	1423	295. 295. 7 82.	3 206	1 96. 6 58	8 59. 1 49	9 46. 97 45	.5 22. 54 19	6 15. 2 8	4 20. 9 10	0 96.2 2 253	2 99.3 3 23 ⁻	3 92.4 7 326
CHAN STOR EVAPORATI REG INFLO RELEASE	ON W	6 449 14971 13767	54 651 476	11 276 208	5 341 3 268	-11 1070 1041	-21 1617 1199	-2: 7 2704 9 1339	2091 2091 135	7 8 8 102 3 132	1 - 8 36 10 9 89 2 94	39 1 37 1 38 9 35 63	.6 94 4 17 38	2 -4 0 -2 2 2 4 18	$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	9 -102 0 -23 3 49 5 901	951 -80 -5) -51 5 7 981
STOR CHAN STORAGE ELEV FTMS DISCH KCF POWER	L	1205 13151 1819.5 23.0	13326 13326 1820.2 16.0	67 13394 1820.5 15.0	73 13467 1820.8 15.0	29 13496 1820.9 17.5	418 13913 1822.5 19.5	1369 15278 1827.7 22.9	749 1602 1830.4 22.0	5 -29 3 1573 4 1829. 0 21.	3 -4 0 1568 3 1829. 5 15.	8 -16 2 1551 2 1828. 8 13.	4 - 8 1551 6 1828. 0 13.	4 -4 4 1546 5 1828. 0 17.	9 -40 5 1542 4 1828.2 0 18.0	$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	1383 -426 14669 1825.4 225	1294 -313 14356 1824.2
AVE POWER PEAK POW ENERGY GW	MW MW H	1929.5	178 327 64.1	168 328 28.2	168 329 36.3	196 329 141.1	219 334 163.2	259 349 186.1	260 357 193.1) 25 7 35 L 189.	5 18 4 35 8 135.	8 15 3 35 3 114.	4 15 1 35 9 55.	4 20 1 35 5 33.	0 212 1 350 7 40.3	2 234) 347 7 174.1	260 260 342 193.8	258 339 179.6
OAHE NAT INFLO DEPLETION CHAN STOR EVAPORATI	Ŵ	2300 570 3	317 22 33	148 10 5	190 13 0	364 45 -12	236 62 - 9	689 120 -14	162 138 2	2 3	3 11 0 2 2 2	8 1 3 - 6 1	4 7	5	2 3	-20	15	40 25
REG INFLO RELEASE STOR CHANG STORAGE ELEV FTMS	GE L 1	15096 13878 1218 13767 .589.0	804 337 468 14234 1590.9	350 196 154 14388 1591.6	445 261 184 14572 1592.3	1349 977 372 14944 1593.8	1364 1323 41 14985 1593.9	1894 1478 416 15401 1595.5	25 1354 1761 -407 14994 1593.9	7 118 177 -58 1440 1591.	8 9 9 96 3 138 5 -42 9 1398 6 1589.	7 8 7 75 7 91 0 -16 9 1382 9 1589	3 31 2 35 2 27 2 27 0 7 9 1390 3 1589	3 1 3 20 5 21 3 -1 7 1389	8 20 1 263 4 111 2 152 5 14047	44 1145 961 184 14230	1357 972 384 14615	1309 939 370 14985
POWER AVE POWER PEAK POW M ENERGY GWI	S MW MW H 1	.999.4	11.3 133 626 48.0	14.2 168 629 28 2	14.6 174 632 37 5	16.4 196 639	21.5 258 640	24.8 299 648	28.6 344 640	28. 34. 62	8 23. 3 27 9 62	$ \begin{array}{ccccccccccccccccccccccccccccccccccc$	4 109 7 619	1389.1 15.4 15.4 18: 18:	1 590.2 4 7.0 1 82 9 622	1590.9 15.6 184 625	1592.5 15.8 188 633	1593.9 16.3 195 640
BIG BEN EVAPORATIC REG INFLOW	ND ON V	103 13775	337	196	261	977	192.0	1479	256.2	255.2	2 197.) 2!	8 129. 5 2:	6 39.1 2 10	. 30.	3 15.8 5 5	137.2	139.7	136.0
RELEASE STORAGE ELEV FTMSI DISCH KCFS POWER	1 5	13775 1682 420.0 15.7	337 1682 1420.0 11.3	196 1682 1420.0 14.2	261 1682 1420.0 14.6	977 1682 1420.0 16.4	1323 1682 1420.0 21.5	1478 1478 1682 1420.0 24.8	1755 1755 1682 1420.0 28.5	1754 1754 1682 1420.0 28.5	1362 1362 1362 1682 1420.0 522.9	2 893 2 893 2 1682 0 1420.0 9 14.5	1 265 1 265 2 1682 0 1420.0 5 8.9	209 209 1682 1420.0 15.1	9 106 9 106 2 1682 9 1420.0 1420.0	950 950 1682 1420.0 15.4	972 972 1682 1420.0 15.8	939 939 1682 1420.0 16.3
AVE POWER PEAK POW M ENERGY GWH	MW IW I	794.5	54 517 19.3	66 509 11.1	68 509 14.8	77 509 55.3	101 509 74.9	116 509 83.7	134 509 99.4	133 509 99.3	108 518 78.0	3 73 3 538 0 53.0	L 45 3 538) 16.3	76 538 12.8	34 538 6.5	77 538 57.6	78 538 57.9	78 529 54.5
NAT INFLOW DEPLETION EVAPORATIC REG INFLOW	N	- 900 80 116 14477	122 1 458	57 1 253	73 1	115 4	140 9	185 12	74 18 8	57 15 25	42 7 31	2 2 7 1 L 25	2 2	1 0 4	1	10 3	3	19 3
RELEASE STOR CHANG STORAGE ELEV FTMSL DISCH KCFS	E 1.	14477 0 3124 350.0 :	167 291 3415 1353.6	119 134 3549 1355.2	333 333 3549 1355.2	1088 1088 3549 1355.2	1454 1454 0 3549 1355.2	1651 1651 3549 1355.2	1803 1803 0 3549 1355.2	1770 1770 0 3549 1355.2	1366 1530 -164 3385 1353.2	867 1484 -617 2768 1345.1	256 705 -449 2319	205 227 -22 2297	102 102 0 2297	947 744 203 2500	969 719 250 2750	955 581 374 3124
POWER AVE POWER PEAK POW M ENERGY GWH	MW W 1∢	135.3	47 350 16.8	73 355	18.7 158 355	18.3 155 355	23.6 199 355	27.7 233 355	29.3 246 355	28.8 242 355	25.7 215 349	24.1 193 318	23.7 178 285	16.3 16.3 284	47	1341.0 12.1 90	1344.8 11.7 90	1350.0 10.1 81
GAVINS PO NAT INFLOW DEPLETION	INT-	1450 114	92 0	43	55	148	148.4	168.0	183.3 86	180.1	154.7	143.9 122	63.9	20.0	9.1 27	66.7	66.7 79	338 56.1
EVAPORATION REG INFLOW RELEASE	N 1 2	-1 38 5774 5774	8 268 268	-6 157 157	-19 370 370	1 1232 1232	-10 1599 1599	-8 1785 1785	-3 2 1845 1845	10 1 7 1858 1845	-5 6 9 1609	2 3 8 1599	5 1 4 747	2 14 260	3 18 2 143	10 -10 4 796	1 1 798	3
STORAGE ELEV FTMSL DISCH KCFS POWER	12	358 06.0 1 13.0	358 206.0 : 9.0	358 1206.0 11.3	358 1206.0 1 20.7	358 1206.0 1 20.7	358 206.0 26.0	358 1206.0 30.0	358 1206.0 30.0	13 371 1206.5 30.0	26 397 1207.5 26.6	397 1207.5 26.0	397 1207.5 25.1	260 397 1207.5 18 7	143 397 1207.5	796 397 1207.5	798 397 1207.5	750 -39 358 1206.0
AVE POWER N PEAK POW MW ENERGY GWH	/₩ ₹ 6	57.9	32 114 11.4	40 114 6.6	71 114 15.4	71 114 51.4	89 114 66.1	101 114 72.6	101 114 75.1	101 115 75.4	92 117 66.6	91 117 67.8	88 117 31.7	66 117 11.1	32 117 6.2	46 78 34.2	46 78 34.3	13.0 46 76 32.0
NAT INFLOW DEPLETION REGULATED FL KAF	.NT - .OW A	1550 241 T SIOU	CITY 169 6 X CITY	79 3	102 3	199 20	310 34	224 29	129 36	96 33	60 22	42 9	16 5	7 2	9 3	21 11	5 12	82 13
KCFS TOTAL NAT INFLOW	2	4601	432 14.5 1435	233	468 26.2	1411 23.7	1875	1980 33.3	1938 31.5	1908 31.0	1621 27.2	1632 26.5	758 25.5	265 19.1	149 9.4	806 13.1	791 12.9	819 14.2
DEPLETION CHAN STOR EVAPORATION STORAGE SYSTEM DOWN	4	2630 7 1496 3019 4	76 95 14041	35 10 44452	46 -19 44779	2307 273 -21 45381	3493 705 -41 46254	6073 1329 -43 48975	3346 925 -1 92	1194 142 3 290	1113 -141 69 362	1032 -25 33 313	452 -112 -1 139	211 -52 -29 65	241 ~60 4 74	651 -189 -41 161	582 -198 -16	943 -124 3
AVE POWER M PEAK POW MW ENERGY GWH DAILY GWH	W 773	6.8 1	518 2076 86.7 12.4	577 2077 96.9 13 8	703 2082 151.8	771 2091 555.2	968 2100 720.3	1137 2128 818.5	1215 2129 904.1	1205 2113 896.5	4/563 962 2108 692.3	46708 747 2093 555.8	46374 636 2062 229 1	46279 733 2060	46361 512 2062	46194 761 2038	46167 795 2057	46418 791 2070
	INI-	SUM 1	5MAR	22MAR	31MAR 3	18.5 30APR 3	23.2 1MAY	27.3 30JUN	29.2 31JUL	28.9 31AUG	23.1 30SEP	17.9 310CT	15.3 15NOV	17.6 22NOV	98.2 12.3 30NOV	566.1 18.3 31DEC	591.7 19.1 31JAN	550.6 19.0 29FEB

DATE OF STUDY 01/10/03 TIME OF STUDY 09:49:35

DAILY GWH

CWCP, STEADY RELEASE, 5-DAY SHORTENED SEASON VALUES IN 1000 AF EXCEPT AS INDICATED STUDY NO 28FEB03 INI-SUM 15MAR 22MAR 31MAR 30APR 31MAY 30JUN 31JUL 31AUG 30SEP 31OCT 15NOV 22NOV 30NOV 31DEC 31JAN 29FEB --FORT PECK NAT INFLOW 73 173 -25 456 DEPLETION ~102 -61 95 -28 43 -15 23 EVAPORATION -91 5899 348 MOD INFLOW RELEASE 97 127 47 -415 11388 STOR CHANGE -468 -183 -46 11222 STORAGE - 26 2212.8 11246 11271 2214.1 2214.2 ELEV FTMSL 2211.3 9.5 2211.8 2212.0 5.0 2212.3 2214.4 7.5 2214.9 10.0 2218.3 2217.3 DISCH KCFS 2214.3 2214.2 7.0 2213.9 2212.3 10.0 5.0 5.0 6.0 10.0 10.0 POWER 6.3 4.3 4.3 8.0 AVE POWER MW 147 PEAK POW MW 10.5 54.2 57.5 ENERGY GWH 19.7 887.7 22.5 13.5 70.2 91.1 94.9 94.0 40.6 14.9 19.4 92.5 --GARRISON NAT INFLOW

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~88

-262

2208.5

11.0

90.8

-117

11.5

101.4

96.4

12.1

30NOV

122.1

22NOV

16.8

15NOV

585.8 18.9

31DEC

595.8

31JAN

17.7

512.9

29FEB

2210.1

547 93 73 21 DEPLETION - 23 -11 -61 39 -49 CHAN STOR -16 534 -26 - 6 -16 -27 -11 27 EVAPORATION -28 -21 -16 REG INFLOW 208 1383 751 -567 12978 1230 RELEASE 218 1144 STOR CHANGE STORAGE -73 13248 -41 13207 -479 -469 -134 -602 12889 -92 -83 -465 ELEV FTMSL DISCH KCFS 1818.8 1823.0 1822.7 1820.9 1819.4 1820.6 1819.6 1819.9 1819.7 1825.0 1826.9 1824.6 15.1 1825.1 1823.6 823.4 1818.4 23.5 22.5 16.0 15.0 15.0 16.5 17.5 1816. 21.0 23.5 23.0 22.5 POWER 12.2 12.2 17.0 18.0 20.0 AVE POWER MW PEAK POW MW 340 337 193.5 191.3 197.7 50.3 ENERGY GWH 1914.9 63.8 28.0 178.2 36.1 140.1 173.7 125.2 104.4 32.5 167.4 193.4 -OAHE NAT INFLOW DEPLETION 10 23 - 7 -35 -17 -6 15 CHAN STOR EVAPORATION -6 461 -10 -12 111 95 -25 - 5 -18 9ĩ 257 REG INFLOW 1550 RELEASE 266 24 1147 STOR CHANGE -582 13574 -22 -23 -208 - 589 -129 11930 STORAGE -480 -307 1589.3 20.7 -23 ELEV FTMSL 1588.2 1589.3 1589.4 1589.2 1588.4 25.2 1589.6 1587.6 1583.0 DISCH KCFS 1581.6 1581.0 580.9 16.6 12.6 1581.5 1581.4 18.7 18.1 20.8 1583.2 1585 8 26.1 29.6 29.6 22.6 16.2 POWER 15.1 16.1 7.3 16.5 13.6 AVE POWER MW PEAK POW MW ENERGY GWH 613 573 2087.0 52.8 35.6 155.2 52.2 175.0 218.4 218.8 255.4 252.1 184.5 135.1 60.7 30.1 15.8 137.6 107.7 BIG BEND-EVAPORATION REG INFLOW RELEASE 966 369 1237 1810 1793 1682 218 1133 1682 1682 STORAGE 1682 1682 ELEV FTMSL DISCH KCFS 1420.0 1420.0 1420.0 420.0 420.0 1420.0 1420.0 20.0 20.0 1420.0 16.6 12.6 1420.0 120.0 20.0 120.0 18.1 20.7 20.8 20.0 1420 0 25.2 26.1 29.4 POWER 29.2 22.1 15.7 15.7 6.9 18.4 16.5 13.6 AVE POWER MW PEAK POW MW ENERGY GWH 14.3 859.3 21.4 20.9 70.1 87.8 87.9 102.5 101.6 75.5 58.1 26.6 13.3 67.7 59.6 45.4 --FORT RANDALL NAT INFLOW 4 9 DEPLETION -5 3 3 EVAPORATION REG INFLOW 167 $1\bar{3}$ RELEASE 1571 134 STOR CHANGE -285 272 -315 3234 -634 2600 STORAGE -18 1355.2 ELEV FTMSL 1350.0 1353.4 10.5 5.6 337.5 355.0 55.2 50.0 1355.2 1355.2 . 2 DISCH KCFS 1355.2 29.2 1351.4 27.0 1342.6 337.8 337.5 347.5 11.9 10.7 21.9 21.8 25.9 1343.5 28.1 POWER 29.4 25.5 23.8 16.6 6.6 12.3 AVE POWER MW 10.5 PEAK POW MW 342 16.7 ENERGY GWH 1503.3 15.1 40.0 132.5 59.0 162.2 170.0 183.8 182.6 161.0 149.4 63.6 20.3 --GAVINS POINT 9.3 68.6 69.4 NAT INFLOW 0 9 DEPLETION CHAN STOR EVAPORATION - 3 -1 -10 - 5 3 - 8 - 4 -11 REG INFLOW RELEASE à č STOR CHANGE STORAGE ELEV FIMSL 1206.0 13.0 1207.5 1206.0 1206.0 1206.0 1206.0 1206.0 206.0 1206.0 30.0 DISCH KCFS 06.5 1207.5 1207.5 1207.5 25.2 9.0 13.0 23.8 1207.5 23.8 1207.5 1207.5 13.0 30.0 1206.0 POWER 30.0 27.5 27.1 18.8 9.0 13.0 AVE POWER MW 13.0 114 70.2 PEAK POW MW 114 117 6.2 17.6 58.7 78 78 76 677.8 11.4 72.6 75.1 75.4 68.7 70.6 31.8 11.1 34.4 -GAVINS POINT - SIOUX CITY-34.3 31.8 NAT INFLOW 241 DEPLETION 241 6 REGULATED FLOW AT SIOUX CITY 3 20 34 36 33 22 9 5 3 11 -3 12 13 KAF 16.7 KCFS 12.7 27.5 27.7 25.0 30.0 31.6 30.6 30.4 27.3 25.5 19.1 9.3 13.0 13.6 - - TOTAL-12.8 NAT INFLOW 68 DEPLETION - 73 - 42 CHAN STOR -73 38 -23 - 5 -105 -64 -34 EVAPORATION -22 -41 -43 -30 -20 -40 STORAGE -33 SYSTEM POWER AVE POWER MW PEAK POW MW ENERGY GWH 2064 180.3 20.0 2061 111.1 1994 252.7 630.6 21.0 831.8 27.7 7929.8 672.4 22.4 188.6 12.6

782.6

31MAY

30JUN

15.9

22MAR

31MAR

30APR

INI-SUM 15MAR

909.3

31.ПЛ.

29.3

899.2

31AUG

29.0

30SEP

558.2

310CT

18.0

AVE POWER MW

PEAK POW MW

ENERGY GWH DAILY GWH

190.7 12.7

INI-SUM 15MAR 22MAR

7825.5

115.0

182.4

20.3

31MAR

622.7

20.8

30APR

773.9

25.0

31MAY

2002-2003 AOP LOWER DECILE RUNOFF SIMULATION 99001 9901 9901 PAGE CWCP, STEADY RELEASE, 5-DAY SHORTENED SEASON VALUES IN 1000 AF EXCEPT AS INDICATED TIME OF STUDY 09:49:48 STUDY NO 28FEB03 INI-SUM 15MAR 22MAR 31MAR 30APR 31MAY 30JUN 31JUL 31AUG 30SEP 31OCT 15NOV 22NOV 30NOV 31DEC 31JAN 29FEB --FORT PECK-NAT INFLOW DEPLETION 439 ç - 52 -122 -87 92 -25 -11 -13 -88 EVAPORATION - 83 - 58 MOD INFLOW RELEASE 312 523 155 97 70 -193 STOR CHANGE -1435 328 -272 STORAGE 2211.7 -4 -13 -51 2212.7 ELEV FTMSL DISCH KCFS 2211.3 9.5 2211.9 2214.5 9.5 2212.9 9.5 2210.8 2209.6 5.2 2213.0 2209.6 2209.5 2209.0 2209.3 2207 1 04.5 2202.3 5.0 5.0 5.0 6.0 8.5 7.6 5.2 7.0 8.0 10.0 POWER 11.5 11.5 AVE POWER MW PEAK POW MW 143 79.2 10.5 13.5 ENERGY GWH 893.2 22.5 54.1 86.0 88.9 47.8 88.1 23.1 14.5 18.9 89.9 90.4 98.1 -GARRISON-NAT INFLOW DEPLETION - 25 48 -11 -64 20 26 -53 CHAN STOR -22 -28 -12 - 27 -11 -11 25 EVAPORATION -19 -22 -16 321 REG INFLOW 1353 1322 RELEASE 36 STOR CHANGE -24 12921 -1743 - 33 -31 - 539 -395 11235 STORAGE 1818.7 -81 -81 -570 -537 1819.1 ELEV FTMSL DISCH KCFS 1818.6 1818.8 18.4 818.6 1821.9 22.5 1820.2 21.5 1819.4 1822.3 1818.6 818.5 1818.1 1811.4 22.0 22.5 16.0 1817.8 1815.4 1813.1 15.0 18.5 16.0 22.0 POWER 12.1 12.1 17.0 18.0 20.0 22.5 AVE POWER MW PEAK POW MW ENERGY GWH 327 322 306 127.1 151.9 48.3 31.4 1788.8 63.6 27.8 35.8 180.4 184.3 179.1 120.1 100.1 37.9 161.5 178.4 160.9 OAHE NAT INFLOW 10 DEPLETION CHAN STOR - 5 - 7 - 5 -2 - 3 -12 25 3 0 34 -12 -19 EVAPORATION -26 - 5 -11 46 -13 315 453 REG INFLOW 379 1573 RELEASE 975 -153 137 STOR CHANGE -1788 - 6 -176 13718 -410 13308 -363 11042 -565 -666 - 520 -138 13574 13875 1588.2 1589.5 STORAGE 581.0 ELEV FTMSL DISCH KCFS 1589.6 19.5 1589.6 21.2 1588.8 1587.1 1586.5 584.0 1576.8 1576.1 1575.9 1578.5 1576.6 577.2 1578.9 16.6 12.8 1580.3 25.6 26.3 29.9 29.8 23.2 POWER 16.1 16.2 16.9 AVE POWER MW PEAK POW MW 619 53.7 552 ENERGY GWH 2084.8 15.6 130.2 54.0 38.3 178.4 220.5 252.8 218.1 248.6 184.5 138.4 59.5 29.5 132.1 130.4 -BIG BEND EVAPORATION 1350 1020 975 975 REG INFLOW 1573 1567 1828 $\frac{112}{112}$ RELEASE 1682 STORAGE ELEV FTMSL DISCH KCFS 20.0 1420.0 1420.0 420.0 1420.0 20.0 20.0 20.0 1420.0 1420.0 1420.0 22.7 420.0 20.0 20.0 20.0 12.8 16.6 19.5 120.0 1420.0 21.2 21.2 25.6 26.3 29.7 29.4 14.8 POWER 15.8 7.1 15.9 16.2 16.9 AVE POWER MW 509 529 PEAK POW MW 103.5 77.6 ENERGY GWH 875.1 21.8 15.3 21.5 71.5 89.1 88.8 102.5 61.3 26.9 13.4 59.1 59.3 56.6 -FORT RANDALL NAT INFLOW DEPLETION 1 15 32 -10 -52 143 -3 1 - 1 -1 3 -6 3 EVAPORATION 12 213 REG INFLOW RELEASE 263 3387 756 738 17 -285 STOR CHANGE 3532 -315 3234 3124 3387 1350.0 1353.3 STORAGE -18 2750 ELEV FTMSL DISCH KCFS 1355.0 1355.2 355.2 21.9 355.2 1355.2 28.2 1355.2 1355.2 1351.4 27.0 37.8 337.5 42.6 10.5 5.8 10.8 337.5 1341.0 1344.8 50.0 22.1 26.0 29.5 29.3 POWER 25.6 23.9 16.6 6.6 12.3 12.0 AVE POWER MW 355 355 PEAK POW MW 17.3 132.9 149.5 63.7 ENERGY GWH 1505.6 20.3 15.3 40.2 170.4 184.3 183.0 161.3 9.3 67.8 68.4 58.8 -GAVINS POINT NAT INFLOW DEPLETION CHAN STOR 39 3 19 -8 0 - 5 - 1 -10 - 22 -4 - 3 9 -10 5 EVAPORATION ī REG INFLOW 1416 RELEASE 749 STOR CHANGE STORAGE - 39 206.5 1207.5 25.2 ELEV FTMSL DISCH KCFS 1206.0 1206.0 13.0 9.0 1207.5 206.0 1206.0 1206.0 1206.0 206.0 1206.0 1207.5 207.5 1207.5 13.1 23.8 23.8 1207.5 1206.0 30.0 30.0 27.5 27.1 POWER 18.8 9.0 13.0 13.0 13.0 AVE POWER MW 114 7.7 114 PEAK POW MW 117 117 6.2 78 76 75.1 75.4 ENERGY GWH 678.0 11.4 17.6 58.7 72.6 70.2 68.7 11.1 70.6 31.8 34.3 34.5 32.0 GAVINS POINT SIOUX CITY--241 NAT INFLOW 20 34 22 DEPLETION 9 11 3 -5 12 REGULATED FLOW AT SIOUX CITY KAF 16584 300 24.8 KCFS 9.2 10.1 14.1 24.8 29.5 31.3 30.2 27.4 29.8 27.2 25.4 19.0 13.0 12.8 13.3 -TOTAL-NAT INFLOW 68 89 903 692 DEPLETION -35 -22 -3 CHAN STOR EVAPORATION -139 58 -16 -65 -30 -32 72 -22 1695 -65 -43 - 5 -48 -47 ~ 34 -29 STORAGE SYSTEM POWER

2044 888.9 28.7

31JUL

2007 679.9 22.7

30SEP

567.7 18.3

310CT

253.4

15NOV

120.3 17.2

22NOV

876.7 28.3

31AUG

2057

816.4

30JUN

542.7

17.5

31DEC

94.8

11.9

30NOV

1935 570.8

18.4

31JAN

529.1 18.2

29FEB

	DATE OF ST	TUDY 01/	10/0	3				2002-20	03 AOP	EXTENSI	ONS, MEI	DIAN RU	NOFF SI	MULATIO	N 99001	9901	4 1		1
	TIME OF ST	TUDY 09:	49:2	5				CWCP, S	TEADY R	ELEASE					N 99001	3901	4 1	PAGE	1
	2	9FEB04			200	4		VALU	ES IN 1	000 AF	EXCEPT A	AS INDI	CATED				STUDY	YNO	9
	FORT PE	INI- CK	SUM	15MAR	22MAR	31MA	R 30AP	R 31MA	¥ 30JU	N 31JU	L 31AU	G 30SE	P 310C	т 15№	V 22NO	20 V 30NOV	005 7 31DEC	C 31JA	N 28FEB
	NAT INFLO DEPLETION EVAPORATI	0W 7 1 10N	400 377 402	264 -2	123 -1	15	8 62 1 5	8 121 4 33	0 185 7 54	1 82 7 18 2	9 324 3 -79 4 75	4 31 9 -14 7 9	9 39 3 - 7	8 18 4 - 3 4 - 3	8 8 9 -1	8 100 8 -21) 310 -133) 26 -13	1 349 9 - 94
	RELEASE STOR CHAN	IGE 6	621 655 965	266 179 88	124 69 55	16 81 70	0 57 9 35 0 21	4 87 7 52 7 35	3 130- 3 56: 0 73-	4 62 5 58	2 326 4 584	5 36 37	6 38 8 30	8 188 4 14	3 8 7 6	8 100 9 111	399 584	9 400 584	0 443 4 528
	STORAGE ELEV FTMS DISCH KCF	11 L 221 S 1	913 7.9 0.5	12001 2218.4 6.0	12055 2218.7 5.0	1212 2219. 5.0	6 1234 1 2220. 0 6.	3 1269 3 2222. 0 8.	3 1343 2 2226.2 5 9.1	2 1346 2 2226. 5 9.	9 13211 4 2225.0 5 9.5	1319 2225.	2 8. 9 1328: 0 2225.4 3 4 9	$4 \\ 3 \\ 13324 \\ 4 \\ 2225.6 \\ 9 \\ 4 \\ 0 \\ 4 \\ 0 \\ 4 \\ 0 \\ 4 \\ 0 \\ 0 \\ 0$	$1 \\ 1334 \\ 5 2225. $	9 -11 $3 13332$ $7 2225.7$ $2 225.7$	-185 13147 2224.7	-184 1296 2223.	-85 3 12878 7 2223.3
	AVE POWER PEAK POW FNERCY CW	MW MW	0 1	77 194	64 194	64 195	4 7 5 19	8 11 6 19	D 123 B 202	5 12 2 20	6 126 3 201	8	4 60 1 202	5 66 2 202	5 6 2 20	6 93 2 202	125	9.9 129	5 124
	GARRIS	ON W 11	001	459	10.8	13.9	55.	8 82.	1 89.9	9 93.	7 93.5	60.	5 48.8	8 23.6	11.	0 17.8	93.3	92.9	83.7
	DEPLETION CHAN STOR EVAPORATI	ON	995 11 472	2 47	10 10	202	-1	5 142 5 21 0 -2	2958 2778 5 -10	3 2060 3 520)	6 581 0 24	49 -12 32	7 454 9 -3 2 14	1 192 3 -92 1	8 - 4	9 102 3 -49 0 -21	253 -99 -25	237 - 84	326 -51
	REG INFLO RELEASE	W 153 144	200	693 476	298	370) 1194	1 170	2735	5 2102	2 1051	922	4 99 2 676	9 45 5 386	2	1 24 D 218	51 860	905	905
	STOR CHAN	GE 1	175	217	76	200 84	12	3 44	1369	138 5 718	3 1353 8 -302	976 - 54	6 848 4 - 171	8 410 L -25	19: -1	1 286 1 -68	1230 -370	1414	1250
	ELEV FTMS DISCH KCF POWER	L 1824 S 22	1.2 : 2.5	1825.1	1825.3	1825.7 16.0	1826.2	L 1827.0 20.9	16669 1832.6 23.0	1738 1835.1 22.5	7 17085 1 1834.1 5 22.0	1703: 1833.9 16.4	1 16860 9 1833.3 4 13.8) 16835 1833.2 3 13.8	1682 1833. 13.8	4 16756 2 1832.9 3 18.0	16385 1831.7 20.0	15876 1829.9 23.0	15531 1828.6 22.5
	AVE POWER PEAK POW 1 ENERGY GW	MW MW H 2028	8.1	184 341 66.3	185 342 31.0	185 343 40.0	209 344 150.1	239 349 177.6	273 363 196.8	274 371 203.7	1 269 L 368 7 200.1	200 367 144.3	0 168 7 365 3 125.3	168 168 365 60.5	168 369 28.2	3 219 5 364 2 42.0	241 360 179.5	274 355 204.0	266 352 178.6
	OAHE NAT INFLO DEPLETION	 W 23	800	317	148	190	364	236	689	162	2 33	118	3 14	5	2	2 3	-20		4.0
	CHAN STOR EVAPORATIO	ON 4	0	30	250	13	40 - 9	-11	-11	143 2 27	93 2 2 85	23 25 105	3 -8 5 12 5 90	2 0 40	1 (19	- 1) -19) 21	11 -9 47	16 -13	25 2
	RELEASE STOR CHANG	141 141 3E 12	.00	454 346	359 89 271	462 279 183	1380 1036 344	1422	1924 1392	1377	1210 1687	991 1496	792 978	373 461	174 212	247 247	1143 949	1385 1002	1267 883
	STORAGE ELEV FTMSI	149 1593	85 .9 1	15331	15602 1596.3	15785	16129	16242	16773	16475	15998	-505	-186	-88 15219	-38 15181	50 15231	194 15425	382 15807	383 16190
	POWER AVE POWER	5 16 мw	.3	15.2	6.4	15.7	17.4	21.3	23.4	27.2	27.4	25.1	15,9	1594.8	1594.7	1594.9	1595.6 15.4	1597.0 16.3	1598.5 15.9
	PEAK POW N ENERGY GWI	1W 1W I 2088	. 9	647 66.3	652 13.1	191 655 41.3	214 662 153.8	262 664 194.8	290 674 208.5	337 668 251.1	337 659 250.9	306 650 220.4	193 646 143.5	187 645 67.5	184 644 31.0	150 645 28.9	187 649 139.1	199 656 147.7	195 663 131.3
	BIG BEN EVAPORATIO	ID N 1	03	454						6	20	25	22	10	5	5	11		
	RELEASE	139	97 97 82	454 454 1692	89 89	279	1036	1308 1308	1392 1392	1669 1669	1668 1668	1471 1471	956 956	451 451	207 207	192 192	938 938	1002	883
	ELEV FTMSI DISCH KCFS POWER	1420 16	.0 1 .3	420.0	1420.0 6.4	1420.0 15.7	1420.0 17.4	1420.0 21.3	1420.0 23.4	1682 1420.0 27.1	$1682 \\ 1420.0 \\ 27.1$	1682 1420.0 24.7	1682 1420.0 15.6	1682 1420.0 15.2	1682 1420.0 14.9	1682 1420.0 12 1	1682 1420.0	1682 1420.0	1682 1420.0
	AVE POWER PEAK POW M ENERGY GWH	MW W 808	.1	72 510 25.7	30 509 5.0	73 509 15.8	82 509 58.7	100 509 74.1	110 509 78.9	127 509 94 5	127 509	117 517	76 538	76 538	75 538	61 538	76 538	80 538	15.9 76 529
	FORT RAND NAT INFLOW	ALL 9	00	122	57	73	115	140	185	74	57	04.4	56.9	27.5	12.7	11.7	56.9	59.5	51.3
	EVAPORATIO REG INFLOW	N 1	80 17	1	1	1	4	9	12	18 8	15 25	42 7 31	2 1 25	2 1 10	1	1	10	3	19 3
	RELEASE STOR CHANG	147) E	20	167	145 128 17	352	$1147 \\ 1147$	1439 1439	1565 1565	1717 1717	1684 1684	1475 1619	933 1570	442 746	204 349	188 210	935 732	999	899
	STORAGE ELEV FTMSL	- 31: 1350	24 .0 13	3532	3549	3549	3549	3549	3549	0 3549	0 3549	~144 3405	-637 2768	-304 2464	-145 2319	-22	203	280	555 344
	DISCH KCFS POWER AVE POWER	10 MW	.1	5.6	9.2	19.7	19.3	23.4	26.3	1355.2 27.9	1355.2 27.4	1353.5 27.2	1345.1 25.5	1340.4 25.1	1337.9 25.1	1337.5 13.3	1341.0 11.9	1345.3 11.7	1350.0 10.0
	PEAK POW M ENERGY GWH	W 1455.	. 9	354 16.9	355 13.2	355 36.0	355 117.4	355 146.9	221 355 159.5	235 355 174.7	230 355 171.5	227 349 163.7	205 318 152.3	190 296 68.4	184 285 30.9	97 284 18.6	88 300 65.6	90 319 66 8	80 338 53 7
	GAVINS PO NAT INFLOW DEPLETION	INT 145 11	50 4	92	43	55	148	174	166	86	103	77	122	50	23	27	77	70	107
	CHAN STOR EVAPORATION	N 3	1	9	- 7	-20	1	- 8	- 6	-3	10	~5 0	2 3	5 1	2	3 22	10 3	1	127
	REG INFLOW RELEASE STOR CHANGE	1599 1599	8	268 268	164 164	388 388	1291 1291	1586 1586	1702 1702	1759 1759	1772 1759	9 1692 1666	8 1685 1685	4 788 788	2 368	2 254	4 797	798	686
	STORAGE ELEV FTMSL DISCH KCFS	35 1206.	8 0 12	358 06.0 1	358 206.0 1	358 206.0	358 1206.0	358 1206.0	358 1206.0	358 1206.0	13 371 1206.5	26 397	397 1207 5	397	368	254 397	797 397	798 397	725 -39 358
	POWER AVE POWER N PEAK POW MW	19. W	U	32	41	75	21.7 75	25.8 88	28.6 97	28.6 97	28.6	28.0	27.4	26.5	26.5	16.0	13.0	13.0	1206.0 13.0
	ENERGY GWH	669. NT - SI	6 OUX	11.4 11.4 CITY	7.0	114 16.1	114 53.8	114 65.6	114 70.0	114 72.4	115 72.7	117 69.9	117 71.4	117 33.4	117 15.6	57 117 10.9	46 78 34.2	46 78 34.3	46 76 30.9
I	NAT INFLOW DEPLETION REGULATED FL	155 24 OW AT S	0 7 10UX	169 6 CITY	79 3	102 4	199 20	310 34	224 30	129 36	96 34	60 22	42 9	16 6	7	9	21	5	82
	KAF KCFS	1730	1	431 14.5	241 17.3	485 27.2	1470 24.7	1862 30.3	1896 31.9	1852 30.1	1821 29.6	1704 28.6	1718 27.9	799 26.9	373 26,9	260 16.4	806 13 1	790	13 794
	NAT INFLOW DEPLETION CHAN STOR	2460 239	1 : 9	1435 30	669 14	860 18	2307 135	3493 675	6073 1514	3346 939	1194	1113	1032	452	211	241	651	582	943
	EVAPORATION STORAGE	1566 46418	5 3 47	00 7477 4	4 17895 4	-20 18232	-18 48916	-45 49827	-27	-1 97	3 304	57 379	-73 29 327	-118 1 146	-55 0 68	-63 -18 77	-196 -32 168	-190 -13	-104 5
	AVE POWER M PEAK POW MW	K W		595	477	755	819	996	1116	52921 1196	51896 1187	51207 1032	50296	49921	49746	49695	49536	49505	49764
	ENERGY GWH DAILY GWH	7949.8	21 1	4.2	80.1 1 11.4	2171 63.2 18.1	2181 589.6 19.7	2189 741.1 23.9	2218 803.5 26.8	2220 890.0 28.7	2207 883.2 28.5	2201 743.1 24.8	2186 598.2 19.3	2163 280.9 18.7	770 2151 129.4 18 5	676 2150 129.9	764 2125 568.6	814 2146 605.3	788 2156 529.4
		INI-SUM	1 15	MAR 2	2MAR 3	1MAR	30APR	31MAY	30JUN	31JUL	31AUG	30SEP	310CT	15NOV	22NOV	30NOV 3	10.5 B1DEC 3	19.5 31JAN	18.9 28FEB

	DATE OF STU	JDY 01/1	0/03			2	2002-20	03 AOP 8	EXTENSI	ONS, MEI	IAN RU	NOFF SIN	ULATIO	N 99001	9901	4 1	AGE	1
	TIME OF STU	JDY 09:49	9:26			(CWCP, S'	TEADY RE	ELEASE						5501	STUDY	NO	10
	28	FEB05	M 1 DATA	200	05		VALU	ES IN 10	000 AF	EXCEPT A	S INDI	CATED			2	006	INO.	10
	FORT PEC	INI-50	JM 15MA	R 22MAI	R 31MA	R 30APF	R 31MA	1006 Y	N 31JU	L 31AUG	30SE	P 310C1	15NO	V 22NO	V 30NO	V 31DEC	31JAI	N 28FEB
	DEPLETION	74(38	0026 39-	4 123 2 -1	3 158 1 - 1	8 628 L 56	3 1210 5 333	0 1851 1 556	L 82	9	31 -14	9 398 3 - 78	188	3 8) - 1	8 10	310	26:	1 349
	MOD INFLOW	1 658	28 33 26	6 124	160	572	879	1295	20 5 61	6 82 3 317	10 36	2 90 0 386	41		9 21 7 9	2 47	-13:	-93
	STOR CHANG	E 62	24 8 78 1206	8 55		357 215	492 381	2 595 7 700	5 61.) - :	5 615 2 -298	36	7 296 7 91	14 4	9 9 -1	7 14:	615 -219	676	5 611
	ELEV FTMSI DISCH KCFS	2223	3 2223.	7 2224.0	2224.4	2225.5	13693	$ \begin{array}{c} 14393 \\ 5 2231.1 \\ \end{array} $	1439: 2231.	1 14094 1 2229.6	14080 2229.0	6 14177 6 2230.0	14220 2230.2) 1421 2230.:	0 1416 2 2230.0	7 13948) 2228.9	13672	2 13503
	POWER AVE POWER	MW	7	9 66	5 5.0	, 0.0 . 70	, a.u	10.0	10.0	- 10.0	6.2	2 4.8	4.8	3 7.0	9.0) 10.0	11.0	11.0
	PEAK POW M ENERGY GWH	TW 1963.	20 4 28.4	0 200 4 11.1) 201 . 14.2	202 57.1	204	206 96.4	206 100.2	5 134 5 205 2 99.9	205 59.1	3 65 5 205 7 48.1	65 206 23.3	94 201 15.1	4 121 5 205	134 205	147 203	7 146 203
	GARRISC NAT INFLOW	N 1100	1 46	9 219	282	853	1423	2050	2000								109.1	
	DEPLETION CHAN STOR	89 - 1	4 5 3	1 0		-10	184	786	512	2 29	-132	/ 454 2 - 3	192 -103	-48	9 102 3 -55	253 -117	237 -101	326 -67
	EVAPORATIO REG INFLOW	N 48 1556	7 4 68:	3 298	370	1193	1710	2747	30 2139) 94 9 1073	117	7 102 7 664	46	-22	2 - 20 L 24	-10	-10	0
	STOR CHANG	1479 E 76	7 476	5 222 7 76	286 85	1101 92	1383 327	1488 1259	1506	5 1476 -403	985	916 -251	443	222	256	1230	1004	1004
	ELEV FTMSL	1828.	6 1829.4	15815 1829.6	15899	15991 1830.3	16318 1831.4	17577 1835.7	18210 1837.8) 17807 3 1836.5	17739 1836.3) 17488 1835.4	17437	17406	17376	17068	16628	-329 16299 1831 4
	POWER AVE POWER	22. MW	180) 10.0	10.0	18.5	22.5	25.0	24.5	24.0	16.5	5 14.9	14.9	16.0	18.0	20.0	23.5	24.0
	PEAK POW M ENERGY GWH	W 2170.	354 7 68.2	355 31.9	355 41.1	356 158.6	360 199.8	303 373 218.3	302 468 224.3	296 463 220.3	204 462 146.9	183 459 136.4	183 458 65.8	196 458 32.9	220 457 42.2	243 454 181.0	283 448 210.5	286 444 192.5
	OAHE- NAT INFLOW	- 230	0 317	148	190	364	236	689	162	33	118	14	5	2	3	-20		40
	CHAN STOR EVAPORATIO	- - N 45	7 28	3 10	13	46 ~11	65 -17	126 -11	147	96 2	24 32	-8 7	2	1 - 5	1 - 9	11 -9	16 -15	25 - 2
	REG INFLOW RELEASE	1604 1525	- 0 799 3 582	359	462	1408	1538	2040	29 1495	89 1326	109 1001	94 851	42 405	19 199	22 256	48 1142	1414	1346
	STOR CHANG STORAGE	E 78 1619	7 217 0 16407	227	143 16778	235	101	535	-297	-478	-609	-244	518	238	214 43	1112 29	909 504	813 532
	ELEV FTMSL DISCH KCFS	1598. 15.	5 1599.2 9 19.6	1600.1 9.5	1600.6 17.8	1601.4 19.7	1601.7	1603.6	1602.6	1600.9	1598.7	1597.8	15908	15869	15912	15941 1597.5	16445 1599.4	16978 1601.3
	AVE POWER	MW	241	119	222	246	292	318	367	367	335	219	213	210	13.5	18.1	14.8	14.6
	ENERGY GWH	2295.	5 86.9	671 19.9	674 48.0	678 177.3	680 217.5	690 229.1	684 273.0	675 272.8	664 240.9	660 163.1	657 76.8	657 35.3	658 31.7	658 164.9	668 135.7	677 122.7
	BIG BENI EVAPORATION	D N 10:	3						6	20	25	22	10	5	5	11		
	RELEASE	15150	0 582 0 582	132 132	319 319	$1173 \\ 1173$	1437 1437	1505 1505	1786 1786	$1784 \\ 1784$	1584 1584	1073 1073	508	234 234	208	1101	909	813
	ELEV FTMSL	1420.0	1420.0	1420.0	1682	1682 1420.0	1682 1420.0	1682 1420.0	1682 1420.0	1682 1420.0	1682 1420.0	1682 1420.0	1682 1420.0	1682 1420.0	1682 1420.0	1682	1682 1420 0	1682 1420 0
	POWER AVE POWER N	191. W	92	9.5 45	17.8	19.7	23.4	25.3	29.0	29.0	26.6	17.5	17.1	16.8	13.1	17.9	14.8	14.6
	PEAK POW MW ENERGY GWH	873.2	510 2 33.0	509 7.5	509 18.0	509 66.5	509 81.4	509 85.2	136 509 101.1	136 509 101.1	126 517 90 9	86 538	86 538	85 538	66 538	88 538	72 538	70 529
	FORT RANDA NAT INFLOW	LL 900) 122	57	73	115	140	105	74			03.0	50.9	14.2	12.1	62.8	53.8	47.2
	DEPLETION EVAPORATION	80 J 118	1	1	1	4	9	12	18	15	42	1	2 1	1	1	10 3	3	19 3
	REG INFLOW RELEASE	15852 15852	2 703 2 295	189 172	391 391	1284 1284	1568 1568	1678 1678	1834 1834	1801	1588	1050	499	4 230	4 205	10 1098	906	829
	STOR CHANGE STORAGE	3124) 408 3532	17 3549	0 3549	0 3549	3549	3549	0 3549	3549	-144	-637	-304	-145	-22	366	719	555 274
	DISCH KCFS	1350.0	9.9	$1355.2 \\ 12.4$	1355.2 21.9	1355.2 21.6	1355.2 25.5	1355.2 28.2	1355.2 29.8	1355.2 29.3	1353.5 29.1	1345.1 27.4	1340.4 27.0	1337.9	1337.5	1343.5	1346.3	1350.0
	AVE POWER M	W	82	105	185	182	215	237	250	246	243	220	204	198	104	89	91	80
	ENERGY GWH	1571.7	29.7	17.6	40.0	131.2	159.8	355 170.7	.355 186.4	355 183.1	349 174.9	318 163.4	296 73.5	285 33.2	284 20.0	311 66.4	324 67.9	338 54.0
	GAVINS POI NAT INFLOW	NT 1450	92	43	55	148	174	166	86	103	77	122	FO	22	0.7			
	CHAN STOR	-1	0	0 - 5	0 -18	5 1	19 -8	24 -5	39 - 3	10	-5	2	5	23	27	10	1	127
	REG INFLOW	17149 17149	388	210	429	1428	1716	1815	2 1875	7 1888	9 1805	8 1802	4 845	2 394	2 272	4 4 799	799	3
	STOR CHANGE	358	300	210	429	1428	1716	1815	1875	1875 13	1779 26	1802	845	394	272	799	798	725
	ELEV FTMSL DISCH KCFS POWER	1206.0 13.0	1206.0 13.0	1206.0 15.1	1206.0 24.0	1206.0 24.0	1206.0 27.9	358 1206.0 30.5	358 1206.0 30.5	371 1206.5 : 30.5	397 1207.5 29.9	397 1207.5 29.3	397 1207.5 28.4	397 1207.5 28.4	397 1207.5 17.2	397 1207.5 13.0	397 1207.5 13.0	358 1206.0 13.0
	AVE POWER M PEAK POW MW ENERGY GWH	W 711 Q	46 114	53 114	82 114	82 114	95 114	102 114	102 114	103 115	102 117	102 117	99 117	99 117	61 117	46	46	46
	GAVINS POI	NT - SIO	UX CITY-	0.9	17.8	59.2	70.7	73.5	75.9	76.3	73.8	75.8	35.8	16.7	11.6	34.3	34.3	30.9
1	DEPLETION REGULATED FLO	1550 248 OW AT SI	169 6 OUX CITY	. 79 . 3	102 4	199 20	310 34	224 30	129 37	96 34	60 22	42 9	16 6	7	9	21	5	82
	KAF KCFS	18451	551 18.5	286 20.6	526 29.5	1607 27.0	1992 32.4	2009 33.8	1967 32.0	1937 31.5	1817 30.5	1835 29.8	855 28.8	399 28.8	278 17.5	808 13.1	790 12 0	13 794
	TOTAL NAT INFLOW	24601	1435	669	860	2307	3493	6073	3346	1194	1112	1022	450	0.7.5				~ 1 . J
	CHAN STOR	2322 -23 1625	29 65	13 6	17 -18	138 -20	642 -45	1534 -36	943 -1	109	-227	-77 24	452 -130 1	211 -60 -27	241 -69	651 -214	582 -207	943 -119
	STORAGE SYSTEM POWER	49764	50684	51059	51357	51899	52714	55208	101 55542	317 54376	394 53575	340 52533	151 52108	70 51883	-5 80 51831	-14 173 51700	-25	1
	AVE POWER MY PEAK POW MW	1	729 2199	577 2204	829 2208	903 2215	1086	1213	1291	1282	1093	874	850	882	737	823	822	812
	ENERGY GWH DAILY GWH	8586.3	262.5 17.5	96.9 13.8	179.2 19.9	649.9 21.7	808.2 26.1	873.3 29.1	960.9 31.0	2322 953.5 30.8	2314 787.0 26 2	2297 650.6	2273 305.9	2260 148.2	2259 141.5	2244 612.0	2259 611.3	2267 545.4
		INI-SUM	15MAR	22MAR	31MAR	30APR	31MAY	30JUN	31JUL	31AUG	20.2 305EP	21.0 310CT	20.4 15NOV	21.2 22NOV	17.7 30NOV	19.7 31DEC	19.7 זיג גד.	19.5
																		- UL DD

22MAR

31MAR

30APR

31MAY

30,000

31JUL

31AUG

30SEP

310CT

15NOV

22NOV

30NOV

31DEC

19.5

31JAN

18 3

28FEF

DATE OF S	TUDY 0	1/10/	03				2002-20	03 AOP	EXTENSI	ONS, MEI	DIAN RU	NOFF SI	MULATIO	N 99001	9901	1	PAGE	1
TIME OF S	TUDY 0	9:49:	26				CWCP, S	TEADY F	RELEASE							STIT	V NO	12
	28FEB0	7 	1 5 4 5 1	20	07		VALU	JES IN 1	L000 AF	EXCEPT /	AS INDI	CATED			2	008	I NO	12
FORT P	ECK	L-SOM	15MAF	22MA	R 31MA	R 30AP	R 31MA	Y 30JL	JN 31JU	JL 31AU(3 30SE	P 310C	r 15NO	V 22NC	V 30NO	V 31DE	C 31 <i>J</i> A	N 29FEB
NAT INFL DEPLETIO	OW N	7400 410	264	12	3 15	8 62	8 121	0 185	51 82 5 20	9 324	31	.9 398	3 18	8 8	8 10	0 31	0 26	1 349
EVAPORAT MOD INFL	ION OW	453 6537	266	12	- 4 16	0 57	2 23	·2 30	20	8 87	-14 7 10	4 -78	8 -4 5 4	0 -1 3 2	.8 -2 2 2	1 -13 3 4	3-13 9	9 -104
RELEASE STOR CHA	NGE	7195 -659	179	8	3 10	7 47	5 87 6 55 7 33	3 108	3 64	6 303 6 615	35 54 54	4 38 9 442	L 18- 2 20-	4 8 8 11	6 9 1 15	8 39- 9 61:	4 40 5 70	0 453 7 661
STORAGE ELEV FTM	1 SL 22	4785	14873	1491	4 1496 6 2233	6 1506	, 32 3 1538	8 1559	1 1554	9 -312 1 15229	2 -19	5 -61 4 14972	L -24 2 1494	4 -2 8 1492	5 -6 3 1486	0 -22 3 1464:	1 -30 2 1433	7 -208 5 14126
DISCH KC POWER	FS	7.5	6.0	6.0	0 <u>6</u> .	0 8.	0 9.	0 18.	2 2236. 2 10.	5 2235.1 5 10.0	. 2234.) 9.	2 2233.9 2 7.2	2233.1	82233. 38.	7 2233. 0 10.	4 2232.3 0 10.0	3 2230. 0 11.	8 2229.8
AVE POWE PEAK POW	R MW MW		81 208	82 208	2 8: 8 20:	2 10 8 20	9 12	3 5	6 14	4 137	12	6 98	9 99	5 10	9 13	5 139	5 15	5 154
ENERGY G	WH 10	45.0	29.3	13.1	7 17.	5 78.	4 91.	3 40.	6 107.	0 101.7	90.	8 208 5 72.8	8 208 34.3	3 20 3 18.	8 20 3 26.0	B 201 D 100.1	7 20 7 115.	6 205 3 107.4
GARRIS	SON DW 1	1001	469	219	9 28:	2 85	3 142	3 295	8 206	6 503								
DEPLETION CHAN STON	N R	981 -42	-6 15	- 3	3 -4	4 - 1 - 21	B 21 0 -1	4 82 0 9	6 58 3 7	5 40	-13	/ 454 8 -12	192 -11(2 8	9 10: 1 -58	2 253 8 -119	3 23 9 -10	7 326 1 - 74
EVAPORAT REG INFLO	ION DW 1	523 6650	670	305	5 392	2 131	7 175	2 312	2 3 2 217	1 100	12	6 110	50	2 -1	0 -20 3 26	5 57) -1	5
RELEASE STOR CHAN	1 IGE	4605 2045	476 194	222 83	2 286 3 107	5 107: 7 246	1 132	2 142	8 144 4 72	5 1414	108	5 819 7 919	462	21 23	9 27 6 286	930 5 1230) 103) 141	0 1 061 4 1323
STORAGE ELEV FTMS	1 SL 18	5939 30.1	16133 1830.8	16216 1831.1	5 16322 1831.4	2 16568 1832.3	B 1699 B 1833.	8 1869 8 1839.	2 1941	8 19064 5 1840 5	1904	3 18942	18959	1894.	/ -12 2 18929	-300 18630) -384) 1824(4 -261 5 17984
POWER	~S	24.5	16.0	16.0) 16.0) 18.0	21.	5 24.	0 23.	5 23.0	18.3	3 15.0	1840.2	1840.	1 1840.J 0 18.0	1839.2) 20.0	1837.	9 1837.1 0 23.0
PEAK POWER	K MW MW	~~ ~	190 442	191 443	191 444	21 447	5 25 7 45	9 29 3 47	5 290 3 483	5 291 L 477	232	1 189 7 476	189	21	5 227	251	286	285
ENERGI G	/H 21	90.7	68.4	32.0) 41.3	155.2	192.	5 212.4	4 220.2	2 216.3	166.3	3 140.6	68.0	36.3	1 43.6	472 186.8	468 213.1	3 465 L 198.1
NAT INFLO	W :	2300	317	148	190	364	230	5 689	9 162	2 33	118	3 14	5		, , , , , , , , , , , , , , , , , , ,	20		
CHAN STOR	ON	6	35	11	. 14	- 8	61	7 132 4 -10	2 156 0 2	5 103 2 2	25	5 -9) 14	2		L 1	-20	17	40 26
REG INFLC	W 1	5827	805	359	462	1380	1477	7 197	29 5 1424	90 90 1256	111 1090	L 94) 862	42 406	19	22	48 1141	1304	1227
STOR CHAN	GE 1	-554	341 17811	106	383	1322	-101	1630 345	0 1921 5 -497	. 1933 / -677	1734 -644	1224 -362	580 -174	268	231 3 231	1112	889	859
ELEV FTMS DISCH KCF	L 160	03.0	1604.1	1604.5	1604.8	1605.0	1604.6	18298	B 17801 B 1604.1	. 17124 . 1601.8	16479 1599.5	16118 1598.2	15944 1597.5	15885	5 15915	15944	16438	16916
POWER AVE POWER	MW		198	232	21.4	22.2	25.7	27.4	31.2	31.4	29.1	19.9	19.5	19.3	14.5	18.1	14.5	14.9
PEAK POW ENERGY GW	MW H 248	37.2	693 71.2	694 39.0	696 58 9	697	327 695	349 701	397 692	395 680	362 668	246 661	239 658	236 657	178 658	222 658	178	186
BIG BE	ND			05.00	50.5	205.0	242.3	251.3	295.4	294.1	260.6	182.8	86.1	39.6	34.2	164.9	132.7	129.4
EVAPORATI REG INFLO	ON W 16	103 278	464	253	383	1322	1579	1620	6	20	25	22	10	5	5	11		
RELEASE STORAGE	16 1	278 682	464 1682	253 1682	383 1682	1322	1578	1630	1915	1914	1709	1202 1202	570 570	263 263	225 225	1101 1101	889 889	859 859
ELEV FTMS DISCH KCF	L 142 S 1	0.0 1 4.1	15.6	1420.0 18.2	1420.0	1420.0	1420.0	1420.0		1420.0	1682	$1682 \\ 1420.0$	1682 1420.0	1682 1420.0	1682 1420.0	1682 1420.0	1682 1420.0	1682 1420.0
POWER AVE POWER	MW		74	86	100	104	120	128	146	146	28.7	19.6	19.2	18.9	14.2	17.9	14.5	14.9
ENERGY GW	™ H 93	8.1	517 26.6	$510 \\ 14.4$	509 21.7	509 74.9	509 89.4	509 92.3	509 108.4	509	517	538	538	95 538	72 538	88 538	71 538	72 529
FORT RANI	DALL	000	1.00							10011	50.0	/1.4	34.6	16.0	13.8	65.8	52.7	49.9
DEPLETION	זאר	80	122	57 1	73 1	115 4	140 9	185 12	74 18	57 15	42	2	2	1	1	10		19
REG INFLOW	₩ 16	981	585	310	455	1433	1709	1803	8 1963	25 1930	31 1713	25	10	4	4	3 10	3	3
STOR CHANC	E 3	0	295	192	438	1433	1709	1803 0	1963 0	1930 0	1857	1816	865	404	244	732	886 719	875 581
ELEV FTMSI DISCH KCFS	135	0.01	353.6	1355.0	1355.2	3549 1355.2	3549 1355.2	3549 1355.2	3549 1355.2	3549 1355.2	3405 1353.5	2768 1345.1	2464 1340_4	2319	2297	2663	2830	294 3124
POWER AVE POWER	MW		82	117	24.5	24.1	27.8	30.3	31.9	31.4	31.2	29.5	29.1	29.1	15.4	11.9	1346.0	1350.0
PEAK POW M ENERGY GWH	เพ เ 168:	2.0	350	354	355	355	355	254 355	268 355	263 355	260 349	236 318	220 297	213 285	112	89	91	81
GAVINS PC	INT			1910	11.0	140.2	1/3.9	183.2	199.2	196.0	187.3	175.7	79.1	35.8	21.5	66.4	67.8	56.4
NAT INFLOW DEPLETION	14	450 114	92 0	43	55	148	174	166	86	103	77	122	50	23	27	77	70	100
CHAN STOR EVAPORATIO	N	-2 38	0	- 8	-20	1	-7	- 5	-3	10	-5 0	2 3	5 1	2	3 25	10	1	127
REG INFLOW RELEASE	182 182	277 277	388 388	228 228	473 473	1577 1577	1857	1940	2005	· 2018	9 1930	8 1931	4 907	2 423	2 291	4 801	798	د 711
STOR CHANG STORAGE	E 3	858	358	358	358	358	358	250	2005	2005	1904 26	1931	907	423	291	801	798	750
DISCH KCFS	1206 13	5.0 12 .0	206.0 1 13.0	206.0	1206.0 26.5	1206.0 26.5	1206.0	1206.0	1206.0	1206.5 1	397 1207.5	397 1207.5 1	397 L207.5 :	397 1207.5	397 1207.5	397 1207.5	397	358 1206 0
AVE POWER	MW		46	57	90	90	101	107	107	32.6	32.0	31.4	30.5	30.5	18.4	13.0	13.0	13.0
ENERGY GWH	N 747	.7	$114 \\ 16.4$	114 9.6	114 19.5	114 65.1	114 75.4	114 76.9	114	115	117	107	105	105 117	65 117	46 78	46 78	46 76
GAVINS PO	INT - S	IOUX	CITY						,,,,	73.3	//.3	/9.6	37.7	17.6	12.4	34.4	34.3	32.0
DEPLETION REGULATED FI	בי 2 הוא את:	50 54 81000	169	79 3	102 4	199 21	310 35	224 30	129	96 35	60	42	16	7	9	21	5	82
KAF KCFS	195	73	551	304	571	1755	2132	2134	2097	2066	1941	10	6	3	3	12	13	14
TOTAL			10.5	21.9	32.0	29.5	34.7	35.9	34.1	33.6	32.6	31.9	30.9	428 30.9	297 18.7	810 13.2	790 12.8	818 14.2
NAT INFLOW DEPLETION	246 24	01 65	1435	669	860	2307	3493	6073	3346	1194	1112	1030	450		.			
CHAN STOR EVAPORATION	16	38 92	51	-8	-20	-28	676 -32	1589 -108	1040 75	137 8	-232	-86	-136	-63	-73	651 -215	582 -206	943 -135
STORAGE SYSTEM POWE	533 R	58 5	4271	54618	54874	55274	55928	58170	105 58349	330 57019	411 56040	353 54879	157 54394	-19 73 54149	83 54094	-2 180	-28	3
AVE POWER M PEAK POW MW	W	. :	671 2323	764 2324	943 2327	1005	1163	1190	1357	1339	1222	972	944	970	780	23957	53928	54191
DAILY GWH	9201.	3 2	41.5] 16.1	28.3	203.7 22.6	723.5 24.1	865.5	4363 856.7 1 28 4	2363 1009.8	2346 996.2 8	2337	2318 722.8	2294 339.8	2282 163.3	2280 151.5	2265	828 2280	823 2289 572 1
	INI-SU	JM 19	5MAR 2	2MAR	31MAR	30APR	31MAY	20.π 30.πm	<i>э∡.</i> 6 31,πт	31010 -	29.3	23.3	22.7	23.3	18.9	20.0	19.9	19.8
							-		7+201	-THOG 3	NOEP	3 TOCT	LSNOV	22NOV	30NOV	31DEC	31JAN	29FEB

2002-2003 AOP EXTENSIONS, MEDIAN RUNOFF SIMULATION 99001 9901 1 PAGE 1 CWCP, STEADY RELEASE STUDY NO 13

TIME OF STU	UDY 09:49	:26			c	WCP, S	TEADY R	ELEASE							STUDY	Z NO	13
29	9FEB08 INT-SU	M 15MA	200 P 22MA)8 2 21 MAT	ז מאמי ב	VALU	ES IN 1	000 AF	EXCEPT #	AS INDI	CATED			2	009		15
FORT PEC NAT INFLOW	CK 740	m 15MAI	R 22MA	K 31MAE	R 30APF	8 31MA	Y 30JU	N 31JU	L 31AUC	3 30SE1	P 310C1	15NOV	22N0	V 30NO	V 31DEC	31JAN	1 28FEB
DEPLETION EVAPORATIC	422 DN 436	2 -2	2 -1	-1	55	33	3 56	9 21 2 2	9 324 2 -62 7 84	1 319 2 -144 104	9 398 4 -82 4 91	188 -42 41	88 -19	B 10 - 2: - 2:	0 310 2 -136 2 47) 261 5 -141	1 349 - 95
RELEASE STOR CHANG	7242 3E -700	2 179 0 88	9 124 9 69 8 55) 573) 417) 156	87 61 26	7 128: 5 83: 2 44	2 59 3 83 9 - 24	0 302 0 799	359	9 389	188 172	88 80	3 10 D 15) 399 615	402 799	2 444 694
STORAGE ELEV FTMSI DISCH KCFS POWER	14126 2229.8 11.5	5 14214 3 2230.2 5 6.0	14269 2 2230.5 0 5.0	14339 2230.8 5.0	14496 2231.6 7.0	1475 2232. 10.	8 1520 9 2235.0 0 14.0	7 1496 0 2233. 0 13.	6 14469 9 2231.5 5 13.0	14292 2230.6 9.0	/ 33 2 14325 5 2230.8 0 5.8	16 14341 2230.8 5.8	14348 2230.9 5.8	7 -58 3 14289 9 2230.6 3 10.0	3 -216 9 14073 5 2229.5 0 10.0	-397 13676 2227.5 13.0	-250 13426 2226.2 12.5
AVE POWER PEAK POW M ENERGY GWH	MW 1W H 1176.2	81 206 2 29.0	67 5 206 0 11.3	67 206 14.6	94 207 68.0	13 20 100.1	5 187 7 209 5 134.8	7 18 9 20 3 135.3	2 175 8 206 3 130.3	121 206 87.3	1 78 5 206 3 58.0	78 206 28.1	78 206 13.1	134 5 206 25.8	134 205 99.8	173 203 128.7	166 202 111.4
GARRISC NAT INFLOW DEPLETION	N 11001 1205	469	219	282 - 3	853 - 6	142 21	3 2958 5 836	3 2060 5 601	5 581 1 46	497 -141	7 454 L -17	192 -89	89 - 4 1) 102 - 47	253	237	326
EVAPORATIC REG INFLOW)N 529 I 16498))) 708	301 301	374	-20 1256	-31) -39 8 2916	3	5 5 3 104 7 1225	39 129	9 31 9 111	0 49	23	-42 26	0 55	-30	5
RELEASE STOR CHANG	17352 E -853	536	250 51	321	1250	153 256	1696 1220	172 545	2 1691 5 -456	1454 - 371	-605	403 654 -251	188 305 -117	241	882 1230 - 348	1057 1537 -481	1046 1500 -453
ELEV FTMSL DISCH KCFS	1837.1 23.0	1837.7	18208	18261 1838.0 18.0	18267 1838.0 21.0	18523 1838.8 25.0	8 19743 8 1842.6) 28.5	2028 1844.2 28.0	9 19833 2 1842.9) 27.5	19462 1841.7 24.4	18857 1839.9 22.0	18606 1839.1 22.0	18489 1838.7 22.0	18413 1838.5 20.0	18065 1837.4 20.0	17584 1835.8 25.0	17131 1834.2 27 0
AVE POWER PEAK POW M ENERGY GWH	MW W 2625.6	223 467 80.3	224 467 37.6	224 468 48.4	261 468 187.9	311 471 231.2	358 488 258.1	356 499 265.1	350 490 260.6	310 481 222.9	278 475 206.7	275 472 99.2	275 471 46.1	249 470 47.9	248 466 184.9	307 460 228.5	328 454 220.5
OAHE- NAT INFLOW DEPLETION	- 2300 641	317 23	148 11	190 14	364	236	689	162	33	118	14	5	2	3	-20		40
CHAN STOR EVAPORATIO REG INFLOW	-16 N 479	21 850	207	407	-12	-16	-14	30	2 92	13 115	10 100	2 0 45	0 21	1 8 24	12 0 52	17 -21	27 -8
RELEASE STOR CHANG	16618 E 1898	498	221 166	386 111	1334 219	1689	2236 1666 570	1696 1958 -262	1528 1970 -442	1444 1770 - 326	1286 1261 25	613 598 15	286 276	303 236	1145 1115	1499 861	1504 861
ELEV FTMSL DISCH KCFS	16916 1601.0 14.9	17269 1602.3 16.7	17435 1602.8 15.9	17546 1603.2 21.6	17765 1604.0 22 4	17845 1604.2	18415 1606.1	18153	17710 1603.8	17385 1602.7	17409 1602.8	17424 1602.8	17434 1602.8	17502 1603.1	17532 1603.2	18170 1605.3	644 18814 1607.4
POWER AVE POWER I PEAK POW MI	MW	210 683	200	273	284	332	357	406	406	375	20.5	20.1 253	19.9 251	14.9 188	18.1 229	14.0 178	15.5 200
ENERGY GWH	2549.6 D	75.5	33.7	58.9	204.3	246.8	256.8	302.3	302.3	269.8	685 192.3	686 91.2	686 42.1	687 36.1	688 170.6	699 132.7	710 134.1
EVAPORATION REG INFLOW	N 103 16515	498	221	386	1334	1609	1666	6 1952	20	25 1745	22	10	5	5	11		
STORAGE ELEV FTMSL	16515 1682 1420.0	498 1682 1420.0	221 1682 1420 0	386 1682	1334 1682	1609 1682	1666 1682	1952 1682	1950 1682	1745 1682	1239 1682	588 1682	271 1682	230 230 1682	1104 1104 1682	861 861 1682	861 861 1682
DISCH KCFS POWER AVE POWER	14.9 ww	16.7	15.9	21.6	22.4	26.2	28.0	31.7	31.7	1420.0 29.3	1420.0 20.2	1420.0 19.8	1420.0 19.5	1420.0 14.5	1420.0 18.0	1420.0 14.0	1420.0 15.5
PEAK POW MW ENERGY GWH	951.7	515 28.4	510 12.5	509 21.9	509 75.6	123 509 91.2	131 509 94.3	149 509 110.5	148 509 110.4	139 517 100.0	99 538 73.5	99 538 35.7	98 538 16.5	73 538 14.1	89 538 66.0	69 538 51.1	74 529 50.0
NAT INFLOW DEPLETION	ALL 900 80	122 1	57 1	73 1	115 4	140	185 12	74	57	42	2	2	1	1	10		19
EVAPORATION REG INFLOW RELEASE	N 118 17218 17218	619	277	459	1445	1740	1839	2000	25 1967	, 31 1749	25 1216	10 579	0 4 268	1 4 227	3 10 1101	3 858	3 877
STOR CHANGE STORAGE	S 0 3124	325 3449	83 3532	17 3549	3549	3549	3549	2000 0 3549	1967 0 3549	1893 -144 3405	1853 -637 2769	883 -304 2464	413 -145	249 -22	735	721 137	553 324
DISCH KCFS POWER	1350.0 10.1	1354.0 9.9	1355.0 14.0	1355.2 24.7	1355.2 24.3	1355.2 28.3	1355.2 30.9	1355.2 32.5	1355.2 32.0	1353.5 31.8	1345.1 30.1	1340.4 29.7	2319 1337.9 29.7	1337.5 15.7	2663 1343.5 12.0	2800 1345.6 11.7	3124 1350.0 10.0
AVE POWER M PEAK POW MW ENERGY GWH	1W 1 1705.1	82 351 29.5	118 354 19.8	208 355 45.0	205 355 147.4	238 355 177.1	259 355 186.7	273 355 202.9	268 355 199.7	265 349 190.8	241 318 179.2	224 297 80.7	217 285 36.5	114 284 21.9	90 311 66.6	91 320 67.8	80 338 53.5
GAVINS POI NAT INFLOW DEPLETION	NT 1450 114	92 0	43 0	55	148	174	166	86	103	77	122	50	23	27	77	79	127
CHAN STOR EVAPORATION	-1 38	0	- 8	-21	ı 1	- 8	- 5	-3 2	10	-5 0 9	2 3 8	5 1 4	2 0 2	3 26	10 7	1 0	3
RELEASE STOR CHANGE	18515	387	230	477 477	1589 1589	1888 1888	1976 1976	2041 2041	2054 2041	1966 1940	1968 1968	925 925	432 432	297 297	804 804	799 799	683 722
STORAGE ELEV FTMSL DISCH KCFS POWER	358 1206.0 13.0	358 1206.0 13.0	358 1206.0 16.5	358 1206.0 26.7	358 1206.0 26.7	358 1206.0 30.7	358 1206.0 33.2	358 1206.0 33.2	371 1206.5 33.2	397 1207.5 32.6	397 1207.5 32.0	397 1207.5 31.1	397 1207.5 31.1	397 1207.5 18.7	397 1207.5	397 1207.5	-39 358 1206.0
AVE POWER M PEAK POW MW ENERGY GWH	W 754.2	45 114 16.4	57 114 9.7	91 114 19.7	91 114 65.6	103 114 76.3	108 114 77.9	108 114 80.5	109 115 80.8	109 117 78.3	108 117 80.6	106 117 38,2	106 117 17.8	66 117 12 7	46 78	46	46
GAVINS POI NAT INFLOW	NT - SIOU 1550	X CITY- 169	- 79	102	199	310	224	129	96	60	40	16			27.0	د. ۲۹ د	20.8
REGULATED FLOR KAF	255 OW AT SIO 19810	0X CITY 550	3 306	4 574	21 1767	35 2163	30	38	35	23	10	6	3	9	21 12	5 13	82 14
KCFS		18.5	22.0	32.2	29.7	35.2	36.5	2132 34.7	2102 34.2	1977 33.2	2000 32.5	936 31.5	437 31.5	302 19.1	813 13.2	791 12.9	790 14.2
NAT INFLOW DEPLETION CHAN STOR	24601 2717 -27	1435 23 76	669 11 2	860 14 - 21	2307 127	3493 679	6073 1606	3346 1068	1194 150	1113 -234	1032 -95	452 -117	211 -55	241 -62	651 -168	582	943
EVAPORATION STORAGE SYSTEM DOUBL	1703 54191	55129	55484	55735	-31 56117	-54 56715	-59 58953	4 106 58997	8 332 57614	52 413 56622	45 355 55430	1 158	0 73	-7	181	-50	0
AVE POWER MU PEAK POW MW	N.	720 2336	742 2338	965 2340	1040	1241	1401	1474	1457	1318	1062	54914 1036	54669 1025	54580 825	54412 837	54309 864	54534 892
ENERGY GWH DAILY GWH	9762.4	259.2 17.3	124.6 17.8	208.4	748.6	923.0 29.8	23/9 1008.7 : 33.6	2384 1096.6 35.4	2367 1084.2 35.0	2355 949.1 31.6	2339 790.3 25.5	2315 373.1 24.9	2303 172.2 24.6	2301 158.4 19.9	2286 622.5	2299 643.2	2310 600.3
	INI-SUM	15MAR	22MAR	31MAR	30APR	31MAY	30JUN	31JUL	31AUG	30SEP	310CT	15NOV	22NOV	30NOV	31DEC	20.7 31.TAN	∠⊥.4 28FEB

DATE OF ST	TUDY 01	/10/	03		2	002-200	AOP E	XTENSIO	NS, LOW	ER QUART	ILE RU	NOFF SIN	ULATIO	99001	9901	9901 B	PAGE	1
TIME OF ST	UDY 09	:49:3	35		С	WCP, ST	EADY RE	LEASE, 2	20-DAY	SHORTENE	D SEAS	ON				STUDY	NO	14
	29FEB0	4	1 5 4 7	20	04		VALU	ES IN 10	000 AF 1	EXCEPT A	S INDI	CATED			20	0102.		
FORT PH	ECK	- 50M	15MA	R 22MA	R 31MA	R 30API	R 31MA	Y 30JUN	N 31JU	L 31AUG	30SE	P 310C1	15NO	/ 22NO	V 30NOV	/ 31DEC	31JA	N 28FEB
DEPLETION	ION	345	20	3 2	2 15	8 5/4 2 74	29	1 1589 5 438	9 692 3 163	2 287 7 -60	-13	5 354 0 -68	183 -32	8 8 2 - 1	5 98 5 -17	322 7 -110	23	1 309 1 -83
MOD INFLO RELEASE	W	5760 5557	26: 134	1 122	2 15	6 500 0 415) 716	5 1151	491 5 553	7 261	29	8 94 7 328	43	8 2	0 23 0 92	49 2 383	352	2 392
STOR CHAN STORAGE	IGE 1	203 0315	12 ⁻ 10442	7 59	7 1057	6 83 7 10661	1088	1 586 5 11470	5 -56	5 - 293	-32	8 275 1 52	133		3 143 7 -51	615 -232	61 -26	5 528 3 -136
ELEV FTMS DISCH KCF	SL 22	08.5	2209.2	2 2209.6	2210.	1 2210.6	2211.9	2215.4	2215.0	2213.3	2213.	1 11143 1 2213.5	11182 2213.7	1119 2213.	9 11148 8 2213.5	10916 2212.1	10653 2210.5	3 10518 5 2209.7
POWER AVE POWER	MW		55	5 55	5 50	б 86	. o.	, j. ,	y 9.0	9.0	5.5	5 4.5	4.5	4.	69.0	10.0	10.0	9.5
PEAK POW ENERGY GW	MW H 83	37.7	182	2 182	18:	3 183 0 62.2	185	5 190			18	9 56 7 187	187	5 18	8 113 8 187	125 185	124 183	117 182
GARRIS	ON						, , , , , , , , , , , , , , , , , , , ,	05.0	04.3	04.1	49.	/ 41.8	20.3	9.	7 21.6	92.7	92.0	78.5
NAT INFLC DEPLETION	W 10	0069 1463	475	5 221 5 21	285	5 763 7 84	1282 234	2701	1891 571	. 532 57	446	5 428	175	82	2 93	238	177	280
EVAPORATI	ON	16 527	70)		- 27	-11	- 16	5	101	37	7 11	-01		-43 1 -47 2 27	- 69	- 52	-28 5
REG INFLO RELEASE	W 13	3652 3404	635 476	263 222	338 286	3 1069 5 1071	1529 1230	2435 1309	1847 1322	927 1291	789	579	339	158	3 206	854	844	841
STOR CHAN STORAGE	GE 12	248	12569	41 12610	53 12663	-3 -3 3 12661	299 12960	1126 14086	525 14611	-364 14246	-109	-143	-10	-8	/ 200 3 -80 5 13994	-376	-509	-353
DISCH KCF	S 2	23.5	1817.1	1817.3	1817.9	5 1817.5) 18.0	1818.7 20.0	1823.2	1825.2 21.5	1823.8 21.0	1823.4	1822.8	1822.8	1822.8	3 1822.5	1821.0	1818.9	1817.5
AVE POWER	MW		174	175	175	5 197	219	246	246	241	172	2 134	134	137	7 204	20.0	22.0	21.5
ENERGY GW	H 181	5.4	62.8	29.4	319	9 319 3 141.8	323 163.2	336 177.0	342 182.8	337 179.0	336 124.2	5 335 99.7	334 48.2	334	1 333) 39.2	329 167.3	323	230 319 158 4
OAHE NAT INFLO	 W 1	761	187	87	112	270	150	7.01									10110	130.4
DEPLETION CHAN STOR		585 10	22	10	112	46	158	123	124 143	29 93	79 23	11	2	1	. 1	-42 11	-7 16	44 25
EVAPORATI REG INFLO	ON W 14	466	678	299	384	1202	1214	-10	30	2 91	29 112	17 96	43	-1 20	-30 23	-10 51	-10	2
RELEASE STOR CHAN	13 GE	870 254	348 329	239	353	1211	1456	1385	1276	1139	871 1306	661 736	304 343	144 110	231 231	1116 1140	1320 852	1216 900
STORAGE ELEV FTMS	12 L 158	992 5.8	13321 1587.2	13381	13412	13495	13353	13845	13439	12902	-434 12468	-74 12393	-38 12355	35 12390	97 97 97 12486	-24 12462	468 12930	315 13246
DISCH KCF POWER	S 1	3.6	11.7	17.2	19.8	20.3	23.7	23.3	27.4	27.3	21.9	12.0	1582.9 11.5	1583.1 7.9	1583.5	1583.4 18.5	1585.5 13.8	1586.8 16.2
AVE POWER PEAK POW I	MW MW		135 607	199 608	229 609	236 610	274 607	270 618	318 609	313	249	136	130	89	96	210	158	186
ENERGY GWI	H 192	8.6	48.6	33.4	49.5	169.8	203.9	194.7	236.3	232.8	179.5	100.8	46.9	15.0	18.5	587 156.1	598 117.5	605 125.3
EVAPORATIO	ND-~ DN	129							8	24	31	27	12	6	7	14		
RELEASE	13	741	348 348	239 239	353 353	1211 1211	1456 1456	1385 1385	1674 1674	1651 1651	1275 1275	709	330	104	128	14 1126	852	900
ELEV FTMSI	142	682 0.0 :	1682	1682 1420.0	1682 1420.0	$\begin{array}{r} 1682 \\ 1420.0 \end{array}$	1682 1420.0	1682 1420.0	1682 1420.0	1682 1420.0	1682 1420.0	1682 1420.0	1682 1420 0	1682	1682	1682	1682	1682
POWER AVE DOWER	о ⊥ мш	3.0	11.7	17.2	19.8	20.3	23.7	23.3	27.2	26.9	21.4	11.5	11.1	7.5	8.1	1420.0	1420.0	1420.0
PEAK POW M	100 100 1 79	28	517	510	509	95 509	111 509	109 509	127 509	126 509	102 525	58 538	56 538	38 538	41 538	90 538	68 538	78
FORT RAND		2.0	20.0	13.0	20.0	68.6	82.5	78.4	94.8	93.5	73.5	43.3	20.2	6.4	7.9	67.3	50.7	52.3
NAT INFLOW DEPLETION	1 4	643 80	88 1	41 1	53 1	82	66	167	33	63	30	2				6	- 6	19
EVAPORATIC REG INFLOW	N 14	141 159	434	279	405	1289	1512	1540	10	15 32	38	1 27	1 10	0 5	1 5	3 13	3	3
RELEASE STOR CHANG	14) E	160 -1	161 274	145 134	388 17	1289	1513	1540	1679	1668	1606	1564	319 338	99 99	122 122	1116 750	843 726	916 572
STORAGE ELEV FTMSL	3: 1350	124 0.0 1	3398 353.4	3532 1355.0	3549 1355.2	3549 1355.2	3549	3549	3549	3549	-347	-886	-19 2296	0 2296	0 2296	366 2662	117 2779	344 3123
DISCH KCFS POWER	10	0.5	5.4	10.4	21.7	21.7	24.6	25.9	27.3	27.1	27.0	25.4	1337.5	1337.5 7.1	1337.5 7.7	1343.5 12.2	1345.3 11.8	1350.0 10.3
AVE POWER PEAK POW M	MW W		45 349	88 354	183 355	183 355	207 355	218 355	230 355	228	223	195	83	52	56	91	92	82
-CAVING DO	. 1401 TNM	1.3	16.1	14.8	39.6	131.7	154.3	156.9	170.9	169.8	160.8	145.4	29.9	283	10.8	311 68.0	319 68.1	338 55.3
NAT INFLOW	13	35	98	46	59	132	147	153	87	85	62	112	50	23	27	76		100
CHAN STOR EVAPORATIO	л	-1	10	-10	- 22	5	19 -6	24 -2	39 -3	10 0	-5	2	5 26	2	3	10	1	107
REG INFLOW RELEASE		33	269	181	425	1416	1636	1666	3 1722	9 1735	11 1662	10 1666	5 405	2 126	2 143	5	700	3
STOR CHANG STORAGE	E 3	58	358	358	420	1416	1636	1666	1722	1722 13	1636 26	1666	405	126	143	802	798	721
ELEV FTMSL DISCH KCFS	1206 13	.0 1 .0	206.0	1206.0	1206.0	1206.0	358 1206.0	358	358 1206.0	371 1206.5 1	397 1207.5	397 1207.5	397 1207.5	397 1207.5	397 1207.5	397 1207.5	397	-39 358
POWER AVE POWER I	MW		32	46	82	23.0 97	20.0	28.0	28.0	28.0	27.5	27.1	13.6	9.1	9.0	13.0	13.0	13.0
PEAK POW MY ENERGY GWH	W 641	.6	$\begin{array}{c} 114 \\ 11.4 \end{array}$	$114 \\ 7.7$	114 17.6	114	114	114	95 114	96 115	95 117	95 117	48 117	32 117	32 117	46 78	46 78	46 76
GAVINS PO:	INT - S	IOUX	CITY-	-		20.7	57.5	00.0	/0.9	/1.3	68.7	70.6	17.4	5.4	6.2	34.4	34.3	30.7
DEPLETION	11	35 47	145	68 3	87 4	113 20	219 34	158 30	95 36	70	44	31	16	7	9	16	- 3	60
KAF KCFC	JUW AT 162	S1002 21	408	246	509	1509	1821	1794	1781	1752	1650	9 1600	6	3	3	12	13	13
TOTAL			7. د ו	17.7	28.5	25.4	29.6	30.2	29.0	28.6	27.9	27.5	415 14.0	131 9.4	148 9.3	806 13.1	782 12.7	768 13.8
NAT INFLOW DEPLETION	214 28	99 34	1256	586	753	1942	2883	5469	2922	1066	936	938	474	100	225	<i>(</i> 1-		
CHAN STOR EVAPORATION	17	21 51	117	-10	46 -22	233 -37	655 -26	1442 -28	974 5	149 3	-188	-39	-100	-46	-53	615 -143	465 -140	819 -70
STORAGE SYSTEM POWE	4088 R	82 4	1770	42064	42241	42405	42786	44991	109 45053	343 43872 -	427 42977	366 41926	163 41897	76 41940	-/6 87 41904	-29 189 41640	-9	11
AVE POWER M PEAK POW MW	W		497 2087	644 2087	•817 2089	879	1002	1057	1129	1116	912	674	508	406	542	7940	*1454 701	41585
ENERGY GWH DAILY GWH	7417.	.4 1	78.9 11.9	108.2	176.6	632.8 21.1	2093 745.1 24.0	2122 761.2 25 4	2118 840.3	2101 830.4	2093	2046 501.7	2045 182.8	2046 68.3	2047 104.1	2029 585.9	2039 544.2	2049 500 6
	INI-SU	м 1	5MAR	22MAR	31MAR	30APR	31MAY	30JUN	31JU	20.8 31AUC 3	21.9 305FP	16.2	12.2	9.8	13.0	18.9	17.6	17.9
											E	うすんにし	T DINO V	∠∠NOV	JUNOV	31080	2 1 TAN	20000

DATE OF ST	UDY 01/1	0/03		20	02-2003	AOP EX	TENSION	IS, LOW	ER QUART	ILE RU	NOFF SIM	ULATIO	99001	9901	9901	PAGE	1
TIME OF ST	UDY 09:4	9:35		CV	ICP, STE	ADY REI	EASE, 2	4-DAY	HORTENE	D SEAS	ON				STUDY	(NO	15
:	28FEB05 INI-SU	JM 15MA	200 R 22MA)5 ≷ 31MA∄	30APR	31MA	30JUN	1 31JU	SACEPT A	S INDI	CATED	1510	1 2200	2	006		
FORT PEG NAT INFLOG DEPLETION	CK W 66: 38	13 26 37 -1	7 124	160 - f	579	1019	1603	698	289	27	8 357	185	5 8	6 9:	8 31DEC	5 231	N 28FEB
EVAPORATIC MOD INFLOW	ON 45 W 576	57 59 27	7 129	166	529	708	1090	28 496	87 8 8 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	-13 10 30	1 -72 9 96 0 333	-3 43 174	3 -1 3 2 1 8	5 -1 0 2: 1 9	7 -110 3 50 3 385) -12:	L -83
STOR CHANCE STORAGE	GE 39 1051	72 13 98 14 18 1066	4 62 3 67 1 10728	80 86 10814	417	492 216	565	584 -88	553 -294	27	4 264 6 69	124 50	5	8 12 3 - 3	7 553 4 -168	584	500 -105
ELEV FTMSI DISCH KCFS	L 2209. S 9.	.7 2210. .5 4.	6 2211.0 5 4.5	2211.5	2212.2	2213.4 8.0	2216.5	2216.0	11285 2214.3 9.0	1131 2214.4	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	11431 2215.1	1145 2215.	3 11419 3 2215.3	9 11250 1 2214.1	11020	10915 2212.1
POWER AVE POWER PEAK POW N	MW MW	5	6 56 3 194	56	87	100	120	120	114	5	8 54	53	5	z 8.0 3 10:	1 113	9.5	9.0 112
ENERGY GW	H 816.	.0 20.	0 9.4	12.1	62.7	74.3	86.2	191 89.6	188 84.5	18 41.	8 189 8 40.4	189 18.9	19 8.1	0 189 9 19.4	9 188 1 84.2	186 88.4	185 75.3
GARRISC NAT INFLOW DEPLETION CHAN STOR	ON ∛ 1013 98	34 47 33 1 5 5	8 223 4 7 4	287 8	768 28 -27	1290 202 -11	2718 732	1903 491	535 55	449 -103	9 431 3 -1	176 -100	8	2 94 5 - 53	4 240 3 -105	178	282 -59
EVAPORATIC REG INFLOW RELEASE	ON 54 ▼ 1398	12 16 65	2 279	359	1130	1569	2535	33 1963	105 934	13 74	1 114 1 586	51 349	24 16	4 27 4 27 3 207	7 -10 7 58 7 830	-5	946
STOR CHANG	3E 48 1265	0 17 9 1283	6 194 6 85 5 12919	250 109 13028	1012 118 13146	1230 339 13486	1339 1196 14682	1353 610 15293	1322	-145	5 768 5 -183	368	172	2 301	1230 -400	1383 -540	1222 -376
ELEV FTMSI DISCH KCFS	1817. 21.	5 1818. 5 16.	2 1818.6 0 14.0	1819.0 14.0	1819.5 17.0	1820.8 20.0	1825.5 22.5	1827.7	1826.3	1825.8	3 1825.1 3 1825.1 3 12.5	1825.0	1825.0	14455 1824.6 19.0	$ \begin{array}{cccc} 14055 \\ 5 1823.1 \\ 20.0 \\ \end{array} $	13515 1820.9 22.5	13139 1819.5 22 0
AVE POWER PEAK POW M ENERGY GWH	MW 1W 1848.	17 32 2 63.	6 155 1 322 3 26.0	155 323 33.5	188 325 135.6	223 329 165.6	255 342 183.7	254 431 188.8	249 425 185.1	172 423 123.8	2 144 3 421 3 107.1	142 421 51.1	142 42(23.6	2 217 2 217 3 419	2010 227 413 168 7	252 406 187 1	22.0 243 400
OAHE- NAT INFLOW	 I 179	4 19	0 89	114	283	161	714	127	30	90) 11						105.5
DEPLETION CHAN STOR EVAPORATIO	59 - - 47	7 2: 3 2: 5	2 10 7 10	13	46 -14	65 -14	126 -12	147	96 2	24	-8	2 1	1	. 1) -33	-43 11 -5	-7 16 -12	45 25 2
REG INFLOW RELEASE	1422 1372	5 67: 8 34	1 282 7 238	351 352	1234 1208	1311 1454	1915 1380	30 1305 1681	92 1166 1673	113	98 701	44 322	21 150	24 244	52 1119	1348	- 1244
STOR CHANG STORAGE ELEV ETMSL	E 49 1324	7 324	4 44 0 13614	-1 13613	26 13639	-143 13496	535 14031	-376 13656	-507	-444	-14	235 88 12778	116 34 12812	134 110 12922	-20	1008 341 13243	744 500 13743
DISCH KCFS POWER	1588.	2 11.	7 17.1	19.7	20.3	1587.9 23.7	1590.1 23.2	1588.6 27.3	1586.4 27.2	1584.5 21.9	1584.4 11.6	1584.8 7.9	1585.0 8.4	1585.5 8.4	1585.4 18.5	1586.8 16.4	1588.9 13.4
AVE POWER PEAK POW M ENERGY GWH	MW W 1921.	139 612 1 48.8	5 200 2 613 3 33.5	229 613 49.5	236 614 170.1	275 610 204.3	270 622 194.7	319 614 237.3	314 603 233.7	251 592 180.5	133 592 98.8	90 594 32.5	96 595 16.1	97 598 18.5	212 597 157.7	188 605 140.2	156 616 104.7
BIG BEN EVAPORATIO	D N 12	9						8	24	31	27	12	6	7	14		
RELEASE STORAGE	1359 1359 168	9 347 9 347 2 1682	238 238 1682	352 352 1682	1208 1208	1454 1454	1380 1380	1673 1673	1648 1648	1274 1274	689 689	222 222	111 111	127 127	1125 1125	1008 1008	744 744
ELEV FTMSL DISCH KCFS	1420. 16.	0 1420.0 2 11.7	1420.0 1420.0 17.1	1420.0 19.7	1420.0	1420.0 23.7	1420.0 23.2	1420.0 27.2	$1682 \\ 1420.0 \\ 26.8$	1682 1420.0 21.4	1682 1420.0 11 2	1682 1420.0 7 5	1682 1420.0	1682 1420.0	1682 1420.0	1682 1420.0	1682 1420.0
AVE POWER 1 PEAK POW M	MW W	55	80 510	92	95	111	109	127	125	102	57	38	40	41	18.3	16.4	13.4
ENERGY GWH	784.0	0 19.9	13.5	19.9	68.4	82.4	78.1	94.8	93.4	525 73.4	538 42.1	538 13.7	538 6.8	538 7.8	538 67.2	538 59.3	529 43.2
NAT INFLOW DEPLETION	ALL 659 80	9 90 0 1	42	54 1	84	67	171	34	65	31	2				7	-7	20
EVAPORATION REG INFLOW	N 141 14033	1 3 435	279	405	1288	1512	1539	10 1679	15 32 1667	7 38 1259	1 27 657	1 10 212	0 5 105	1 5	3 13	3	3
STOR CHANGE	E (3123	$\begin{array}{cccc} 5 & 161 \\ 0 & 274 \\ 3 & 3398 \\ \end{array}$	145 134 3532	388 17 3549	1288	1512	1539	1679 0	1667 0	1606 -347	1545 -887	230 -18	105 106 0	121	750 366	998 726 272	761 572 189
ELEV FTMSL DISCH KCFS	1350.0 10.3) 1353.4 3 5.4	1355.0 10.4	1355.2 21.7	1355.2 21.6	3549 1355.2 24.6	3549 1355.2 25.9	3549 1355.2 27.3	3549 1355.2 27.1	3202 1351.0 27.0	2315 1337.8 25 1	2297 1337.5	2297 1337.5	2296 1337.5	2662 1343.5	2934 1347.4	3123 1350.0
AVE POWER N PEAK POW MY	MW N	45 349	88	183	183	207	218	230	228	223	193	,., 57	7.6	7.6	12.2	11.8	10.3
ENERGY GWH	1391.2	16.1	14.8	39.6	131.6	355 154.2	355 156.8	355 170.9	355 169.7	341 160.8	284 143.6	283 20.4	283 9.4	283 10.7	311 68.0	329 68.8	338 55.8
NAT INFLOW DEPLETION	1342 114	98	46	59	133	148	154	87	86	62	112	51	24	27	75	72	100
CHAN STOR EVAPORATION	-1 I 47	9	-10	-22	0	-6	24 -2	39 -3	10	-5 0 11	2	5 32	2	3	10 - 8	, s 1 1	3
REG INFLOW RELEASE STOR CHANGE	15213 15213	269 269	181 181	425 425	$1416 \\ 1416$	1636 1636	1666 1666	1722 1722	1735 1722	1662 1636	1648 1648	303 303	2 125 125	2 143 143	5 801 801	798	683
STORAGE ELEV FTMSL	358 1206.0	358 1206.0	358 1206.0	358 1206.0	358 1206.0 1	358 206.0	358 1206.0	358 1206.0	13 371 1206.5	26 397	397	397	397	397	397	397	-39 358
POWER AVE POWER M	13.0 W	9.0 32	13.1 46	23.8 82	23.8	26.6	28.0	28.0	28.0	27.5	26.8	10.2	9.0	9.0	1207.5 13.0	1207.5 13.0	1206.0 13.0
PEAK POW MW ENERGY GWH GAVINS POI	636.5 NT - STO	114 11.4	114 7.7	114 17.6	114 58.7	114 67.5	95 114 68.6	95 114 70.9	96 115 71.3	95 117 68.7	94 117 69.9	36 117 13.0	32 117 5.4	32 117 6.2	46 78 34.4	46 78 34.3	46 76 30.8
NAT INFLOW DEPLETION RECULATED FIL	1160 248	149	69 3	89 4	116 20	224 34	161 30	97 37	72	45	31	16	7	9	17	- 3	61
KAF KCFS	16125	00X CITY 411 13.8	248 17.8	511 28.6	1512	1826	1797	1782	1760	1659	9 1670	6 313	3 130	3 148	12 806	13	13
TOTAL NAT INFLOW	21702	1271	502	260	1000	29.7	30.2	29.0	28.6	27.9	27.2	10.5	9.3	9.4	13.1	12.7	13.9
DEPLETION CHAN STOR	2409	33 90	15	20 -22	1963 153 -41	2909 640 -31	5521 1437	2946 906	1077 153	945 -186	944 -69	427 -119	199 -56	228 -63	621 -179	467 -175	828
STORAGE SYSTEM POWER	1790 41585 R	42503	42833	43044	43301	43713	45970	111 46117	в 349 44940	78 434 44056	14 372 43041	35 166 43142	0 78 43100	-73 89	-24 193	-17	11
AVE POWER MY PEAK POW MW	N	499 2097	624 2098	797 2099	871 2102	1006	1067	1146	1126	901	675	415	419	431/1 543	4∠948 780	42791 777	42961
ANERGY GWH DAILY GWH	7397.1	179.5 12.0	104.8 15.0	172.2 19.1	627.2 20.9	748.3 24.1	768.2 25.6	2214 852.4 27.5	2196 837.6 27.0	2187 649.0 21.6	2141 501.9 16.2	2143 149.6	2143	2144 104.3	2126 580.4	2142 578.1	2144 473.1
	INI-SUM	15MAR	22MAR	31MAR	30APR 3	1MAY	30JUN	31JUL	31AUG	BOSEP	310CT	15NOV	10.1 22NOV	13.0 30NOV	18.7 31DFC	18.6	16.9

DATE OF STU	DY 01/10/	03		20	02-2003	AOP EX	TENSION	S, LOWE	r quart	ILE RUN	OFF SIM	ULATION	99001	9901	9901 F	AGE	1
TIME OF STU	DY 09:49:	36		CW	CP, STE	ADY REL	EASE, 2	4-DAY S	HORTENE	D SEASO	N				STUDY	NO	16
2	8FEB06 INI-SUM	1 15MAR	200 22MAR	6 31 MAP	30300	21MAV			ACEPT A	IS INDIC	ATED			20	07		
FORT PEC NAT INFLOW	K 6720) 271	. 126	. JIMAR 163	588	1036	1629	31000	3 IAUG	3USEP	310CT	15NOV	22NOV	30NOV	31DEC	31JAN	28FEB
DEPLETION EVAPORATIO	399 N 469	-11	-5	-6	50	312	517	182	- 52	-131	-72	-34	-16	-18	-112	-122	317 -84
MOD INFLOW RELEASE	5852 5384	282 134	131 62	169 80	538 357	724 492	1112 565	499 584	257 584	301	337	176	82	24 94 127	391 553	359	401
STOR CHANG	E 468 10915	148 11063	69 11132	89 11221	181 11402	232 11634	547 12180	-86 12095	-327 11767	-10 11758	76 11834	47 11881	22 11903	-33	-163	-225	-99
ELEV FTMSL DISCH KCFS	2212.1 9.0	2213.0 4.5	2213.4 4.5	2213.9 4.5	2215.0 6.0	2216.3 8.0	2219.4 9.5	2218.9 9.5	2217.1 9.5	2217.0	2217.4	2217.7	2217.8	2217.7	2216.7	2215.4	2214.9
POWER AVE POWER I	MW	56	56	57	76	101	121	122	121	67	54	56	56	102	115	120	114
ENERGY GWH	W 828.8	187	187 9.5	188 12.2	189 54.4	191 75.3	195 87.4	194 90.9	192 90.4	192 48.0	193 40.4	193 20.0	193 9.4	193 19.6	192 85.3	190 89.5	189 76.3
GARRISON NAT INFLOW	N 10262	484	226	290	777	1306	2752	1927	542	455	437	170	07	0.5	242	100	200
DEPLETION CHAN STOR	977 0	-2 48	-1	-1	-4 -16	214 -21	753	519	60	-105	-6 10	-102	-48	-54	-104	-85	-57
EVAPORATION REG INFLOW	N 558 14111	668	289	372	1122	1563	2548	34 1958	108 958	135 780	117 597	53 356	24 167	28 211	60 830	844	848
STOR CHANG	E 574	446	194 95	250 122	1012	1168 394	1339 1210	1353 605	1322 -364	982 - 202	791 -194	370 -14	173 -6	301 -91	1230 -400	1383 -540	1222 -374
ELEV FTMSL	1819.5	1820.3	1820.7	1821.2	13688	14082	15292	15898 1829.9	15534	15332 1827.9	15137 1827.2	15123 1827.1	15117 1827.1	15027 1826.8	14627 1825.3	14087 1823.2	13714 1821.7
POWER AVE POWER 1	22.0 MW	167	157	19.0	191	215	22.5	22.0	21.5	16.5	12.9	12.4	12.4	19.0	20.0	22.5	22.0
PEAK POW MU ENERGY GWH	N 1889.0	327 60.2	328 26.4	330 34.0	331 137.7	336 159.8	349 186.6	355 192.9	352 189.1	349 140.0	347 112.6	347 52.5	347	346 42.5	232 342 172.3	257 336 191.2	248 331 166 9
OAHE NAT INFLOW	-	107	۵n	110	204	167	740										
DEPLETION CHAN STOR	613	23 33	11	14	47 -14	- 9	129 -17	151	100	83 25 24	12	2	1	1	-45 11	-7 16	46 26
EVAPORATION REG INFLOW	N 490 14294	655	281	355	1244	1260	1933	3Ĩ 1304	95 1160	117 947	101	46	22	25	-5 54 1115	1240	1244
RELEASE STOR CHANGE	13708 586	340 315	235 46	348 6	1202 43	1449 -189	1371 563	1678 -373	1669 -508	1303 -356	714 14	263 62	114	134	1139	1008	743
STORAGE ELEV FTMSL	13743 1588.9	14058 1590.2	14103 1590.4	14110 1590.4	14152 1590.6	13963 1589.8	14525 1592.1	14152 1590.6	13644 1588.5	13288 1587.0	13302 1587.1	13364 1587.3	13400 1587.5	13511 1588.0	13487 1587.9	13827	14329 1591.3
POWER AVE POWER N	13.4 1W	11.4	10.9	19.5	20.2	23.6	23.0	27.3	27.1	21.9	11.6	8.8	8.2	8.4	18.5	16.4	13.4
PEAK POW MW ENERGY GWH	1942.6	622 48.3	623 33.5	623 49.6	624 171.3	620 205.9	631 195.6	322 624 239.6	317 614 236.0	254 606 182 6	134 606	103 607	95 608	98 611	215 610	191 617	158 627
BIG BENI)							20010	250.0	102.0	100.0	50.9	10.0	10.0	160.1	142.2	106.0
EVAPORATION REG INFLOW	129 13579	340	235	348	1202	1449	1371	8 1670	24 1644	31 1272	27 687	12 251	6 108	7 127	14 1125	1008	743
STORAGE	1682	1682 1420 0	235 1682	348 1682	1202	1449	1371	1670 1682	1644 1682	1272 1682	687 1682	251 1682	108 1682	127 1682	1125 1682	1008 1682	743 1682
DISCH KCFS POWER	1420.0	1420.0	1420.0	1420.0	20.2	23.6	23.0	1420.0 27.2	1420.0 26.7	1420.0 21.4	1420.0 11.2	1420.0 8.4	1420.0 7.8	1420.0 8.0	1420.0 18.3	1420.0 16.4	1420.0 13.4
AVE POWER M PEAK POW MW	1W J	54 517	79 510	91 509	95 509	110 509	108 509	127 509	125	102	56	43	40	41	90	80	64
ENERGY GWH	782.9	19.5	13.3	19.7	68.1	82.1	77.6	94.6	93.1	73.3	42.0	15.4	6.6	7.8	67.2	59.3	43.2
NAT INFLOW DEPLETION	690 80	94 1	44	56	88	70	179	36	68	32	2	_			7	- 7	21
EVAPORATION REG INFLOW	1 141 14044	432	278	404	1286	1510	1520	18 10 1679	15 32	38	27	10	05	1	3 13	3	3
RELEASE STOR CHANGE	14044 0	158 274	144 134	387 17	1286	1510	1538	1678	1666	1605	1543	240	103	121	1116 750	998 726	761 572
STORAGE ELEV FTMSL	3123 1350.0	3398 1353.4	3532 1355.0	3549 1355.2	3549 1355.2	3549 1355.2	3549 1355.2	3549 1355.2	3549	-347 3202 1351.0	2315	2297	2297	2296	2662	272 2934	189 3123
DISCH KCFS POWER	10.3	5.3	10.4	21.7	21.6	24.6	25.8	27.3	27.1	27.0	25.1	8.7	7,4	7.6	12.2	11.8	1350.0
PEAK POWER M ENERGY GWH	1392 0	44 349 15 9	88 354 14 7	183 355	182 355	207 355	218 355	230 355	228 355	223 341	193 284	63 283	54 283	56 283	91 311	92 329	83 338
-GAVINS POI	NT	10.0	11./	59.3	101.4	104.0	120./	T10.8	107.6	160.7	143.4	22.8	9.2	10.7	68.0	68.8	55.8
NAT INFLOW DEPLETION	1359 114	100	47 0	60 0	135 5	150 19	155 24	88 39	87 10	63 -5	114 2	51 5	24 2	27 3	76 10	74 1	109
EVAPORATION	-1 47	10	-10	-22	0	-6	- 2	-3	0 9	0 11	4 10	30 5	2 2	0 2	- 8 5	î	3
RELEASE STOR CHANGE	15241	267 267	181	425 425	⊥416 1416	1636 1636	1666 1666	1722 1722	1735 1722	1662 1636	1648 1648	330 330	125 125	$143 \\ 143$	802 802	799 799	684 723
STORAGE ELEV FTMSL	358 1206.0	358 1206.0	358 1206.0	358 1206.0	358 1206.0	358 1206.0	358 1206.0	358 1206.0	13 371 1206.5	26 397 1207.5	397 1207 5	397	397	397	397	397	-39 358
DISCH KCFS POWER	13.0 w	9.0	13.0	23.8	23.8	26.6	28.0	28.0	28.0	27.5	26.8	11.1	9.0	9.0	13.0	13.0	13.0 13
PEAK POWER M ENERGY GWH	m 6377	32 114 11 4	46 114 7 7	82 114	82 114	91 114	95 114	95 114	96 115	95 117	94 117	39 117	32 117	32 117	46 78	46 78	46 76
-GAVINS POI	NT - SIOU	TX CITY-		±/.6	58.7	67.5	68.6	70.9	71.3	68.7	69.9	14.2	5.4	6.2	34.5	34.3	30.8
NAT INFLOW DEPLETION	1211 251	155	72 3	93 4	121 21	234 35	168 30	101 37	75 34	47 22	33	17	8	9	17	- 3	64
KAF KCFS	UW AT SIO 16201	UX CITY	250	514	1516	1835	1804	1786	1763	1661	1671	341	3 130	د 149	12	13 793	13
TOTAL		14.U	18.0	28.8	25.5	29.8	30.3	29.0	28.7	27.9	27.2	11.5	9.4	9.4	13.1	12.7	13.9
NAT INFLOW DEPLETION	22102 2434	1301 17	607 8	780 10	2003 123	2963 655	5623 1465	2992 946	1097	962	961	434	203	231	628	474	843
EVAPORATION	-5 1833	91	- 5	- 22	-30	-36	-35	0 113	3 357	68 444	-73 26 381	-123 32 170	-57 2 79	-65 -70	~180	-174 -17	-99 10
SYSTEM POWER M	44301 ₹	43920 486	44263 624	44497 700	44831	45268	47587	47733	46547	45658	44667	44744	44796	44783	44562	44410	44589
PEAK POW MW ENERGY GWH	7461.2	2193 175.0	2194 104.9	2196 172.5	2200 620.7	2204 743.7	1071 2236 771 4	1154 2236 858 5	1140 2219	934 2212	682 2166	449 2167	422 2168	549 2169	788 2151	785 2166	711 2168
DAILY GWH	TNT OT	11.7	15.0	19.2	20.7	24.0	25.7	27.7	27.4	22.4	507.6 16.4	161.6 10.8	70.9 10.1	105.4 13.2	586.3 18.9	584.2 18.8	478.0 17.1
	INI-SUM	15MAR	22MAR	31MAR	30APR	31MAY	30JUN	31JUL	31AUG	30SEP	310CT	15NOV	22NOV	30NOV	31DEC	31JAN	28FEB

DATE OF STU	DY 01/10/	/03		20	02-2003	AOP EX	TENSION	NS, LOWE	R QUART	ILE RUN	OFF SIM	ULATION	99001	9901	9901 P	AGE	1
TIME OF STU	DY 09:49	:36		CW	CP, STE	EADY REI	EASE, 2	24-DAY S	HORTENE	D SEASO	N			5501	STUDY	NO	17
2	8FEB07		200)7		VALUE	S IN 10	000 AF E	XCEPT A	S INDIC	ATED			20	31001	NO	17
FORM DEC	INI-SUN	1 15MAR	22MAF	31MAR	30APF	8 31MAY	30JU	N 31JUL	31AUG	30SEP	310CT	15NOV	22NOV	30NOV	31DEC	31JAN	I 29FEB
FORT PEC NAT INFLOW DEPLETION EVAPORATIC	K 6751 409 N 477	L 272	127 -5	163 -6	591 50	1041 312	1636 521	5 712 L 189	295 -48	284 -132	365 - 72	188 -33	88 ~15	100 -18	332 -110	238 -120	318 -93
MOD INFLOW RELEASE	5865 5383	5 283 5 134	132 62	170 80	541 357	. 729 492	1115 565	29 5 494 5 584	91 252 553	114 302 308	100 337 279	45 176 127	21 82 59	24 94 127	52 390 553	358	411
STOR CHANG STORAGE ELEV FTMSL	11383 2214.9	11532	11602 2216.1	11692 2216.6	184 11875 2217.7	237 12113 2219.0	550 12662 2222.1) -90 2 12572 L 2221.6	-301 12271 2219.9	-6 12264 2219.9	58 12323 2220.2	49 12372 2220.5	23 12395 2220.6	-33 12361 2220.4	-164 12198 2219.5	-226 11971 2218 2	-107 11865 2217 6
POWER AVE POWER	9.0 MW	9 4.5 57	4.5	4.5 57	6.0 77	8.0 103	9.5 123	5 9.5 3 124	9.0 117	5.2 67	4.5 59	4.3 55	4.3	8.0	9.0	9.5	9.0
ENERGY GWH	w 839.3	190 20.5	191 9.6	191 12.4	193 55.2	195 76.3	198 88.5	3 198 5 91.9	196 86.7	196 48.3	196 43.7	196 19.9	197 9.3	196 19.9	195 86.4	194 90.7	193 80.1
GARRISO NAT INFLOW DEPLETION CHAN STOR	N 10290 963 0	485 0 48	226 0	291 0	779 -1 -16	1310 210 - 21	2760 759 -16	1932 530	543 60	456 -110	438 -19	179 -106	84 - 4 9	95 - 56	243 -105	181 -85	287 -64
EVAPORATIO REG INFLOW RELEASE	N 572 14138 13553	668 446	289 194	372 250	1121 1012	1571 1168	2551 1339	35 . 1951 . 1353	110 931 1322	138 775 952	120 622	54 360 377	25 167	-39 29 211	-10 62 829	-5	874
STOR CHANG STORAGE	E 585 13714	221 13935	95 14030	122 14151	110 14261	403	1212	599	-391	-177	-177	-17	-9	-74	-400	-539	-392
ELEV FTMSL DISCH KCFS POWER	1821.7 22.0	1822.6 15.0	1823.0 14.0	1823.4 14.0	1823.9 17.0	1825.4 19.0	1829.9 22.5	1832.0 22.0	1830.6 21.5	1830.0	1829.3 13.0	1829.3 12.7	1829.2 12.7	1829.0 18.0	1827.5 20.0	14690 1825.5 22.5	14298 1824.0 22.0
AVE POWER PEAK POW M ENERGY GWH	MW W 1906.7	169 412 60.7	158 413 26.6	159 415 34.3	193 416 138.9	217 422 161.2	261 438 188.1	261 446 194.3	256 441 190.4	190 439 136.7	154 436 114.6	150 436 54.0	150 436 25.2	212 435 40.6	234 430 173.7	259 422 192.9	251 417 174.5
OAHE- NAT INFLOW DEPLETION	- 1877 626	199 23	93 11	119 14	297	168	747	132	31	84	12			_	-45	- 7	47
CHAN STOR EVAPORATIO REG INFLOW	0 N 505 14299	33 655	-5 281	356	-14 1248	-9	-16	2 32	2 98	26 121	14 105	2 2 47	22	-25 26	12 -9 55	17 -12	26 2
RELEASE STOR CHANG	13694 E 605	339 317	235 47	348	1201	1448	1368	1678	1669	1303	730 714	330 234	153	234	1108 1133	1348 1008	1289 769
STORAGE ELEV FTMSL	14329 1591.3	14645 1592.6	14692 1592.8	14700 1592.8	14746	14558 1592.2	15128	14750 1593.0	14236	13849	13866	13961	13998	14099	-25 14074	340 14414	520 14934
DISCH KCFS POWER AVE POWER I	13.4 ww	11.4	16.9	19.5	20.2	23.6	23.0	27.3	27.1	21.9	11.6	7.9	8.4	8.4	18.4	16.4	13.4
PEAK POW M ENERGY GWH	1967.1	634 48.8	635 33.9	635 50.2	636 173.4	632 208.6	275 643 197.8	326 636 242.9	322 626 239.2	257 618 185.2	136 618 101.4	93 620 33.4	99 621 16.6	99 623 19.0	217 622 161.4	194 629 144.2	160 639 111.2
BIG BEN EVAPORATIO REG INFLOW) J 129 13565	339	235	349	1201	1449	1260	8	24	31	27	12	6	7	14		
RELEASE STORAGE	13565 1682	339 1682	235 1682	348 1682	1201	1448	1368	1670	1644	1272	687 687	222	110 110	127 127	$1119 \\ 1119$	1008 1008	769 769
ELEV FTMSL DISCH KCFS	1420.0 13.4	1420.0 11.4	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1682	1682	1682 1420.0	1682 1420.0	1682 1420.0	1682 1420.0	1682 1420.0
POWER AVE POWER M PEAK POW MU	1W 1	54 517	79 510	91 509	94 509	110	108	127	125	102	56	38	40	41	18.2 90	16.4 80	13.4 64
ENERGY GWH	782.0	19.4	13.3	19.7	68.0	82.0	77.5	94.6	93.1	73.3	42.0	538 13.6	538 6.8	538 7.8	538 66.9	538 59.3	529 44.7
NAT INFLOW DEPLETION EVAPORATION	696 80	95 1	44 1	57 1	89 4	71 9	181 12	36 18	68 15	32	2 1	1	0	1	7 3	-7 3	21 3
REG INFLOW RELEASE STOR CHANGE	14036 14036	432 158 274	278 144	404 387	1286 1286	1510 1510	1537 1537	1678 1678	1666 1666	1258 1605	655 1543	10 211 229	5 105 105	5 121 121	13 1110 744	998 726	787
STORAGE ELEV FTMSL	3123 1350.0	3398 1353.4	3532 1355.0	3549 1355 2	3549	3549	3549	0 3549	3549	-347 3202	-887 2315	-18 2297	0 2297	0 2296	366 2662	272 2934	189 3123
DISCH KCFS POWER AVE POWER M	10.3 W	5.3	10.4	21.7	21.6	24.6	25.8	27.3	27.1	27.0	25.1	1337.5	1337.5 7.6	1337.5 7.6	$1343.5 \\ 12.1$	1347.4 11.8	1350.0 10.4
PEAK POW MW ENERGY GWH	1391.6	349 15.8	354 14.7	355 39.5	355 131.4	355 154.0	355 156.6	230 355 170.8	228 355 169.6	223 341 160.7	193 284 143.4	56 283 20.3	56 283 9.3	56 283 10,7	91 311 67,5	92 329 68,8	84 338 58.4
GAVINS POI NAT INFLOW DEPLETION	NT 1362 114	100	47	60	135	150	156	88	87	63	114	51	24	27	76	75	110
CHAN STOR EVAPORATION	-1 47	10	-10	-22	0	19 -6	24 -2	39 - 3	10	-5	2 4	5 32	2 0	3	10 - 8	1	3
REG INFLOW RELEASE STOR CHANGE	15236 15236	267 267	181 181	425 425	1416 1416	1636 1636	1666 1666	1722 1722	1735 1722	1662 1636	10 1648 1648	5 303 303	2 125 125	2 143 143	5 796 796	800 800	711
STORAGE ELEV FTMSL DISCH KCFS	358 1206.0 13.0	358 1206.0 9.0	358 1206.0 13.0	358 1206.0 23.8	358 1206.0 23.8	358 1206.0 26.6	358 1206.0 28.0	358 1206.0 28.0	13 371 1206.5 : 28.0	26 397 1207.5	397 1207.5 26 8	397 1207.5	397 1207.5	397 1207.5	397 1207.5	397 1207.5	-39 358 1206.0
AVE POWER M PEAK POW MW ENERGY GWH	W 637.5	32 114 11.4	46 114 7.7	82 114 17.6	82 114 58 7	91 114	95 114	95 114	96 115	95 117	94 117	36 117	32 117	32 117	46 78	13.0 46 78	13.0 46 76
GAVINS POI NAT INFLOW	NT - SIOU	X CITY-	- 73	2710	100.7	07.5	00.0	70.9	/1.3	68.7	69.9	13.0	5.4	6.2	34.2	34.4	32.0
DEPLETION REGULATED FL	254 DW AT SIO	UX CITY	3	4	21	236 35	30	102 37	75 35	47 23	33 10	17 6	8 3	9 3	18 12	-3 13	65 14
KCFS	10205	14.0	18.1	28.9	1517 25.5	1837 29.9	1806 30.4	1787 29.1	1762 28.7	1660 27.9	1671 27.2	314 10.6	130 9.4	149 9.4	802 13.0	784 12.8	801 13.9
NAT INFLOW DEPLETION CHAN STOP	22199 2446	1308 19	610 9	785 11	2013 126	2976 652	5650 1478	3002 969	1099 175	966 -192	964 - 87	435	203	232	631	477	848
EVAPORATION	1872 44589	90 45550	-5 45896	-22 46132	-30 46472	-36 46924	-34 49255	-1 116 49385	8 364 48192	65 453	19 389	37	0 81	-64 93	-1/8 -28 202	-1/1 -16	-114 10
AVE POWER M	к 1	491	629	804	869	1008	1079	1163	1143	934	46311	46421	46471	46464	46241	46089	46260
ENERGY GWH DAILY GWH	7524.2	2216 176.7 11.8	2218 105.8 15.1	2219 173.7 19.3	2223 625.7 20.9	2227 749.7 24.2	2258 777.1 25.9	2258 865.4 27.9	2242 850.3 27.4	2235 672.8 22.4	2190 514.9	2191 154.2	2192 72.5	543 2193 104.2	/93 2175 590.1	793 2190 590.3	720 2192 500.8
	INI-SUM	15MAR	22MAR	31MAR	30APR	31MAY	30JUN	31JUL	31AUG	30SEP	310CT	10.3 15NOV	10.4 22NOV	13.0 30NOV	19.0 31DEC	19.0	17.3

DATE OF STUDY 0	1/10/0	3		20	02-2003	AOP EX	TENSION	S, LOWE	R QUART	ILE RUN	OFF SIM	ULATION	99001	9901	9901 P	AGE	1
TIME OF STUDY 0	9:49:3	6		CW	CP, STE	ADY REL	EASE, 2	4-DAY S	HORTENE	D SEASO	N				STUDY	NO	18
29FEB	08		200	8		VALUE	S IN 10	00 AF E	XCEPT A	S INDIC	ATED			20	01021 ng		20
IN	I-SUM	15MAR	22MAR	31MAR	30APR	31MAY	30JUN	31JUL	31AUG	30SEP	310CT	15NOV	22NOV	30NOV	31DEC	31JAN	28FEB
FORT PECK NAT INFLOW	7022	283	132	170	615	1083	1702	741	307	295	379	196	01	104	245	240	221
DEPLETION EVAPORATION	422 494	-11	-5	-6	50	313	525	196	-44	-132	-75	-35	-16	-18	-113	-123	- 84
MOD INFLOW RELEASE	6106 5490	294 134	137	176	565	770	1177	515	257	309	350	183	85	25 97	54 404	371	415
STOR CHANGE	616	160	75	96	208	278	582	-69	-297	286	258 92	120 63	56 29	127 -29	615 -211	615 -244	555 -140
ELEV FTMSL 2	217.6	2218.5	2218.9	2219.5	2220.6	2222.2	2225.3	2225.0	2223.4	2223.5	2224.0	13076 2224.3	13105 2224.5	13076 2224.3	12865 2223.2	12621 2221.9	$12481 \\ 2221.1$
POWER	9.0	4.5	4.5	4.5	6.0	8.0	10.0	9.5	9.0	4.8	4.2	4.0	4.0	8.0	10.0	10.0	10.0
PEAK POW MW		194	195	195	197	104	131 201	125 201	118 199	63 200	55 200	53 200	53 201	105 200	131 199	130 198	130 197
ENERGI GWH	868.8	20.8	9.7	12.5	55.9	77.4	94.4	93.3	88.0	45.4	41.2	19.1	8.9	20.2	97.6	97.0	87.2
NAT INFLOW	10598	500	233	300	803	1349	2842	1990	559	470	451	185	86	98	251	186	295
CHAN STOR	1160 -10	47			-16	216 -21	774 -21	553 5	56 5	-134 42	9	- 90	-42	-48	-67	-46	-22
EVAPORATION REG INFLOW	589 14329	681	296	380	1144	1604	2642	36 1991	114 948	142 790	123	55 340	26 158	29	64 849	847	977
RELEASE STOR CHANGE	13572 757	446 235	194 101	250 130	1012 133	1138 467	1339 1304	1353 638	1322	952	877	370	173	286	1230	1353	1277
STORAGE ELEV FTMSL 1	14298 824.0	14533 1824.9	14634 1825.3	14765 1825.8	14897 1826.3	15364	16667	17305	16931	16769	16475	16445	16430	16347	15966	15460	15055
DISCH KCFS POWER	22.0	15.0	14.0	14.0	17.0	18.5	22.5	22.0	21.5	16.0	14.3	12.5	12.5	18.0	20.0	22.0	23.0
AVE POWER MW PEAK POW MW		171 420	161 422	161 423	196 425	215 432	266 449	266	261	194	172	150	150	215	238	258	267
ENERGY GWH 1	943.6	61.7	27.0	34.8	141.1	169.7	191.5	197.8	194.0	139.4	127.9	53.9	25.1	41.3	439 176.7	433 192.2	42/ 179.4
OAHE NAT INFLOW	2048	217	101	130	324	183	815	144	34	00	1 3				40		
DEPLETION CHAN STOR	641 -4	23 32	11	14	48	68	135	160	106	26	- 9	2	1	1	-49	-8	27
EVAPORATION REG INFLOW	523 14451	672	289	366	1274	1246	2001	33	101	125	108	49	23	-26	-9	-9	- 5
RELEASE STOR CHANGE	13693	459	121	339	1239	1465	1341	1670	1659	1334	799	328 233	149	132	1102 1132	1319 1009	1297 735
STORAGE	14934	15147	15316	15343	15378	15158	15818	15455	14947	14532	14621	95 14716	34 14750	100 14850	-30 14820	310 15130	561 15692
DISCH KCFS	13.4	15.4	8.7	19.0	20.8	23.8	22.5	27.2	27.0	22.4	1592.5	1592.9 7.8	1593.0 8.3	1593.4 8.3	1593.3 18.4	1594.5 16.4	1596.6 13.2
AVE POWER MW PEAK POW MW		186	106	230	252	287	273	330	325	267	138	94	100	100	220	197	161
ENERGY GWH 19	996.3	66.8	17.8	49.6	181.4	213.8	196.6	245.3	241.5	192.5	633 102.5	635 33.7	636 16.8	638 19.2	637 164.0	643 146.7	654 108.0
BIG BEND EVAPORATION	129																
REG INFLOW	13564	459	121	339	1239	1465	1341	1662	1634	1303	683	12 220	6 110	7 126	14 1118	1009	735
STORAGE	1682	1682	1682	1682	1682	1465	1341	1662	1634 1682	1303 1682	683 1682	220 1682	110 1682	126 1682	$1118 \\ 1682$	1009 1682	735 1682
DISCH KCFS	13.4	1420.0	8.7	1420.0	20.8	23.8	1420.0 22.5	1420.0 27.0	1420.0 26.6	1420.0 21.9	1420.0 11.1	1420.0 7.4	1420.0 7.9	1420.0 7.9	1420.0 18.2	1420.0 16.4	1420.0 13.2
AVE POWER MW		72	41	89	98	112	105	127	124	104	56	38	40	40	90	80	64
ENERGY GWH	781.7	26.0	6.9	19.2	70.2	83.0	509 75.9	509 94.1	509 92.6	525 75.1	538 41.8	538 13.5	538 6.7	538 7.7	538 66.8	538 59.4	529 42.7
FORT RANDALL	- 770	105	40	C A	100												
DEPLETION	80	100	49	1	4	9	203	41	15	36 7	2 1	1	0	1	8 3	-8 3	23 3
REG INFLOW 1	14118	563	170	402	1335	1535	1532	10 1675	32 1664	38 1293	27 651	10 210	5 105	5 120	13 1110	998	755
STOR CHANGE	0	409	153	402	1335	1535	1532	1675 0	1664 0	1640 -347	1538 -887	228 -18	105 0	120 0	744 366	726 272	566 189
ELEV FTMSL 13	3123	3532	3549 1355.2	3549 1355.2	3549 1355.2	3549 1355.2	3549 1355.2	3549 1355.2	3549 1355.2	3202 1351.0	2315 1337.8	2297 1337.5	2296 1337.5	2296 1337,5	2662 1343.5	2934 1347.4	3123 1350.0
POWER	10.4	5.2	11.0	22.5	22.4	25.0	25.7	27.2	27.1	27.6	25.0	7.6	7.5	7.6	12.1	11.8	10.2
PEAK POW MW		354	355	190 355	189 355	210 355	217 355	229 355	228 355	228 341	192 284	56 283	55 283	55 283	91 311	92 329	82 338
CAULING DOLINT	100.1	15.7	15.7	41.0	136.4	156.5	156.1	170.5	169.4	164.1	143.0	20.2	9.3	10.6	67.5	68.8	55.3
NAT INFLOW	1401	103	48	62	139	155	160	91	89	65	117	53	25	28	78	77	113
CHAN STOR	-1	10	-11	-22	5	19 -5	24 ~1	39 -3	10 0	-5 -1	2 5	5 32	2 0	3 0	10 - 8	1	3
REG INFLOW 1	47 5357	268	190	441	1470	1666	1666	3 1722	9 1735	11 1698	10 1648	5 303	2 125	2 143	5 798	802	682
STOR CHANGE	.5357	268	190	441	1470	1666	1666	1722	1722 13	1672 26	1648	303	125	143	798	802	721
ELEV FTMSL 12	358 06.0 1	358 206.0	358 1206.0	358 1206.0	358 1206.0	358 1206.0	358 1206.0	358 1206.0	371 1206.5	397 1207.5	397 1207.5	397 1207.5	397	397 1207 5	397	397	358
POWER	13.0	9.0	13.7	24.7	24.7	27.1	28.0	28.0	28.0	28.1	26.8	10.2	9.0	9.0	13.0	13.0	13.0
AVE POWER MW PEAK POW MW		32 114	48 114	85 114	85 114	92 114	95 114	95 114	96 115	97 117	94 117	36 117	32 117	32	46	46	46
- CAVING DOINT	42.2	11.4	8.0	18.3	60.9	68.7	68.6	70.9	71.3	70.2	69.9	13.0	5.4	6.2	34.3	34.5	30.8
NAT INFLOW	1356	174	81	104	135	262	188	113	84	52	37	19	9	10	20	- 4	72
REGULATED FLOW A	T SIOU	X CITY	3	4	21	35	30	38	35	23	10	6	3	3	12	13	14
KCFS 1	0458	435 14.6	268 19.3	542 30.3	1584 26.6	1893 30.8	1824 30.7	1797 29.2	1771 28.8	1701 28.6	1675 27.2	316 10.6	131 9.5	150	806 13 1	785	779
+-TOTAL	2204	1202											,		13.1	14.0	14.0
DEPLETION	3204 2672	1383	645 9	829 12	2116 128	3111 660	5910 1500	3120 1004	1149 178	1010 -215	999 -62	452	211	241	653	491	885
EVAPORATION	-20 1923	89	-7	-22	-29	-32	-40	4 119	8 373	67	14	43	0	-66	-38	- 9	- 62
SYSTEM POWER	0∠6V	4/277	47638	47892	48267	48792	51338	51543	50377	49502	48502	48612	48660	48649	48393	48225	48391
PEAK POWEK MW		562 2237	507 2241	812 2244	897 2248	1020 2252	1088 2285	$\frac{1172}{2285}$	$\frac{1151}{2270}$	954 2264	707 221 º	426	430	549	816	804	749
DAILY GWH 76	2.8	202.4 13.5	85.1 12.2	175.4 19.5	645.9 21.5	759.2 24.5	783.2 26.1	872.0 28.1	856.7	686.6	526.3	153.5	72.2 10 3	105.3	2203 606.9	2219 598.5	2221 503.5
INI	-SUM	15MAR	22MAR	31MAR	30APR	31MAY	30JUN	31JUL	31AUG	30SEP	310CT	15NOV	22NOV	30NOV	31050	1.12.2	18.0
																	201 DD

DATE OF STU	DY 01/10/	03			2002-20	03 AOP	EXTENSI	ONS, LO	WER DEC	ILE RUN	OFF SIM	ULATION	99001	9901	9901 P	AGE	1
TIME OF STU	DY 09:49:	48			CWCP, S	TEADY R VALUE	ELEASE, S IN 10	38-DAY	SHORTE XCEPT A	NED SEA S INDIC	SON ATED				STUDY	NO	19
29	FEB04 INI-SUM	1 15MAR	200 22MAR	4 31MAR	30APR	31MAY	30JUN	31JUL	31AUG	30SEP	310CT	15NOV	22NOV	20 30NOV	05 31DEC	31JAN	28FEB
NAT INFLOW DEPLETION	K 5435 419	250 2	116 1	150 1	549 86	834 321	1061 476	468 145	270 -51	258 -123	341 -55	169 -32	79 -15	90 -17	289 -106	218 -125	293 - 90
MOD INFLOW RELEASE	4609 5407	247 119	115 56	148 71	463 298	513 430	585 595	25 298 584	78 243 553	97 284 327	85 311 298	39 162 140	18 76 69	21 87 111	44 351 584	343	383
STOR CHANG STORAGE ELEV FTMSL	E -797 9348 2202.3	128 9476 2203.2	60 9536 2203.6	77 9613 2204.1	165 9779 2205.1	83 9861 2205.6	-10 9851 2205.6	-286 9565 2203-7	-310 9255 2201 7	-44 9211 2201 4	13 9224 2201 5	22 9247 2201 7	9253	-24 9229	-233 8995	-272 8723	-172 8551
DISCH KCFS POWER AVE POWER	11.5 MW	4.0	4.0	4.0	5.0	7.0	10.0	9.5	9.0	5.5	4.8	4.7	5.0	7.0	9.5	10.0	10.0
PEAK POW M ENERGY GWH	W 773.8	173 17.2	174 8.0	175 10.3	176 43.2	177 62.7	177 86.6	114 174 84.6	107 172 79.4	171 46.8	171 42.6	56 171 20.1	59 172 9.9	83 171 15.9	111 169 82.9	116 167 86.4	115 165 77.2
DEPLETION CHAN STOR	8026 1508 16	297 38 83	138 18	178 23	770 69	993 166	2221 763	1404 527	397 111	305	429 64	177 -68	83 - 32	94 -36	119 -40	176 -17	245 -12
EVAPORATION REG INFLOW	N 477 11464	461	176	227	987	1235	2020	30 1437	93 752	115 620	/ 99 571	45 342	-3 21 160	-22 24 196	-28 51 665	-6 802	812
STOR CHANGI STORAGE	E -955 11235	446 15 11250	167 10 11259	214 12 11272	833 154 11426	984 252 11678	1220 800 12478	1261 176 12655	1261 -509 12146	911 -291 11855	760 -190 11665	356 -14 11651	166 -7 11644	270 -74 11570	1230 -565 11006	1230 -427 10578	1111 -298
ELEV FTMSL DISCH KCFS POWER	1811.4 22.0	1811.5 15.0	1811.5 12.0	1811.6 12.0	1812.3 14.0	1813.3 16.0	1816.7 20.5	1817.5 20.5	1815.4 20.5	1814.1 15.3	1813.3 12.4	1813.2 12.0	1813.2 12.0	1812.9 17.0	1810.4 20.0	1808.4 20.0	1807.0
AVE POWER I PEAK POW MU ENERGY GWH	MW W 1591.5	157 301 56.7	126 302 21.2	126 302 27.3	148 304 106.3	170 307 126.1	220 317 158.4	223 319 166.1	222 313 165.3	165 309 118.5	132 307 98.4	128 307 46.0	128 306 21.5	180 306 34.6	209 298 155.8	206 292 153.1	203 288 136.4
OAHE NAT INFLOW DEPLETION	- 1184 585	223 22	104 10	134 13	206 46	113 64	242 123	92 143	24 93	72 23	6 - 8	-6 2	-3 1	-3 1	-54 11	-13 16	47 25
EVAPORATION REG INFLOW	N 394 12634	683	275	334	983	1022	-24 1315	25 1185	76 1116	28 95 894	16 82 708	2 37 315	17 146	-28 20 219	-16 43 1105	1201	1133
STOR CHANGE	13624 E -991 11786	367 315 12101	263 12 12113	371 -37 12077	1250 -267 11810	1493 -471 11339	1418 -102 11237	1708 -523 10714	1527 -411 10303	727 167 10469	1078 -370	242 73	122 24 10196	138 81	1059 46	832 369	1030 103
ELEV FTMSL DISCH KCFS POWER	1580.3 16.9	1581.8 12.4	1581.9 19.0	1581.7 20.8	1580.5 21.0	1578.2 24.3	1577.7 23.8	1575.1 27.8	1573.0 24.8	1573.9 12.2	1571.9 17.5	1572.3	1572.4	1572.9 8.7	1573.1 17.2	1575.0 13.5	1575.5
AVE POWER N PEAK POW MW ENERGY GWH	1WW N 1784.2	138 578 49.7	212 579 35.7	233 578 50.2	234 571 168.4	267 559 198.9	260 557 187.3	300 543 223.1	264 532 196.8	130 537 93.8	186 526 138.3	86 529 31.0	93 529 15.6	92 531 17.7	183 533 135.9	145 543 107.7	199 545 134.0
BIG BENI EVAPORATION REG INFLOW	D N 129 13496	367	263	371	1250	1402	1410	1700	24	31	27	12	6	7	14		
RELEASE STORAGE	13496 1682	367 1682	263 1682	371 1682	1250 1682	1493 1682	1418 1682	1700 1682	1503 1503 1682	696 696 1682	1051 1051 1682	230 230 1682	116 116 1682	131 131 1682	$1045 \\ 1045 \\ 1682$	832 832 1682	1030 1030 1682
DISCH KCFS POWER	1420.0	1420.0	1420.0	20.8	1420.0 21.0	1420.0 24.3	1420.0 23.8	1420.0 27.6	1420.0 24.4	1420.0 11.7	1420.0 17.1	1420.0 7.7	1420.0 8.4	1420.0 8.3	1420.0 17.0	1420.0 13.5	1420.0 18.5
AVE POWER M PEAK POW MW ENERGY GWH	1₩ ₹ 783.4	58 518 21.0	89 510 14.9	97 509 21.0	98 509 70.8	114 509 84.6	112 509 80.3	129 509 96.3	116 518 86.0	59 538 42.6	86 538 64.0	39 538 14.1	42 538 7.1	42 538 8.1	85 538 63.0	67 538 49.9	89 529 59.8
FORT RANDA NAT INFLOW DEPLETION	ALL 366 80	67 1	31 1	40 1	52 4	42 9	146 12	16 18	44 15	-12	- 62	-3	-1	-2	2	-7	15
EVAPORATION REG INFLOW RELEASE	130 13645 13646	433 170	294 149	410 393	1298 1298	1526 1526	1552	10 1688 1688	31 1501 1675	33 637 1612	23 965	10 217	5 110	5 124	13 1029	822	1042
STOR CHANGE STORAGE ELEV FTMSL	2 -1 3124 1350.0	263 3387 1353 3	145 3532	17 3549	3549	3549	3549	3549	-174 3375	-975	-103	217 0 2296	2296	124 0 2296	273 2569	90 2659	578 464 3123
DISCH KCFS POWER	10.6	5.7	10.7	22.0	21.8	24.8	26.1	27.5	27.2	27.1	1337.5	1337.5 7.3	1337.5 7.9	1337.5 7.8	1342.1 12.3	1343.5 11.9	1350.0 10.4
PEAK POW MW ENERGY GWH	1337.4	349 17.0	354 15.2	355 40.1	355 132.6	209 355 155.6	220 355 158.1	231 355 171.8	227 348 169.1	211 291 152.1	127 283 94.6	53 283 19.2	58 283 9.7	57 283 11.0	92 305 68.1	91 311 67.7	82 338 55.4
GAVINS POI NAT INFLOW DEPLETION	NT 1229 114	89	42	53	123	134	141	78	78	56	107	46	21	25	69	67	100
CHAN STOR EVAPORATION	-1	9	-10	-22	0	-6	-2	39 -3 3	10 0 9	-5 0 11	2 18 10	5 19 5	2 -1 2	3 0 2	10 - 8	1 1	3
RELEASE STOR CHANGE	14713	269	181 181	425 425	1416 1416	1636 1636	1666 1666	1722 1722	1735 1722 13	1662 1636 26	1181 1181	272 272	126 126	143 143	802 802	798 798	680 719
STORAGE ELEV FTMSL DISCH KCFS POWER	358 1206.0 13.0	358 1206.0 9.0	358 1206.0 13.0	358 1206.0 23.8	358 1206.0 23.8	358 1206.0 26.6	358 1206.0 28.0	358 1206.0 28.0	371 1206.5 28.0	397 1207.5 27.5	397 1207.5 19.2	397 1207.5 9.1	397 1207.5 9.0	397 1207.5 9.0	397 1207.5 13.0	397 1207.5 13.0	-39 358 1206.0 13.0
AVE POWER M PEAK POW MW ENERGY GWH	W 615.7	32 114 11.4	46 114 7.7	82 114 17.6	82 114 58.7	91 114 67.5	95 114 68.6	95 114 70.9	96 115 71.3	95 117 68.7	68 117 50.4	33 117 11.7	32 117 5.4	32 117 6.2	46 78 34.4	46 78 34,3	46 76 30.7
GAVINS POI NAT INFLOW DEPLETION	NT - SIOU 664 247	X CITY- 44	- 21	26	93	173	128	57	26	18	17	12	5	6	12	-6	32
REGULATED FLA KAF	OW AT SIC 15130	UX CITY	199	448	20 1489	34 1775	30 1764	36 1743	34 1714	22 1632	9 1189	6 278	3 128	3 147	12 802	13	13
TOTAL NAT INFLOW	16004	10.3	14.3	25.1	25.0	28.9	29.6	28.3	27.9	27.4	19.3	9.3	9.2	9.2	13.0	12.7	13.3
DEPLETION CHAN STOR	2953 19	70 70 129	452 33 6	581 42 -22	1793 230 -21	2289 613 -38	3939 1428 -59	2115 908 3	839 212 6	697 -141 59	838 13	395 - 87	184 -41	211 -46	435 -110	435 -109	732 -61
STORAGE SYSTEM POWER	1584 37533 R	38255	38481	38551	38604	38467	39155	100 38522	311 37131	382 36014	327 35364	147 35445	-4 69 35468	-49 78 35451	-52 170 34972	-5 34732	3 34789
AVE POWER MY PEAK POW MW ENERGY GWH	W 6886.0	481 2034 173.0	612 2033 102.8	772 2032 166 6	806 2029	935 2021	1027 2029	1092 2015	1032 1998	726 1963	656 1943	395 1945	412 1946	486 1947	726 1921	671 1929	734 1941
DAILY GWH	INI-SUM	11.5 15MAR	14.7 22MAR	18.5	19.3	22.4	24.6	26.2	24.8	5⊿2.6 17.4	488.2 15.7	142.1 9.5	69.3 9.9	93.4 11.7	540.2 17.4	499.1 16.1	493.5 17.6
				~ ~I.I.I.I.	JUNER	JIMAI	NULUC	JULIS	3 LAUG	30SEP	310CT	15NOV	22NOV	30NOV	31DEC	31JAN	28FEB
DATE OF STU	JDY 01/10,	/03			2002-20	03 AOP	EXTENSI	ONS, LO	WER DEC	ILE RUN	OFF SIM	ULATION	99001	9901	9901 P	AGE	1
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TIME OF STU	JDY 09:49	:48			CWCP, S	TEADY R	ELEASE,	53-DAY	SHORTE	NED SEA	SON				STUDY	NO	20
28	BFEB05	4 15MAD	200 200	5	20200	VALUE	S IN IU	OUAFE	ACEPT A	S INDIC	ATED	1 5 1 6 1 1		20	06		
FORT PE	CK	1 10111	C 2211AI	. Jinna	JUNER	JINAI	30001	31001	3 TAUG	JUSEP	31001	ISNOV	22NUV	JUNOV	3 IDEC	3 IJAN	28FEB
NAT INFLOW DEPLETION	¥ 5615 388	5 258 3 2	3 120 2 1	155 1	567 73	862 304	1097 470	483 152	279 -46	266 -124	352	175	81 -15	93 - 18	298	226	303
EVAPORATIC MOD INFLOW	DN 393 4834	3 L 256	5 119	153	494	558	627	24 307	75 250	94 296	82 327	37 170	17 79	20 91	43	352	393
RELEASE STOR CHANC	5117 SE -283	7 119 3 137	56	71 82	298 196	461 97	536 91	553 -246	523 - 273	299 -3	250 77	121 49	97 -18	127 -36	553 ~191	553 -201	500 -107
ELEV FTMSI	8551 2197.0	8687 2197.9	8751 2198.4	8833 2198.9	9029 2200.2	9126 2200.9	9218 2201.5	8971 2199.8	8699 2198.0	8696 2198.0	8772 2198.5	8822 2198.8	8804 2198.7	8768 2198.5	8576 2197.2	8375 2195.8	8268 2195.0
POWER	мш 10.0	/ 4.0	ι 4.0 : Λε	4.0	5.0	7.5	9.0	9.0	8.5	5.0	4.1	4.1	7.0	8.0	9.0	9.0	9.0
PEAK POW N ENERGY GW	1W 1W 1. 718.1	166 16.7	, 167 , 7.8	168 10.1	170 42 1	170	171	169	166	166	167	4/ 168	81 167	93 167	104	103	102
GARRISC)N			1011		00.0	70.2	,0.5		41.9	23.26	1/.1	13.7	1/.8	//.2	/6.4	68.5
NAT INFLOW	8444 1085	312 10	146 146	187 6	810 20	1045 211	2337 714	1477 482	418 63	320 -120	451 6	187 -84	87 - 39	99 -45	125 -69	185 -49	258 -27
CHAN STOR EVAPORATIC	11 N 462	68	}		-11	-28	-17	28	5 90	38 111	11 96	0 43	-32 20	-11 23	-11 50		
RELEASE	12026	489	196	253 214	1076 893	1267 1045	2142 1250	1520 1261	793 1230	666 899	610 680	348 329	170 153	237 270	687 1168	787 1261	785 1111
STORAGE ELEV ETMSI	10280	10322	10352	10390	10574	10796	11688	259 11947	-436 11511	-232	-70	19 11227	17 11244	-33 11211	-481 10730	-473 10257	-326 9931
DISCH KCFS POWER	20.0	15.0	12.0	12.0	15.0	17.0	21.0	20.5	20.0	1811.6	1811.3	1811.4	1811.4 11.1	1811.3	1809.1	1806.9 20.5	1805.3 20.0
AVE POWER PEAK POW N	MW IW	152 289	122 289	122 290	153 292	175 295	219 307	217 382	211 375	158 372	116 371	116 371	116 371	177 371	195 363	207 355	199 349
ENERGY GWE	- 1546.0	54.8	20.5	26.4	110.3	129.9	158.0	161.3	157.0	113.9	86.0	41.6	19.4	34.0	145.4	153.9	133.6
NAT INFLOW DEPLETION	1263 597	238 22	111 10	143 13	220 46	120 65	259 126	99 147	25 96	77	6	-6	- 3	-3	-58	-14	50
CHAN STOR EVAPORATIC	0 N 378	27	16		-16	-11	- 22	3 23	3 71	28 90	23 79	36	17	-33	-11	-8	25
REG INFLOW RELEASE	12663 13031	689 358	283 259	343 366	1051 1243	1090 1486	1361 1401	1192 1705	1090 1522	890 624	637 632	285 256	133 120	213 137	1046 1059	1222 833	1139 1029
STORAGE ELEV FTMSI	10795	11126	11149	11127 15772	10935	10538	-40 10498	-513 9985	-432 9553	265 9818	9824	29 9853	13 9866	76 9942	-13 9929	389 10318	110 10428
DISCH KCFS POWER	18.5	12.0	18.7	20.5	20.9	24.2	23.5	27.7	24.8	10.5	10.3	8.6	8.7	8.7	1571.0	1573.1	1573.7
AVE POWER PEAK POW M	MW W	131 554	203 555	223 554	226 549	259 539	251 538	292 523	257 511	109 519	107 519	90 520	91 520	91 522	180 522	143 533	197 536
BIC BEN	. 1671.8 D	47.1	34.2	48.2	163.1	193.0	180.6	217.5	191.3	78.7	80.0	32.5	15.3	17.5	134.3	106.4	132.3
EVAPORATIC REG INFLOW	N 129 12902	358	259	366	1243	1486	1403	8	24	31	27	12	116	7	14		
RELEASE STORAGE	12902 1682	358 1682	259 1682	366 1682	1243 1682	1486 1682	1401 1682	1697 1682	1498	593 1682	605	244 244 1682	115	131	1045	833	1029
ELEV FTMSL DISCH KCFS	1420.0 18.5	1420.0 12.0	1420.0 18.7	1420.0 20.5	1420.0 20.9	1420.0 24.2	1420.0 23.5	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0
POWER AVE POWER	MW	57	.88	96	98	113	110	129	115	50	50	42	42	42	85	67	89
ENERGY GWH	747.8	20.5	14.7	20.7	70.4	84.2	509 79.3	509 96.1	518 85.8	538 36.4	538 37.0	538 15.0	538 7.0	538 8.0	538 63.0	538 49.9	529 59.7
FORT RAND NAT INFLOW	ALL 404	74	35	44	58	47	161	18	48	-13	-69	- 4	- 2	- 2		- 8	16
EVAPORATIO	80 N 128	1	1	1	4	9	12	18 10	15 31	7 32	1 22	1 10	0 5	1 5	3 13	3	3
RELEASE STOR CHANG	13089 E 0	167	148	393	1297	1524	1550	1687	1500	533 1611	512 512	230 230	108	123 123	1029 756	822 732	1042 578
STORAGE ELEV FTMSL	3123 1350.0	3387 1353.3	3532 1355.0	3549 1355.2	3549 1355.2	3549 1355.2	3549	3549 1355.2	3375 1353 1	2297	2296	2296	2296	2296	273 2569	2659	464 3123
DISCH KCFS POWER	10.4	5.6	10.7	22.0	21.8	24.8	26.0	27.4	27.2	27.1	8.3	7.7	7.8	7.8	12.3	11.9	10.4
PEAK POWER	MW W 1096 7	46 349	90 354	186 355	184 355	209	219 355	231 355	227 348	209 282	61 283	56 283	57 283	57 283	92 305	91 311	82 338
GAVINS PO	1200.7 INT	10.7	15.2	40.1	132.5	155.4	157.9	171.7	169.0	150.8	45.3	20.3	9.5	10.9	68.1	67.7	55.4
NAT INFLOW DEPLETION	1242 114	90 0	42 0	54 0	124 5	136 19	143 24	79 39	79 10	57 - 5	108 2	47	22	25	69 10	67	101
EVAPORATIO	-1 N 47	9	-10	-22	0	-6	- 2	-3 3	0 9	0 11	35 10	1 5	02	0 2	-8	1	3
RELEASE STOR CHANG	14169 14169 E	266	181	425	1416	1636 1636	1666 1666	1722 1722	1735 1722	1662 1636	643 643	268 268	125 125	143 143	802 802	798 798	681 720
STORAGE ELEV FTMSL	358 3206.0	358 1206.0	358 1206.0	358 1206.0	358 1206.0	358 1206.0	358 1206.0	358	371 1206.5	26 397 1207.5	397	397	397	397	397	397	-39
DISCH KCFS POWER	13.0	9.0	13.0	23.8	23.8	26.6	28.0	28.0	28.0	27.5	10.5	9.0	9.0	9.0	13.0	13.0	13.0
PEAK POW MI ENERGY GWH	592.7	114 11.3	46 114 7.7	82 114 17.6	82 114 58 7	91 114 67 5	95 114	95 114 70 0	96 115	95 117	37 117	32 117	32 117	32 117	46 78	46 78	46 76
GAVINS PO	INT - SIO	JX CITY-		17.0	50.7	67.5	00.0	/0.9	/1.3	68.7	27.7	11.6	5.4	6.2	34.4	34.3	30.7
DEPLETION DEPLETION	730 248	48	23 3	29 4	102 20	191 34	141 30	63 37	29 34	20 22	18 9	13 6	6	7	13	-7	35
KAF KCFS	14651	308 10.4	201 14.4	450	1498	1793	1777	1748	1717	1634	652	275	128	147	803	778	742
TOTAL-					23.2	27.2	29.9	20.4	27.9	27.5	10.6	9.2	9.2	9.2	13.1	12.7	13.4
DEPLETION CHAN STOP	17698 2512	1020	476 20	612 25	1881 168	2401 642	4138 1376	2219 875	878 172	727 -196	866 -47	411 -104	192 -48	219 -55	447 -140	449 -142	763 - 76
EVAPORATION STORAGE	1 1537 34789	35562	35824	-22 35939	-27	-44 36049	-41	0 96	9 300	58 369	68 317	1 144	-33 67	-44 77	-31 167	- 8	6
SYSTEM POWE AVE POWER N	IR IW	464	595	755	802	935	1001	1070	1002	34169 601	34180 10	34277	34289	34296	33883	33688	33790
PEAK POW MW ENERGY GWH DAILY CWH	6562.9	1990 167.1	1990 100.0	1990 163.2	1989 577.1	1983 695.6	1994 720.6	2053 796.0	2034 747.7	1994 490.5	1995 311.2	383 1996 138.0	419 1997 70.3	491 1998 94.3	702 1970 522 4	657 1977 488 7	715 1989 480 2
	INI-SUM	15MAR	14.3 22MAR	18.1 31MAR	19.2 304PR	22.4	24.0	25.7	24.1	16.3	10.0	9.2	10.0	11.8	16.9	15.8	17.2
					**			7 T U U T	فالمد د	JUSEP	STOCT	15NOV	22NOV	30NOV	31DEC	31.TAN	28FEB

DATE OF STUD	Y 01/10/	03			2002-20	03 AOP :	EXTENSI	ONS, LO	WER DEC	ILE RUN	OFF SIM	ULATION	99001	9901	9901 P	AGE	1
TIME OF STUD	Y 09:49:	48			CWCP, S	TEADY R	ELEASE,	69-DAY	SHORTE	NED SEA	SON				STUDY	NO	21
28F	EB06		200	5		VALUE	S IN 10	UO AF E	XCEPT A	S INDIC	ATED			20	07		
FORT PECK	INI-SUM	15MAR	22MAR	31MAR	30APR	31MAY	30JUN	31JUL	31AUG	30SEP	310CT	15NOV	22NOV	30NOV	31DEC	31JAN	28FEB
DEPLETION EVAPORATION MOD INFLOW	399 390 4959	264 -3 267	-1 125	-2 160	580 76 504	308 574	478 645	495 159 24 312	285 -42 74 253	273 -124 93 304	361 -58 82 337	179 -34 37 175	83 -16 17 82	95 -18 20 93	305 -108 43 370	231 -126 357	310 -91 401
RELEASE STOR CHANGE STORAGE ELEV FTMSL	4896 63 8268 2195.0	119 148 8416 2196.1	56 69 8485 2196.5	71 89 8574 2197.2	298 206 8780 2198.6	400 174 8955 2199.7	536 109 9064 2200.5	553 -241 8823 2198.8	523 -270 8553 2197.0	282 22 8575 2197.2	244 93 8668 2197.8	118 57 8725 2198,2	83 -2 8723 2198.2	127 -34 8689 2197.9	492 -122 8567 2197-1	523 -166 8402 2196.0	472 -71 8331 2195.5
DISCH KCFS POWER AVE POWER M PEAK POW MW	9.0 W	4.0 46 163	4.0 46 164	4.0 46	5.0 58 167	6.5 76	9.0 105 170	9.0	8.5	4.7	4.0	4.0	6.0 70	8.0 92	8.0 92	8.5 97	8.5 97
ENERGY GWH	684.3	16.4	7.7	10.0	41.7	56.4	75.7	78.1	73.0	39.4	34.2	16.6	167	17.8	68.5	163 72.3	163 64.9
DEPLETION CHAN STOR EVAPORATION	8762 967 6 461	324 14 57	151	194 8	840 26 -11	1084 211 -17	2425 718 -28	1533 498 28	433 66 5 90	332 -124 41 111	468 -1 9 96	194 -98 43	90 -46 -22 20	103 ~52 -22 23	130 -109 49	192 -88 -6	268 -63 0
REG INFLOW RELEASE STOR CHANGE	12236 12165 71	486 417 70	200 167 34	258 214 44	1100 893 208	1256 1045 210	2215 1190 1024	1560 1199 361	806 1168 -363	669 803 -135	625 796 -171	366 385 -19	176 180 -3	237 286 -49	682 1168 -487	797 1199 -402	803 1055 -252
STORAGE ELEV FTMSL DISCH KCFS POWER	9931 1805.3 20.0	10001 1805.7 14.0	10035 1805.8 12.0	10078 1806.1 12.0	10286 1807.0 15.0	10496 1808.0 17.0	11521 1812.7 20.0	11882 1814.2 19.5	11519 1812.7 19.0	11384 1812.1 13.5	11214 1811.3 12.9	11195 1811.2 12.9	11191 1811.2 12.9	11142 1811.0 18.0	10656 1808.8 19.0	10254 1806.9 19.5	10002 1805.7 19.0
AVE POWER M PEAK POW MW ENERGY GWH	W 1510.7	139 350 50.1	120 351 20.1	120 352 25.9	150 355 108.2	171 359 127.5	206 376 148.2	206 381 153.0	200 376 149.1	142 373 102.1	135 371 100.8	135 370 48.6	135 370 22.7	187 369 35.8	195 361 145.0	197 355 146.3	189 350 127.2
OAHE NAT INFLOW DEPLETION CHAN STOR	1323 613 7	249 23 33	116 11 11	149 14	231 47 -16	126 66 -11	271 129 -17	103 151	26 100	81 25	- 8 - 8	-72	-3	-3	-61 11	-15 16	52 26
EVAPORATION REG INFLOW RELEASE	374 12508 12420	676 353	283 256	350 362	1060 1238	1094 1483	1316 1388	23 1131 1704	69 1029 1518	87 804 121	79 735 564	36 341 260	17 159 121	-28 20 234 138	-6 43 1048 1053	-3 1165 835	1084
STOR CHANGE STORAGE ELEV FTMSL DISCH KCFS	88 10428 1573.7 18.5	323 10751 1575.3 11.9	27 10778 1575.4 18.4	-12 10766 1575.4 20.3	-177 10589 1574.5 20.8	-389 10200 1572.5 24.1	-72 10128 1572.1 23.3	-573 9555 1569.0 27.7	-490 9066 1566.2 24.7	683 9748 1570.0 2.0	170 9919 1571.0 9.2	81 10000 1571.4 8.7	38 10038 1571.6 8.7	96 10134 1572.1 8.7	-5 10129 1572.1 17.1	331 10459 1573.8 13.6	56 10516 1574.1
POWER AVE POWER M PEAK POW MW ENERGY GWH	W 1583.3	127 544 45.8	199 545 33.4	218 545 47.2	223 540 160.6	256 529 190.5	246 527 176.9	288 511 214.3	252 497 187.6	21 517 15.1	96 522 71.5	92 524 33.1	92 525 15.4	92 527 17.6	181 527 134 4	144 537	197 538
BIG BEND EVAPORATION	129	353	250	200	1030	1405		8	24	31	_27	_12	6	- , . 0	14	201.2	1.26.1
RELEASE STORAGE ELEV FTMSI	12292 12292 1682 1420.0	353 353 1682 1420.0	256 256 1682 1420 0	362 362 1682 1420 0	1238 1238 1682 1420 0	1483 1483 1682 1420 0	1388 1388 1682	1696 1696 1682	1494 1494 1682	90 90 1682	537 537 1682	248 248 1682	115 115 1682	131 131 1682	1039 1039 1682	835 835 1682	1028 1028 1682
DISCH KCFS POWER AVE POWER M	18.5 W	11.9 56	18.4	20.3	20.8	24.1 113	23.3	27.6	24.3 115	1.5 Lat	1420.0 8.7 44	1420.0 8.3 42	1420.0 8.3 42	1420.0 8.3 42	1420.0 16.9 84	1420.0 13.6 67	1420.0 18.5
PEAK POW MW ENERGY GWH -FORT RANDA	710.6 LL	518 20.2	510 14.5	509 20.5	509 70.1	509 84.0	509 78.6	509 96.0	518 85.5	538 5.5	538 32.9	538 15.2	538 7.1	538 8.1	538 62.6	538 50.0	528 59.6
NAT INFLOW DEPLETION EVAPORATION	433 80 128	80 1	37 1	48 1	62 4	50 9	174 12	19 18 10	52 15 31	-15 7 32	-75 1 22	-4 1 10	-2 0 5	-2 1 5	3 13	- 9 3	17 3
KEG INFLOW RELEASE STOR CHANGE	12502 12498 4	431 167 264	293 148 144	409 392 17	1296 1296	1524 1524	1550 1550	1687 1687 0	1500 1674 -174	23 1101 -1079	438 437 1	233 232 1	108 108 0	124 123 1	1023 750 273	823 732 91	1042 578 464
DIORAGE ELEV FTMSL DISCH KCFS POWER	3123 1350.0 10.4	3388 1353.3 5.6	3532 1355.0 10.7	3549 1355.2 22.0	3549 1355.2 21.8	3549 1355.2 24.8	3549 1355.2 26.0	3549 1355.2 27.4	3375 1353.1 27.2	2296 1337.5 18.5	2298 1337.5 7.1	2299 1337.5 7.8	2299 1337.5 7.8	2300 1337.5 7.8	2573 1342.1 12.2	2664 1343.5 11.9	3128 1350.0 10.4
AVE POWER MU PEAK POW MW ENERGY GWH	N 1232.5	46 349 16.7	90 354 15.1	185 355 40.0	184 355 132.4	209 355 155.4	219 355 157.9	231 355 171.7	227 348 169.0	144 282 103.7	52 284 38.7	57 284 20.6	57 284 9.5	57 284 10.9	91 305 67.6	91 311 67.8	83 338 55.5
GAVINS POIN NAT INFLOW DEPLETION	NT 1246 114	91 0	42 0	54 0	125	136 19	143 24	79 39	79 10	57 - 5	108 2	47 5	22 2	25 3	70 10	68 1	101
VAPORATION REG INFLOW RELEASE	47 13582 13582	9 267 267	-10 181 181	-22 425 425	0 1416 1416	-6 1636 1636	-2 1666 1666	-3 3 1722 1722	0 9 1735 1722	17 11 1168 1142	21 10 554 554	-1 5 268 268	0 2 125 125	0 2 143 143	-8 5 797 797	1 799 700	3 681 720
TOR CHANGE TORAGE LEV FTMSL DISCH KCFS	358 1206.0 13.0	358 1206.0 9.0	358 1206.0 13.0	358 1206.0 23.8	358 1206.0 23.8	358 1206.0 26.6	358 1206.0 28.0	358 1206.0 28.0	13 371 1206.5 28.0	26 397 1207.5 19 2	397 1207.5	397 1207.5	397 1207.5	397 1207.5	397 1207.5	397 1207.5	-39 358 1206.0
POWER AVE POWER MU PEAK POW MW ENERGY GWH	7 568.5	32 114 11.3	46 114 7.7	82 114 17.6	82 114 58.7	91 114 67.5	95 114 68.6	95 114 70.9	96 115 71 3	67 117 48 5	32 117 22 0	32 117	32 117	32 117	46 78	46 78	13.0 46 76
GAVINS POIN AT INFLOW EPLETION	NT - SIOU 785 251	X CITY- 52 6	- 24	31	110 21	205	151	68	31	21	20	14	5.4	ь.2 7	34.2 14	34.3 -7	30.7
GULATED FLC KAF KCFS	W AT SIO 14116	UX CITY 312 10.5	202 14.6	452 25.3	1505 25.3	1806 29.4	1787 30.0	1753 28.5	34 1719 28.0	22 1141 19.2	10 564 9.2	6 276 9.3	3 129 9.3	3 147 9.3	12 799 13.0	13 779 12.7	13 745 13.4
TOTAL AT INFLOW EPLETION HAN STOP	18297 2424	1060	494 19	636 24	1948 179	2483 648	4287 1391	2297 902	906 183	749 -199	889 - 54	422 -118	197	225 -63	458 -181	460	786
VAPORATION TORAGE YSTEM POWER	1529 33790	99 34596	1 34870	-22 35007	-27 35244	-34 35240	-47 36302	0 95 35849	9 296 34566	77 366 34083	32 317 34177	-1 144 34296	-22 67 34330	- 50 77 34344	-14 167 34004	-8	34016
VE POWER MW EAK POW MW NERGY GWH AILY GWH	6290.0	446 2039 160.6 10.7	586 2039 98.5 14.1	746 2040 161.2 17.9	794 2041 571.8 19 1	916 2035 681.4 22 0	980 2051 705.9 23 5	1054 2038 784.1	988 2019 735.4	437 1992 314.4	406 1997 302.0	405 1999 145.6	427 2000 71.7	502 2002 96.4	689 1975 512.4	642 1982 478.0	700 1993 470.6
	INI-SUM	15MAR	22MAR	31MAR	30APR	31MAY	23.3 30JUN	2⊃.3 31JUL	23.7 31AUG	10.5 30SEP	9.7 31007	9.7 15NOV	10.2	12.0	16.5	15.4	16.8

DATE OF STU	JDY 01/10/	03		:	2002-20	03 AOP 1	EXTENSI	ONS, LO	WER DEC	ILE RUN	OFF SIM	ULATION	99001	9901	9901 P	AGE	1
TIME OF STU	JDY 09:49:	48			CWCP, S	TEADY R	ELEASE,	53-DAY	SHORTE	NED SEA	SON				STUDY	NO	22
28	FEB07	1	200	7	20300	VALUE	S IN IU	00 AF E	XCEPT A	S INDIC	ATED			20	08		
FORT PEC	IN1-SOM CK ₹ 5919	15MAR 272	22MAR 127	31MAR 163	30APR 598	31MAY 909	30JUN 1156	31JUL 509	31AUG 294	30SEP	310CT 371	15NOV 184	22NOV 86	30NOV 98	31DEC 314	31JAN 238	29FEB 319
DEPLETION EVAPORATIC MOD INFLOW	410 DN 394 V 5115	-3 275	-1 128	-2 165	76 522	309 600	482 674	166 24 319	-38 75 257	-124 94 311	-60 83 348	-33 38 179	-15 18 84	-18 20 96	-106 43 377	-124 362	-99 418
STOR CHANG STORAGE ELEV FTMSI	5034 FE 82 8331 2195.5	119 156 8487 2196.5	56 73 8559 2197.0	93 8653 2197.7	298 224 8877 2199.2	430 170 9047 2200.3	536 138 9185 2201.3	-234 8951 2199.7	523 -266 8685 2197.9	278 33 8719 2198.1	245 103 8822 2198.8	119 61 8883 2199.3	55 28 8911 2199.4	127 -31 8880 2199.2	553 -177 8703 2198.0	553 -191 8512 2196.7	518 ~100 8412 2196.0
DISCH KCFS POWER AVE POWER	6 8.5 MW	4.0 46	4.0	4.0 46	5.0	7.0	9.0 106	9.0 105	8.5	4.7 54	4.0 46	4.0 47	4.0 47	8.0 93	9.0 104	9.0 103	9.0 103
ENERGY GWE	N 706.9	164	7.7	10.0	41.9	60.9	76.0	169 78.4	166 73.4	166 39.0	168 34.5	168 16.8	168 7.8	168 17.9	166 77.6	164 76.9	163 71.5
NAT INFLOW DEPLETION CHAN STOR EVAPORATIO	9185 962 -5 N 467	340 -5 51	158 -2	204 -3	881 -11 -11	1136 211 -22	2542 734 -22	1607 514	454 74 5	349 -126 42	491 -4 8	203 -91 0	95 -42	108 -49 -44	136 -100 -11	201 -78	281 -59
REG INFLOW RELEASE	12784 12690	515 417	216 167	278 214	1178 893	1333 1076	2321	1618	818 1291	683	650	368	172	24	728	832	858
STOR CHANG	E 94 10002	99 10100	50 10150	64 10214	286 10500	257	1012	296	-473	-85	-11	48 11544	22	-70	-502	-520	-379
ELEV FTMSI DISCH KCFS POWER	1805.7 19.0	1806.2	1806.4	1806.7 12.0	1808.1	1809.2 17.5	1813.7 22.0	1815.0 21.5	1813.0 21.0	1812.6 12.9	1812.6	1812.8 10.7	1812.9 10.7	1812.6 18.0	1810.3 20.0	1807.9 22.0	1806.1 21.5
PEAK POWER PEAK POW M ENERGY GWH	MW W I 1586.1	352 50.3	353 20.2	354 26.0	151 359 108.9	363 132.4	228 380 164.3	228 384 169.6	222 377 165.2	136 375 98.0	113 375 84.3	113 376 40.8	113 376 19.1	189 375 36.3	208 367 154.5	224 358 166.5	215 352 149.7
OAHE- NAT INFLOW DEPLETION CHAN STOR	1408 626	265 23 27	123 11 11	159 14	245 47	134 67	288 132	110 156	28 103	86 25	7 - 9	-7 2	-3	-3 1	-64 12	-16 17	56 26
EVAPORATIO REG INFLOW	N 378 13081	686	290	359	1075	1130	1441	23 1255	72 1147	90 784	79 609	36 276	17 129	-41 19 221	-11 42	1209	1260
RELEASE STOR CHANG	12968 E 113	342 343	250 40	357 2	1232 -157	1477 -348	1370 71	1702	1513	627 157	643 - 34	256 19	120	137	1053	835 474	1052
STORAGE ELEV FTMSL	10516 1574.1	10859 1575.9	10899 1576.1	10901 1576.1	10744 1575.3	10396 1573.5	10467 1573.9	10020 1571.5	9654 1569.5	9812 1570.4	9777 1570.2	9797 1570.3	9805 1570.4	9889 1570.8	9937 1571.1	10411 1573.6	10628 1574.7
DISCH KCFS POWER AVE POWER	MW 18.5	11.5	18.0	20.0	20.7	24.0	23.0	27.7	24.6	10.5	10.5	8.6	8.7	8.7	17.1	13.6	18.3
PEAK POW M ENERGY GWH	W 1661.2	547 44.6	548 32.7	548 46.7	544 160.6	535 190.8	537 176.2	524 217.1	514 514 190.6	518 79.2	517 81.4	518 32.4	518 15.2	521 17.4	522 133.4	144 535 106.9	195 541 136.0
BIG BEN EVAPORATIO	D N 129	242						8	24	31	27	12	6	7	14		
REG INFLOW RELEASE STOPAGE	12839	342 342	250	357	1232	1477	1370 1370	1694 1694	1489 1489	596 596	616 616	244 244	115 115	131 131	1039 1039	835 835	1052 1052
ELEV FTMSL DISCH KCFS	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1420.0	1682	1682	1682	1682 1420.0	1682 1420.0
POWER AVE POWER	MW	54	85	94	97	112	108	129	115	51	51	42	42	42	84	13.0 67	10.3
PEAK POW M ENERGY GWH	W 744.3	518 19.6	510 14.2	509 20.2	509 69.8	509 83.7	509 77.6	509 95.9	518 85.2	538 36.5	538 37.8	538 15.0	538 7.0	538 8.0	538 62.6	538 50.0	529 61.1
NAT INFLOW DEPLETION	476 80	88 1	41 1	53 1	68 4	55 9	191 12	21 18	57 15	-16	- 82	-4	- 2	-2	2	- 10	19
EVAPORATIO REG INFLOW	N 128 13099	428	291	409	1296	1523	1549	10 1687	31 1500	32 533	22 511	10 229	5 108	123	13 1023	3	1069
RELEASE STOR CHANG	13103 E -4	167 262	148 143	392 17	1296	1523	1549	1687 0	1674 -174	1611 -1078	511	229	108	123	750	732	604 464
STORAGE ELEV FTMSL	3128 1350.0	3389 1353.3	3532 1355.0	3549 1355.2	3549 1355.2	3549 1355.2	3549 1355.2	3549 1355.2	3375 1353.1	2297 1337.5	2296 1337.5	2296 1337.5	2296 1337.5	2296 1337.5	2569 1342.1	2659 1343.5	3123 1350.0
POWER AVE POWER	10.4 MW	46	10.7	185	184	24.8	26.0	27.4	27.2	27.1	8.3	7.7	7.7	7.7	12.2	11.9	10.5
PEAK POW M ENERGY GWH	W 1288.1	349 16.7	354 15.1	355 40.0	355 132.4	355 155.3	355 157.8	355 171.7	348 169.0	209 282 150.8	283 45.2	283 20.3	283 9.5	283 10.9	305 67.6	91 311 67.7	83 338 57.9
GAVINS PO NAT INFLOW	INT 1252	91	40	55	125	137	144	70									
DEPLETION CHAN STOR	114	09	0 -10	-22	5	19	24	39	10	-5	109	47 5	22	25 3	70 10	68 1	102
EVAPORATIO REG INFLOW	N 47 14193	267	181	425	1416	1636	-	3 1722	9 1735	11 1662	10 643	5 268	2 125	2 143	-8 5 797	1 799	3
RELEASE STOR CHANG	14193 E	267	181	425	1416	1636	1666	1722	1722 13	1636 26	643	268	125	143	797	799	748 - 39
ELEV FTMSL DISCH KCFS POWER	1206.0 13.0	358 1206.0 9.0	358 1206.0 13.0	358 1206.0 23.8	358 1206.0 23.8	358 1206.0 26.6	358 1206.0 28.0	358 1206.0 28.0	371 1206.5 28.0	397 1207.5 27.5	397 1207.5 10.5	397 1207.5 9.0	397 1207.5 9.0	397 1207.5 9.0	397 1207.5 13.0	397 1207.5 13.0	358 1206.0 13.0
AVE POWER I PEAK POW MI ENERGY GWH	MW W 593.7	32 114 11.4	46 114 7.7	82 114 17.6	82 114 58.7	91 114 67.5	95 114 68.6	95 114 70.9	96 115 71.3	95 117 68.7	37 117 27.7	32 117 11.6	32 117 5.4	32 117 6.2	46 78 34.2	46 78 34.3	46 76 31.9
GAVINS PO: NAT INFLOW	INT - SIOU 862	X CITY-	- 27	34	121	225	166	74	74	~ ~ ~	~~~		-				
DEPLETION REGULATED FI	254 LOW AT SIO	UX CITY	3	4	21	35	30	37	34 35	23 23	22 10	15 6	7 3	8 3	16 12	-8 13	41 14
KAF KCFS	14801	318 10.7	205 14.7	456 25.5	1516 25.5	1826 29.7	1802 30.3	1759 28.6	1721 28.0	1636 27.5	655 10.6	277 9.3	129 9.3	148 9.3	801 13.0	778 12.7	775 13.5
NAT INFLOW DEPLETION	19102 2446	1112 22	519 10	667 13	2038 142	2596 650	4487 1414	2400	946 199	780	918	438	204	234	472	473	818
CHAN STOR EVAPORATION STORAGE	-28 1544	87	1	-22	- 27	-42	-49	0 96		80 370	54 319	1 145	-52 0 68	- 39 - 85 77	-169 -30 168	-168 -11	-115 5
SYSTEM POWE AVE POWER M	34016 SR 1W	348/5 442	59180	35357 744	35710 795	35788	37010	36625	35359	34412	34471	34599	34659	34641	34284	34136	34300
PEAK POW MW ENERGY GWH	7 6580.3	2044 159.1	2045 97.7	2046 160.6	2049 572.3	2046 690.7	2066 720.5	2056 803.7	1014 2038 754.7	656 1998 472-2	418 1999 310 9	380 2000	381 2001	504 2002	712 1976	675 1985	730 1999
DAILY GWH	INT-SIM	10.6	14.0	17.8	19.1	22.3	24.0	25.9	24.3	15.7	10.0	9.1	9.2	12.1	529.9 17.1	16.2	508.0 17.5
	00M	TOURK	22MAK	J⊥MAR	JUAPR	3 IMAY	30JUN	31JUL	31AUG	30SEP	310CT	15NOV	22NOV	30NOV	31DEC	31JAN	29FEB

DATE OF STU	OY 01/10/	03			2002-20	03 AOP	EXTENSI	ONS, LO	WER DEC	ILE RUN	OFF SIM	ULATION	99001	9901	9901 P	AGE	1
TIME OF STU	OY 09:49:	48			CWCP, S	TEADY R	ELEASE,	53-DAY	SHORTE	NED SEA	SON				STUDY	NO	23
29	FEB08 INI-SUM	1 15MAR	200 22MAR	3 31MAR	30APR	31MAY	30JUN	31JUL	31AUG	30SEP	310CT	15NOV	22NOV	20 30NOV	09 31DEC	31.TAN	28FEB
FORT PEC NAT INFLOW DEPLETION	K 5961 419	274 -3	128 -1	164 -2	602 76	915 310	1164 486	513 173	296 - 34	283 - 125	374	185	86 - 16	99 - 19	317	240 -127	321 -92
EVAPORATION MOD INFLOW RELEASE STOR CHANG	N 396 5146 5043 E 103	277 119 158	129 56 74	166 71 95	526 298 228	605 430 175	678 536 142	24 316 553 -238	75 255 553 - 299	94 314 283 31	83 353 248	38 182 120	18 85 69	20 97 127	43 384 553	367	413 472
STORAGE ELEV FTMSL DISCH KCFS POWER	8412 2196.0 9.0	8570 2197.1 4.0	8644 2197.6 4.0	8738 2198.3 4.0	8967 2199.8 5.0	9141 2201.0 7.0	9284 2201.9 9.0	9046 2200.3 9.0	8747 2198.3 9.0	8778 2198.5 4.8	8883 2199.3 4.0	8945 2199.7 4.0	8961 2199.8 5.0	8931 2199.6 8.0	8761 2198.4 9.0	8575 2197.2 9.0	8516 2196.7 8.5
AVE POWER I PEAK POW MI ENERGY GWH	4W N 710.5	46 165 16.6	46 166 7.8	46 167 10.0	58 169 42.0	82 171 61.1	106 172 76.3	106 170 78.7	105 167 78.0	55 167 39.8	47 168 35.1	47 169 17.0	59 169 9.8	93 169 17.9	105 167 77.8	104 165 77.2	97 164 65.5
GARRISON NAT INFLOW DEPLETION CHAN STOR	1 9293 1088 6	344 0 56	160 0	206 0	891 -11	1150 212 -22	2572 744 -22	1626 530	460 79	353 -128 47	496 -8 8	205 -95 0	96 -44 -11	109 -50 -33	137 - 73 - 11	204 -51	284 -29
EVAPORATION REG INFLOW	1 472 12782	519	216	277	1177	1346	2341	29 1621	90 844	113 698	99 661	45 375	21 178	24 230	51 701	808	791
STOR CHANG	12668 115	387 132 10229	167 49	214	893 285	1138 209	1339 1002	1353	1322	634 63	646 16	312 62	146 32	286 - 56	1168 -467	1414 -606	1250 -459
ELEV FTMSL DISCH KCFS	1806.1 21.5	1806.8 13.0	1807.0 12.0	1807.3	1808.6	1809.6 18.5	1814.0	1815.2	1813.1 21.5	1813.4	1813.5 10.5	1813.7 10.5	1813.9 10.5	11/42 1813.6 18.0	11275 1811.6 19.0	10669 1808.8 23.0	10210 1806.7 22.5
POWER AVE POWER I PEAK POW MI ENERGY GWH	1W 1 1590.4	130 354 46.9	121 355 20.3	121 356 26.2	152 361 109.5	189 364 140.4	234 381 168.4	234 385 173.8	228 377 169.3	113 378 81.4	111 378 83.0	112 379 40.2	112 380 18.8	190 379 36.6	199 372 148.2	236 362 175.5	226 354 152.1
OAHE- NAT INFLOW	1429	269	125	161	249	136	293	112	29	87	7	- 7	- 3	- 4	-65	-16	56
CHAN STOR EVAPORATION	641 -5 I 383	23 46	11 5	14	48 -16	68 -19	135 -22	160 3	106 3 73	26 60	-9 1	2	1	1 -42	12	17 -22	27 3
REG INFLOW RELEASE	13067 12933	678 343	286 251	361 356	1078 1230	1187 1476	1475 1366	1284 1702	1174 1511	664 627	583 646	268 256	125	220 137	42 1044 1053	1359	1281
STOR CHANGE STORAGE	134 10628	335 10964	36 10999	11005	-152	-290 10563	110 10673	-418 10255	-337 9918	37 9955	-63 9892	12 9904	5 9908	82 9991	-9 9981	524 10506	257 10762
DISCH KCFS POWER	18.3	11.5	18.1	19.9	20.7	24.0	22.9	27.7	1571.0 24.6	1571.2	1570.8 10.5	1570.9 8.6	1570.9 8.7	1571.4 8.7	1571.3 17.1	1574.1 13.6	1575.4 18.4
AVE POWER N PEAK POW MW ENERGY GWH	IW 1 1665.2	125 550 44.8	196 551 32.9	216 551 46.7	223 547 160.9	257 539 191.5	245 542 176.7	294 531 218.7	258 521 192.0	111 523 79.7	110 521 82.0	90 521 32.6	91 521 15.3	91 523 17.5	180 523 133.7	144 538 107.1	198 545 132.9
BIG BENI EVAPORATION BEG INFLOW) I 129	242	251	256	1020			8	24	31	27	12	6	7	14		
RELEASE	12804 12804 1682	343 343 1682	251 251 1682	356 356 1682	1230 1230 1682	1476 1476 1682	1366 1366 1682	1694 1694	1487 1487 1692	596 596	619 619	244 244	115 115	131 131	1039 1039	835 835	1025 1025
ELEV FTMSL DISCH KCFS	1420.0 18.3	1420.0 11.5	1420.0 18.1	1420.0 19.9	1420.0	1420.0	1420.0	1420.0 27.5	1420.0	1420.0	1420.0 10.1	1420.0	1420.0	1420.0	1682 1420.0 16 9	1682 1420.0	1682 1420.0 18.4
POWER AVE POWER N	W	55	85	93	97	112	107	129	114	51	51	42	42	42	84	67	88
ENERGY GWH	742.3	19.6	14.2	20.2	509 69.7	509 83.6	509 77.4	509 95.9	518 85.1	538 36.5	538 37.9	538 15.0	538 7.0	538 8.0	538 62.6	538 50.0	529 59.5
FORT RANDA NAT INFLOW	LL 489	90	42	54	70	56	195	21	59	~16	- 84	- 4	- 2	- 2		-10	20
EVAPORATION REG INFLOW	128 13077	431	1 292	409	1296	1523	12	18 10	15 31	7 32	1 22	1 10	05	1 5	3 13	3	3
RELEASE STOR CHANGE	13077	167 265	148 144	392 17	1296	1523	1549	1687	1674 -174	1611	511	229 229 0	108	123	1023	822 732	1042 578
STORAGE ELEV FTMSL	3123 1350.0	3388 1353.3	3532 1355.0	3549 1355.2	3549 1355.2	3549 1355.2	3549 1355.2	3549 1355.2	3375 1353.1	2297 1337.5	2296 1337.5	2296 1337.5	2296 1337.5	2296 1337.5	2569 1342.1	2659 1343.5	3123 1350.0
POWER AVE POWER M	10.5 W	5.6	10.7	185	21.8 184	24.8	26.0	27.4	27.2	27.1	8.3	7.7	7.7	7.7	12.2	11.9	10.4
PEAK POW MW ENERGY GWH	1285.5	349 16.7	354 15.1	355 40.0	355 132.4	355 155.3	355 157.8	355 171.7	348 169.0	282 282 150.8	283 45.2	283 20,3	283 9.5	283 10.9	91 305 67.6	91 311 67.7	82 338 55 4
GAVINS POI	NT 1252	91	47	55	105	127	144	70								0,1,1	5511
DEPLETION CHAN STOR	114	09	0 -10	0	5	19 -6	24	39 -3	10	-5	109 2 35	47 5 1	22	25 3 0	70	68 1	102
EVAPORATION REG INFLOW	47 14167 14167	267	181	425	1416	1636	1666	3 1722	9 1735	11 1662	10 643	5 268	2 125	2 143	-0 5 797	799	682
STOR CHANGE	358	358	358	425 358	358	1636	1666	1722	1722	1636 26	643	268	125	143	797	799	721 - 39
ELEV FTMSL DISCH KCFS POWER	1206.0 13.0	1206.0 9.0	1206.0 13.0	1206.0 23.8	1206.0 23.8	1206.0 26.6	1206.0 28.0	1206.0 28.0	1206.5 28.0	1207.5 27.5	1207.5 10.5	397 1207.5 9.0	397 1207.5 9.0	397 1207.5 9.0	397 1207.5 13.0	397 1207.5 13.0	358 1206.0 13.0
AVE POWER M PEAK POW MW ENERGY GWH	w 592.6	$32 \\ 114 \\ 11.4$	46 114 7.7	82 114 17.6	82 114 58.7	91 114 67.5	95 114 68.6	95 114 70.9	96 115 71.3	95 117 68.7	37 117 27.7	32 117 11.6	32 117 5.4	32 117 6.2	46 78 34.2	46 78 34.3	46 76 30.8
GAVINS POI NAT INFLOW DEPLETION	NT - SIOU 879 255	X CITY-	- 27	35	123	230	169	76	35	24	22	15	7	8	16	- 8	42
REGULATED FL KAF	233 OW AT SIC 14791	UX CITY 319	د 205	4 456	21 1518	35 1831	30 1805	38	35 1700	23	10	6	3	3	12	13	14
KCFS		10.7	14.8	25.6	25.5	29.8	30.3	28.6	28.0	27.5	10.7	9.3	129 9.3	148 9.3	801 13.0	778 12.7	749 13.5
NAT INFLOW DEPLETION	19303 2597	1125 28	525 13	675 17	2060	2624	4537	2427	958	788	924	441	206	235	475	478	825
CHAN STOR EVAPORATION	-8 1555	112	-4	- 22	-27	-47	-46	958 0 97	∠⊥⊥ 3 303	-202 99 373	-66 43 321	-117 1 146	-54 -11	-62 -75	-146	-144 -22	-77 11
SYSTEM POWE AVE POWER M	34300 ₹ ∛	35189 433	35492 583	35672 744	36033	36126	37381	36993	35718	34797	34854	34990	35042	35039	34666	34488	34652
PEAK POW MW ENERGY GWH	6586.5	2050 156.1	2051 98.0	2052 160.7	2055 573.1	2053 699.5	2073 725.1	1088 2064 809.7	1028 2047 764.6	635 2005 457.0	418 2006 310.9	379 2008 136,6	392 2008 65 9	505 2010 97.1	705 1983 524 2	688 1991	738 2006
PALLI GWH	INI-SUM	10.4	14.0 22MAR	17.9 31M20	19.1 30ADD	22.6	24.2	26.1	24.7	15.2	10.0	9.1	9.4	12.1	16.9	16.5	17.7
		-						100F	JIAU	JUSEP	3 LOCL	1 2 NOV	22NOV	30NOV	31DEC	31JAN	28FEB

.

28F	EB03	15435	2003	21100	20300	VALUES	: IN 100	OAFEX	CEPT AS	2 INDICA	ATED	15000	22NOV	200 30NOV)4 31DEC	31.TAN	29FEB
FORT PECK	INI-SUM	15MAR	22MAR	3 IMAR	JUAPR	3 IMAY	30100	31001	5 TAUG	303EP	31001	1 3140 4	22100	301401	51020	JION	2,100
NAT INFLOW DEPLETION	9600 268	319 -31	149 -15	192 -19	797 69	1604 291	2491 489	1219 164	456 -96	379 -105	531 -51	210 -20	98 - 9	112 -11	346 -116	297 -150	400 -122
EVAPORATION MOD INFLOW	1 312 9020 4564	351 149	164	210 71	728	1313	2002 476	1035 492	487 492	402 327	510 244	213 118	99 55	113 95	424 461	447 492	522 460
STOR CHANGE STORAGE	4456 11113	202 11315	108 11423	139 11562	490 12052	975 13027	1526 14553	543 15096	-5 15091	75 15166	266 15432	95 15527	44 15571	18 15590	-37 15552	-45 15507	62 15569
ELEV FTMSL DISCH KCFS	2213.3 13.0	2214.5 5.0	2215.1 4.0	2215.9 4.0	2218.7 4.0	2224.1 5.5	2231.9 8.0	2234.5 8.0	2234.4 8.0	2234.8 5.5	2236.0 4.0	2236.5 4.0	2236.7 4.0	2236.8	2236.6 7.5	2236.4 8.0	8.0
AVE POWER N PEAK POW MV	1W J	63 144	51 145	51 146	51 149	72 155	107 161	109 163	109 163	75 163	54 164	54 164	55 164	83 164	103 164	110 164	110 164
ENERGY GWH	746.1	22.7	8.5	11.0	37.0	53.5	77.0	80.9	81.2	54.2	40.4	19.6	9.2	15.8	76.7	81.7	76.5
GARRISON NAT INFLOW DEPLETION	14199 1213	515	240 16	309 20	1376 9	1934 268	3530 919	2647 545	841 53	574 -121	652	260 - 98	121 -46	139 -52	278 -132	348 -116	434 - 83
CHAN STOR EVAPORATION	54 1 336	85	11	20	-	-16	-26	22	70	25 89	15 78	0 19	9	-20 10	-15	- 5	
REG INFLOW RELEASE	17268 13820	716 476	291 208	360 268	1605 1071	1988 1291	3061 1339	2572 1353	1209 1322	958 952	836 805	457 389	213 182	256 286	816 1230	951 1383	977 1265
STOR CHANGE STORAGE ELEV FTMSL	13366 1820.4	13607 1821.3	13689 1821.6	13782 1822.0	14316 1824.1	15013 1826.7	16735 1832.9	17955	17842	17848 1836.6	17880 1836.7	17947 1837.0	17979 1837.1	17949 1837.0	17535	17102	16814 1833.1
DISCH KCFS POWER	24.0	16.0	15.0	15.0	18.0	21.0	22.5	22.0	21.5	16.0	13.1	13.1	13.1	18.0	20.0	22.5	22.0
AVE POWER N PEAK POW MW	1W V 2016 9	179 330	169 331	169 332	205 338	242 346	267 364	270 376	267 375	199 375	163 375	163 376	163 376 27 4	224 376	247 372 194 1	276 368	267 365 186 1
OAHE	- 2010.0	04.0	20.4	30.0	147.5	100.0	192.0	200.0	190.4	143.2	121.5	10.7	27.1	45.0	104.1	200.0	100.1
NAT INFLOW DEPLETION CHAN STOP	3850 570	559 22	261 10	335 13	474 45	347 62	881 120	297 138	123 90	163 23	102	109 2	51 1	58 1	22 11	10 15	59 25
EVAPORATION REG INFLOW	1 327 16784	1051	5 463	590	1487	1563	2093	22 1492	70 1287	23 86 1028	12 74 851	18 479	8 224	-21 9 313	-8 39 1193	-10	1302
RELEASE STOR CHANGE	12358 4426	254 797	158 305	211 378	694 793	904 659	835 1258	1535 -43	1708 -420	1479 -450	995 -144	478 1	222 1	195 118	1076 117	945 423	670 632
STORAGE ELEV FTMSL	14003 1590.0	14800 1593.2	15105 1594.4	15483 1595.8	16276 1598.8	16936 1601.1	18194 1605.4	18151	17730	17280	17136	17138	17139	17257	17374	17797	18429 1606.2
POWER AVE POWER N	13.2 W	102	137	144	143	183	178	319	353	313	204	202	201	12.3	220	195	149
PEAK POW MU ENERGY GWH	1882.9	637 36.6	643 23.0	650 31.0	664 103.0	677 136.0	699 128.0	699 237.1	691 262.4	683 225.6	680 151.4	680 72.6	680 33.8	683 29.7	685 164.0	692 144.8	703 103.8
BIG BENI EVAPORATION) I 71							5	15	19	16	4	2	2	٩		
REG INFLOW RELEASE	12288 12288	254 254	158 158	211 211	694 694	904 904	835 835	1530 1530	1693 1693	1460 1460	979 979	$474 \\ 474$	220 220	193 193	1067 1067	945 945	670 670
STORAGE ELEV FTMSL DISCH KCES	1682 1420.0	1682 1420.0	1682	1682 1420.0	1682	1682 1420.0	1682 1420.0	1682 1420.0	1682 1420.0	1682 1420.0	1682 1420.0	1682 1420.0	1682 1420.0	1682 1420.0	1682 1420.0	1682 1420.0	1682 1420.0
POWER AVE POWER N	15.2 W	40	53	55	55	14.7 69	14.0	24.9	129	24.5	15.9	15.9	15.9	12.2	17.4	15.4	11.6 56
PEAK POW MU ENERGY GWH	710.3	517 14.6	509 9.0	509 12.0	509 39.3	509 51.2	509 47.3	509 86.7	509 95.9	517 83.8	538 58.2	538 28.8	538 13.4	538 11.8	538 63.8	538 55.7	529 38.9
FORT RANDA NAT INFLOW	LL 1501	190	89	114	298	159	224	111	72	92	60	5	2	3	23	10	49
EVAPORATION REG INFLOW	1 82 13627	443	246	325	* 988	9 1054	1047	18 6 1617	15 19 1731	24 1522	19 1019	4	2 221	1 2 194	د 8 ۱080	3 952	3 716
RELEASE STOR CHANGE	13627 2 0	152 291	112 134	325	988	1054	1047	1617 0	1731 0	1666 -144	1644 -625	788 -314	368 -147	216 -22	714 366	695 257	512 204
ELEV FTMSL DISCH KCFS	3124 1350.0 9.5	3415 1353.6 5.1	3549 1355.2 8 1	3549 1355.2 18 2	3549 1355.2	3549 1355.2	3549 1355.2	3549 1355.2	3549 1355.2	3405	2780 1345.3	2466 1340.4	2319 1337.9	2297 1337.5	2663 1343.5	2920 1347.2	3124 1350.0
POWER AVE POWER M	W	42	68	154	141	145	149	20.3	28.2	28.0	26.7	26.5	26.5	13.6	.87	11.3	8.9
PEAK POW MW ENERGY GWH	1349.6	350 15.3	355 11.5	355 33.3	355 101.3	355 108.0	355 107.3	355 164.7	355 176.1	349 168.3	319 159.5	297 72.2	285 32.6	284 19.0	311 64.7	328 65.8	338 50.0
GAVINS POI NAT INFLOW	NT 2252	107	50	64	246	319	281	211	170	135	157	60	28	32	95	106	191
CHAN STOR EVAPORATION	114 0 1 26	8	-6	-19	3	-1	24 -1	39 -17 2	10 -4	-507	2	5 0 1	2	3 24	10 4	1 1	4
REG INFLOW RELEASE	15739 15739	268 268	156 156	370 370	1232 1232	1353 1353	1303 1303	1771 1771	1882 1869	1799 1773	1795 1795	842 842	393 393	268 268	3 799 799	800 800	707 746
STOR CHANGE STORAGE ELEV ETMSL	358	358	358	358	358	358	358	358	13 371	26 397	397	397	397	397	397	397	-39 358
DISCH KCFS POWER	13.0	9.0	11.3	20.7	20.7	22.0	21.9	28.8	30.4	29.8	1207.5 29.2	1207.5 28.3	1207.5 28.3	1207.5 16.9	1207.5 13.0	1207.5 13.0	1206.0 13.0
AVE POWER M PEAK POW MW	W (577 0	32 114	40 114	71 114	71 114	76 114	75 114	98 114	102 115	102 117	102 117	99 117	99 117	60 117	46 78	46 78	46 76
GAVINS POI	NT - SIOU	JI.4 JX CITY-	- 6.6	15.4	51.4	56.3	54.2	72.8	76.1	73.6	75.6	35.6	16.6	11.5	34.3	34.4	31.8
NAT INFLOW DEPLETION	3100 241	195	91 3	117 3	1006 20	553 34	318 29	246 36	184 33	127 22	66 9	26 5	12 2	14	30 11	12 12	105
KEGULATED FL KAF KCFS	OW AT SIC 18598	UX CITY 456 15.3	245 17.6	483 27.1	2218 37.3	1872 30.4	1592 26.8	1981 32 2	2020	1878 31 <i>4</i>	1852	862	402	279	1818	1800	838
TOTAL	24500	1005	070					52.2	52.3	71.0	20.1	29.0	49.U	т/.6	ډ.د⊥	13.0	14.6
DEPLETION CHAN STOR	34502 2486 66	132 132	879 14 10	1131 18 -19	4197 152 -10	4916	7725	4731 940	1846 105	1470 -179	1568 -49	670 -105	312 -49	357 -56	794 -213	783 -235	1238 -164
EVAPORATION STORAGE	1154 43646	45176	45806	46416	48233	50565	- 3 3 55071	-15 76 56790	-2 244 56266	48 306 55779	30 265 55308	0 63 55157	0 29 55097	-17 33 55171	-20 137	-15	7
AVE POWER M PEAK POW MW	K. W	459	518	645	666	786	842	1133	1196	1040	815	799	792	682	790	790	33976 700
ENERGY GWH DAILY GWH	7363.5	165.1 11.0	87.0 12.4	139.3 15.5	479.2 16.0	2156 585.0 18.9	2203 605.9 20.2	2216 842.8 27.2	2208 890.1 28.7	2204 748.7 25 0	2193 606.4	2172 287.7	2161 133.0	2161 130.9	2148 587.7	2168 587.5	2175 487.2
	INI-SUM	15MAR	22MAR	31MAR	30APR	31MAY	3 OJUN	31JUL	31AUG	30SEP	310CT	15NOV	22NOV	10.4 30NOV	19.0 31DEC	19.0 31JAN	16.8 29FEB

TIME OF STUDY 09:57:37

TIME OF SID	JI 09:57:	57				VALUES	5 IN 10	DO AF EX	KCEPT AS	S INDICA	ATED			200			
28	FEB03 INI-SUM	15MAR	2003 22MAR	3 31MAR	30APR	31MAY	30JUN	31JUL	31AUG	30SEP	310CT	15NOV	22NOV	30NOV	31DEC	31JAN	29FEB
FORT PEC: NAT INFLOW DEPLETION WOD INFLOW RELEASE STOR CHANG STORAGE ELEV FTMSL DISCH KCFS	<pre><</pre>	296 -31 328 149 179 11292 2214.3 5.0	138 -15 153 56 97 11389 2214.9 4.0	178 -19 196 71 125 11514 2215.6 4.0	739 69 238 432 11946 2218.1 4.0	1487 291 1196 369 827 12773 2222.7 6.0	2309 489 1820 536 1284 14058 2229.4 9.0	1130 139 972 523 449 14507 2231.7 8.5	423 -95 62 456 523 -67 14439 2231.3 8.5	351 -105 79 377 293 84 14523 2231.7 4.9	492 -73 70 495 251 244 14768 2232.9 4.1	195 -27 32 190 121 68 14836 2233.2 4.1	91 -12 15 88 57 32 14868 2233.4 4.1	104 -14 17 101 95 6 14874 2233.4 6.0	321 -125 37 409 492 -83 14791 2233.0 8.0	276 -150 426 523 -97 14694 2232.6 8.5	371 -107 478 489 -11 14683 2232.5 8.5
POWER AVE POWER PEAK POW M ENERGY GWH	 ₩ ₹ 775.5	63 144 22.7	51 145 8.5	51 145 11.0	51 148 36.9	78 153 58.1	120 159 86.1	115 160 85.3	115 160 85.5	67 161 48.1	55 161 41.2	56 162 20.0	56 162 9.3	82 162 15.7	109 162 80.9	115 161 85.9	115 161 80.3
GARRISO NAT INFLOW DEPLETION CHAN STOR EVAPORATIO REG INFLOW RELEASE STOR CHANG STORAGE ELEV FTMSL DISCH KCFS	N 12901 1206 49 N 354 16174 13701 2 2473 13366 1820.4 24.0	482 34 85 682 476 206 13572 1821.2 1821.2 16.0	225 16 11 275 208 67 13639 1821.4 15.0	289 20 340 268 72 13711 1821.7 15.0	1250 9 1479 1071 408 14119 1823.3 18.0	1723 310 -21 1761 1261 500 14619 1825.2 20.5	3207 907 -31 2804 1339 1465 16085 1830.6 22.5	2405 514 5 21 2398 1353 1045 17130 1834.2 22.0	764 51 168 1322 -154 16976 1833.7 21.5	522 -121 36 85 887 961 -74 16902 1833.4 16.1	593 -2 9 74 780 782 -2 16899 1833.4 12.7	236 -94 34 417 379 39 16938 1833.6 12.7	110 -44 195 177 18 16956 1833.6 12.7	126 -50 -19 18 234 286 -52 16904 1833.5 18.0	260 -138 -20 831 1230 -399 16505 1832.1 20.0	316 -120 -5 954 1353 -399 16106 1830.7 22.0	394 -87 0 1237 -267 15839 1829.7 21.5
POWER AVE POWER PEAK POW M ENERGY GWH	1₩ ¶ 1968.2	179 330 64.5	169 331 28.4	169 331 36.5	204 336 146.8	235 342 174.5	263 357 189.7	265 368 197.4	262 366 194.9	197 366 141.8	155 366 115.6	155 366 56.0	156 366 26.1	219 366 42.1	242 362 180.0	264 358 196.1	256 355 177.9
OAHE- NAT INFLOW DEPLETION CHAN STOR EVAPORATIO REG INFLOW RELEASE STOR CHANG STOR CHANG STORAGE ELEV FTMSL DISCH KCFS DOWED	- 3200 570 13 N 345 15999 12622 3377 14003 1590.0 15.2	460 22 38 952 434 518 14521 1592.1 14.6	214 10 5 417 70 347 14868 1593.5 5.1	276 13 0 530 249 282 15150 1594.5 13.9	394 45 -14 1406 792 614 15764 15764 1596.9 13.3	285 62 -11 1472 975 497 16261 1598.7 15.9	749 120 -9 1959 907 1052 17313 1602.4 15.3	246 138 2 1441 1501 -59 17254 1602.2 24.4	103 90 2 67 1270 1654 -384 16869 1600.9 26.9	135 23 83 1013 1444 -432 16438 1599.3 24.3	85 -7 15 72 818 951 -134 16304 1598.9 15.5	91 2 0 32 435 460 -25 16279 1598.8 15.5	42 1 203 213 -10 16270 1598.7 15.3	48 1 -23 17 293 194 99 16368 1599.1 12.2	18 11 -9 38 1191 1093 98 16466 1599.4 17.8	5 15 -9 1334 948 386 16852 1600.8 15.4	49 25 2 1263 734 528 17380 1602.7 12.8
AVE POWER I PEAK POW M ENERGY GWH	₩ ₩ 1892.4	173 631 62.2	61 638 10.2	168 643 36.2	162 655 116.5	195 664 145.0	190 684 137.0	306 682 228.0	336 675 250.1	301 667 216.8	191 665 142.4	191 664 68.8	189 664 31.8	152 666 29.1	220 668 163.7	192 675 142.8	160 685 111.7
BIG BEN EVAPORATIO REG INFLOW RELEASE STORAGE ELEV FTMSL DISCH KCFS POWER AVE POWER 1	0 12544 12544 1682 1420.0 15.2	434 434 1682 1420.0 14.6 68	70 70 1682 1420.0 5.1 24	249 249 1682 1420.0 13.9 65	792 792 1682 1420.0 13.3 62	975 975 1682 1420.0 15.9 74	907 907 1682 1420.0 15.3 71	5 1496 1496 1682 1420.0 24.3 114	15 1640 1640 1682 1420.0 26.7 125	19 1426 1426 1682 1420.0 24.0 114	16 935 935 1682 1420.0 15.2 75	7 453 453 1682 1420.0 15.2 77	3 209 209 1682 1420.0 15.1 76	4 190 190 1682 1420.0 12.0 61	9 1084 1084 1682 1420.0 17.6 87	948 948 1682 1420.0 15.4 75	734 734 1682 1420.0 12.8 61
PEAK POW M ENERGY GWH	724.6	510 24.6	509 4.0	509 14.1	509 44.9	509 55.3	509 51.4	509 84.7	509 92.9	517 81.8	538 55.6	538 27.6	538 12.8	538 11.6	538 64.8	538 56.0	529 42.7
FORT RAND NAT INFLOW DEPLETION EVAPORATIO REG INFLOW RELEASE STOR CHANG STORAGE ELEV FTMSL DISCH KCFS POWER	ALL 1200 80 13576 13576 20 3124 1350.0 9.5	142 1 575 167 408 3532 1355.0 5.6	66 1 119 17 3549 1355.2 8.5	85 1 333 333 3549 1355.2 18.6	239 4 1027 1027 3549 1355.2 17.3	150 9 1116 1116 3549 1355.2 18.2	195 12 1090 1090 3549 1355.2 18.3	89 18 6 1561 1561 0 3549 1355.2 25.4	65 15 19 1671 1671 0 3549 1355.2 27.2	64 7 24 1459 1603 -144 3405 1353.5 26.9	38 19 953 1583 -630 2775 1345.2 25.7	3 1 7 447 757 -310 2465 1340.4 25.4	1 0 3207 354 -146 2319 1337.9 25.5	1 1 3 188 210 -22 2297 1337.5 13.2	18 3 1092 726 2663 1343.5 11.8	5 3 950 713 237 2900 1347.0 11.6	39 3 546 224 3124 1350.0 9.5
PEAK POWER I PEAK POW MY ENERGY GWH	1345.3	354 16.9	355 12.2	355 34.1	146 355 105.3	154 355 114.3	155 355 111.7	214 355 159.1	229 355 170.1	225 349 162.1	207 318 153.6	193 297 69.4	187 285 31.4	97 284 18.5	88 311 65.8	91 327 67.5	77 338 53.3
GAVINS FO. NAT INFLOW DEPLETION CHAN STOR EVAPORATIO REG INFLOW RELEASE STOR CHANGE STOR CHANGE	.NT 1899 114 -1 15332 15332 15332	93 0 7 268 268	44 0 -6 157 157	56 0 ~19 370 370	207 5 3 1232 1232	257 19 -2 1353 1353	237 24 0 1303 1303	178 39 -14 2 1685 1685	144 10 -3 5 1796 1783 13	114 -5 0 7 1716 1690 26	132 2 6 1709 1709	51 5 3 800 800	24 2 0 1 373 373	27 3 23 1 256 256	86 10 3 801 801	89 1 0 802 802	161 4 711 750 -39
ELEV FTMSL DISCH KCFS POWER	1206.0 13.0	1206.0 9.0	1206.0 11.3	1206.0 20.7	1206.0 20.7	1206.0 22.0	1206.0 21.9	358 1206.0 27.4	1206.5 29.0	397 1207.5 28.4	397 1207.5 27.8	397 1207.5 26.9	397 1207.5 26.9	397 1207.5 16.1	397 1207.5 13.0	397 1207.5 13.0	358 1206.0 13.0
AVE POWER N PEAK POW MW ENERGY GWH	W 643.3	$32 \\ 114 \\ 11.4$	40 114 6.7	$71 \\ 114 \\ 15.4$	71 114 51.4	76 114 56.3	75 114 54.2	93 114 69.5	99 115 73.6	98 117 70.9	97 117 72.4	94 117 33.9	94 117 15.8	57 117 10.9	46 78 34.4	46 78 34.4	46 76 32.0
GAVINS POI NAT INFLOW DEPLETION REGULATED FI KAF KCFS	NT - SIOU 2500 241 OW AT SIO 17591	UX CITY- 181 6 DUX CITY 444 14.9	85 3 239 17.2	109 3 475 26.6	811 20 2023 34.0	406 34 1725 28.0	252 29 1526 25.6	199 36 1848 30.1	148 33 1898 30.9	97 22 1765 29.7	53 9 1753 28.5	21 5 816 27.4	10 2 381 27.4	11 3 264 16.6	24 11 814 13.2	10 12 800 13.0	84 13 821 14.3
TOTAL NAT INFLOW DEPLETION CHAN STOR EVAPORATION STORAGE SYSTEM POWE	30601 2426 61 1225 43646 R	1654 31 131 44957	772 14 10 45485	992 19 -19 45964	3640 152 -11 47418	4308 725 -34 49242	6949 1581 -40 53044	4247 884 -6 74 54479	1647 104 -1 236 53886	1283 -179 59 296 53347	1393 -70 26 257 52825	595 -108 1 115 52597	278 -50 0 53 52491	317 -57 -19 61 52522	727 -228 -26 133 52504	701 -239 -13 52631	1098 -153 6 53066
AVÉ POWER M PEAK POW MW ENERGY GWH DAILY GWH	W 7349.3	562 2084 202.4 13.5	416 2092 69.9 10.0	682 2099 147.3 16.4	697 2118 501.6 16.7	811 2137 603.4 19.5	875 2178 630.1 21.0	1107 2189 824.0 26.6	1165 2181 867.1 28.0	1002 2177 721.5 24 1	781 2165 580.9 18 7	766 2144 275.7	757 2132 127.2	667 2132 128.0	793 2118 589.7	783 2137 582.6	715 2143 497.8
	INI-SUM	15MAR	22MAR	31MAR	30APR	31MAY	30JUN	31JUL	31AUG	30SEP	310CT	15NOV	22NOV	30NOV	31DEC	18.8 31.JAN	17.2 29FEB

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TIME OF STUD	Y 09:48:3	18				CWCP, VALUES	FLOW TO S IN 100) TARGET	CEPT AS	SHORTE	ENED SEA	ASON			STUDY	NO 2	:6
28F	EB03 INI-SUM	15MAR	2003 22MAR	31MAR	30APR	31MAY	30JUN	31JUL	31AUG	30SEP	310CT	15NOV	22NOV	200 30NOV	31DEC	31JAN	29FEB
FORT PECK NAT INFLOW DEPLETION EVAPORATION MOD INFLOW RELEASE STOR CHANGE STORAGE ELEV FTMSL DISCH KCFS DOWER	7400 122 391 6887 5575 1312 10937 2212.2 11.0	264 -3 267 179 89 11026 2212.8 6.0	123 -1 125 69 55 11081 2213.1 5.0	158 -2 160 89 71 11152 2213.5 5.0	628 70 558 357 201 11353 2214.7 6.0	1210 304 906 430 476 11829 2217.4 7.0	1851 316 1535 536 999 12828 2223.0 9.0	829 138 24 667 553 114 12942 2223.6 9.0	324 -87 74 337 553 -217 12725 2222.4 9.0	319 -99 93 325 348 -23 12702 2222.3 5.8	398 -64 82 380 270 110 12812 2222.9 4.4	188 -33 37 183 131 52 12864 2223.2 4.4	88 -15 17 85 97 -12 12852 2223.1 7.0	100 -17 20 97 127 -29 12822 2223.0 8.0	310 -122 43 389 615 -226 12597 2221.7 10.0	261 -149 410 646 -236 12361 2220.4 10.5	349 -114 463 575 -112 12249 2219.8 10.0
AVE POWER M PEAK POW MW ENERGY GWH	W 873.7	75 142 27.1	63 143 10.6	63 143 13.6	76 144 54.6	89 148 66.3	117 153 84.0	118 154 88.0	118 153 87.9	77 153 55.2	58 153 42.9	58 154 20.9	92 154 15.5	105 153 20.2	130 152 97.0	135 151 100.2	129 150 89.8
GARRISON NAT INFLOW DEPLETION CHAN STOR EVAPORATION REG INFLOW RELEASE STOR CHANGE ELEV FTMSL DISCH KCFS POWER	11001 1503 11 452 14633 13019 1614 13151 1819.5 23.0	469 50 54 651 476 175 13326 1820.2 16.0	219 23 11 276 208 67 13394 1820.5 15.0	282 30 341 268 73 13467 1820.8 15.0	853 129 -11 1070 1012 59 13525 1821.0 17.0	1423 277 -11 1566 1107 459 13984 1822.8 18.0	2958 828 -21 2644 1250 1395 15379 1828.1 21.0	2066 556 27 2036 1261 776 16155 1830.8 20.5	581 81 967 1230 -263 15892 1829.9 20.0	497 -89 32 109 857 948 -91 15801 1829.6 15.9	454 34 15 610 740 -130 15671 1829.1 12.0	192 -92 43 371 358 13 15684 1829.2 12.0	89 -43 -27 20 183 236 -53 15631 1829.0 17.0	102 -49 -10 23 245 286 -41 15590 1828.8 18.0	253 -102 -21 49 900 1230 -329 15261 1827.6 20.0	237 -80 -5 957 1261 -303 14958 1826.5 20.5	326 51 57 1150 193 14765 1825.8 20.0
AVE POWER M PEAK POW MW ENERGY GWH	W 1832.0	178 327 64.1	168 328 28.2	168 329 36.3	191 329 137.2	203 335 151.0	242 350 174.3	243 358 180.6	238 355 177.3	190 354 136.5	143 353 106.6	143 353 51.5	201 353 33.8	213 352 40.8	235 349 174.8	239 345 177.8	232 343 161.3
OAHE NAT INFLOW DEPLETION CHAN STOR EVAPORATION REG INFLOW RELEASE STOR CHANGE ELEV FTMSL DISCH KCFS POWER	2300 570 15 418 14345 12707 1638 13767 1589.0 15.7	317 22 33 804 337 468 14234 1590.9 11.3	148 10 5 350 196 154 14388 1591.6 14.2	190 13 0 445 261 184 14572 1592.3 14.6	364 45 -9 1321 977 344 14916 1593.6 16.4	236 62 -5 1276 1069 207 15124 1594.4 17.4	689 120 -14 1805 988 817 15940 1597.5 16.6	162 138 26 1260 1498 -238 15703 1596.7 24.4	33 90 2 81 1094 1604 -511 15192 1594.7 26.1	118 23 18 100 961 1393 -431 14761 1593.0 23.4	14 -7 18 87 692 912 -220 14541 1592.2 14.8	5 2 39 323 275 47 14589 1592.4 9.3	2 -23 18 196 214 -17 14572 1592.3 15.4	3 1 -5 21 262 111 151 14723 1592.9 7.0	-20 11 -9 46 1144 961 183 14905 1593.6 15.6	15 -2 1243 972 271 15176 1594.6 15.8	40 25 2 1168 939 229 15405 1595.5 16.3
AVE POWER M PEAK POW MW ENERGY GWH	W 1850.6	133 626 48.0	168 629 28.2	174 632 37.5	196 639 141.3	209 643 155.6	202 658 145.4	297 654 221.1	316 644 234.8	281 636 202.0	177 632 131.8	110 633 39.8	183 632 30.8	84 635 16.0	187 639 139.3	190 644 141.6	197 648 137.5
BIG BEND EVAPORATION REG INFLOW RELEASE STORAGE ELEV FTMSL DISCH KCFS POWER AVE POWER M	103 12604 12604 1682 1420.0 15.7	337 337 1682 1420.0 11.3	196 196 1682 1420.0 14.2 66	261 261 1682 1420.0 14.6	977 977 1682 1420.0 16.4 77	1069 1069 1682 1420.0 17.4 81	988 988 1682 1420.0 16.6 78	6 1492 1492 1682 1420.0 24.3 114	20 1584 1584 1682 1420.0 25.8 121	25 1368 1368 1682 1420.0 23.0 109	22 890 1682 1420.0 14.5 71	10 265 265 1682 1420.0 8.9 45	5 209 209 1682 1420.0 15.1 76	5 106 106 1682 1420.0 6.7 34	11 950 950 1682 1420.0 15.4 77	972 972 1682 1420.0 15.8 78	939 939 1682 1420.0 16.3 78
ENERGY GWH	728.2	19.3	509 11.1	509 14.8	509 55.3	509 60.6	509 56.0	509 84.5	509 89.7	518 78.3	538 53.0	538 16.3	538 12.8	538 6.5	538 57.6	538 57.9	529 54.5
NAT INFLOW DEPLETION EVAPORATION REG INFLOW RELEASE STOR CHANGE STORAGE ELEV FTMSL DISCH KCFS POWER	900 80 116 13306 13307 0 3124 1350.0 10.0	122 1 458 167 291 3415 1353.6 5.6	57 1 253 119 134 3549 1355.2 8.6	73 1 333 333 3549 1355.2 18.7	115 4 1088 1088 3549 1355.2 18.3	140 9 1200 1200 3549 1355.2 19.5	185 12 1161 1161 3549 1355.2 19.5	74 18 1540 1540 0 3549 1355.2 25.0	57 15 25 1601 1601 0 3549 1355.2 26.0	42 7 31 1371 1535 -164 3385 1353.2 25.8	2 25 867 1484 -617 2768 1345.1 24.1	2 1 9 256 705 -449 2319 1337.9 23.7	1 0 4 205 -22 2297 1337.5 16.3	1 102 102 0 2297 1337.5 6.5	10 3 947 744 203 2500 1341.0 12.1	3 969 719 250 2750 1344.8 11.7	19 3 955 581 374 3124 1350.0 10.1
AVE POWER M PEAK POW MW ENERGY GWH	1317.8	47 350 16.8	73 355 12.2	$158 \\ 355 \\ 34.1$	$ 155 \\ 355 \\ 111.4 $	165 355 122.8	165 355 118.8	211 355 157.0	219 355 163.1	216 349 155.2	193 318 143.9	178 285 63.9	119 284 20.0	47 283 9.1	90 300 66.7	90 317 66.7	81 338 56.1
NAT INFLOW DEPLETION CHAN STOR EVAPORATION REG INFLOW RELEASE STOR CHANGE	1450 114 -1 38 14604 14604 358	92 0 8 268 268 358	43 0 -6 157 157 358	55 0 -19 370 370 358	148 5 1 1232 1232 358	174 19 -2 1353 1353 358	166 24 0 1303 1303 358	86 39 ~11 2 1574 1574 358	103 10 -2 7 1685 1672 13 371	77 -5 9 1609 1583 26 397	122 2 3 1599 1599 397	50 5 4 747 747 747 397	23 2 14 260 260 260	27 3 18 2 143 143 397	77 10 -10 796 796 397	79 1 798 798 397	127 3 711 750 -39 358
DISCH KCFS POWER AVE POWER M PEAK POW MW	1206.0 13.0	1206.0 9.0 32 114	1206.0 11.3 40 114	1206.0 20.7 71	1206.0 20.7 71	1206.0 22.0 76	1206.0 21.9 75	1206.0 25.6 88	1206.5 27.2 93	1207.5 26.6 92	1207.5 26.0 91	1207.5 25.1 88	1207.5 18.7 66	1207.5 9.0	1207.5 13.0 46	1207.5 13.0 46	1206.0 13.0 46
ENERGY GWH GAVINS POIL	613.6 NT - SIOU	11.4 JX CITY-	6.6	15.4	51.4	56.3	54.2	65.1	69.3	66.6	67.8	31.7	11.1	6.2	78 34.2	78 34.3	76 32.0
NAT INFLOW DEPLETION REGULATED FL(KAF KCFS	1550 241 DW AT SIC 15913	169 6 0UX CITY 432 14.5	79 3 233 16.8	102 3 468 26.2	199 20 1411 23.7	310 34 1629 26.5	224 29 1498 25.2	129 36 1667 27.1	96 33 1735 28.2	60 22 1621 27.2	42 9 1632 26.5	16 5 758 25.5	7 2 265 19.1	9 3 149 9.4	21 11 806 13.1	5 12 791 12.9	82 13 819 14.2
TOTAL NAT INFLOW DEPLETION CHAN STOR EVAPORATION STORAGE SYSTEM POWER	24601 2630 24 1519 43019	1435 76 95 44041	669 35 10 44452	860 46 -19 44779	2307 273 -19 45384	3493 705 -18 46525	6073 1329 ~35 49736	3346 925 -8 93 50389	1194 142 0 294 49411	1113 -141 51 368 48727	1032 -25 36 318 47871	452 -112 -1 142 47535	211 -52 -37 66 47430	241 -60 4 75 47512	651 -189 -40 163 47342	582 -198 -7 47324	943 -124 10 47583
AVE POWER MU PEAK POW MW ENERGY GWH DAILY GWH	7216.0	518 2076 186.7 12.4	577 2077 96.9 13.8	703 2082 151.8 16.9	766 2091 551.2 18.4	823 2103 612.6 19.8	879 2140 632.7 21.1	1070 2144 796.3 25.7	1105 2132 822.2 26.5	964 2126 693.9 23.1	734 2111 546.0 17.6	622 2079 224.0 14.9	738 2077 123.9 17.7	515 2079 98.8 12.3	766 2055 569.7 18.4	777 2073 578.4 18.7	763 2084 531.1 18.3
	INI-SUM	15MAR	22MAR	31MAR	30APR	31MAY	30JUN	31JUL	31AUG	30SEP	310CT	15NOV	22NOV	30NOV	31DEC	31JAN	29FEB

TIME OF STUDY	09:48:3	31				CWCP, VALUES	FLOW TO S IN 100) TARGET	CEPT AS	SHORTE	NED SEA	SON				STUDY N	10 27
281	FEB03 INI-SUM	15MAR	2003 22MAR	31MAR	30APR	31MAY	30JUN	31JUL	31AUG	30SEP	310CT	15NOV	22NOV	200 30NOV	31DEC	31JAN	29FEB
FORT PECK- NAT INFLOW DEPLETION EVAPORATION MOD INFLOW RELEASE STOR CHANGE STORAGE ELEV FTMSL DISCH KCFS	 6000 114 459 5427 5705 -278 10783 2211.3 9.5	242 15 227 149 78 10861 2211.8 5.0	113 7 106 69 36 10898 2212.0 5.0	145 9 136 89 47 10945 2212.3 5.0	525 73 452 357 95 11040 2212.8 6.0	925 206 719 430 289 11328 2214.5 7.0	1454 171 1283 565 718 12046 2218.6 9.5	633 173 28 432 584 -152 11894 2217.8 9.5	263 -25 88 200 584 -385 11509 2215.6 9.5	252 -91 110 233 385 -152 11357 2214.7 6.5	324 -61 96 289 272 17 11375 2214.8 4.4	167 -28 43 152 132 20 11395 2214.9 4.4	78 -13 20 71 97 -26 11368 2214.8 7.0	89 -15 23 81 127 -46 11322 2214.5 8.0	295 -102 50 347 615 -268 11055 2212.9 10.0	212 -117 329 646 -317 10738 2211.0 10.5	283 -88 371 604 -233 10505 2209.6 10.5
POWER AVE POWER MU PEAK POW MW ENERGY GWH	N 866.3	62 141 22.5	63 141 10.5	63 142 13.5	75 142 54.2	88 144 65.6	121 149 87.2	122 148 90.8	121 145 90.1	82 144 59.1	56 145 41.8	56 145 20.2	89 145 14.9	101 144 19.4	125 142 92.8	128 140 95.4	127 139 88.4
GARRISON NAT INFLOW DEPLETION CHAN STOR EVAPORATION RELEASE STOR CHANGE STOR CHANGE ELEV FTMSL DISCH KCFS	9400 1276 -11 538 13281 13616 -336 12978 1818.8 22.5	443 24 48 616 476 140 13118 1819.4 16.0	207 11 265 208 57 13175 1819.6 15.0	266 15 341 268 73 13248 1819.9 15.0	712 58 -11 1000 1041 -41 13207 1819.7 17.5	1197 133 -11 1484 1199 285 13491 1820.9 19.5	2521 547 -27 2513 1309 1204 14695 1825.5 22.0	1765 446 33 1870 1322 548 15243 1827.6 21.5	496 93 105 883 1291 -409 14834 1826.0 21.0	417 -61 32 130 764 964 -200 14634 1825.3 16.2	400 73 21 112 508 806 -299 14336 1824.2 13.1	164 -49 0 293 390 -97 14239 1823.8 13.1	76 -23 -27 23 146 236 -90 14148 1823.4 17.0	87 -26 -11 27 203 286 -83 14066 1823.1 18.0	222 -6 -21 57 764 1230 -465 13600 1821.3 20.0	165 13 -5 792 1353 -560 13040 1819.0 22.0	262 27 839 1237 -398 12642 1817.4 21.5
AVE POWER MU PEAK POW MW ENERGY GWH	W 1864.5	177 324 63.8	167 325 28.0	167 326 36.1	195 326 140.1	217 329 161.6	250 343 179.7	250 349 185.7	244 344 181.7	188 342 135.1	151 338 112.6	151 337 54.2	194 336 32.6	205 335 39.3	226 330 167.9	244 324 181.9	236 319 164.1
OAHE NAT INFLOW DEPLETION CHAN STOR EVAPORATION RELEASE STOR CHANGE STOR CHANGE ELEV FTMSL DISCH KCFS	1449 570 4 14029 14373 -345 13574 1588.2 16.6	154 22 31 639 373 266 13840 1589.3 12.6	72 10 5 275 251 24 13863 1589.4 18.1	92 13 0 347 369 -22 13842 1589.3 20.7	229 45 -12 1213 1237 -23 13818 1589.2 20.8	130 62 -10 1257 1398 -140 13678 1588.7 22.7	577 120 -12 1754 1262 492 14170 1590.7 21.2	102 138 2 300 1258 1719 -461 13709 1588.8 28.0	24 90 2 92 1135 1694 -559 13150 1586.4 27.6	65 23 113 916 1349 -433 12717 1584.6 22.7	9 -7 15 97 741 993 -252 12465 1583.4 16.1	2 44 345 449 -103 12362 1583.0 15.1	1 -20 195 223 -28 12334 1582.9 16.1	1 -5 23 257 116 140 12474 1583.5 7.3	-35 11 -10 51 1123 1147 -24 12450 1583.4 18.7	-6 15 -10 1322 1012 310 12760 1584.7 16.5	36 25 2 1250 781 469 13229 1586.8 13.6
POWER AVE POWER MY PEAK POW MW ENERGY GWH	W 2007.4	147 618 52.8	212 618 35.6	242 618 52.2	243 617 175.0	265 614 197.3	249 624 178.9	327 615 243.3	318 603 236.8	259 593 186.6	183 587 136.5	171 584 61.4	181 584 30.5	83 587 16.0	211 587 157.0	187 594 139.1	156 605 108.6
BIG BEND EVAPORATION REG INFLOW RELEASE STORAGE ELEV FTMSL DISCH KCFS POWER AVE POWER MT PEAK POW MT	129 14244 14244 1682 1420.0 16.6	373 373 1682 1420.0 12.6 59 517	251 251 1682 1420.0 18.1 85 510	369 369 1682 1420.0 20.7 97 509	1237 1237 1682 1420.0 20.8 97 509	1398 1398 1682 1420.0 22.7 106 509	1262 1262 1682 1420.0 21.2 99 509	8 1712 1712 1682 1420.0 27.8 130 509	24 1670 1670 1682 1420.0 27.2 127 509	31 1318 1318 1682 1420.0 22.1 105 523	27 966 966 1682 1420.0 15.7 78 538	12 436 436 1682 1420.0 14.7 74 538	6 218 218 1682 1420.0 15.7 79 538	7 110 1682 1420.0 6.9 35 538	14 1133 1133 1682 1420.0 18.4 91 538	1012 1012 1682 1420.0 16.5 80 538	781 781 1682 1420.0 13.6 65 529
ENERGY GWH FORT RANDAJ NAT INFLOW DEPLETION EVAPORATION REG INFLOW RELEASE STOR CHANGE STORAGE ELEV FIMSL DISCH KCFS POWER	821.9 500 80 144 14522 14521 0 3124 1350.0 10.5	21.4 68 1 440 167 274 3398 1353.4 5.6	14.3 32 1 282 148 134 3532 1355.0 10.7	20.9 41 1 409 392 17 3549 1355.2 21.9	70.1 64 4 1297 1297 3549 1355.2 21.8	79.2 51 9 1440 1440 0 3549 1355.2 23.4	71.5 130 12 1380 1380 0 3549 1355.2 23.2	96.9 26 18 10 1710 1710 1710 3549 1355.2 27.8	94.6 49 15 32 1672 1672 1672 0 3549 1355.2 27.2	75.7 23 7 39 1295 1610 -315 3234 1351.4 27.1	58.1 1 29 937 1571 -634 2600 1342.6 25.5	26.6 1 11 424 709 -285 2315 1337.8 23.8	13.3 0 5 212 230 -18 2297 1337.5 16.6	6.7 1 5 105 104 0 2297 1337.5 6.6	67.7 5 3 13 1122 756 366 2663 1343.5 12.3	59.6 -5 3 1004 732 272 2935 1347.5 11.9	45.4 15 3 793 604 189 3124 1350.0 10.5
AVE POWER MU PEAK POW MW ENERGY GWH	1437.1	47 349 16.7	90 354 15.1	185 355 40.0	184 355 132.5	198 355 146.9	196 355 140.9	234 355 174.0	229 355 170.2	224 342 161.4	201 306 149.4	177 285 63.6	121 284 20.3	48 283 9.3	92 311 68.6	93 329 69.4	85 338 59.0
NAT INFLOW DEPLETION CHAN STOR EVAPORATION REG INFLOW RELEASE STOR CHANGE STORAGE ELEV FIMSL DISCU KORO	1251 114 -1 47 15610 15610 358 1206.0	91 0 9 268 268 358 1206.0	43 0 -10 181 181 358 1206.0	55 0 -22 425 425 358 1206.0	124 5 0 1416 1416 358 1206.0	138 19 -3 1556 1556 358 1206.0	143 24 0 1500 1500 358 1206.0	81 39 -9 3 1740 1740 358 1206.0	80 10 1735 1722 13 371 1206.5	58 -5 0 11 1662 1636 26 397 1207.5	105 2 3 10 1666 1666 397 1207.5	47 5 750 750 397 1207.5	22 2 13 2 261 261 261 397 1207.5	25 3 19 2 143 143 397 1207.5	70 10 -11 5 800 800 397 1207.5	68 1 799 799 397 1207.5	101 3 708 747 -39 358 1206.0
POWER AVE POWER MW PEAK POW MW ENERGY GWH	13.0 V 653.8	9.0 32 114 11.4	13.0 46 114 7.7	23.8 82 114 17.6	23.8 82 114 58.7	25.3 87 114 64 4	25.2 86 114 62 1	28.3 96 114 71 6	28.0 96 115 71 3	27.5 95 117	27.1 95 117 70 6	25.2 88 117	18.8 66 117	9.0 32 117	13.0 46 78	13.0 46 78	13.0 46 76
GAVINS POIN NAT INFLOW DEPLETION REGULATED FLC KAF KCFS	NT - SIOL 900 241 DW AT SIC 16269	JX CITY- 115 6 DUX CITY 377 12.7	54 3 232 16.7	69 3 491 27.5	90 20 1486 25.0	174 34 1696 27.6	125 29 1596 26.8	75 36 1779 28.9	56 33 1745 28.4	35 22 1649 27.7	24 9 1681 27.3	13 5 757 25.5	265 19.1	0.2 7 3 147 9.3	13 11 802 13.0	-3 12 784 12.8	48 13 782 13.6
TOTAL NAT INFLOW DEPLETION CHAN STOR EVAPORATION STORAGE SYSTEM POWER AVE POWER MW	19500 2395 -7 1787 42499	1114 68 89 43257 524	520 32 -5 43508 661	668 41 -22 43623 835	1744 205 -22 43654 876	2615 463 -23 44087 961	4950 903 -38 46500	2682 850 -6 112 46435	968 216 4 350 45096	850 -105 55 434 44022	863 17 40 372 42854	390 -64 3 165 42389	182 -30 -33 77 42226	208 -34 4 87 42238	570 -73 -42 190 41847	431 -73 -15 41552	745 -20 5 41540
PEAK POW MW ENERGY GWH DAILY GWH	7650.9	2064 188.6 12.6	2064 111.1 15.9	2064 180.3 20.0	2063 630.3 21.0	2066 715.0 23.1	2094 720.3 24.0	2090 862.3 27.8	2071 844.7 27.2	2062 686.6 22.9	/65 2031 568.9 18.4	/16 2006 257.8 17.2	730 2003 122.7 17.5	504 2005 96.8 12.1	791 1987 588.4 19.0	779 2003 579.6 18.7	714 2005 497.2 17.1
	INI-SUM	15MAR	22MAR	31MAR	30APR	31MAY	30JUN	31JUL	31AUG	30SEP	310CT	15NOV	22NOV	30NOV	31DEC	31JAN	29FEB

TIME

DATE OF STUDY	01/10/0	3				2002-2	2003 AOI	LOWER	DECILE	RUNOFF	SIMULA	FION	99001	9901 9	901 P	AGE	1
TIME OF STUDY	09:48:4	4				CWCP, VALUES	FLOW TO	TARGET	CEPT AS	SHORTE	ENED SEA	ASON				STUDY 1	10 21
2055	000		2003	,										200	14		
2075	INI-SUM	15MAR	22003 22MAR	31MAR	30APR	31MAY	30JUN	31JUL	31AUG	30SEP	310CT	15NOV	22NOV	3 ONOV	31DEC	31JAN	29FEB
FORT PECK-	-																
NAT INFLOW	5100	234	109	140	515	783	996	439	253	242	320	159	74	85	2/1	205	2/5
DEPLETION	42	15	7	9	73	206	171	100	- 52	-122	- 87	- 25	-11	-13	-88	-83	-58
EVAPORATION	440							27	84	105	92	42	19	22	48		
MOD INFLOW	4618	219	102	131	442	577	825	312	221	259	315	141	66	75	311	288	333
RELEASE	5861	149	69	89	357	523	595	615	584	371	262	127	97	127	615	676	604
STOR CHANGE	-1242	70	33	42	85	54	230	-303	- 363	-112	53	14	- 31	- 52	-304	-388	-271
STORAGE	10783	10854	10887	10929	11014	11068	11298	10995	10632	10519	10572	10587	10555	10504	10200	9812	9541
FLEV FTMSL	2211 3	2211 7	2211 9	2212 2	2212 7	2213 0	2214 4	2212 6	2210 4	2209 7	2210 0	2210 1	2209 9	2209 6	2207 8	2205 3	2203 6
	2211.5	5 0	5 0	5 0	6 0	2213.0	10 0	10 0	2210.4	6 2	A 3	4 3	7 0	2209.0	10.0	11 0	10 5
POWER	9.5	5.0	5.0	5.0	0.0	0.5	10.0	10.0	9.5	0.2	4.5	4.5	7.0	0.0	10.0	11.0	10.5
AVE POWER MW		62	62	62	75	106	125	125	118	77	53	53	87	99	121	128	123
PEAK POW MW		141	141	142	142	143	144	142	140	139	139	139	139	139	137	134	132
ENERGY GWH	868.8	22.5	10.5	13.5	54.1	79.2	89.8	92.7	87.9	55.6	39.3	19.1	14.6	19.0	90.2	95.5	85.3
- CAPPISON-																	
NAT INFLOW	7700	270	126	160	700	902	2020	1277	261	277	200	161	75	96	109	160	222
DEDIETION	1115	270	11	102	,00	122	2020	261	201	64	550	101	25	20	100	100	223
CUAN CHOR	11	24	11	15	50	133	10	201	04	-04	00	- 55	-25	-20	-12		14
CHAN SIUR	-11	40			- 1 1	~ 2 /	-10		5	35	21		- 29	-11	- 22	- 1 1	5
EVAPORATION	511					1044		32	99	124	107	48	22	25	54		
REG INFLOW	11522	443	184	237	988	1266	2052	1499	787	623	501	293	145	205	659	822	818
RELEASE	13033	476	208	268	952	1076	1250	1261	1230	1002	734	355	236	286	1230	1291	1179
STOR CHANGE	-1511	- 33	-24	-31	36	190	802	239	-443	-379	-233	-62	-91	-81	-571	-470	-361
STORAGE	12978	12945	12921	12890	12926	13116	13918	14157	13714	13335	13101	13039	12949	12868	12297	11828	11467
ELEV FTMSL	1818.8	1818.7	1818.6	1818.4	1818.6	1819.4	1822.5	1823.5	1821.7	1820.2	1819.3	1819.0	1818.7	1818.4	1816.0	1814.0	1812.4
DISCH KCFS POWER	22.5	16.0	15.0	15.0	16.0	17.5	21.0	20.5	20.0	16.8	11.9	11.9	17.0	18.0	20.0	21.0	20.5
AVE POWER MW		177	166	166	177	193	235	222	226	189	1 3 3	133	188	198	218	225	217
PEAK POW MW		322	322	322	322	324	334	336	221	107	224	324	200	222	215	200	204
ENERGY GWH	1742.0	63.6	27.8	35.8	127.1	143.9	169.0	173.0	168.4	136.0	99.1	47.8	31.6	38.1	162.1	167.5	151.1
OAHE																	
NAT INFLOW	1049	197	92	119	183	100	215	80	21	61	c	. e	. າ	- 2	. 10	10	4.1
DEDLETION	570	22	10	110	103	100	120	120	21	04	2	- 5	- 2		-48	-12	41
CUAN CTOR	570	22	10	13	42	62	120	138	90	23	- /	2	1	1	11	12	25
CHAN SIUR	8	51	5	0	- 5	- /	-17	2	2	16	25	0	-27	- 5	-10	- 5	- 3

28

OPHILL																	
NAT INFLOW	1049	197	92	118	183	100	215	82	21	64	5	- 5	- 2	- 3	-48	-12	41
DEPLETION	570	22	10	13	45	62	120	138	90	23	-7	2	1	1	11	15	25
CHAN STOR	8	31	5	0	- 5	- 7	-17	2	2	16	25	0	-27	- 5	-10	- 5	3
EVAPORATION	443							29	88	107	91	40	19	22	47		
REG INFLOW	13077	683	295	373	1085	1107	1328	1178	1075	952	680	308	188	255	1113	1259	1198
RELEASE	14628	382	270	379	1262	1421	1277	1737	1711	1385	1047	453	225	119	989	997	975
STOR CHANGE	-1551	302	25	- 6	-176	-314	51	-559	-636	-433	-367	-145	-38	137	124	262	223
STORAGE	13574	13875	13900	13894	13718	13404	13454	12895	12259	11827	11460	11314	11277	11413	11538	11800	12023
ELEV FTMSL	1588.2	1589.5	1589.6	1589.6	1588.8	1587.5	1587.7	1585.3	1582.5	1580.5	1578.8	1578.1	1577.9	1578.6	1579.2	1580.4	1581.4
DISCH KCFS	16.6	12.8	19.5	21.2	21.2	23.1	21.5	28.3	27.8	23.3	17.0	15.2	16.2	7.5	16.1	16.2	16.9
POWER																10.12	10.5
AVE POWER MW		150	228	249	248	268	249	324	315	260	188	167	178	82	177	180	189
PEAK POW MW		618	619	619	615	608	610	597	582	572	562	559	558	561	565	571	576
ENERGY GWH	2008.1	54.0	38.3	53.7	178.4	199.6	178.9	241.3	234.0	187.0	140.1	60.2	29.9	15.8	131.8	133.6	131.5
BIG BEND-	-																
EVAPORATION	129							8	24	31	27	12	6	7	14		
REG INFLOW	14499	382	270	379	1262	1421	1277	1730	1687	1354	1020	441	220	112	975	997	975
RELEASE	14499	382	270	379	1262	1421	1277	1730	1687	1354	1020	441	220	112	975	997	975
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	16.6	12.8	19.5	21.2	21.2	23.1	21.5	28.1	27.4	22.8	16.6	14.8	15.8	7.1	15.9	16.2	16.9
POWER																	
AVE POWER MW		61	91	99	99	108	100	132	128	108	82	75	80	36	79	80	81
PEAK POW MW		518	510	509	509	509	509	509	509	523	538	538	538	538	538	538	529
ENERGY GWH	837.7	21.8	15.3	21.5	71.5	80.5	72.3	97.9	95.5	77.8	61.3	26.9	13.4	6.9	59.1	59.3	56.6

FORT RANDAL	L																
NAT INFLOW	300	55	26	33	43	35	120	13	36	-10	- 52	- 2	. 1	1		<i>c</i>	1 0
DEPLETION	80	ĩ	1	1	4	Ĭ	12	18	15	-10	- 52		- 1	- 1	2	-0-2	14
EVAPORATION	143	_	-	-	-	-		10	32	30	20	11	5	-	10	2	د
REG INFLOW	14577	435	295	411	1301	1447	1385	1715	1676	1200	929	126	212	106	12	000	0.04
RELEASE	14577	173	150	394	1301	1447	1395	1715	1676	1612	1570	420	213	106	959	988	984
STOR CHANGE	113,,	263	145	17	1001	111/	1000	1/13	10,0	2015	13/2	711	231	105	/56	/38	610
STORAGE	3124	3387	3532	3549	3549	3549	2540	2 5 4 0	2540	- 313	-634	-285	2207	2203	203	250	3/4
ELEV FTMSL	1350.0	1353.3	1355 0	1355 2	1355 2	1355 2	1355 2	1355 2	1255 2	1251 4	1242 6	1227 0	1227 5	1227 5	1241 0	1244 0	1250 0
DISCH KCFS	10.5	5.8	10.8	22.1	21.9	23 5	22.2	27 0	27 3	27 1	2542.0	1337.0	16 6	1337.5	12 2	1344.8	1350.0
POWER			20.0		2119	23.5	20.0	27.7	27.5	2/.1	20.0	23.9	10.0	0.0	12.3	12.0	10.6
AVE POWER MW	r	48	91	186	185	198	196	235	229	225	201	177	1 2 1	4.0	01	0.7	0.5
PEAK POW MW		349	354	355	355	355	355	355	355	342	306	295	284	202	200	217	20
ENERGY GWH	1439.5	17.3	15.3	40.2	132.9	147.7	141.4	174.5	170.6	161 7	1494	63 7	203	203	67 0	60 1	530
									2/0.0	101.7	117.1	05.7	20.5	2.5	07.0	00.4	20.0
GAVINS POIN	T																
NAT INFLOW	1200	87	41	52	120	131	138	76	76	55	104	45	21	24	67	65	9.9
DEPLETION	114	0	0	0	5	19	24	39	10	- 5	2	5	2	3	10	1	20
CHAN STOR	-1	9	-10	- 22	0	- 3	0	- 9	1	0	3	3	13	19	-10	ī	3
EVAPORATION	47							3	9	11	10	5	2	2	5	-	-
REG INFLOW	15614	269	181	425	1416	1556	1500	1740	1735	1662	1666	750	261	143	798	802	710
RELEASE	15614	269	181	425	1416	1556	1500	1740	1722	1636	1666	750	261	143	798	802	749
STOR CHANGE	250								13	26							-39
STORAGE	1205 0	358	358	358	358	358	358	358	371	397	397	397	397	397	397	397	358
DICCU YORG	1206.0	1206.0	1206.0	1206.0	1206.0	1206.0	1206.0	1206.0	1206.5	1207.5	1207.5	1207.5	1207.5	1207.5	1207.5	1207.5	1206.0
DISCHINCES	13.0	9.0	13.1	23.8	23.8	25.3	25.2	28.3	28.0	27.5	27.1	25.2	18.8	9.0	13.0	13.0	13.0
AVE DOMED MM		2.2															
DEAK DOW MW		114	114	114	82	8/	86	96	96	95	95	88	66	32	46	46	46
ENERGY CWH	654 0	11 4	11 1	17 6	L14	114	114	114	115	117	_117	117	117	117	78	78	76
BRBRGI GMI	034.0	11.4	/./	1/.0	58.7	64.4	62.1	71.6	71.3	68.7	70.6	31.8	11.1	6.2	34.3	34.5	32.0
GAVINS POIN	T - SIO	IX CITY-	-														
NAT INFLOW	550	36	17	22	77	144	106	47	22	1 5	14	10		-		_	
DEPLETION	241	6	3		20	34	29	36	22	10	14	10	4	5	10	-5	26
REGULATED FLO	W AT SIC	DUX CITY	. –	-		5.		50		22	9	5	2	3	11	12	13
KAF	15923	300	196	443	1473	1666	1577	1751	1711	1620	1671	754	262	145	202		
KCFS		10.1	14.1	24.8	24.8	27.1	26.5	28.5	27 8	27 4	27 2	25 4	10 0	145	12 0	12 0	762
								2010	27.0	27.4	21.2	23.4	19.0	9.2	13.0	12.8	13.3
TOTAL																	
NAT INFLOW	15498	880	411	528	1638	2096	3595	1934	769	643	781	367	171	195	408	407	675
DEPLETION	2162	68	32	41	205	463	903	692	160	-139	-16	~65	- 30	- 35	-65	-49	3
CHAN STOR	- 4	89	- 5	- 22	-15	-37	~33	- 6	9	51	49	3	-43	3	-42	-16	11
EVAPORATION	1713							108	336	417	357	158	73	83	181	10	
STORAGE CVCTURE DOLUDE	42499	43100	43279	43301	43246	43176	44259	43636	42207	40994	39812	39334	39156	39161	38614	38268	38195
AVE DOWED MU		530		.													00170
DEAK DOW MW		530	684	844	865	961	991	1144	1112	954	753	693	719	496	733	751	743
ENERGY GWU	7550 1	100 7	1001	2061	2058	2054	2066	2054	2032	2020	1987	1961	1958	1960	1931	1947	1955
DAILY GWH	/350.1	12 7	16 4	182.4	622.7	715.3	713.5	851.0	827.7	686.9	559.9	249.5	120.9	95.2	545.3	558.8	515.3
		14.1	10.4	20.3	20.8	1.د2	23.8	27.5	26.7	22.9	18.1	16.6	17.3	11.9	17.6	18.0	17.8

INI-SUM 15MAR 22MAR 31MAR 30APR 31MAY 30JUN 31JUL 31AUG 30SEP 310CT 15NOV 22NOV 30NOV 31DEC 31JAN 29FEB

2002-2003 AOP EXTENSIONS, MEDIAN RUNOFF SIMULATION 99001 9901 4 PAGE DATE OF STUDY 01/10/03 CWCP, FLOW TO TARGET STUDY NO TIME OF STUDY 09:48:18 VALUES IN 1000 AF EXCEPT AS INDICATED 22MAR 29FEB04 31MAR 30APR 31MAY 30JUN 31JUL 31AUG 30SEP 31OCT 15NOV 22NOV 30NOV 31DEC 31JAN 28FEB INT-SUM 15MAR -FORT PECK--21 21 -1 54 337 -79 78 -74 86 NAT INFLOW -2 -1 -39 -133 -94 -18 DEPLETION -143 -139 EVAPORATION 1.8 MOD INFLOW 70 12462 RELEASE STOR CHANGE STORAGE 12337 12679 -184 - 1 1 -186 ELEV FTMSL DISCH KCFS 2221.0 2222.2 2224.1 5.0 6.0 8.5 2226.8 2227.6 2227.6 2226.6 9.5 2219.8 2220.3 2220.6 2228 0 2228 2 2226 8 2227.3 2227.5 2225.6 2225.2 5.0 10.0 6.0 9.5 9.5 9.5 4.8 4.8 9.5 9.5 POWER AVE POWER MW PEAK POW MW 197 201 ENERGY GWH 900.8 27 9 10.9 14.0 56.3 82.8 90.6 94.3 94.1 58.8 47.4 23.0 17.9 94.0 93.7 84.4 -GARRISON NAT INFLOW DEPLETION -49 -22 - 99 - 25 -129 - 3 -92 -43 - 84 ~51 CHAN STOR -10 - 26 -10 116 101 EVAPORATION REG INFLOW 1383 1353 398 822 476 212 RELEASE STOR CHANGE -18 17273 1834.7 - 304 . 70 -509 -345 - 8 STORAGE 1825.8 1826.9 1827.2 ELEV FTMSL DISCH KCFS 826.6 1827.6 829.2 1834.0 1836.5 1835.4 1835.3 1834.8 1834 5 1833 2 1831.4 23.0 1830 2 20.0 16.0 16.0 16.0 18.0 20.5 23.0 22.5 22.0 15.9 13.4 18.0 20.0 13.4 13.4 22.5 POWER AVE POWER MW 375 205.5 365 360 PEAK POW MW 40.4 ENERGY GWH 2036.6 66.9 31.4 151.6 179.4 198.6 201.9 122 7 206.1 141.3 59.3 27.6 42.4 181.3 180.4 -OAHE NAT INFLOW 143 -20 DEPLETION CHAN STOR -11 -11 2 - 8 'n -13 -21 - 9 -11 15207 EVAPORATION REG INFLOW 491 204 949 226 RELEASE 335 15740 291 236 STOR CHANGE -545 -596 -277 -131 - 5.8 STORAGE 1603.1 1595.5 1596.8 1597.8 ELEV ETMSL 1599.4 600.3 1600.3 1598.1 1597.1 1596.6 1596.4 1596.6 1597 3 1598.7 1600.1 DISCH KCFS 16.6 18.3 19.3 18.5 26.8 28.5 26.1 16.9 16.5 .3 12.9 15.4 16.3 POWER AVE POWER MW PEAK POW MW 657 250.5 264.2 ENERGY GWH 2092.6 66.8 14.4 44.1 162.8 178.1 167.1 232.2 154.3 72.6 33.3 30.1 140.4 149.1 132.5 -BIG BEND-EVAPORATION 1531 1018 481 454 1682 1090 1186 1732 REG INFLOW RELEASE 1682 STORAGE 1420.0 16.3 20.0 ELEV FTMSL 1420.0 20.0 20.0 420.0 420.0 420.0 20.0 420.0 20.0 20.0 20.0 1420.0 1420 0 420.0 420.0 DISCH KCFS 15.2 7.0 16.6 18.3 19.3 18.5 26.7 28.2 25.7 16.6 16.2 15.9 12.5 15.2 16.3 15.9 POWER AVE POWER MW PEAK POW MW ENERGY GWH 801.3 25.7 5.5 16.8 62.4 92.9 98.1 87.8 60.5 29.3 13.5 12.2 56.9 59.6 51.3 -FORT RANDALL NAT INFLOW DEPLETION 15 25 18 1 10 14573 EVAPORATION REG INFLOW 1631 776 1678 RELEASE 17 280 STOR CHANGE ñ ñ -144
3405 -637 STORAGE 355.2 ELEV FTMSL 1350.0 1355.0 55.2 1355.2 55.2 355.2 1355.2 1355.2 1353.5 1345.1 26.5 40.4 1337.9 1337.5 13.7 341.0 1345.3 1350.0 DISCH KCFS 10.1 5.6 9.8 20.7 20.2 21.4 21.4 27.5 28.2 28.4 26.1 26.1 11.9 11.7 10.0 POWER AVE POWER MW PEAK POW MW 122.8 66.8 53.7 ENERGY GWH 1442.1 16.9 134.6 169.6 130.2 171.9 177.9 71.1 19.2 158.1 32.1 65.6 -GAVINS POINT NAT INFLOW DEPLETION 5 19 - 21 9 - 5 CHAN STOR EVAPORATION 0 - 8 -12 - 2 -2 õ õ я REG INFLOW 268 1345 $172\bar{2}$ 1746 725 RELEASE STOR CHANGE STORAGE 1206.0 ELEV FTMSL DISCH KCFS 1206.0 1206.0 22.6 1206.0 1206.0 1206.0 1206.0 206.0 1206.5 1207.5 28.4 207.5 1207.5 27.5 1207.5 27.5 1207.5 1207.5 1207.5 206.0 13.0 9.0 12.4 23.9 23.8 28.0 29.6 29.0 13.0 13.0 13.0 POWER AVE POWER MW 117 117 76 30.9 78 78 34.3 PEAK POW MW ENERGY GWH 70.9 664.3 16.8 11.4 61.0 58.8 74.7 72.2 73.9 34.7 16.2 11.2 34.3 --GAVINS POINT - SIGUA CIAN NAT INFLOW 1550 169 DEPLETION 247 6 REGULATED FLOW AT SIGUX CITY 17173 431 34 22 9 12 13 29.5 12.8 14.3 KCFS 14.5 17.8 28.1 25.6 28.4 27.1 30.6 29.6 28.9 27.9 27.9 16.9 13.1 -- TOTAL-NAT INFLOW 14 2 30 68 -73 28 -55 DEPLETION -10 -225 -118 -190 CHAN STOR EVAPORATION -104 5 -63 -196 -21 -18 -39 -21 -20 -31 171 STORAGE SYSTEM POWER AVE POWER MW 2226 910.9 2202 617.0 19.9 2219 2164 133.0 PEAK POW MW ENERGY GWH DAILY GWH 215.7 14.4 2160 2171 611.2 20.4 703.0 707.7 885.9 289.8 19.3 133.5 7937.7 83.4 169.8 761.8 572.4 18.5 609.5 533.1 22.7

23.6

30JUN

INI-SUM 15MAR

22MAR 31MAR

30APR

31MAY

28.6

31JUL

29.4

31 AUG

30SEP

310CT

15NOV

19.1

22NOV

16.6

30NOV

31DEC

19.7

31JAN

19.0

28FEB

DATE OF STUD	OY 01/10/	03			2	002-2003	3 AOP E	XTENSIO	NS, MED	IAN RUN	OFF SIM	ULATION	99001	9901	4 P.	AGE	1
TIME OF STUE	OY 09:48:	18			С	WCP, FLO	OW TO T S IN 10	ARGET 00 AF E	XCEPT A	S INDIC	ATED				STUDY	NO :	30
285	EB05 INI-SUM	1 15MAR	2009 22MAR	5 31MAR	30APR	31 MA Y	30JUN	31JUL	31AUG	30SEP	310CT	15NOV	22NOV	200 30NOV	6 31DEC	31JAN	28FEB
FORT PECK NAT INFLOW DEPLETION EVAPORATION	(7400 389 I 440) 264) -2	123 -1	158 -1	628 56	1210 331	1851 556	829 190 27	324 -75 84	319 -143 105	398 -78 92	188 -40 42	88 -18 20	100 -21 22	310 -133 48	261 -139	349 -93
MOD INFLOW RELEASE	6571 5953	. 266 149	124 62	160 80 79	572 298	879 492	1295 762	612 553	315 523	357 413	384 332	185 161	86 111	99 143	395 615	400 676	442 583
STORAGE ELEV FTMSL	13236 2225.2	13354 2225.8	13416 2226.1	13495 2226.5	13769 2228.0	14156 2229.9	14690 2232.5	14749 2232.8	14541 2231.8	14485 2231.5	14536 2231.8	14561 2231.9	14536 2231.8	14492 2231.6	14272 2230.5	13996 2229.1	13855 2228.4
DISCH KCFS POWER AVE POWER M	9.5 TW	5 5.0 66	4.5 60	4.5 60	5.0	8.0	12.8	9.0	8.5	6.9 94	5.4	5.4	8.0	9.0	10.0	11.0	10.5
PEAK POW MW ENERGY GWH	913.5	202 23.9	202 10.0	203 12.9	204 48.0	205 79.7	207 69.0	207 90.6	207 85.5	206 67.5	207 54.4	207 26.3	207 18.2	207 23.3	206 100.2	205 109.7	204 94.3
GARRISON NAT INFLOW DEPLETION CHAN STOR	11001 894 -10	469 1 46	219 0 5	282 1	853 7	1423 184	2958 786	2066 512	581 29	497 -132	454 - 3	192 -103	89 -48	102 -55	253 -117	237 -101	326 - 67
EVAPORATION REG INFLOW	1 513 15536	663	286	361	1138	1700	2885	31 2114	99 981	124 934	108 697	49 407	23 200	26 264	-10 55 920	1004	981
STOR CHANGE	13878 1658 15969	476 187 16157	222 64 16221	286 76 16296	1101 38 16334	1261 440 16774	1339 1546 18320	1353 761 19081	1322 -341 18740	979 -46 18694	828 -131 18563	401 6 18569	236 -36 18533	301 -37 18496	1230 -310	1322 -318	1222 -241
ELEV FTMSL DISCH KCFS	1830.2 22.5	1830.8 16.0	1831.1 16.0	1831.3 16.0	1831.5 18.5	1833.0 20.5	1838.2 22.5	1840.6	1839.5 21.5	1839.4 16.5	1839.0 13.5	1839.0 13.5	1838.9 17.0	1838.7 19.0	1837.7 20.0	1836.7 21.5	1835.9
AVE POWER M PEAK POW MW ENERGY GWH	W 2073.4	191 358 68.9	192 359 32.2	192 360 41.5	222 360 159.9	247 364 183.9	277 380 199.3	275 478 204.9	270 474 201.1	207 473 148.9	169 472 126.0	169 472 60.9	213 471 35.8	237 471 45.6	249 467 185.2	266 463 197.7	270 461 181.6
OAHE NAT INFLOW DEPLETION	2300	317	148 10	190 13	364	236	689 126	162	33	118	14	5	2	3	-20	16	40
CHAN STOR EVAPORATION	1 453	28	250	460	-11	- 8	-8	2 29	2 90	21 110	13 93	0 42	-16 19	- 9 22	-4 48	-7	-2
RELEASE STOR CHANGE	15129 15191 -62	582 216	138 221	462 336 126	1227 181	1423 1327 96	1894 1238 655	1341 1769 -428	1171 1875 -704	985 1674 -689	770 1163 -393	363 550 -188	203 254 -51	272 223 49	1146 1112 34	1299 909 390	1235 813 421
STORAGE ELEV FTMSL DISCH KCFS	16639 1600.1 15.9	16856 1600.8 19.6	17077 1601.6 10.0	17203 1602.1 18.8	17385 1602.7 20.6	17481 1603.0 21.6	18136 1605.2 20.8	17708 1603.8 28.8	17004 1601.4	16315 1598.9	15922 1597.5	15734 1596.8	15683 1596.6	15732 1596.8	15766	16156 1598.3	16578 1599.9
POWER AVE POWER M PEAK POW MW	W	243 675	125 679	236 682	259 685	272 687	264 698	365 691	383 678	349 665	233 658	226 654	223 653	172 654	221 655	14.0 182 662	14.8
BIG BEND	2292.4	87.6	21.0	51.0	186.7	202.5	190.2	271.6	284.7	251.1	173.0	81.4	37.4	33.0	164.3	135.1	121.8
EVAPORATION REG INFLOW RELEASE	103 15088 15088	582 582	138	336	1227	1327	1238 1238	6 1763 1763	20 1855	25 1650	22 1141	10 541	5 249	5 218	11 1101	909	813
STORAGE ELEV FTMSL	1682 1420.0	1682 1420.0	1682 1420.0	1682 1420.0	1682 1420.0	1682 1420.0	1682 1420.0	1682 1420.0	1682 1420.0	1682 1420.0	1682 1420.0	1682 1420.0	1682 1420.0	1682 1420.0	1682 1420.0	1682 1420.0	1682 1420.0
POWER AVE POWER M	15.9 W	19.6 92	10.0 47	18.8 88	20.6 97	21.6 101	20.8 97	28.7 134	30.2 141	27.7	18.6 91	18.2 91	17.9 90	13.7	17.9 88	14.8	14.6
PEAK POW MW ENERGY GWH	870.1	510 33.0	509 7.8	509 19.0	509 69.5	509 75.2	509 70.1	509 99.8	509 105.0	517 94.6	538 67.7	538 32.8	538 15.2	538 13.3	538 65.8	538 53.8	529 47.2
FORT RANDA NAT INFLOW DEPLETION	LL 900 80	122 1	57 1	73 1	115 4	140 9	185 12	74 18	57 15	42	2	2	1	1	10	2	19
EVAPORATION REG INFLOW RELEASE	118 15791 15790	703	195	408	1338	1458	1411	8 1811	25 1872	31 1653	25 1117	10 532	4 245	4 214	10 1098	د 906	829
STOR CHANGE	13790 0 3124	408 3532	17 17 3549	3549	3549	1458 3549	3549	1811 0 3549	1872 0 3549	1797 -144 3405	1754 -637 2768	836 -304 2464	390 -145 2319	236 -22 2297	732 366 2663	719 187 2850	555 274 3124
ELEV FTMSL DISCH KCFS POWER	1350.0 10.0	1355.0 9.9	1355.2 12.8	1355.2 22.9	1355.2 22.5	1355.2 23.7	1355.2 23.7	1355.2 29.4	1355.2 30.4	1353.5 30.2	1345.1 28.5	1340.4 28.1	1337.9 28.1	1337.5 14.9	1343.5 11.9	1346.3 11.7	1350.0 10.0
AVE POWER M PEAK POW MW	W 1564 A	82 354	109 355	193 355	190 355	200 355	200 355	247 355	256 355	252 349	228 318	212 297	206 285	108 284	89 311	91 324	80 338
GAVINS POI	NT	29.7	10.5	41.7	130.0	140.0	144.0	184.1	190.2	181.4	169.8	76.4	34.5	20.8	66.4	67.9	54.0
DEPLETION CHAN STOR	114 -1	0	43 0 -6	55 0 -19	148 5 1	174 19 -2	166 24 0	86 39 -11	103 10 -2	77 -5 0	122 2 3	50 5 1	23 2 0	27 3 25	77 10	79 1 0	127
EVAPORATION REG INFLOW RELEASE	38 17087 17087	388 388	216 216	445	1482	1611	1553	2 1845	7 1956	9 1871	8 1869	4 878	2 410	2 282	4 800	798	686
STOR CHANGE STORAGE	358	358	358	358	358	358	358	358	1943 13 371	1845 26 397	1869 397	878 397	410 397	282 397	800 397	798 397	725 -39 358
DISCH KCFS POWER	1200.0	13.0	15.5	24.9	24.9	26.2	26.1	1206.0 30.0	1206.5 31.6	1207.5 31.0	1207.5 30.4	1207.5 29.5	1207.5 29.5	1207.5 1 17.8	13.0	1207.5 13.0	1206.0 13.0
AVE POWER MU PEAK POW MW ENERGY GWH	W 708.4	46 114 16.4	54 114 9.1	85 114 18.4	85 114 61.3	89 114 66.6	89 114 64.2	101 114 75.1	105 115 78.2	105 117 75.7	105 117 77.8	102 117 36.9	102 117 17.2	63 117 12.1	46 78 34.4	46 78 34.3	46 76 30.9
GAVINS POIN NAT INFLOW DEPLETION	NT - SIOU 1550 248	JX CITY- 169 6	- 79 3	102 4	199 20	310	224	129	96	60	42	16	7	9	21	5	82
REGULATED FLO KAF KCFS	OW AT SIC 18389	OUX CITY 551 18.5	292 21.0	543 30.4	1661 27.9	1887 30.7	1747 29.4	1937 31.5	2005	1883 31 6	1902	888	414	288	809	790	13 794
TOTAL NAT INFLOW	24601	1435	669	860	2307	3493	6073	3346	1104	1112	1000	47.3	23.3	10.2	13.2	12.8	14.3
DEPLETION CHAN STOR EVAPORATION	2322 -10	29 74	13 0	17 -19	138 -15	642 -41	1534 -57	943 29	109	-227 37	-77 31	452 -130 1	211 -60 -41	241 -69 6	651 -214 -9	582 -207 -16	943 -119 6
STORAGE SYSTEM POWER	51009	51939	52302	52583	53077	54000	56735	103 57127	325 55887	404 54978	348 53868	155 53407	72 53150	82 53097	177 52967	52950	53224
AVE POWER MW PEAK POW MW ENERGY GWH	8422.2	721 2214 259.5	586 2219 98.5	854 2222 184.5	920 2227 662.1	1017 2235 756.6	1023 2264 736.8	1245 2354 926.1	1270 2338 944.7	1138 2328 819 1	899 2309	874 2284 314 7	942 2272	771	828 2255	804 2270	788
DAIDI GWH	INI-SUM	17.3 15MAR	14.1 22MAR	20.5 31MAR	22.1 30APR	24.4 31MAY	24.6 30.ПЛИ	29.9 31.1111	30.5	27.3	21.6	21.0	22.6	18.5	19.9	19.3	18.9
								22000	0 THUG	JUJEP	PTOCT.	TONOA	ZZNUV	JUNOV	3 TDEC	31JAN	28FEB

FORT PECI NAT INFLOW DEPLETION EVAPORATIO MOD INFLOW RELEASE STOR CHANGH STORAGE ELEV FTMSL DISCH KCFS	K 7400 389 6575 6853 2-278 13855 2228.4 10.5	264 -2 266 179 88 13942 2228.8 6.0	123 -1 124 69 55 13997 2229.1 5.0	158 -1 160 89 70 14068 2229.5 5.0	628 56 572 417 155 14223 2230.3 7.0	1210 331 879 492 387 14610 2232.2 8.0	1851 556 1295 1083 212 14822 2233.2 18.2	829 190 27 612 646 -33 14789 2233.0 10.5	324 -75 84 315 -300 14489 2231.6 10.0	319 -143 105 357 498 -140 14349 2230.9 8.4	398 -78 91 3855 401 -16 14333 2230.8 6.5	188 -40 41 186 194 -8 14325 2230.8 6.5	88 -18 19 87 111 -24 14301 2230.6 8.0	100 -21 22 99 159 -59 14241 2230.3 10.0	310 -133 47 396 615 -219 14022 2229.3 10.0	261 -139 400 676 -276 13746 2227.8 11.0	349 -93 442 611 -169 13577 2227.0 11.0
POWER AVE POWER N PEAK POW MV ENERGY GWH	ww ∛ 978.8	80 204 28.9	67 205 11.3	67 205 14.5	94 206 67.7	108 207 80.2	56 207 40.6	142 208 105.8	135 207 100.6	113 206 81.1	88 206 65.3	88 206 31.6	108 206 18.1	134 206 25.8	134 205 99.8	147 204 109.2	146 203 98.3
GARRISON NAT INFLOW DEPLETION CHAN STOR EVAPORATION REG INFLOW RELEASE STOR CHANGE STORAGE ELEV FTMSL DISCH KCFS POWER	N 11001 968 -7 N 518 16361 16992 -632 17628 1835.9 22.0	469 -7 45 700 536 164 17792 1836.5 18.0	219 -3 10 302 250 52 17843 1836.6 18.0	282 -4 375 214 161 18004 1837.2 12.0	853 -8 -20 1258 1369 -111 17893 1836.8 23.0	1423 214 -10 1691 1660 31 17924 1836.9 27.0	2958 816 -101 3124 1666 1457 19381 1841.5 28.0	2066 569 75 2185 1691 494 19876 1843.0 27.5	581 35 102 1064 1660 -596 19279 1841.2 27.0	497 -135 16 126 1020 1470 -450 18829 1839.8 24.7	454 -8 18 108 773 1139 -366 18462 1838.6 18.5	192 -107 48 444 551 -108 18355 1838.3 18.5	89 -50 -15 22 213 257 -44 18311 1838.2 18.5	102 -57 -20 25 272 317 -45 18266 1838.0 20.0	253 -119 0 55 932 1230 -298 17968 1837.0 20.0	237 -102 -10 1005 1537 -532 17436 1835.3 25.0	326 -67 0 1004 1444 -440 16996 1833.8 26.0
AVE POWER N PEAK POW MU ENERGY GWH	1₩ ∛ 2555.2	222 463 79.7	222 463 37.3	149 465 32.1	284 464 204.2	332 464 247.0	349 481 251.4	348 491 258.9	342 479 254.1	311 475 223.9	232 470 172.8	231 469 83.2	231 469 38.8	249 468 47.8	248 465 184.4	306 458 227.9	315 453 211.8
-OAHE NAT INFLOW DEPLETION CHAN STOR EVAPORATION REG INFLOW RELEASE STOR CHANGE STORAGE ELEV FTMSL DISCH KCFS POWER	2300 613 -17 1 486 18177 15918 2259 16578 1599.9 14.6	317 23 17 847 582 265 16843 1600.8 19.5	148 11 387 153 234 17077 1601.6 11.0	190 14 25 416 366 50 17127 1601.8 20.5	364 47 -46 1639 1322 317 17444 1602.9 22.2	236 66 -17 1814 1426 388 17832 1604.2 23.2	689 129 -4 2222 1333 889 18721 1607.1 22.4	162 151 2 300 1674 1848 -175 18546 1606.6 30.1	33 100 2 94 1501 1955 -454 18093 1605.1 31.8	118 25 9 117 1456 1752 -296 17797 1604.1 29.4	14 -8 25 101 1086 1243 -157 17640 1603.6 20.2	5 2 45 589 -80 17560 1603.3 19.8	2 1 0 21 238 272 -34 17526 1603.2 19.6	3 1 -6 24 289 244 45 17572 1603.3 15.4	-20 11 0 53 1146 1112 34 17605 1603.4 18.1	16 -21 1500 939 561 18167 1605.3 15.3	40 26 -4 1454 783 671 18837 1607.5 14.1
AVE POWER M PEAK POW MW ENERGY GWH	1W 2447.4	243 675 87.6	138 679 23.2	257 680 55.4	279 686 201.0	293 693 218.2	287 709 206.5	386 705 287.3	406 698 302.0	374 692 269.0	256 689 190.6	251 688 90.2	247 687 41.6	194 688 37.3	229 689 170.4	195 699 144.8	182 710 122.2
BIG BENL EVAPORATION REG INFLOW RELEASE STORAGE ELEV FTMSL DISCH KCFS POWER	103 15814 15814 1682 1420.0 14.6	582 582 1682 1420.0 19.5	153 153 1682 1420.0 11.0	366 366 1682 1420.0 20.5	1322 1322 1682 1420.0 22.2	1426 1426 1682 1420.0 23.2	1333 1333 1682 1420.0 22.4	6 1842 1842 1682 1420.0 30.0	20 1935 1935 1682 1420.0 31.5	25 1727 1727 1682 1420.0 29.0	22 1221 1221 1682 1420.0 19.9	10 579 579 1682 1420.0 19.5	5 267 267 1682 1420.0 19.2	5 238 238 1682 1420.0 15.0	11 1101 1101 1682 1420.0 17.9	939 939 1682 1420.0 15.3	783 783 1682 1420.0 14.1
AVE POWER M PEAK POW MW ENERGY GWH	W 911.6	92 510 33.0	52 509 8.7	96 509 20.7	104 509 74.9	109 509 80.8	105 509 75.5	140 509 104.3	147 509 109.6	138 517 99.0	97 538 72.4	98 538 35.1	97 538 16.2	76 538 14.5	88 538 65.8	75 538 55.5	68 529 45.5
FORT RANDA NAT INFLOW DEPLETION EVAPORATION RELEASE STOR CHANGE STORAGE ELEV FTMSL DISCH KCFS POWER	LL 900 80 118 16517 16517 3124 1350.0 10.0	122 1 703 295 408 3532 1355.0 9.9	57 1 209 192 17 3549 1355.2 13.9	73 1 438 438 3549 1355.2 24.5	115 4 1433 1433 0 3549 1355.2 24.1	140 9 1557 1557 3549 1355.2 25.3	185 12 1506 1506 3549 1355.2 25.3	74 18 890 1890 0 3549 1355.2 30.7	57 15 25 1952 1952 0 3549 1355.2 31.7	42 7 31 1731 1875 -144 3405 1353.5 31.5	2 1 25 1197 1834 -637 2768 1345.1 29.8	2 10 570 874 - 304 2464 1340.4 29.4	1 0 4 263 408 -145 2319 1337.9 29.4	1 4 235 257 -22 2297 1337.5 16.2	10 3 10 1098 732 366 2663 1343.5 11.9	3 936 719 217 2880 1346.7 11.7	19 3 555 244 3124 1350.0 10.0
AVE POWER M PEAK POW MW ENERGY GWH	1636.1	82 354 29.7	118 355 19.7	207 355 44.7	203 355 146.2	213 355 158.7	213 355 153.5	258 355 192.0	266 355 198.1	263 349 189.0	238 318 177.4	222 297 79.9	215 285 36.1	118 284 22.6	89 311 66.4	91 326 68.0	80 338 54.0
NAT INFLOW DEPLETION CHAN STOR EVAPORATION RELEASE STOR CHANGE STORAGE ELEV FTMSL DISCH KCFS	1450 114 -1 38 17814 17814 17814 358 1206.0 13.0	92 0 388 388 358 1206.0 13.0	43 0 -8 228 228 358 1206.0 16.4	55 0 -20 473 473 358 1206.0 26.5	148 5 1 1577 1577 358 1206.0 26.5	174 19 -2 1709 1709 358 1206.0 27.8	166 24 0 1648 1648 358 1206.0 27.7	86 39 -10 2 1925 1925 358 1206.0 31.3	103 10 -2 7 2036 2023 13 371 1206.5 32.9	77 -5 0 9 1948 1922 26 397 1207.5 32.3	122 2 3 1949 1949 1949 397 1207.5	50 5 1 916 916 397 1207.5	23 2 0 2 428 428 428 397 1207.5	27 3 25 2 303 303 303 1207.5	77 10 8 4 802 802 397 1207.5	79 1 0 798 798 397 1207.5	127 3 686 725 -39 358 1206.0
POWER AVE POWER M PEAK POW MW ENERGY GWH	W 732.9	46 114 16.4	57 114 9.6	90 114 19.5	90 114 65.1	95 114 70.4	94 114 67.9	104 114 77.3	108 115 80.3	108 117 77.8	108 117 80 1	106 117 38 0	106 117 17 7	67 117	46	13.0 46 78	13.0 46 76
GAVINS POI NAT INFLOW DEPLETION REGULATED FL KAF KCFS	NT - SIOU 1550 251 OW AT SIC 19113	DX CITY- 169 6 DUX CITY 551 18.5	- 79 3 304 21.9	102 4 571 32.0	199 21 1755 29.5	310 35 1984 32.3	224 30 1842 31.0	129 37 2017 32.8	96 34 2085 33.9	60 22 1960 32.9	42 10 1981 32.2	16 6 927 31.2	433 31.2	12.9 9 3 309 19 5	21 12 811	54.3 5 13 790	82 13 794
TOTAL NAT INFLOW DEPLETION CHAN STOR EVAPORATION STORAGE SYSTEM POWE	24601 2415 -25 1698 53224	1435 21 62 54149	669 10 2 54506	860 13 5 54788	2307 125 ~65 55149	3493 674 -29 55955	6073 1567 -106 58513	3346 1004 67 106 58800	1194 119 5 332 57463	1113 -229 26 412 56458	1032 -81 47 354 55282	452 -133 1 158 54783	211 -62 -15 73 54536	241 -71 -1 83 54455	651 -216 8 180 54338	582 -208 -30	943 -118 -1 54574
AVE POWER MY PEAK POW MW ENERGY GWH DAILY GWH	9262.1	765 2321 275.3 18.4	653 2325 109.8 15.7	866 2329 187.0 20.8	1054 2334 759.1 25.3	1150 2342 855.3 27.6	1105 2376 795.5 26.5	1379 2383 1025.6 33.1	1404 2363 1044.7 33.7	1305 2357 939.9 31.3	1020 2339 758.7 24.5	994 2315 358.0 23.9	1003 2302 168.5 24.1	838 2301 161.0 20.1	835 2286 621.2 20.0	860 2302 639.8 20.6	837 2309 562.7 20.1
	INI-SUM	15MAR	22MAR	31MAR	30APR	31MAY	30JUN	31JUL	31AUG	30SEP	310CT	15NOV	22NOV	30NOV	31DEC	31JAN	28FEB

DATE OF STUD	Y 01/10/	03			20	002-2003	AOP EX	TENSION	NS, MEDI	AN RUNG	OFF SIM	JLATION	99001	9901	1 P#	AGE	1
TIME OF STUD	Y 09:48:	18			C	VCP, FLO	W TO TA	ARGET	CEPT AS	S INDICA	ATED				STUDY	NO 3	32
28F	EB07 INI-SUM	15MAR	2007 22MAR	31MAR	30APR	31MAY	30JUN	31JUL	31AUG	30SEP	310CT	15NOV	22NOV	200 30NOV	31DEC	31JAN	29FEB
FORT PECK NAT INFLOW DEPLETION EVAPORATION	 7400 410 460	264 -2	123 -1	158 -1	628 55	1210 332	1851 565	829 205 28	324 -66 87	319 -144 110	398 -78 96	188 -40 44	88 -18 20	100 -21 23	310 -133 51	261 -139	349 -104
MOD INFLOW RELEASE STOR CHANGE STORAGE ELEV FTMSL DISCH KCFS	6530 4840 1690 13577 2227.0 11.0	266 119 147 13724 2227.7 4.0	124 56 69 13793 2228.1 4.0	160 71 88 13881 2228.5 4.0	573 298 275 14157 2229.9 5.0	878 369 509 14666 2232.4 6.0	1286 506 780 15446 2236.1 8.5	596 523 74 15520 2236.4 8.5	303 492 -189 15330 2235.6 8.0	353 365 -12 15318 2235.5 6.1	380 251 128 15447 2236.1 4.1	183 122 62 15508 2236.4 4.1	85 83 2 15510 2236.4 6.0	98 111 -13 15497 2236.3 7.0	392 492 -100 15397 2235.9 8.0	400 523 -123 15275 2235.3 8.5	453 460 -7 15268 2235.3 8.0
POWER AVE POWER M PEAK POW MW ENERGY GWH	W 798.0	53 204 19.2	53 204 9.0	54 204 11.6	67 205 48.3	81 207 60.3	116 210 83.3	116 210 86.6	109 209 81.4	84 209 60.4	56 210 41.7	56 210 20.2	82 210 13.8	96 210 18.4	109 210 81.5	116 209 86.4	109 209 76.0
GARRISON NAT INFLOW DEPLETION CHAN STOR EVAPORATION	 11001 981 30 508	469 -6 71	219 -3	282 -4	853 -8 -10	1423 214 -10	2958 826 +25	2066 585 0 31	581 40 5	497 -138 18 123	454 -12 20	192 -110 47	89 - 51 - 19 22	102 -58 -10 25	253 -119 -10 54	237 -101 -5	326 - 74 5
REG INFLOW RELEASE STOR CHANGE STORAGE ELEV FTMSL DISCH KCFS DOWED	14381 14877 -496 16996 1833.8 26.0	665 476 189 17185 1834.4 16.0	277 222 55 17241 1834.6 16.0	357 286 71 17312 1834.8 16.0	1148 1071 77 17389 1835.1 18.0	1568 1353 215 17604 1835.8 22.0	2613 1458 1155 18759 1839.6 24.5	1972 1476 497 19256 1841.1 24.0	939 1445 -506 18749 1839.5 23.5	895 1115 -220 18529 1838.8 18.7	631 943 -312 18217 1837.9 15.3	375 456 -81 18136 1837.6 15.3	183 250 -67 18069 1837.4 18.0	237 301 -65 18004 1837.2 19.0	800 1230 -430 17574 1835.7 20.0	856 1414 -559 17016 1833.8 23.0	865 1381 -515 16501 1832.1 24.0
AVE POWER M PEAK POW MW ENERGY GWH	W 2221.2	195 455 70.1	195 456 32.8	195 457 42.2	220 458 158.3	269 460 200.0	303 474 218.3	302 480 224.6	296 474 220.0	235 471 169.1	192 468 142.5	191 467 68.7	223 466 37.5	235 465 45.2	246 460 183.2	280 453 208.1	288 446 200.7
OAHE NAT INFLOW DEPLETION CHAN STOR	2300 626 7	317 23 40	148 11	190 14	364 47 ~8	236 67 -16	689 132 -10	162 156 2	33 103 2	118 25 19	14 -9 14	52	2 1 -11	3 1 -4	-20 12 -4	17 -12	40 26 -4
REG INFLOW RELEASE STOR CHANGE STORAGE ELEV FIMSL DISCH KCFS	16057 16814 -758 18837 1607.5 14.1	809 464 345 19182 1608.6 15.6	359 255 104 19286 1608.9 18.4	462 386 76 19362 1609.2 21.6	1380 1334 47 19409 1609.3 22.4	1506 1438 68 19477 1609.5 23.4	2005 1345 660 20137 1611.5 22.6	1451 1867 -416 19721 1610.3 30.4	1277 1973 -696 19025 1608.1 32.1	121 1106 1770 -664 18362 1606.0 29.7	876 1261 -385 17977 1604.7 20.5	46 414 598 -184 17793 1604.1 20.1	219 276 -57 17736 1603.9 19.9	275 265 10 17746 1603.9 16.7	53 1141 1358 -217 17529 1603.2 22.1	1385 1135 249 17778 1604.0 18.5	1390 1089 301 18080 1605.0 18.9
AVE POWER M PEAK POW MW ENERGY GWH	W 2627.4	203 716 73.0	239 718 40.2	282 719 60.9	292 720 210.5	305 721 227.1	297 732 213.7	398 725 296.4	417 714 310.4	383 702 275.4	262 695 195.1	256 692 92.0	252 691 42.4	212 691 40.7	280 687 208.0	234 692 174.1	241 697 167.8
BIG BEND EVAPORATION REG INFLOW RELEASE STORAGE ELEV FTMSL DISCH KCFS	103 16711 16711 1682 1420.0 14.1	464 464 1682 1420.0 15.6	255 255 1682 1420.0 18.4	386 386 1682 1420.0 21.6	1334 1334 1682 1420.0 22.4	1438 1438 1682 1420.0 23.4	1345 1345 1682 1420.0 22.6	6 1861 1861 1682 1420.0 30.3	20 1953 1953 1682 1420.0 31.8	25 1745 1745 1682 1420.0 29.3	22 1239 1239 1682 1420.0 20.2	10 588 588 1682 1420.0 19.8	5 271 271 1682 1420.0 19.5	5 259 259 1682 1420.0 16.3	11 1347 1347 1682 1420.0 21.9	1135 1135 1682 1420.0 18.5	1089 1089 1682 1420.0 18.9
POWER AVE POWER M PEAK POW MW ENERGY GWH	W 964.4	74 517 26.6	86 510 14.5	101 509 21.9	105 509 75.5	109 509 81.5	106 509 76.2	142 509 105.4	149 509 110.6	139 517 100.0	99 538 73.5	99 538 35.7	98 538 16.5	82 538 15.8	108 538 80.3	90 538 67.2	91 529 63.2
FORT RANDA NAT INFLOW DEPLETION EVAPORATION	LL 900 80 118	122 1	57 1	73 1	115 4	140 9	185 12	74 18 8	57 15 25	42 7 31	2 1 25	2 1 10	1 0 4	1 1 4	10 3 10	3	19 3
REG INFLOW RELEASE STOR CHANGE STORAGE ELEV FTMSL DISCH KCFS POWER	17414 17414 0 3124 1350.0 10.0	585 295 291 3415 1353.6 9.9	311 194 117 3532 1355.0 14.0	459 442 17 3549 1355.2 24.7	1445 1445 3549 1355.2 24.3	1569 1569 3549 1355.2 25.5	1518 1518 3549 1355.2 25.5	1909 1909 0 3549 1355.2 31.0	1970 1970 3549 1355.2 32.0	1748 1892 -144 3405 1353.5 31.8	1216 1853 -637 2768 1345.1 30.1	579 883 -304 2464 1340.4 29.7	268 413 -145 2319 1337.9 29.7	256 277 -22 2297 1337.5 17.5	1344 978 366 2663 1343.5 15.9	1132 965 167 2830 1346.0 15.7	1105 811 294 3124 1350.0 14.1
AVE POWER M PEAK POW MW ENERGY GWH	W 1719.2	82 350 29.5	118 354 19.8	208 355 45.0	205 355 147.4	215 355 159.9	215 355 154.7	261 355 193.9	269 355 200.0	265 349 190.8	241 318 179.2	224 297 80.7	217 285 36.5	127 284 24.4	119 312 88.4	122 322 90.7	113 338 78.5
GAVINS POI NAT INFLOW DEPLETION CHAN STOR EVAPORATION REG INFLOW	NT 1450 114 -9 38 18703	92 0 0	43 0 -8 230	55 0 -21	148 5 1	174 19 -2	166 24 0	86 39 -11 2	103 10 -2 7	77 -5 0 9	122 2 3 8	50 5 1 4	23 2 0 2	27 3 23 2	77 10 3 4	79 1 0	127
RELEASE STOR CHANGE STORAGE ELEV FTMSL	18703 358 1206.0	388 358 1206.0	230 358 1206.0	477 358 1206.0	1589 358 1206.0	1722 358 1206.0	1660 1660 358 1206.0	1943 1943 358 1206.0	2034 2041 13 371 1206.5	1966 1940 26 397 1207.5	1968 1968 397	925 925 397	432 432 397	322 322 397	1043 1043 397	1044 1044 397	941 980 -39 358
DISCH KCFS POWER AVE POWER M PEAK POW MW	13.0 W	13.0 46 114	16.5 57 114	26.7 91 114	26.7 91 114	28.0 95 114	27.9 95 114	31.6 105 114	33.2 109 115	32.6 109 117	32.0 108 117	31.1 106 117	31.1 106 117	20.3 72 117	17.0 60 78	17.0 60 78	17.0 60 76
GAVINS POI	769.0 NT - SIO	JA CITY-	9.7	19.7	65.6	70.9	68.4	77.8	80.8	78.3	80.6	38.2	17.8	13.7	44.6	44.7	41.6
NAT INFLOW DEPLETION REGULATED FL KAF KCFS	254 254 OW AT SIC 19999	169 6 200X CITS 551	79 3 306	102 4 575	199 21 1767	310 35 1997	224 30 1854	129 37 2035	96 35 2102	60 23 1977	42 10 2000	16 6 936	7 3 437	9 3 328	21 12 1052	5 13 1036	82 14 1048
TOTAL	24607	1425	22.0	32.2	23./	32.5	31.2	33.1	34.2	33.2	32.5	31.5	31.5	20.7	17.1	16.8	18.2
DEPLETION CHAN STOR EVAPORATION STORAGE	24601 2465 29 1728 54574	1435 22 110 55547	55892	860 13 -21 56144	2307 124 -17 56543	3493 676 -28 57336	6073 1589 -35 59931	3346 1040 -9 108 60086	1194 137 5 338 58707	1113 -232 38 420 57693	1032 -86 37 360 56488	452 -136 160 55980	211 -63 -30 74 55713	241 -73 9 85 55623	651 -215 -11 183 55243	582 -206 -17 54978	943 -135 4 55012
AVE POWER M PEAK POW MW ENERGY GWH DAILY GWH	₩ 9099.3	652 2356 234.8 15.7	749 2357 125.9 18.0	932 2359 201.3 22.4	980 2361 705.6 23.5	1075 2367 799.6 25.8	1131 2394 814.6 27.2	1323 2393 984.6 31.8	1348 2376 1003.2 32 4	1214 2366 874.0 29 1	958 2346 712.6 23 0	932 2320 335.5	979 2308 164.5	824 2305 158.2	922 2284 686.0	902 2293 671.1	902 2296 627.8
	INI-SUM	15MAR	22MAR	31MAR	30APR	31MAY	3 OJUN	31JUL	31AUG	30SEP	310CT	15NOV	23.5 22NOV	30NOV	22.1 31DEC	21.6 31JAN	⊿1.6 29FEB

TIME OF ST	JDY 09:48:	18			CI	WCP, FLO	W TO TA	ARGET			יידיי				STUDY	NO 3	33
2	FEB08 INI-SUM	15MAR	200 22MAR	8 31MAR	30APR	31MAY	30JUN	31JUL	31AUG	30SEP	310CT	15NOV	22NOV	200 30NOV	31DEC	31JAN	28FEB
FORT PE(NAT INFLO DEPLETION EVAPORATI(MOD INFLO RELEASE STOR CHAN(STORAGE ELEV FTMS) DISCH KCF?	CK 7400 422 0 462 462 7420 52 -904 15268 2235.3 8.0	264 -2 266 179 88 15355 2235.7 6.0	123 -1 124 83 41 15396 2235.9 6.0	158 -1 160 107 53 15449 2236.1 6.0	628 55 573 446 127 15575 2236.7 7.5	1210 333 877 646 231 15807 2237.8 10.5	1851 569 1282 803 479 16285 2239.9 13.5	829 212 29 588 799 -211 16074 2239.0 13.0	324 -62 89 297 769 -472 15602 2236.8 12.5	319 -144 111 352 565 -213 15389 2235.8 9.5	398 -82 96 384 442 -58 15331 2235.6 7.2	188 -42 44 185 214 -28 15303 2235.4 7.2	88 -19 20 87 100 -13 15290 2235.4 7.2	100 -22 23 99 159 -60 15230 2235.1 10.0	310 -136 50 396 615 -219 15011 2234.1 10.0	261 -141 402 799 -397 14614 2232.2 13.0	349 -95 444 694 -250 14364 2231.0 12.5
POWER AVE POWER PEAK POW I ENERGY GWI	MW 1W 1225.6	82 210 29.5	82 210 13.8	82 210 17.8	103 210 74.0	144 211 107.2	185 213 132.9	179 212 133.0	172 210 127.7	130 210 93.6	98 209 73.1	98 209 35.4	98 209 16.5	136 209 26.2	136 208 101.3	175 207 130.5	168 206 113.1
GARRISC NAT INFLO DEPLETION CHAN STOR EVAPORATI REG INFLO RELEASE STOR CHAN STORAGE ELEV FTMSJ DISCH KCFS	DN N 11001 1205 -46 DN 532 N 16638 14860 GE 1778 16501 - 1832.1 S 24.0	469 -6 20 674 536 139 16639 1832.5 18.0	219 -3 305 250 55 16694 1832.7 18.0	282 -3 321 71 16765 1833.0 18.0	853 -6 -15 1290 1131 160 16925 1833.5 19.0	1423 215 -30 1823 1291 532 17457 1835.3 21.0	2958 836 -30 2895 1458 1437 18894 1840.0 24.5	2066 601 5 2237 1476 762 19656 1842.3 24.0	581 46 5 102 1207 1445 -238 19417 1841.6 23.5	497 -141 29 128 1104 1062 42 19460 1841.7 17.8	454 -17 23 112 823 898 -75 19385 1841.5 14.6	192 -89 0 51 443 434 9 19394 1841.5 14.6	89 -41 0 24 207 264 -57 19337 1841.4 19.0	102 -47 -27 254 317 -64 19273 1841.2 20.0	253 -69 0 58 879 1230 -351 18923 1840.1 20.0	237 -50 -29 1057 1414 -357 18565 1839.0 23.0	326 -21 5 1046 1333 -287 18279 1838.0 24.0
AVE POWER PEAK POW I ENERGY GWI	MW 1W I 2240.5	216 448 77.8	217 449 36.4	217 450 46.8	229 452 165.1	255 458 189.8	303 476 218.3	. 303 484 225.7	297 481 221.2	226 481 162.9	185 481 137.9	185 481 66.7	240 480 40.4	253 479 48.6	253 476 188.0	288 472 214.3	299 468 200.7
OAHE NAT INFLOI DEPLETION CHAN STOR EVAPORATII REG INFLOI RELEASE STOR CHANG STORAGE ELEV FIMS: DISCH KCF3	V 2300 641 -1 DN 481 V 16037 16921 GE -884 18080 L 1605.0 S 18.9	317 23 24 853 601 252 18332 1605.9 20.2	148 11 387 260 126 18458 1606.3 18.8	190 14 497 382 115 18573 1606.7 21.4	364 48 -4 1443 1334 108 18682 1607.0 22.4	236 68 -8 1451 1438 13 18695 1607.1 23.4	689 135 -14 1998 1345 653 19348 1609.1 22.6	162 160 2 31 1449 1867 -418 18929 1607.8 30.4	33 106 2 96 1278 1973 -695 18235 1605.5 32.1	118 26 23 116 1061 1770 -709 17526 1603.2 29.7	14 -9 13 99 835 1261 -426 17100 1601.7 20.5	5 2 0 44 598 -204 16896 1601.0 20.1	2 -19 21 226 -50 16846 1600.8 19.9	3 -4 23 292 265 27 16873 1600.9 16.7	-20 12 0 51 1147 1361 -214 16659 1600.1 22.1	17 -13 1384 1107 277 16937 1601.1 18.0	40 27 -4 1342 1083 259 17196 1602.0 19.5
AVE POWER AVE POWER PEAK POW I ENERGY GWI	MW 1W H 2606.8	258 702 93.0	241 704 40.5	275 706 59.5	289 708 208.0	301 708 224.3	293 719 211.0	393 712 292.7	412 700 306.3	377 687 271.4	258 680 192.0	251 676 90.5	248 675 41.7	208 675 40.0	275 671 204.9	224 677 167.0	244 681 164.2
BIG BEI EVAPORATIC REG INFLOG RELEASE STORAGE ELEV FTMS: DISCH KCF3 POWER AVE POWER AVE POWER PEAK POWI	ND DN 103 V 16817 16817 1682 L 1420.0 S 18.9 MW	601 601 1682 1420.0 20.2 96 516	260 260 1682 1420.0 18.8 88 510	382 382 1682 1420.0 21.4 100 509	1334 1334 1682 1420.0 22.4 105 509	1438 1438 1682 1420.0 23.4 109 509	1345 1345 1682 1420.0 22.6 106 509	6 1861 1861 1682 1420.0 30.3 142 509	20 1953 1953 1682 1420.0 31.8 149 509	25 1745 1745 1682 1420.0 29.3 139 517	22 1239 1239 1682 1420.0 20.2 99 538	10 588 588 1682 1420.0 19.8 99 538	5 271 271 1682 1420.0 19.5 98 538	5 259 259 1682 1420.0 16.3 82 538	11 1349 1349 1682 1420.0 21.9 108 538	1107 1107 1682 1420.0 18.0 88 538	1083 1083 1682 1420.0 19.5 94 529
ENERGY GWI FORT RANI NAT INFLOY DEPLETION EVAPORATIC RELEASE STOR CHANK STORAGE ELEV FTMSJ DISCH KCFY POWER	4 970.5 DALL 900 N 900 N 118 N 17520 DE 0 S 3124 1350.0 5 14.1	34.4 122 1 722 412 309 3433 1353.8 13.9	14.8 57 1 317 218 99 3532 1355.0 15.7	21.7 73 1 455 438 17 3549 1355.2 24.5	75.6 115 4 1445 1445 3549 1355.2 24.3	81.5 140 9 1569 1569 3549 1355.2 25.5	76.2 185 12 1518 1518 1518 3549 1355.2 25.5	105.4 74 18 8 1909 1909 0 3549 1355.2 31.0	110.6 57 15 25 1970 1970 0 3549 1355.2 32.0	100.0 42 7 31 1748 1892 -144 3405 1353.5 31.8	73.5 2 125 1216 1853 -637 2768 1345.1 30.1	35.7 2 1 10 579 883 -304 2464 1340.4 29.7	16.5 1 0 4 268 413 -145 2319 1337.9 29.7	15.8 1 4 256 277 -22 2297 1337.5 17.5	80.5 10 3 10 1346 980 366 2663 1343.5 15.9	65.6 3 1104 967 137 2800 1345.6 15.7	62.8 19 3 1099 775 324 3124 1350.0 14.0
AVE POWER PEAK POW I ENERGY GWI	MW 1W I 1729.6	$ 115 \\ 351 \\ 41.2 $	132 354 22.3	207 355 44.6	205 355 147.4	215 355 159.9	215 355 154.7	261 355 193.9	269 355 200.0	265 349 190.8	241 318 179.2	224 297 80.7	217 285 36.5	127 284 24.4	119 312 88.6	122 320 90.6	111 338 74.8
GAVINS PC NAT INFLOO DEPLETION CHAN STOR EVAPORATIC REG INFLOO RELEASE STOR CHANC STORAGE ELEV FIMSI DISCH KCPS	7 1450 114 114 114 -1 20 38 7 18817 38 7 18817 38 358 2 1206.0 2 1206.0	92 0 506 506 358 1206.0	43 0 -4 258 258 358 1206.0	55 0 -17 477 477 358 1206.0	148 5 0 1589 1589 1589 358 1206.0	174 19 -2 1722 1722 358 1206.0	166 24 0 1660 1660 358 1206.0	86 39 -11 1943 1943 358 1206.0	103 10 -2 7 2054 2041 13 371 1206.5	77 -5 0 9 1966 1940 26 397 1207.5	122 2 3 1968 1968 1968 397 1207.5	50 5 1 925 925 397 1207.5	23 2 0 2 432 432 432 397 1207.5	27 3 23 322 322 322 327 1207.5	77 10 3 4 1046 1046 1046 397 1207.5	79 1 0 1045 1045 397 1207.5	127 3 905 944 -39 358 1206.0
POWER AVE POWER PEAK POW N ENERGY GWH	, 17.0 MW W (773.6	59 114 21.2	10.0 64 114 10.8	26.7 91 114 19.7	26.7 91 114 65 6	28.0 95 114 70 9	27.9 95 114 68 4	31.6 105 114 77 8	33.2 109 115	32.6 109 117	32.0 108 117	31.1 106 117	31.1 106 117	20.3 72 117	17.0 60 78	17.0 60 78	17.0 60 76
GAVINS PO NAT INFLOV DEPLETION REGULATED F KAF KCFS	DINT - SIOU 1550 255 LOW AT SIO 20112	UX CITY- 169 60000 CITY 669 22.5	 79 3 7 334 24.1	102 4 574 32.2	199 21 1767 29.7	310 35 1997 32.5	224 30 1854 31.2	129 38 2034 33.1	96 35 2102 34.2	60 23 1977 33.2	40.6 42 10 2000 32.5	38.2 16 6 936 31.5	17.8 7 3 437 31.5	13.7 9 3 328 20.7	44.7 21 12 1055 17.2	44.7 5 13 1037 16.9	40.1 82 14 1012 18.2
TOTAL- NAT INFLOW DEPLETION CHAN STOR EVAPORATIC STORAGE SYSTEM POW AVE DOWN	24601 2717 -47 N 1734 55012 ER	1435 23 45 55800	669 11 -4 56121	860 14 -17 56376	2307 127 -19 56770	3493 679 -41 57547	6073 1606 -44 60116	3346 1068 -4 108 60248	1194 150 5 338 58856	1113 -234 53 421 57859	1032 -95 39 362 56663	452 -117 161 56135	211 -55 -19 75 55870	241 ~62 -9 85 55752	651 -168 3 184 55335	582 -157 -42 54995	943 -72 4 55001
AVE POWER PEAK POW M ENERGY GWH DAILY GWH	MW W 9546.7 INI-SUM	826 2340 297.2 19.8 15MAR	824 2342 138.5 19.8 22MAR	972 2344 210.0 23.3 31MAR	1022 2348 735.7 24.5 30APR	1120 2356 833.5 26.9 31MAY	1197 2386 861.5 28.7 30JUN	1382 2386 1028.5 33.2 31JUL	1407 2370 1046.7 33.8 31AUG	1246 2362 897.0 29.9 30SEP	990 2342 736.3 23.8 310CT	964 2317 347.1 23.1	1008 2305 169.4 24.2	879 2303 168.7 21.1	952 2283 708.0 22.8	958 2292 712.8 23.0	976 2299 655.7 23.4
																TOMM	20100

DATE OF STUI	OY 01/10/0	03		200	2-2003	AOP EXT	TENSIONS	, LOWEF	QUARTI	LE RUNC	OFF SIMU	JLATION	99001	9901 9	901 PA	GE	1
TIME OF STU	OY 09:48:3	32		CWC	P, FLOW	TO TAN	RGET, 16	-DAY SH	ORTENED	SEASON	1 VTFD					STUDY N	10 34
29	FEB04 INI-SUM	15MAR	2004 22MAR	31MAR	30APR	31MAY	30JUN	31JUL	31AUG	30SEP	310CT	15NOV	22NOV	200 30NOV	31DEC	31JAN	28FEB
FORT PECH NAT INFLOW DEPLETION EVAPORATION MOD INFLOW RELEASE STOR CHANGH STORAGE ELEV FTMSL DISCH KCFS	K 6556 345 N 456 5755 5523 3 231 10505 2209.6 10.5	264 3 261 134 127 10632 2210.4 4.5	123 2 122 62 59 10691 2210.8 4.5	158 2 156 80 76 10767 2211.2 4.5	574 74 500 417 83 10851 2211.7 7.0	1011 295 716 492 224 11075 2213.0 8.0	1589 438 1151 536 615 11690 2216.6 9.0	692 167 28 497 553 -56 11634 2216.3	287 -60 87 260 553 -294 11340 2214.6 9.0	275 -130 109 296 338 -42 11298 2214.4 5.7	354 -68 96 326 284 42 11340 2214.6 4.6	183 -32 43 172 137 34 11375 2214.8 4.6	85 -15 20 80 67 13 11388 2214.9 4.8	98 -17 23 92 143 -51 11337 2214.6 9.0	322 -110 50 382 584 -202 11135 2213.4 9.5	231 -121 352 615 -263 10872 2211.8 10.0	309 -83 392 528 -136 10736 2211.0 9.5
POWER AVE POWER M PEAK POW MW ENERGY GWH	1W N 837.6	56 183 20.0	56 184 9.4	56 184 12.1	87 185 62.5	100 187 74.1	113 191 81.6	114 191 85.0	114 189 84.6	72 188 51.6	58 189 43.4	58 189 21.0	61 189 10.2	113 189 21.8	119 187 88.6	125 185 92.6	118 184 79.1
GARRISON NAT INFLOW DEPLETION CHAN STOR EVAPORATION	N 10069 1463 11 N 536	475 45 65	221 21	285 27	763 84 -27	1282 234 -11	2701 815 -11	1891 571 33	532 57 104	446 -105 35 130	428 25 11 112	175 -81 50	82 -38 -2 23	93 -43 -44 27	238 -69 -5 58	177 -52 -5	280 -28 5
REG INFLOW RELEASE STOR CHANGE STORAGE ELEV FTMSL DISCH KCFS	13604 13336 268 12642 1817.4 21.5	629 476 153 12795 1818.1 16.0	263 208 55 12850 1818.3 15.0	338 268 71 12921 1818.6 15.0	1069 1012 57 12978 1818.8 17.0	1529 1168 361 13338 1820.3 19.0	2411 1250 1161 14500 1824.8 21.0	1841 1261 580 15080 1827.0 20.5	924 1230 -305 14775 1825.8 20.0	794 1041 -246 14528 1824.9 17.5	586 836 -250 14278 1823.9 13.6	343 405 -62 14216 1823.7 13.6	161 194 -34 14182 1823.6 14.0	208 270 -62 14121 1823.3 17.0	828 1230 -401 13719 1821.8 20.0	839 1322 -483 13236 1819.8 21.5	841 1166 -325 12910 1818.5 21.0
AVE POWER I PEAK POW MU ENERGY GWH	ทพ พั 1823.3	176 321 63.2	165 321 27.8	166 322 35.7	188 323 135.1	211 327 156.7	237 340 170.9	237 347 176.4	232 343 172.7	202 341 145.4	157 338 116.4	156 337 56.1	160 337 26.9	194 336 37.2	226 331 168.3	240 326 178.6	232 322 155.9
OAHE NAT INFLOW DEPLETION CHAN STOR EVAPORATION REG INFLOW RELEASE STOR CHANGE STORAGE ELEV FTMSL	- 1761 585 2 N 473 14041 13769 E 272 13229 1586.8	187 22 27 667 348 319 13548 1588.1	87 10 5 290 239 51 13599 1588.3	112 13 0 366 353 13 13612 1588.4	278 46 -10 1234 1211 23 13636 1588.5	158 64 -10 1253 1374 -121 13514 1588.0	701 123 -10 1818 1215 603 14117 1590.5	124 143 2 30 1214 1706 -493 13625 1588.4	29 93 92 1076 1675 -599 13026 1585.9	79 23 12 113 996 1306 -310 12716 1584.6	11 -8 19 98 777 745 32 12748 1584.7	2 0 44 359 470 -112 12637 1584.2	1 -2 21 171 98 73 12710 1584.5	1 -15 24 230 136 94 12804 1584.9	-42 11 -15 52 1110 1140 -30 12774 1584.8	-7 16 -7 1292 852 440 13214 1586.7	44 25 2 1188 900 288 13502 1587.9
DISCH KCFS POWER AVE POWER I PEAK POW MI ENERGY GWH	13.6 MW W 1924.9	11.7 136 612 48.9	17.2 200 613 33.6	19.8 230 613 49.7	20.3 237 613 170.5	22.3 260 611 193.1	20.4 239 623 171.9	27.8 324 613 241.1	27.2 314 600 233.6	21.9 251 593 180.4	12.1 138 594 102.9	15.8 180 591 64.8	7.1 81 593 13.6	8.6 98 595 18.9	18.5 212 594 157.4	13.8 159 604 118.4	16.2 188 611 126.1
BIG BENI EVAPORATION REG INFLOW RELEASE STORAGE ELEV FTMSL DISCH KCFS POWER AVE POWER 1	D N 129 13640 13640 1682 1420.0 13.6 WW	348 348 1682 1420.0 11.7	239 239 1682 1420.0 17.2 81	353 353 1682 1420.0 19.8 93	1211 1211 1682 1420.0 20.3	1374 1374 1682 1420.0 22.3	1215 1215 1682 1420.0 20.4	8 1699 1699 1682 1420.0 27.6	24 1651 1651 1682 1420.0 26.8	31 1275 1275 1682 1420.0 21.4	27 718 718 1682 1420.0 11.7	12 458 458 1682 1420.0 15.4 78	6 93 93 1682 1420.0 6.7	7 130 130 1682 1420.0 8.2 41	14 1126 1126 1682 1420.0 18.3	852 852 1682 1420.0 13.8	900 900 1682 1420.0 16.2 78
PEAK POW M ENERGY GWH	787.6	517 20.0	510 13.6	509 20.0	509 68.6	509 77.8	509 68.8	509 96.2	509 93.5	525 73.5	538 43.9	538 27.9	538 5.7	538 8.0	538 67.3	538 50.7	529 52.3
NAT INFLOW DEPLETION EVAPORATION REG INFLOW RELEASE STOR CHANGI STORAGE ELEV FTMSL DISCH KCFS DOWED	643 80 N 141 14058 14059 E -1 3124 1350.0 10.5	88 1 434 161 274 3398 1353.4 5.4	41 1 279 145 134 3532 1355.0 10.4	53 1 405 388 17 3549 1355.2 21.7	82 4 1289 1289 3549 1355.2 21.7	66 9 1431 1431 3549 1355.2 23.3	167 12 1370 1370 3549 1355.2 23.0	33 18 10 1704 1704 0 3549 1355.2 27.7	63 15 32 1667 1667 0 3549 1355.2 27.1	30 7 38 1259 1606 -347 3202 1351.0 27.0	2 27 686 1564 -877 2324 1338.0 25.4	1 10 447 -28 2297 1337.5 16.0	0 5 88 88 0 2296 1337.5 6.4	1 5 124 124 0 2296 1337.5 7.8	6 3 1116 750 366 2662 1343.5 12.2	-6 3 726 117 2779 1345.2 11.8	19 3 916 572 344 3123 1350.0 10.3
AVE POWER I PEAK POW MI ENERGY GWH	MW W 1389.6	45 349 16.1	88 354 14.8	183 355 39.6	183 355 131.7	196 355 146.0	194 355 139.9	233 355 173.4	228 355 169.7	223 341 160.8	196 285 145.5	116 284 41.8	47 283 7.8	57 283 11.0	91 311 68.0	92 319 68.1	82 338 55.3
NAT INFLOW DEPLETION CHAN STOR EVAPORATION REG INFLOW RELEASE STOR CHANGH STORAGE ELEV FTMSL DISCH KCFS	1335 114 -1 N 47 15232 15232 358 1206.0 13.0	98 0 10 269 269 358 1206.0	46 0 -10 181 181 358 1206.0	59 0 -22 425 425 358 1206.0	132 5 0 1416 1416 358 1206.0	147 19 -3 1556 1556 358 1206.0	153 24 0 1500 1500 358 1206.0	87 39 -9 3 1740 1740 358 1206.0	85 10 1 1735 1722 13 371 1206.5	62 -5 0 11 1662 1636 26 397 1207.5	112 2 3 10 1666 1666 397 1207.5	50 5 533 533 397 1207.5	23 2 18 2 125 125 125 125 1207.5	27 3 -3 143 143 143 1207.5	75 10 -8 5 802 802 397 1207.5	73 1 1 798 798 397 1207.5	107 3 682 721 -39 358 1206.0
POWER AVE POWER N PEAK POW MU ENERGY GWH	1W N 638.0	32 114 11.4	46 114 7.7	82 114 17.6	82 114 58.7	87 114 64.4	86 114 62.1	28.3 96 114 71.6	28.0 96 115 71.3	27.3 95 117 68.7	95 117 70.6	63 117 22.8	32 117 5.4	32 117 6.2	13.0 46 78 34.4	13.0 46 78 34.3	46 76 30.7
GAVINS POI NAT INFLOW DEPLETION REGULATED FI KAF KCFS	INT - SIOU 1135 247 LOW AT SIC 16120	UX CITY- 145 6 0UX CITY 408 13.7	68 3 246 17.7	87 4 509 28.5	113 20 1509 25.4	219 34 1741 28.3	158 30 1628 27.4	95 36 1799 29.3	70 34 1758 28.6	44 22 1658 27.9	31 9 1688 27.5	16 6 543 18.3	7 3 130 9.4	9 3 148 9.3	16 12 806 13.1	-3 13 782 12.7	60 13 768 13.8
- TOTAL NAT INFLOW DEPLETION CHAN STOR EVAPORATION STORAGE SYSTEM POWE	21499 2834 8 1 1782 41540 R	1256 77 101 42413	586 36 -5 42712	753 46 -22 42889	1942 233 -36 43053	2883 655 -23 43517	5469 1442 -20 45896	2922 974 -7 111 45928	$1066 \\ 149 \\ 4 \\ 348 \\ 44743$	936 -188 47 432 43823	938 -39 29 370 42770	424 -100 17 165 42603	198 -46 15 77 42655	226 - 53 - 62 88 42636	615 -143 -28 191 42369	465 -140 -12 42180	819 -70 11 42311
AVE POWER M PEAK POW MW ENERGY GWH DAILY GWH	1W 7401.0	499 2096 179.7 12.0	636 2097 106.8 15.3	809 2098 174.8 19.4	871 2100 627.2 20.9	957 2103 712.2 23.0	965 2134 695.1 23.2	1134 2129 843.7 27.2	1109 2111 825.4 26.6	945 2105 680.3 22.7	703 2060 522.7 16.9	651 2056 234.5 15.6	414 2057 69.6 9.9	536 2058 102.9 12.9	785 2040 584.1 18.8	729 2050 542.7 17.5	743 2059 499.4 17.8
	INI-SUM	15MAR	22MAR	31MAR	30APR	31MAY	30JUN	31JUL	31AUG	30SEP	310CT	15NOV	22NOV	30NOV	31DEC	31JAN	28FEB

DATE OF STUD	Y 01/10/0 Y 09:48:3	03 32		200 CW0	02-2003 CP, FLOW	AOP EXT	RENSIONS	5, LOWER	R QUART	LE RUNC	OFF SIMU	JLATION	99001	9901	9901 P7	AGE STUDY N	1 10 35
28	FEB05 INI-SUM	15MAR	2009 22MAR	31MAR	30APR	VALUES 31MAY	5 IN 100 30JUN	0 AF EX 31JUL	CEPT AS	5 INDICA 30SEP	ATED 310CT	15NOV	22NOV	20 30NOV	06 31DEC	31JAN	28FEB
FORT PECK NAT INFLOW	 6613 387	267	124	160	579	1019	1603	698 174	289	278	357	185	86	98	325	233	312
EVAPORATION MOD INFLOW RELEASE STOP CHANGE	464 5762 5389	277 134 143	129 62 67	166 80 86	529 357 172	708 461 247	1090 565 525	28 496 584	89 257 553 -296	111 298 351	97 332 262 70	44 173 127 46	21 81 60	24 92 127	51 384 553	354 584 -230	395 528
STORAGE ELEV FTMSL DISCH KCFS POWER	10736 2211.0 9.5	10880 2211.9 4.5	10947 2212.3 4.5	11033 2212.8 4.5	11205 2213.8 6.0	11451 2215.3 7.5	11976 2218.3 9.5	11888 2217.8 9.5	11592 2216.1 9.0	11539 2215.8 5.9	11609 2216.2 4.3	11655 2216.4 4.3	11676 2216.5 4.3	11642 2216.4 8.0	11472 2215.4 9.0	11242 2214.0 9.5	11110 2213.3 9.5
AVE POWER M PEAK POW MW ENERGY GWH	W 824.6	56 185 20.2	56 186 9.4	56 186 12.2	75 188 54.1	94 190 70.3	121 194 86.9	121 193 90.4	114 191 85.2	75 190 53.9	54 191 40.3	54 191 19.5	55 191 9.2	102 191 19.5	114 190 84.8	120 188 88.9	119 187 79.9
GARRISON NAT INFLOW DEPLETION CHAN STOR	10134 983	478 14 54	223 7	287 8	768 28 -16	1290 202 -16	2718 732 - 21	1903 491	535 55	449 -103	431 -1 17	176 -100	82 -46	94 - 53 - 39	240 -105	178 - 87	282 - 59
EVAPORATION REG INFLOW RELEASE STOR CHANGE	547 13993 13524 469	652 476 176	279 194 85	359 250	1081 982	1533 1230	2530 1339	33 1963 1353	106 933 1322	132 803 955	114 596 797	51 351 386	24 164 194	27 208 270	59 829 1230	844 1353	869 1194
STORAGE ELEV FTMSL DISCH KCFS	12910 1818.5 21.0	13086 1819.2 16.0	13171 1819.6 14.0	13279 1820.0 14.0	13379 1820.4 16.5	13682 1821.6 20.0	14873 1826.2 22.5	15483 1828.4 22.0	15094 1827.0 21.5	14942 1826.4 16.0	14742 1825.7 13.0	14707 1825.6 13.0	14676 1825.4 14.0	14614 1825.2 17.0	14214 1823.7 20.0	13705 1821.7 22.0	13380 1820.4 21.5
AVE POWER M PEAK POW MW ENERGY GWH	W 1860.6	177 324 63.7	156 325 26.1	156 326 33.7	184 328 132.6	224 331 166.5	256 345 184.6	255 433 189.7	250 428 186.0	186 426 133.9	150 423 111.5	149 423 53.8	161 422 27.1	195 421 37.5	228 416 169.4	247 408 183.9	239 404 160.6
OAHE NAT INFLOW DEPLETION CHAN STOR	1794 597 -3	190 22 24	89 10 10	114 13	283 46 -12	161 65 -17	714 126 -12	127 147 2	30 96 2	80 24 26	11 -8	2	1	1	-43 11 -15	-7 16 -10	45 25 2
EVAPORATION REG INFLOW RELEASE	487 14231 13748	668 347	282 238	351 352	1207 1208	1309 1372	1915 1210	31 1304 1705	95 1164 1672	117 920 1305	101 730 745	45 339 470	21 167 98	24 230 136	53 1108 1139	1320 1008	1216 744
STORAGE ELEV FTMSL DISCH KCFS	13502 1587.9 16.2	13823 1589.3 11.7	13867 1589.4 17.1	13866 1589.4 19.7	13865 1589.4 20.3	13802 1589.2 22.3	14507 1592.0 20.3	14106 1590.4 27.7	13598 1588.3 27.2	13213 1586.7 21.9	13199 1586.6 12.1	13067 1586.1 15.8	13137 1586.4 7.1	13231 1586.8 8.6	13200 1586.6 18.5	13512 1588.0 16.4	472 13985 1589.9 13.4
AVE POWER M PEAK POW MW ENERGY GWH	W 1940.3	136 617 49.1	201 618 33.7	231 618 49.8	238 618 171.1	261 617 194.0	240 631 172.5	327 623 243.4	317 613 236.2	254 604 182.7	140 604 104.1	182 601 65.5	82 602 13.7	99 604 19.0	214 604 159.0	190 611 141.2	157 621 105.4
BIG BEND EVAPORATION REG INFLOW	 129 13619	347	238	352	1208	1372	1210	8 1698	24 1648	31 1274	27 718	12 458	6 92	7 130	14 1125	1008	744
RELEASE STORAGE ELEV FTMSL DISCH KCFS	13619 1682 1420.0 16.2	347 1682 1420.0 11.7	238 1682 1420.0 17.1	352 1682 1420.0 19.7	1208 1682 1420.0 20.3	1372 1682 1420.0 22.3	1210 1682 1420.0 20.3	1698 1682 1420.0 27.6	1648 1682 1420.0 26.8	1274 1682 1420.0 21.4	718 1682 1420.0 11.7	458 1682 1420.0 15.4	92 1682 1420.0 6.7	130 1682 1420.0 8.2	1125 1682 1420.0 18.3	$1008 \\ 1682 \\ 1420.0 \\ 16.4$	744 1682 1420.0 13 4
POWER AVE POWER M PEAK POW MW ENERGY GWH	W 786.1	55 517 19.9	80 510 13.5	92 509 19.9	95 509 68.4	104 509 77.7	95 509 68.6	129 509 96.1	125 509 93.3	102 525 73.4	59 538 43.9	78 538 27.9	34 538 5.7	41 538 7.9	90 538 67.2	80 538 59.3	64 529 43.2
FORT RANDA NAT INFLOW DEPLETION	LL 659 80	90 1	42 1	54 1	84 4	67 9	171 12	34 18	65 15	31 7	2 1	1	0	1	73	-7	20
EVAPORATION REG INFLOW RELEASE STOR CHANGE	141 14053 14053 0	435 161 274	279 145 134	405 388 17	1288 1288	1430 1430	1369 1369	10 1704 1704	32 1666 1666	38 1259 1606	27 686 1564	10 446 474	5 88 88	5 123 124	13 1116 750	998 726	761 572
STORAGE ELEV FTMSL DISCH KCFS POWER	3123 1350.0 10.3	3398 1353.4 5.4	3532 1355.0 10.4	3549 1355.2 21.7	3549 1355.2 21.6	3549 1355.2 23.3	3549 1355.2 23.0	3549 1355.2 27.7	3549 1355.2 27.1	3202 1351.0 27.0	2325 1338.0 25.4	2297 1337.5 15.9	2297 1337.5 6.3	2296 1337.5 7.8	2662 1343.5 12.2	2934 1347.4 11.8	3123 1350.0 10.3
AVE POWER M PEAK POW MW ENERGY GWH	W 1390.3	45 349 16.1	88 354 14.8	183 355 39.6	183 355 131.6	196 355 145.9	194 355 139.8	233 355 173.4	228 355 169.6	223 341 160.8	196 285 145.5	116 284 41.8	47 283 7.8	57 283 10.9	91 311 68.0	92 329 68.8	83 338 55.8
GAVINS POI NAT INFLOW DEPLETION CHAN STOR	NT 1342 114 -1	98 0 9	46 0 -10	59 0 -22	133 5 0	148 19 -3	154 24 0	87 39 - 9	86 10 1	62 -5	112 2 3	51 5 18	24 2 18	27	75 10	73	108
EVAPORATION REG INFLOW RELEASE STOR CHANGE	47 15233 15233	269 269	181 181	425 425	1416 1416	1556 1556	1500 1500	3 1740 1740	9 1735 1722	11 1662 1636	10 1666 1666	533 533	125 125 125	2 143 143	5 802 802	798 798	683 722
STORAGE ELEV FTMSL DISCH KCFS	358 1206.0 13.0	358 1206.0 9.0	358 1206.0 13.1	358 1206.0 23.8	358 1206.0 23.8	358 1206.0 25.3	358 1206.0 25.2	358 1206.0 28.3	371 1206.5 28.0	397 1207.5 27.5	397 1207.5 27.1	397 1207.5 17.9	397 1207.5 9.0	397 1207.5 9.0	397 1207.5 13.0	397 1207.5 13.0	-39 358 1206.0 13.0
AVE POWER M PEAK POW MW ENERGY GWH	W 638.0	$32 \\ 114 \\ 11.4$	46 114 7.7	82 114 17.6	82 114 58.7	87 114 64.4	86 114 62.1	96 114 71.6	96 115 71.3	95 117 68.7	95 117 70.6	63 117 22.8	32 117 5.4	32 117 6.2	46 78 34.4	46 78 34.3	46 76 30,8
GAVINS POID NAT INFLOW DEPLETION	NT - SIOU 1160 248	X CITY- 149 6	- 69 3	89 4	116	224	161	97	72	45	31	16	7	9	17	- 3	61
REGULATED FLO KAF KCFS	DW AT SIO 16145	UX CITY 411 13.8	248 17.8	511 28.6	1512 25.4	1746 28.4	1631 27.4	1800 29.3	34 1760 28.6	22 1659 27.9	9 1688 27.5	6 543 18.3	3 130 9.4	3 148 9.3	12 807 13.1	13 782 12.7	13 770 13.9
TOTAL NAT INFLOW DEPLETION CHAN STOR	21702 2409 -8	1271 33 87	593 15 0	762 20 -22	1963 153 -28	2909 640	5521 1437	2946 906	1077 153	945 -186	944 -69	427 -119	199 -56	228 -63	621 -179	467 -175	828 -101
EVAPORATION STORAGE SYSTEM POWER	1814 42311	43226	43556	43767	44037	44525	46945	112 47066	354 45885	440 44975	30 377 43953	17 168 43805	13 78 43865	-56 90 43862	-33 195 43627	-14 43473	5 43637
PEAK POWER MW PEAK POW MW ENERGY GWH DAILY GWH	7448.0	501 2107 180.4 12.0	627 2108 105.3 15.0	800 2109 172.9 19.2	856 2112 616.6 20.6	966 2116 718.8 23.2	992 2148 714.5 23.8	1162 2228 864.6 27.9	1131 2211 841.5 27.1	935 2203 673.4 22.4	693 2158 515.9 16.6	643 2153 231.3 15.4	410 2154 68.9 9.8	526 2155 101.1 12.6	783 2137 582.8 18.8	775 2152 576.4 18.6	708 2154 475.7 17 0
	INI-SUM	15MAR	22MAR	31MAR	30APR	31MAY	30JUN	31JUL	31AUG	30SEP	310CT	15NOV	22NOV	30NOV	31DEC	31JAN	28FEB

DATE OF ST	TUDY 01	/10/0	3		200)2-2003	AOP EXT	TENSIONS	, LOWER	QUART	ILE RUNG	OFF SIMU	JLATION	99001	9901 9	9901 P#	AGE	1
TIME OF ST	28FEB0 1012 09 28FEB0	:48:3 6 -SUM	2 15MAP	2006 22MAP	CWC 31MAR	30APR	VALUES	30JUN	O AF EX	CEPT AS	S INDICA 30SEP	ATED 310CT	15NOV	22NOV	200 30NOV)7 31DEC	31JAN	28FEB
FORT PH	ECK OW	6720	271	126	163	588	1036	1629	709	294	282	363	188	88	100	330	237	317
DEPLETION EVAPORATI MOD INFLO RELEASE	N ION OW	399 473 5848 5379	-11 282 134	-5 131 62	-6 169 80	50 538 357	312 724 461	517 1112 565	182 29 498 584	-52 90 256 553	-131 113 300 333	-72 99 336 249	-34 45 176 120	-16 21 82 56	-18 24 94 127	-112 52 390 584	-122 359 584	-84 401 528
STOR CHAN STORAGE ELEV FTMS	NGE SL 22	469 1110	148 11257 2214.1	69 11326 2214.5	89 11415 2215.0	181 11596 2216.1	263 11859 2217.6	547 12405 2220.7	-86 12320 2220.2	-298 12022 2218.5	-34 11988 2218.3	87 12075 2218.8	56 12131 2219.1	27 12157 2219.3	-33 12124 2219.1	-194 11930 2218.0	-225 11705 2216.7	-127 11578 2216.0
POWER AVE POWEI PEAK POW	rs RMW MW	9.5	4.5 57 188	4.5 57 189	4.5 57 189	6.0 76 191	7.5 95 193	9.5 122 197	9.5 123 196	9.0 116 194	5.6 72 194	4.0 52 194	4.0 52 195	4.0 52 195	8.0 103 195	9.5 122 193	9.5 121 192	9.5 120 191
GARRIS	WH 8 SON OW 7	0262	20.4	9.5	12.3	54.7	71.0	87.9	91.4	86.2	51.8	38.8	18.8	8.7 co	19.8	90.6	90.1	81.0 286
DEPLETION CHAN STON	N R ION	977 0 562	-2 53	-1	-1	-4 -16	214	753 -21	519	60 5 109	-105 35 136	-6 16 117	- 102	-48 0 25	-54 -41 28	-104 -16 60	-85	-57
REG INFLO RELEASE STOR CHAI	OW 1 1 NGE 1	.4102 .3533 .569 .3380	673 446 227 13606	289 194 95 13701	372 250 122 13823	1122 982 140 13963	1537 1230 308 14271	2543 1339 1204 15475	1958 1353 605 16081	932 1322 -390 15690	793 995 -202 15488	590 805 -214 15274	348 389 -41 15232	162 182 -20 15213	207 270 -63 15150	855 1230 -375 14776	849 1353 -504 14272	871 1194 -323 1394 P
ELEV FTM DISCH KCI POWER	SL 18 FS	20.4	1821.3	1821.7 14.0	1822.2 14.0	1822.7	1823.9 20.0	1828.4 22.5	1830.6	1829.2 21.5	1828.5 16.7	1827.7 13.1	1827.5 13.1	1827.4	1827.2	1825.8	1823.9 22.0	1822.7
AVE POWEI PEAK POW ENERGY G	RMW MW WH 18	85.5	167 407 60.2	157 408 26.4	157 410 34.0	186 412 133.7	226 417 168.1	259 433 186.3	259 441 192.5	254 436 188.6	196 433 141.5	153 430 114.1	153 430 55.0	153 429 25.7	198 429 38.0	231 424 171.8	251 417 186.6	243 412 163.0
OAHI NAT INFLO DEPLETION	E OW N R	1860 613	197 23	92 11	118 14	294 47	167 66	740 129	131 151	31 100	83 25	12 - 8	2	1	1	-45	-7 16	46
EVAPORAT REG INFLO RELEASE	ION OW 1 1	502 4278 3695	652 340	281 235	355 348	1217 1202	-10 1314 1367	1938 1201	31 1304 1702	97 1158 1668	120 955 1303	104 738 743	47 341 469	22 159 98	25 225 136	55 1105 1133	1320 1008	1216 743
STOR CHAN STORAGE ELEV FTMS DISCH KCI	NGE SL 15 FS	583 3985 89.9 13.4	312 14297 1591.2 11.4	46 14342 1591.4 16.9	6 14349 1591.4 19.5	15 14364 1591.5 20.2	-52 14312 1591.2 22.2	737 15049 1594.2 20.2	-399 14650 1592.6 27 7	-510 14140 1590.6 27 1	-347 13792 1589.1 21 9	-5 13788 1589.1 12 1	-129 13659 1588.6 15 9	61 13720 1588.8 7 0	89 13810 1589.2	-28 13781 1589.1 18 4	313 14094 1590.4 16 4	473 14568 1592.3 13 4
POWER AVE POWEI PEAK POW	RMW MW	57 4	135	200	231 628	239	263 627	241	331 634	321 624	257 617	142 617	184 614	83 615	100 617	215 616	192 623	159 632
BIG BI EVAPORAT:	wri 19 END ION	129	48.6	33.7	49.9	172.2	195.6	173.3	245.9	238.6	184.8	105.3 27	66.4 12	13.9	19.3 7	160.3	143.1	106.6
REG INFLO RELEASE STORAGE	0W 1 1	3567 3567 1682	340 340 1682	235 235 1682	348 348 1682	1202 1202 1682	1367 1367 1682	1201 1201 1682	1695 1695 1682	1644 1644 1682	1272 1272 1682	716 716 1682	457 457 1682	92 92 1682	129 129 1682	1119 1119 1682	1008 1008 1682	743 743 1682
DISCH KCI POWER AVE POWEI	FS R MW	13.4	1420.0 11.4 54	1420.0 16.9 79	1420.0 19.5 91	1420.0 20.2 95	1420.0 22.2 104	1420.0 20.2 95	1420.0 27.6 129	1420.0 26.7 125	1420.0 21.4 102	1420.0 11.6 59	1420.0 15.4 77	1420.0 6.6 34	1420.0 8.1 41	1420.0 18.2 90	1420.0 16.4 80	1420.0 13.4 64
PEAK POW ENERGY GW	MW WH 7 NDALL	83.1	517 19.5	510 13.3	509 19.7	509 68.1	509 77.4	509 68.0	509 96.0	509 93.1	525 73.3	538 43.8	538 27.9	538 5.7	538 7.9	538 66.9	538 59.3	529 43.2
NAT INFLO DEPLETION EVAPORATI	OW N ION	690 80 141	94 1	44 1	56 1	88 4	70 9	179 12	36 18 10	68 15 32	32 7 38	2 1 27	1 10	0 5	1 5	7 3 13	-7 3	21 3
REG INFLO RELEASE STOR CHAN STORAGE	UW 1 1 NGE	4032 4032 0 3123	432 158 274 3398	278 144 134 3532	404 387 17 3549	1286 1286 3540	1428 1428 3540	1368 1368 0	1703 1703 0	1665 1665 0	1258 1605 -347	684 1562 - 877	446 474 -28	88 88 0	123 123 0	1110 744 366	998 726 272	761 572 189
ELEV FTMS DISCH KCH POWER	SL 13 FS	50.0 10.3	1353.4	1355.0 10.4	1355.2 21.7	1355.2 21.6	1355.2 23.2	1355.2 23.0	1355.2 27.7	1355.2 27.1	1351.0 27.0	2325 1338.0 25.4	2297 1337.5 15.9	2297 1337.5 6.3	2296 1337.5 7.8	2662 1343.5 12.1	2934 1347.4 11.8	3123 1350.0 10.3
AVE POWER PEAK POW ENERGY GW	K MW MW WH 13	88.2	44 349 15.8	88 354 14.7	183 355 39.5	182 355 131.4	$196 \\ 355 \\ 145.7$	194 355 139.7	233 355 173.3	228 355 169.5	223 341 160.7	195 285 145.3	116 284 41.8	46 283 7.8	57 283 10.9	91 311 67.5	92 329 68.8	83 338 55.8
GAVINS H NAT INFLO DEPLETION CHAN STOP	POINT OW N R	1359 114 -1	100	47	60 0 - 33	135	150 19	155 24	88 39	87 10	63 - 5	114 2	51 5	24 2	27 3	76 10	74 1	109
EVAPORATI REG INFLO RELEASE	ION DW 1 1	47 5228 5228	267 267	181 181	425 425	0 1416 1416	-3 1556 1556	1500 1500	-9 3 1740 1740	1 9 1735 1722	0 11 1662 1636	3 10 1666 1666	18 5 533 533	18 2 125 125	-3 2 143 143	-8 5 797 797	1 799 799	3 684 723
STOR CHAN STORAGE ELEV FTMS DISCH KCF	NGE SL 12 FS	358 06.0 13.0	358 1206.0 9.0	358 1206.0 13.0	358 1206.0 23.8	358 1206.0 23 P	358 1206.0 25 3	358 1206.0 25.2	358 1206.0	13 371 1206.5	26 397 1207.5	397 1207.5	397 1207.5	397 1207.5	397 1207.5	397 1207.5	397 1207.5	-39 358 1206.0
POWER AVE POWER PEAK POW	R MW MW	27 0	32 114	46 114	82 114	82 114	87 114	86 114	20.3 96 114	28.0 96 115	27.5 95 117	27.1 95 117	17.9 63 117	9.0 32 117	9.0 32 117	13.0 46 78	13.0 46 78	13.0 46 76
GAVINS F	POINT - DW	SIOU 1211	11.4 X CITY- 155	- 72	17.6 93	58.7 121	64.4 234	62.1 168	101	71.3	68.7	70.6 د د	22.8	5.4	6.2	34.2	34.3	30.8
DEPLETION REGULATED KAF	FLOW A	251 T SIO 6188	UX CITY	250	514	21 1516	35 1755	30 1638	37 1804	34 1763	47 22 1661	10 1689	544	8 3 130	9 3 149	17 12 802	-3 13 783	64 13 774
TOTAL NAT INFLO	 DW 2.	2102	14.0 1301	18.0 607	28.8 780	25.5 2003	28.5 2963	27.5 5623	29.3 2992	28.7	27.9 967	961	18.3	9.4	9.4	13.0	12.7	13.9
DEPLETION CHAN STOR EVAPORATI STORAGE		2434 -5 1854 3637	17 94	8 -5	10 -22	123 -27	655 -35	1465	946 -7 115	167 9 361	-187 58 450	-73 32 386	434 -123 17 172	203 -57 19 80	231 -65 -63 92	628 -180 -38 199	474 -174 -9	843 -99 5
SYSTEM PO AVE POWER PEAK POW	WER MW MW		488 2203	627 2204	45176 801 2206	45512 860 2209	46030 971 2215	48518 996 2250	48639 1170 2249	47454 1139 2233	46550 946 2226	45540 696 2181	45398 646 2177	45466 399 2178	45460 531 2179	45229 795	45085 783	45258 715
ENERGY GW DAILY GWH	IH 743 I INJ	84.9 -SUM	175.8 11.7 15MAR	105.3 15.0 22MAR	173.0 19.2 31MAP	618.9 20.6	722.2 23.3	717.2 23.9	870.7 28.1	847.2 27.3	680.8 22.7	517.9 16.7	232.6 15.5	67.1 9.6	102.0 12.8	2161 591.3 19.1	2176 582.3 18.8	2178 480.5 17.2
	2011	~ 0.1	- 01 mm	- DIVITIN	2 TURK	JUAPK	JIMAY	JUJUN	JULL	3 I AUG	30SEP	310CT	15NOV	22NOV	30NOV	31DEC	31JAN	28FEB

DATE OF STUD	r 01/10/0	3		200	2-2003	AOP EXT	ENSIONS	5, LOWEF	QUARTI	LE RUNC	FF SIM	JLATION	99001	9901 9	901 P#	GE	1
TIME OF STUD	Y 09:48:3	2		CWC	P, FLOW	TO TAR VALUES	GET, 16 IN 100	5-DAY SH 00 AF EX	CEPT AS	SEASON	TED			200	8	STUDY N	10 37
28	INI-SUM	15MAR	2007 22MAR	31MAR	30APR	31MAY	30JUN	31JUL	31AUG	30SEP	310CT	15NOV	22NOV	30NOV	31DEC	31JAN	29FEB
FORT PECK NAT INFLOW DEPLETION EVAPORATION MOD INFLOW	6751 409 482 5860	272 -11 283	127 -5 132	163 -6 170	591 50 541	1041 312 729	1636 521 1115	712 189 29 494	295 -48 92 251	284 -132 115 301	365 -72 101 336	188 -33 46 175	88 -15 21 82	100 -18 24 93	332 -110 53 389	238 -120 358	318 -93 411
RELEASE STOR CHANGE STORAGE ELEV FTMSL DISCH KCFS	5402 458 11578 2216.0 9.5	134 149 11728 2216.8 4.5	62 70 11797 2217.2 4.5	80 89 11887 2217.7 4.5	357 184 12071 2218.8 6.0	461 268 12339 2220.3 7.5	565 550 12888 2223.3 9.5	584 -91 12798 2222.8 9.5	-302 12495 2221.2 9.0	345 -44 12451 2220.9 5.8	244 92 12543 2221.4 4.0	57 12601 2221.7 4.0	26 12627 2221.9 4.0	-34 12593 2221.7 8.0	-195 12398 2220.6 9.5	-226 12172 2219.4 9.5	-135 12037 2218.6 9.5
POWER AVE POWER M PEAK POW MW ENERGY GWH	W 846.6	57 192 20.6	58 192 9.7	58 193 12.4	77 194 55.5	97 196 72.0	124 199 89.0	124 199 92.4	117 197 87.2	75 197 54.2	52 197 38.4	52 198 18.6	52 198 8.8	104 198 20.0	123 197 91.7	123 195 91.2	122 194 84.9
GARRISON NAT INFLOW DEPLETION CHAN STOR EVAPORATION	10290 963 0 576	485 0 53	226 0	291 0	779 -1 -16	1310 210 -16	2760 759 -21	1932 530 35	543 60 5 111	456 -110 33 139	438 -19 19 121	179 -106 0 54	84 -49 0 25	95 -56 -41 29	243 -105 -15 62	181 -85	287 -64
REG INFLOW RELEASE STOR CHANGE STORAGE ELEV FTMSL DISCH KCFS DOWER	14153 13595 558 13948 1822.7 21.5	673 446 226 14175 1823.5 15.0	289 194 95 14270 1823.9 14.0	372 250 122 14391 1824.4 14.0	1121 982 139 14531 1824.9 16.5	1545 1230 316 14847 1826.1 20.0	2545 1339 1207 16053 1830.5 22.5	1951 1353 599 16652 1832.6 22.0	931 1322 -391 16260 1831.2 21.5	805 952 -147 16113 1830.7 16.0	599 806 -207 15906 1830.0 13.1	348 390 -42 15864 1829.8 13.1	163 182 -19 15845 1829.7 13.1	209 301 -93 15752 1829.4 19.0	855 1230 -375 15377 1828.1 20.0	850 1353 -503 14875 1826.2 22.0	897 1265 -368 14507 1824.8 22.0
AVE POWER M PEAK POW MW ENERGY GWH	W 1921.3	170 415 61.1	159 417 26.8	160 418 34.5	189 420 135.7	229 425 170.6	262 441 188.9	262 448 195.1	257 443 191.1	191 441 137.3	156 439 116.0	155 438 55.9	155 438 26.1	224 437 43.0	234 432 174.3	255 425 189.5	252 420 175.3
OAHE NAT INFLOW DEPLETION CHAN STOR EVAPORATION	1877 626 -2 515	199 23 30	93 11 5	119 14	297 47 -11	168 67 -16	747 132 -11	132 156 2 32	31 103 2 100	84 25 25 123	12 -9 14 107	2	1 0 22	1 -28 26	-45 12 -5 56	-7 17 -9	47 26
REG INFLOW RELEASE STOR CHANGE STORAGE ELEV FTMSL DISCH KCFS DOWER	14328 13756 572 14568 1592.3 13.4	653 339 314 14881 1593.5 11.4	281 237 44 14926 1593.7 17.1	356 351 4 14930 1593.7 19.7	1220 1213 8 14937 1593.7 20.4	1315 1378 -63 14874 1593.5 22.4	1942 1210 732 15607 1596.3 20.3	1299 1702 -403 15203 1594.8 27.7	1152 1668 -516 14688 1592.7 27.1	913 1303 -390 14298 1591.2 21.9	733 743 -9 14289 1591.2 12.1	340 469 -129 14159 1590.6 15.8	159 98 61 14220 1590.9 7.0	247 136 111 14332 1591.3 8.6	1112 1133 -21 14310 1591.2 18.4	1319 1008 312 14622 1592.5 16.4	1286 769 517 15140 1594.5 13.4
AVE POWER M PEAK POW MW ENERGY GWH	W 1990.2	136 638 49.1	205 639 34.4	236 639 51.0	244 639 176.0	268 638 199.7	245 652 176.7	334 644 248.8	325 634 241.5	260 627 187.1	143 627 106.5	187 624 67.2	84 625 14.0	102 627 19.5	218 627 162.3	195 633 144.9	161 643 111.7
BIG BEND EVAPORATION REG INFLOW RELEASE STORAGE ELEV FTMSL DISCH KCFS	129 13627 13627 1682 1420.0 13.4	339 339 1682 1420.0 11.4	237 237 1682 1420.0 17.1	351 351 1682 1420.0 19.7	1213 1213 1682 1420.0 20.4	1378 1378 1682 1420.0 22.4	1210 1210 1682 1420.0 20.3	8 1694 1694 1682 1420.0 27.6	24 1644 1644 1682 1420.0 26.7	31 1272 1272 1682 1420.0 21.4	27 716 716 1682 1420.0 11.6	12 457 1682 1420.0 15.4	6 92 92 1682 1420.0 6.6	7 129 129 1682 1420.0 8.1	14 1119 1119 1682 1420.0 18.2	1008 1008 1682 1420.0 16.4	769 769 1682 1420.0 13.4
POWER AVE POWER M PEAK POW MW ENERGY GWH	W 786.5	54 517 19.4	80 510 13.4	92 509 19.9	95 509 68.7	105 509 78.1	95 509 68.5	129 509 96.0	125 509 93.1	102 525 73.3	59 538 43.8	77 538 27.9	34 538 5.7	41 538 7.9	90 538 66.9	80 538 59.3	64 529 44.7
FORT RANDA NAT INFLOW DEPLETION EVAPORATION PEG INFLOW	LL 696 80 141	95 1 432	44 1 280	57 1	89 4	71 9	181 12	36 18 10	68 15 32	32 7 38	2 1 27	1 10	05	1 5	7 3 13	-7 3	21 3
RELEASE STOR CHANGE STORAGE ELEV FTMSL DISCH KCFS	14098 0 3123 1350.0 10.3	158 274 3398 1353.4 5.3	146 134 3532 1355.0 10.5	390 17 3549 1355.2 21.9	1298 3549 1355.2 21.8	1440 3549 1355.2 23.4	1379 3549 1355.2 23.2	1702 0 3549 1355.2 27.7	1665 0 3549 1355.2 27.1	1605 -347 3202 1351.0 27.0	1562 -877 2325 1338.0 25.4	440 474 -28 2297 1337.5 15.9	88 0 2297 1337.5 6.3	123 123 0 2296 1337.5 7.8	744 366 2662 1343.5 12.1	726 272 2934 1347.4 11.8	598 189 3123 1350.0 10.4
POWER AVE POWER M PEAK POW MW ENERGY GWH	W 1394.8	44 349 15.8	89 354 14.9	185 355 39.9	184 355 132.6	198 355 147.0	195 355 140.8	233 355 173.3	228 355 169.5	223 341 160.7	195 285 145.3	116 284 41.8	46 283 7.8	57 283 10.9	91 311 67.5	92 329 68.8	84 338 58.4
GAVINS POI NAT INFLOW DEPLETION CHAN STOR EVAPORATION REG INFLOW	NT 1362 114 -1 47 15298	100 0 10 267	47 0 -10	60 0 -22 429	135 5 0	150 19 -3	156 24 0	88 39 -9 3	87 10 1 9	63 -5 0 11	114 2 3 10	51 5 18 5	24 2 18 2	27 3 -3 2	76 10 -8 5	75 1 1	110 3
RELEASE STOR CHANGE STORAGE ELEV FTMSL	15298 358 1206-0	267 358 1206.0	183 358 1205 0	429 358 1206 0	1428 358	1568 358	1511 358	1740 358	1722 13 371	1636 26 397	1666 397	533 533	125 125 397	143 143 397	797 797	800 800	750 -39 358
DISCH KCFS POWER AVE POWER M PEAK POW MW	13.0 W	9.0 32 114	13.2 46 114	24.0 82 114	24.0 82 114	25.5 87 114	25.4 87 114	28.3 96	28.0 96	27.5 95	27.1 95	17.9 63	9.0 32	9.0 32	13.0	1207.5 13.0 46	13.0
ENERGY GWH	640.7 NT - SIOU	11.4 JX CITY-	7.7	17.8	59.2	64.9	62.5	71.6	71.3	68.7	70.6	22.8	5.4	6.2	34.2	34.4	32.0
NAT INFLOW DEPLETION REGULATED FL KAF	1223 254 OW AT SIC 16267	157 6 0UX CITY 418	73 3 7 253	94 4 519	122 21 1529	236 35 1769	170 30 1651	102 37 1805	75 35 1762	47 23 1660	33 10 1689	17 6 544	8 3 130	9 3 149	18 12 803	-3 13 794	65 14 801
KCFS TOTAL		14.0	18.2	29.1	25.7	28.8	27.8	29.4	28.7	27.9	27.5	18.3	9.4	9.4	13.1	12.8	13.9
NAT INFLOW DEPLETION CHAN STOR EVAPORATION STORAGE	22199 2446 -8 1890 45258	1308 19 93 46222	610 9 -5 46565	785 11 -22 46797	2013 126 -27 47128	2976 652 -35 47648	5650 1478 -32 50137	3002 969 -6 117 50242	1099 175 8 367 49045	966 -192 58 458 48143	964 -87 30 393 47142	435 -126 17 176 47000	203 -59 18 82 47068	232 -67 -72 94 47053	631 -178 -28 203 46827	477 -171 -9 46682	848 -114 3 46846
AVE POWER MI PEAK POW MW ENERGY GWH	7580.1	493 2226 177.5	636 2227 106.9	812 2229 175.5	872 2232 627.7	984 2237 732.1	1009 2271 726.4	1179 2270 877.1	1147 2254 853.7	946 2248 681.3	700 2203 520.6	650 2198 234.1	403 2199 67.7	560 2200 107.5	802 2183 596.8	790 2198 588.1	729 2200 507-0
DAIDI GWH	INI-SUM	11.8 15MAR	15.3 22MAR	19.5 31MAR	20.9 30APR	23.6 31MAY	24.2 30JUN	28.3 31JUL	27.5 31AUG	22.7 30SEP	16.8 310CT	15.6 15NOV	9.7 22NOV	13.4 30NOV	19.3 31DEC	19.0 31JAN	17.5 29FEB

DATE OF STUD	Y 01/10/0	03		200	02-2003	AOP EXI	ENSIONS	G, LOWER	QUARTI	LE RUNC	OFF SIMU	JLATION	99001	9901 9	9901 P#	AGE	1
TIME OF STUD	Y 09:48:3	32		CWO	CP, FLOW	TO TAF	RGET, 14 5 IN 100	1-DAY SH DO AF EX	IORTENEL	SEASON	I (MM) ATED					STUDY N	10 38
29	FEB08 INI-SUM	15MAR	2008 22MAR	31MAR	30APR	31MAY	3 0 J UN	31JUL	31AUG	30SEP	310CT	15NOV	22NOV	200 30NOV	31DEC	31JAN	28FEB
FORT PECK NAT INFLOW DEPLETION EVAPORATION MOD INFLOW RELEASE STOR CHANGE STORAGE	7022 422 496 6104 5628 476 12037	283 -11 294 134 160 12196	132 -5 137 62 75 12271	170 -6 176 80 96 12367	615 50 565 357 208 12575	1083 313 770 461 309 12884	1702 525 1177 595 582 13466	741 196 30 515 615 -100 13365	307 -44 95 256 615 -359 13007	295 -132 119 308 352 -43 12963 2223 7	379 -75 104 350 278 72 13036 2224 1	196 -35 47 183 134 48 13084 2224 4	91 -16 22 85 62 23 13107 2224 5	104 -18 25 97 127 -29 13077 2224 3	345 -113 54 404 584 -180 12897 2223.4	248 -123 371 615 -244 12653 2222.0	331 -84 415 555 -140 12513 2221.3
DISCH KCFS POWER AVE POWER M PEAK POW MW ENERGY GWH	9.5 W 893.0	4.5 58 195 20.9	4.5 58 196 9.8	4.5 58 196 12.6	6.0 78 198 56.1	7.5 98 199 72.9	10.0 132 203 94.9	10.0 132 202 98.6	10.0 132 200 98.1	5.9 78 200 56.0	4.5 60 200 44.3	4.5 60 200 21.5	4.5 59 201 10.0	8.0 105 200 20.2	9.5 125 199 92.8	10.0 131 198 97.1	10.0 130 197 87.3
GARRISON NAT INFLOW DEPLETION CHAN STOR	10598 1160 -5	500 52	233	300	803 -16	1349 216 -16	2842 774 -26	1990 553	559 56	470 -134 41	451 9 14	185 -90	86 -42 0	98 -48 -36	251 -67 -15	186 -46 -5	295 -22
EVAPORATION REG INFLOW RELEASE STOR CHANGE STORAGE ELEV FTMSL DISCH KCFS DOWED	1 589 14472 13891 581 14507 1824.8 22.0	686 446 240 14747 1825.7 15.0	296 194 101 14848 1826.1 14.0	380 250 130 14978 1826.6 14.0	1144 1041 103 15081 1827.0 17.5	1579 1261 318 15399 1828.1 20.5	2637 1398 1239 16638 1832.5 23.5	36 2016 1414 602 17240 1834.6 23.0	113 1005 1383 -379 16861 1833.3 22.5	142 855 952 -97 16764 1833.0 16.0	123 611 801 -191 16574 1832.3 13.0	56 353 388 -35 16539 1832.2 13.0	26 165 182 -17 16522 1832.1 13.1	30 208 286 -78 16444 1831.9 18.0	823 1230 -407 16037 1830.4 20.0	842 1414 -572 15465 1828.4 23.0	872 1250 -377 15088 1827.0 22.5
AVE POWER M PEAK POW MW ENERGY GWH	W 1 1990.7	172 423 62.0	162 425 27.2	162 426 35.0	203 428 145.9	238 432 177.2	278 448 199.9	278 456 206.5	272 451 202.6	193 450 139.2	157 447 117.1	157 447 56.5	158 447 26.5	216 446 41.4	238 440 177.1	270 433 201.0	261 428 175.6
OAHE NAT INFLOW DEPLETION CHAN STOR EVAPORATION REG INFLOW RELEASE STOR CHANGE STORAGE ELEV FTMSL DISCH KCFS	2048 641 -3 1 532 14763 14168 2 595 15140 1594.5 13.4	217 23 32 672 459 213 15353 1595.3 1595.3	101 11 5 289 126 164 15517 1596.0 9.1	130 14 366 346 20 15537 1596.0 19.4	324 48 -16 1302 1263 38 15575 1596.2 21.2	183 68 -13 1362 1433 -71 15505 1595.9 23.3	815 135 -13 2065 1249 815 16320 1598.9 21.0	144 160 2 34 1367 1762 -395 15925 1597.5 28.7	34 106 2 104 1210 1726 -516 15410 1595.5 28.1	92 26 29 128 920 1362 -442 14967 1593.8 22.9	13 -9 14 110 727 -81 14887 1593.5 13.1	2 0 50 337 -193 14694 1592.8 17.8	1 0 23 158 95 63 14757 1593.0 6.8	1 -23 26 135 101 14857 1593.4 8.5	-49 12 -9 58 1102 1132 -30 14827 1593.3 18.4	-8 17 -14 1375 1009 367 15194 1594.7 16.4	51 27 2 1276 735 540 15735 1596.8 13.2
POWER AVE POWER N PEAK POW MW ENERGY GWH	1W 7 2077.2	186 647 67.1	110 650 18.5	235 651 50.9	258 651 185.6	283 650 210.3	257 665 185.0	351 658 261.3	341 648 253.6	276 640 198.5	158 638 117.4	213 635 76.6	82 636 13.8	102 638 19.7	220 637 164.0	197 644 146.8	161 654 108.2
BIG BENI EVAPORATION REG INFLOW RELEASE STORAGE ELEV FTMSL DISCH KCFS POWER) I 129 14040 14040 1682 1420.0 13.4	459 459 1682 1420.0 15.4	126 126 1682 1420.0 9.1	346 346 1682 1420.0 19.4	1263 1263 1682 1420.0 21.2	1433 1433 1682 1420.0 23.3	1249 1249 1682 1420.0 21.0	8 1754 1754 1682 1420.0 28.5	24 1701 1701 1682 1420.0 27.7	31 1331 1331 1682 1420.0 22.4	27 780 780 1682 1420.0 12.7	12 517 517 1682 1420.0 17.4	6 89 1682 1420.0 6.4	7 129 129 1682 1420.0 8.1	14 1118 1118 1682 1420.0 18.2	1009 1009 1682 1420.0 16.4	735 735 1682 1420.0 13.2
AVE POWER M PEAK POW MW ENERGY GWH	พ 7 810.1	72 510 26.0	42 509 7.1	91 509 19.6	99 509 71.6	109 509 81.2	98 509 70.8	134 509 99.3	130 509 96.3	107 525 76.7	64 538 47.7	87 538 31.5	33 538 5.5	41 538 7.9	90 538 66.8	80 538 59.4	64 529 42.7
FORT RANDA NAT INFLOW DEPLETION EVAPORATION REG INFLOW RELEASE STOR CHANGE STORAGE ELEV FTMSL DISCH KCFS DOWER	ALL 779 80 141 14594 20 3123 1350.0 10.4	106 1 563 155 409 3532 1355.0 5.2	49 1 175 158 17 3549 1355.2 11.3	64 1 409 409 1355.2 22.9	100 4 1359 1359 3549 1355.2 22.8	79 9 1503 1503 3549 1355.2 24.4	203 12 1440 1440 3549 1355.2 24.2	41 18 10 1767 1767 0 3549 1355.2 28.7	76 15 32 1731 1731 0 3549 1355.2 28.1	36 7 38 1322 1669 -347 3202 1351.0 28.0	2 1 27 749 1626 -877 2325 1338.0 26.4	1 10 505 533 -28 2297 1337.5 17.9	0 5 85 85 0 2297 1337.5 6.1	1 5 123 123 0 2296 1337.5 7.7	8 3 1110 744 366 2662 1343.5 12.1	-8 3 998 726 272 2934 1347.4 11.8	23 3 755 566 189 3123 1350.0 10.2
AVE POWER M PEAK POW MW ENERGY GWH	W 1443.4	43 354 15.7	96 355 16.2	193 355 41.7	193 355 138.8	206 355 153.3	204 355 146.9	242 355 179.7	237 355 176.1	232 341 166.9	203 285 151.2	130 284 46.9	45 283 7.5	57 283 10.9	91 311 67.5	92 329 68.8	82 338 55.3
GAVINS POI NAT INFLOW DEPLETION CHAN STOR EVAPORATION REG INFLOW RELEASE STOR CHANGE	1401 114 -1 47 15833 15833	103 0 10 268 268	48 0 -12 194 194	62 0 -22 448 448	139 5 0 1493 1493	155 19 -3 1636 1636	160 24 0 1577 1577	91 39 -9 3 1808 1808	89 10 9 1802 1789 13	65 -5 0 11 1728 1702 26	117 2 3 10 1734 1734	53 5 16 592 592	25 22 22 127 127	28 3 -3 2 143 143	78 10 -8 5 799 799	77 1 1 802 802	113 3 682 721
STORAGE ELEV FTMSL DISCH KCFS POWER AVE POWER M	358 1206.0 13.0	358 1206.0 9.0 32	358 1206.0 14.0 49	358 1206.0 25.1 86	358 1206.0 25.1 86	358 1206.0 26.6 91	358 1206.0 26.5	358 1206.0 29.4	371 1206.5 29.1	397 1207.5 28.6	397 1207.5 28.2	397 1207.5 19.9	397 1207.5 9.1	397 1207.5 9.0	397 1207.5 13.0	397 1207.5 13.0	358 1206.0 13.0
PEAK POW MW ENERGY GWH	661.6 NT - SIO	114 11.4 JX CITY-	114 8.2	114 18.6	114 61.8	114 67.5	114 65.1	114 74.0	115 73.8	99 117 71.4	99 117 73.4	117 25.3	33 117 5.5	32 117 6.2	46 78 34.3	46 78 34.5	46 76 30.8
NAT INFLOW DEPLETION REGULATED FL KAF KCFS	1356 255 OW AT SIC 16934	174 6 0UX CITY 435 14.6	81 3 272 19.6	104 4 549 30.7	135 21 1607 27.0	262 35 1863 30.3	188 30 1735 29.2	113 38 1883 30.6	84 35 1838 29.9	52 23 1731 29.1	37 10 1761 28.6	19 6 606 20.4	9 3 133 9.6	10 3 150 9.4	20 12 807 13.1	-4 13 785 12.8	72 14 779 14.0
TOTAL NAT INFLOW DEPLETION CHAN STOR EVAPORATION	23204 2672 -12 1933	1383 20 94	645 9 -7	829 12 -22	2116 128 -31	3111 660 -32	5910 1500 -39	3120 1004 -7 120	1149 178 3 376	1010 -215 71 468	999 -62 26 402	452 -111 15 179	211 -52 23 84	241 -59 -61	653 -143 -32 208	491 -135 -18	885 -62 5
SIGRAGE SYSTEM POWE AVE POWER M PEAK POW MW ENERGY GWH DAILY GWH	46846 R W 7876.0	47868 564 2245 203.1	48224 518 2249 87.0	48471 826 2252 178.4	48820 916 2255 659.9	49377 1025 2260 762.4	52013 1059 2294 762.6	52120 1236 2294 919.4	50879 1210 2279 900.5	49976 984 2272 708.7	48900 741 2226 551.0	48693 717 2220 258.3	48761 409 2221 68.7	48754 553 2222 106.2	48503 810 2204 602.5	48326 817 2220 607.5	48499 744 2222 499.9
0	INI-SUM	15.5 15MAR	22MAR	19.8 31MAR	22.0 30APR	24.6 31MAY	25.4 30JUN	29.7 31JUL	29.0 31AUG	23.6 30SEP	17.8 310CT	17.2 15NOV	9.8 22NOV	13.3 30NOV	19.4 31DEC	19.6 31 JAN	17.9 28FEB

DARD OF CRIDY	01/10/0			2	002-200	3 300 5	YTENCIC	NG LOW	ER DECT	LE RINC	FF STM	ILATION	99001	9901 9	901 PA	AGE	1
DATE OF STUDY	00.48.4	14		4	WCP FL	оw то т	ARGET	24-DAY	SHORTEN	IED SEAS	SON	LITT FOR	<i>,,,,,,</i> ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			STUDY N	- 10 39
TIME OF SIDDY	09:46:4	14	2004		, MCF, FL	VALUES	5 IN 100	O AF EX	CEPT AS	INDICA	TED			200)5		
FORT PECK-	INI-SUM -	15MAR	22MAR	31MAR	30APR	31 M AY	30JUN	31JUL	31AUG	30SEP	310CT	15NOV	22NOV	30NOV	31DEC	31JAN	28FEB
NAT INFLOW DEPLETION EVAPORATION	5435 419 408	250 2	116 1	150 1	549 86	834 321	1061 476	468 145 25	270 -51 78	258 -123 98	341 -55 85	169 -32 39	79 -15 18	90 -17 21	289 -106 44	218	293 -90
MOD INFLOW RELEASE STOR CHANGE	4608 5486 -878	247 134 113	115 62 53	148 80 68	463 357 106	513 492 21	585 595 -10	298 584 -286	243 553 -310	283 327 -44	311 271 40	162 131 31	76 61 15	87 111 -25	351 584 -234	343 615 -272	383 528 -145
STORAGE ELEV FTMSL DISCH KCFS	9541 2203.6 10.5	9654 2204.3 4.5	9707 2204.7 4.5	9775 2205.1 4.5	9881 2205.8 6.0	9902 2205.9 8.0	9892 2205.8 10.0	9606 2204.0 9.5	9295 2202.0 9.0	9252 2201.7 5.5	9291 2202.0 4.4	9322 2202.2 4.4	9337 2202.3 4.4	9313 2202.1 7.0	9079 2200.6 9.5	8807 2198.7 10.0	8662 2197.8 9.5
POWER AVE POWER MW PEAK POW MW		54 175	54 175	54 176	72 177	96 177	120 177	114 175	107 172	65 171	52 172	52 172	52 172	83 172	112 170	117 167	110 166
ENERGY GWH	787.6	19.4	9.1	11.7	52.1	71.7	86.7	84.7	79.5	46.9	38.8	18.8	8.8	15.9	83.1	86.7	73.8
DEPLETION CHAN STOR	8026 1508 11	297 38 66	138	23	//0 69 -17	166 -22	763 -22	1404 527 5	111 5	-65 38	429 64 12	-68	-32 -32 -31	-36 -28 -24	-40 -27	-17	-12
REG INFLOW RELEASE	11533 12601	459 446	183 180	236 232	1042 893	1297 1107	2031 1220	1437 1230	751 1199	619 963	547	331 352	154 164	189 286	665 1230	802 1261	790 1111
STOR CHANGE STORAGE	-1068 11467	13 11479	3 11482	4 11486	149 11635	190 11825	811 12636	207 12843	-448 12395	-344 12051	-181 11870	-21 11848	-9 11839	-96 11742	-565 11177	-458 10719	-321 10398
ELEV FTMSL DISCH KCFS	1812.4 20.5	1812.5 15.0	1812.5 13.0	1812.5 13.0	1813.2 15.0	1814.0 18.0	1817.4 20.5	1818.3 20.0	1816.4 19.5	1814.9 16.2	1814.2 11.8	1814.1 11.8	1814.0 11.8	1813.6 18.0	1811.1 20.0	1809.1 20.5	1807.6 20.0
AVE POWER MW PEAK POW MW ENERGY GWH	1623.5	159 304 57.1	138 304 23.1	138 304 29.8	159 306 114.5	191 309 142.5	221 319 159.1	219 321 162.9	213 316 158.3	175 312 126.0	127 309 94.8	127 309 45.8	127 309 21.3	192 308 36.8	211 300 156.7	212 294 157.7	204 290 137.1
OAHE NAT INFLOW	1184	223	104	134	206	113	242	92	24	72	6	- 6	- 3	- 3	-54	-13	47
DEPLETION CHAN STOR	585 2	22 28	10 10	13	46 -10	64 -15	123 -13	143	93 3	23 18	-8 24	2	1 0	- 34	-11	16 -3	25 3
REG INFLOW RELEASE	12802 13896	675 367	284 263	352 371	1042 1250	1141 1411	1326 1248	26 1155 1726	1054 1701	96 934 1354	82 684 766	308 261	143 120	20 228 138	43 1110 1059	1229	1135
STOR CHANGE STORAGE	-1094 12023	307 12330	21 12351	-19 12332	-207 12125	-270 11855	78 11933	-571 11362	-647 10715	-419 10295	-82 10213	47 10260	24 10284	90 10374	51 10426	397 10823	106 10928
ELEV FTMSL DISCH KCFS	1581.4 16.9	1582.8 12.4	1582.9 19.0	1582.8 20.8	1581.9 21.0	1580.7 22.9	1581.0 21.0	1578.3 28.1	1575.1 27.7	1573.0 22.7	1572.5 12.5	1572.8 8.8	1572.9 8.6	1573.4 8.7	1573.7 17.2	1575.7 13.5	1576.2 18.5
AVE POWER MW PEAK POW MW ENERGY GWH	1836.0	139 584 50.0	214 584 35.9	234 584 50.6	236 579 169.8	256 572 190.3	233 574 168.0	309 560 230.0	299 543 222.7	242 532 174.5	132 530 98.4	93 531 33.5	92 532 15.4	92 534 17.7	183 536 136.4	145 546 108.1	200 549 134.6
BIG BEND- EVAPORATION	- 129							8	24	31	27	12	6	7	14		
REG INFLOW RELEASE	13767 13767	367 367	263 263	371 371	1250 1250	$1411 \\ 1411$	1248 1248	1718 1718	1677 1677	1323 1323	739 739	249 249	114 114	131 131	1045 1045	832 832	1030 1030
STORAGE ELEV FTMSL	1682 1420.0	1682 1420.0	1682 1420.0	1682 1420.0	1682 1420.0	1682 1420.0	1682 1420.0	1682 1420.0	1682 1420.0	1682 1420.0	1682 1420.0	1682 1420.0	1682 1420.0	1682 1420.0	1682 1420.0	1682 1420.0	1682 1420.0
POWER AVE POWER MW	10.9	58	19.0	20.8 97	21.0	107	21.0	27.9	128	106	12.0	8.4	8.2	8.3	17.0	13.5	18.5
PEAK POW MW ENERGY GWH	795.0	518 21.0	510 14.9	509 21.0	509 70.8	509 79.9	509 70.7	509 97.3	509 95.0	525 76.2	538 45.2	538 15.3	538 7.0	538 8.0	538 63.0	538 49.9	529 59.8
FORT RANDAL NAT INFLOW DEPLETION	L 366 80	67 1	31 1	40 1	52 4	42 9	146 12	16 18	44	-12	-62	- 3	-1	-2	3	-7	15
EVAPORATION REG INFLOW	140 13909	433	294	410	1298	1444	1382	10 1706	32 1674	38 1265	27 644	10 235	5 107	5 123	13 1029	822	1042
RELEASE STOR CHANGE	13910 -1	170 263	149 145	393	1298	1444	1382	1706	1674	1612 -347	1550 -905	235	108 0	124 0	756 273	732 90	578 464
ELEV FTMSL DISCH KCFS	1350.0 10.6	3387 1353.3 5.7	3532 1355.0 10.7	3549 1355.2 22.0	3549 1355.2 21.8	3549 1355.2 23.5	3549 1355.2 23.2	3549 1355.2 27 7	3549 1355.2 27 2	3202 1351.0 27 1	2296 1337.5 25 2	2296 1337.5 7 9	2296 1337.5	2296 1337.5	2569 1342.1	2659 1343.5	3123 1350.0
POWER AVE POWER MW		47	91	186	184	198	196	233	229	224	193	58	57	57	92	91	82
PEAK POW MW ENERGY GWH	1375.2	349 17.0	354 15.2	355 40.1	355 132.6	355 147.4	355 141.1	355 173.7	355 170.4	341 161.4	283 143.9	283 20.8	283 9.5	283 10.9	305 68.1	311 67.7	338 55.4
GAVINS POIN NAT INFLOW DEPLETION	T 1229 114	89 0	42	53	123	134	141	78	78	56	107	46	21	25	69	67	100
CHAN STOR EVAPORATION	-1 47	9	-10	-22	õ	-3	20	-9 3	1 9	0	4 10	32	0	0	-8	1	3
REG INFLOW RELEASE STOP CHANCE	$14977 \\ 14977$	269 269	181 181	425 425	$1416 \\ 1416$	1556 1556	1500 1500	1734 1734	1735 1722	1662 1636	1648 1648	303 303	125 125	143 143	802 802	798 798	680 719
STORAGE ELEV FTMSL DISCH KCFS	358 1206.0 13.0	358 1206.0 9.0	358 1206.0 13.0	358 1206.0 23.8	358 1206.0 23.8	358 1206.0 25.3	358 1206.0 25.2	358 1206.0 28.2	13 371 1206.5 28.0	26 397 1207.5 27.5	397 1207.5 26.8	397 1207.5 10.2	397 1207.5 9.0	397 1207.5 9.0	397 1207.5 13.0	397 1207.5 13.0	-39 358 1206.0 13.0
POWER AVE POWER MW PEAK POW MW ENERGY GWH	627.2	32 114 11.4	46 114 7 7	82 114 17 6	82 114 58 7	87 114 54 4	86 114 62 1	96 114 71 4	96 115 71	95 117	94 117	36 117	32 117	32 117	46 78	46 78	46 76
GAVINS POIN	I - SIO	JX CITY-	-	1,10	5017	01.1	02.1	/1.1	/1.5	00.7	09.9	13.1	5.4	6.2	54.4	34.3	30.7
NAT INFLOW DEPLETION RECHLATED FLOX	664 247		21 3	26 4	93 20	173 34	128 30	57 36	26 34	18 22	17 9	12 6	5 3	6 3	12 12	-6 13	32 13
KAF KCFS	15394	306 10.3	199 14.3	448 25.1	1489 25.0	1695 27.6	1598 26.8	1755 28.5	1714 27.9	1632 27.4	1656 26.9	309 10.4	128 9.2	146 9.2	802 13.0	779 12.7	738 13.3
TOTAL NAT INFLOW	16904	969	452	581	1793	2289	3939	2115	839	697	838	395	184	211	435	435	732
CHAN STOR EVAPORATION	2953 7 1607	104	33	42 -22	230 -26	613 -40	1428 -34	908 -1	212 9	-141	13 34	-87	-41	-46 -63	-110	-109 -8	-61 11
STORAGE SYSTEM POWER	38195	38891	39112	39182	39230	39171	40050	39400	38007	36878	332 35749	35806	69 35835	79 35804	171 35330	35087	35153
AVE POWER MW PEAK POW MW ENERGY GWH DAILV CWH	7044.5	489 2044 176.0 11 7	631 2043 105.9	791 2043 170.8	831 2041 598.5	936 2037 696.1	955 2049 687.6	1102 2034 820.0	1071 2010 797.1	908 1998 653.7	660 1948 491.1	409 1951 147.3	401 1951 67.4	498 1952 95.6	728 1927 541.7	678 1935 504.4	731 1948 491.3
	INI~SUM	15MAR	22MAR	19.0 31MAR	19.9 30APR	22.5 31MAY	22.9 30JUN	26.5 31JUL	25.7 31AUG	21.8 30SEP	15.8 310CT	9.8 15NOV	9.6 22NOV	12.0 30NOV	17.5 31DEC	16.3 31.TAN	17.5 28FFB
																CUTA	<u>-</u>

			2	002-200	3 300 5	YTENSIC	NIS LOW	ER DECI	LE RUNC	FF SIML	LATION	99001	9901 9	901 PA	GE	1
TIME OF STUDY 01/10/0	.4		2	WCP. FI	OW TO I	ARGET.	37-DAY	SHORTEN	ED SEAS	ON					STUDY N	10 40
28FEB05		2005			VALUES	IN 100	0 AF EX	CEPT AS	S INDICA	TED			200	6		
INI-SUM	15MAR	22MAR	31MAR	30APR	31MAY	30JUN	31JUL	31AUG	30SEP	310CT	15NOV	22NOV	3 ONOV	31DEC	31JAN	28FEB
NAT INFLOW 5615 DEPLETION 388 EVADODATION 394	258 2	120 1	155	567	862 304	470	483 152 24	279 -46 75	-124 94	- 57 82	-33 37	-15 18	-18 20	-107	-126	~90
MOD INFLOW 4833 RELEASE 5224	256 119	119 56	153 71	494 298	558 461	627 536	307 553	250 553	296 346	327 258	170 125	79 83	91 127	362 553	352 584	393 500
STOR CHANGE -392 STORAGE 8662 FLEV FTMSL 2197 8	137 8799 2198 7	64 8863 2199 1	82 8945 2199.7	196 9141 2201.0	97 9238 2201.6	9329 2202.2	-247 9083 2200.6	-304 8779 2198.6	-51 8728 2198.2	8796 2198.7	45 8841 2199.0	8837 2198.9	8801 2198.7	8610 2197.4	8377 2195.8	8271 2195.0
DISCH KCFS 9.5 POWER	4.0	4.0	4.0	5.0	7.5	9.0	9.0	9.0	5.8	4.2	4.2	6.0	8.0	9.0	9.5	9.0
AVE POWER MW PEAK POW MW ENERGY GWH 734.9	47 167 16.7	168 7.8	47 169 10.1	171 42.3	88 171 65.7	106 172 76.5	170 170 78.8	167 78.1	167 48.7	49 167 36.4	168 17.6	168 11.7	167 17.8	165 77.3	163 80.7	162 68.5
GARRISON NAT INFLOW 8444 DEPLETION 1085	312 10	146 5	187 6	810 20	1045 211	2337 714	1477 482	418 63	320 -120	451 6	187 -84	87 -39	99 -45	125 -69	185 -49	258 -27
CHAN STOR 6 EVAPORATION 465	62	106	253	-11	-28	-17	29	90	35 112 709	18 97	44	-20 20	-22 23 226	-11 50 687	-6 813	6 790
RELEASE 12602 STOR CHANGE -478	446 37	167 30	214 38	893 184	1138 130	1220 922	1230 290	1199 -381	911 -202	743 -119	360	168 1	286 -60	1199 -512	1291 -479	1139 -348
STORAGE 10398 ELEV FTMSL 1807.6	10435 1807.7	10465 1807.9	10503 1808.1	10687 1808.9	10817 1809.5	11738 1813.6 20.5	12029 1814.9 20.0	11648 1813.2	11446 1812.3	11327 1811.8 12 1	11319 1811.8 12 1	11320 1811.8 12 1	11260 1811.5 18 0	10747 1809.2	10269 1807.0 21.0	9921 1805.3 20.5
POWER AVE POWER MW	153	123	123	154	190	214	212	206	161	127	127	127	187	201	212	204
PEAK POW MW ENERGY GWH 1577.5 OAHE	291 55.0	291 20.6	291 26.5	294 110.8	296 141.6	308 154.4	384 157.7	378 153.6	374 116.0	372 94.4	372 45.6	372 21.3	36.0	363 149.4	355 157.7	349 136.9
NAT INFLOW 1263 DEPLETION 597	238 22	111 10	143 13	220 46	120 65	259 126	99 147	25 96	77 24	6 - 8	-62	-3	-3 1	-58	-14 16	50 25
EVAPORATION 380 REG INFLOW 12886	688	283	343	1051	-19	1342	24 1160	74 1057	23 91 897	78 697	36 317	17 148	-33 19 229	42 1080	- 8 1253	1166
RELEASE 13376 STOR CHANGE -491	358 330	259 24	366 -23	1243 -192	1404 -230	1231 111	1729 -569	1521 -464	1123 -226	726 -28	237 79	122 26	137 92	1059 21	833 420	1029 138
ELEV FTMSL 1576.2 DISCH KCFS 18.5	1577.8	11282 1577.9 18.7	11260 1577.8 20.5	1576.9 20.9	10838 1575.7 22.8	1576.3 20.7	1573.4 28.1	1571.0 24.7	1569.7 18.9	1569.6 11.8	9741 1570.0 8.0	1570.1 8.8	9859 1570.7 8.7	1570.8 17.2	1573.0 13.5	1573.7 18.5
POWER AVE POWER MW BEAK DOW MW	131	204	224	227	247	223	301	260	197	123	83	92 517	91 520	180	143	197
ENERGY GWH 1723.7	47.3	34.3	48.4	163.7	183.6	160.9	223.7	193.7	141.6	91.3	29.9	15.4	17.4	134.0	106.3	132.3
BIG BEND EVAPORATION 129 REG INFLOW 13248	358	259	366	1243	1404	1231	8 1722	24 1497	31 1092	27	12 225	6 116	7	14 1045	833	1029
RELEASE 13248 STORAGE 1682	358 1682	259 1682	366 1682	1243 1682	1404 1682	1231 1682	1722 1682	1497 1682	1092 1682	698 1682	225 1682	116 1682	131 1682	1045 1682	833 1682	1029 1682
ELEV FTMSL 1420.0 DISCH KCFS 18.5 POWER	1420.0	1420.0 18.7	1420.0 20.5	1420.0 20.9	1420.0 22.8	1420.0 20.7	1420.0 28.0	1420.0 24.3	1420.0 18.3	1420.0 11.4	1420.0 7.6	1420.0 8.4	1420.0 8.2	1420.0 17.0	1420.0 13.5	1420.0 18.5
AVE POWER MW PEAK POW MW ENERGY GWH 767.8	57 518 20,5	88 510 14.7	96 509 20.7	98 509 70.4	107 509 79.5	97 509 69.7	131 509 97.5	115 518 85.7	90 538 64.7	57 538 42.7	38 538 13.8	42 538 7.1	42 538 8.0	85 538 63.0	67 538 49.9	89 529 59,7
FORT RANDALL	74	35	44	59	47	161	19	10	10	60			2.1			16
DEPLETION 80 EVAPORATION 135	1	1	1	4	-1/ 9	12	18 10	15 31	-13 7 35	-05 1 25	1 10	0	-2 1 5	3 13	- 8	3
REG INFLOW 13436 RELEASE 13435 STOR CHANGE 0	431 167 264	293 148 145	410 393 17	1297 1297	$1442 \\ 1442$	1380 1380	1712 1712	1499 1673	1036	601 1105	211 211	109 109	123 123	1029 756	822 732	1042 578
STORAGE 3123 ELEV FTMSL 1350.0	3387 1353.3	3532 1355.0	3549 1355.2	3549 1355.2	3549 1355.2	3549 1355.2	3549 1355.2	3375 1353.1	2800 1345.5	2296 1337.5	2296 1337.5	2296 1337.5	2296 1337.5	2569 1342.1	2659 1343.5	3123 1350.0
DISCH KCFS 10.4 POWER AVE POWER MW	5.6 46	10.7	22.0 186	21.8 184	23.4 198	23.2	27.8	27.2	27.1	18.0	7.1	7.9	7.7	12.3	11.9	10.4
PEAK POW MW ENERGY GWH 1322.9	349 16.7	354 15.2	355 40.1	355 132.5	355 147.1	355 140.9	355 174.2	348 168.9	320 156.2	283 100.6	283 18.7	283 9.7	283 10.9	305 68.1	311 67.7	338 55.4
GAVINS POINT NAT INFLOW 1242	90	42	54	124	136	143	79	79	57	108	47	22	25	69	67	101
CHAN STOR -1 EVAPORATION 47	9	-10	-22	0	-3	24 0	39 -9 3	10 1 9	-5 0 11	2 17 10	5 20 5	2 -1 2	3 0 2	10 - 8 5	1 1	3
REG INFLOW 14515 RELEASE 14515	266 266	181 181	425 425	1416 1416	1556 1556	1500 1500	$1740 \\ 1740$	1735 1722	1662 1636	1217 1217	268 268	125 125	143 143	802 802	798 798	681 720
STORAGE 358 ELEV FTMSL 1206.0 DISCH KCFS 13.0	358 1206.0 9.0	358 1206.0 13.0	358 1206.0 23.8	358 1206.0 23.8	358 1206.0 25.3	358 1206.0 25.2	358 1206.0 28.3	371 1206.5 28.0	397 1207.5 27.5	397 1207.5 19.8	397 1207.5 9.0	397 1207.5 9.0	397 1207.5 9.0	397 1207.5 13.0	397 1207.5 13.0	-39 358 1206.0 13.0
AVE POWER MW PEAK POW MW ENERGY GWH 607.9	31 114 11.3	46 114 7.7	82 114 17.6	82 114 58.7	87 114 64.4	86 114 62.1	96 114 71.6	96 115 71.3	95 117 68.7	70 117 51.9	32 117 11.6	32 117 5.4	32 117 6.2	46 78 34.4	46 78 34.3	46 76 30.7
GAVINS POINT - SIOU NAT INFLOW 730	JX CITY 48	23	29	102	191	141	63	29	20	18	13	6	7	13	- 7	35
DEPLETION 248 REGULATED FLOW AT SIC	6 DUX CITY	3 201	4	20	34	30	37	34	22	- 9	6	3	3	12	13	13
KCFS	10.4	14.4	25.2	25.2	27.9	27.1	28.7	27.9	1634 27.5	1226 19.9	275 9.2	128 9.2	147 9.2	803 13.1	778 12.7	742 13.4
TOTAL NAT INFLOW 17698 DEPLETION 2512	1020 42	476	612	1881	2401	4138	2219	878	727	866	411	192	219	447	449	763
CHAN STOR 0 EVAPORATION 1549	98	6	- 22	-27	-50	-27	-6 -6 97	1/2 4 303	-196 59 374	-4/ 51 320	-104 21 144	-48 -21 67	-55 -55 77	-140 -28 166	-142 -13	-76 11
STORAGE 35153 SYSTEM POWER AVE POWER MW	35920 465	36182 597	36296 757	36485 803	36481 917	37606	37080	35770	34743	34160	34276	34299	34295	33885	33684	33792
PEAK POW MW ENERGY GWH 6734.9 DAILY GWH	1996 167.6 11 2	1996 100.3	1996 163.5	1996 578.4	1992 682.0	2008 664.4	2066	2048	2031 596.0	1992 417.5	1995 137.2	420 1996 70.6	1997 96.3	1970 526.2	668 1977 496.7	720 1989 483.5
INI-SUM	15MAR	22MAR	31MAR	30APR	22.0 31MAY	30JUN	25.9 31JUL	24.2 31AUG	19.9 30SEP	13.5 310CT	9.1 15NOV	10.1 22NOV	12.0 30NOV	17.0 31DEC	16.0 31JAN	17.3 28FEB

ME OF STUD	Y 09:48:4	4		c	WCP, FL	OW TO T	ARGET,	46-DAY	SHORTEN	IED SEAS	ON					STUDY N	10
28F1	EB06 INI-SUM	15MAR	2006 22MAR	31MAR	30APR	31MAY	30JUN	31JUL	31AUG	30SEP	310CT	15NOV	22NOV	200 30NOV	7 31DEC	31JAN	28FE
-FORT PECK AT INFLOW EPLETION VAPORATION OD INFLOW ELEASE TOR CHANGE ITORAGE LEV FTMSL USCU KCPS	5748 399 387 4962 5088 -127 8271 2195.0	264 -3 267 119 148 8419 2196.1	123 -1 125 56 69 8488 2196.6	158 -2 160 71 89 8577 2197.2	580 76 298 206 8783 2198.6	882 308 574 430 144 8927 2199.5 7.0	1123 478 645 536 109 9036 2200.3 9.0	495 159 24 312 553 -241 8795 2198.7 9.0	285 -42 74 253 -300 8495 2196.6 9.0	273 -124 92 305 -33 8461 2196.4 5.7	361 -58 81 338 252 86 8547 2197.0 4.1	179 -34 37 175 122 53 8600 2197.3 4.1	83 -16 17 82 57 25 8625 2197.5 4.1	95 -18 20 93 127 -34 8591 2197.3 8.0	305 -108 42 371 523 -152 8439 2196.2 8.5	231 -126 357 553 -196 8243 2194.8 9.0	3: -9 4(-9 -9 2194 9
POWER AVE POWER M PEAK POW MW INERGY GWH	W 708.3	46 163 16.4	46 164 7.7	46 165 10.0	58 167 41.7	82 169 60.7	105 170 75.7	105 167 78.0	104 164 77.1	65 164 46.9	47 165 35.1	47 165 17.0	47 166 8.0	92 165 17.7	97 164 72.4	102 162 75.9	1 1 68
GARRISON IAT INFLOW DEPLETION CHAN STOR	 8762 967 0	324 14 57	151 6	194 8	840 26 -11	1084 211 -23	2425 718 -22	1533 498	433 66	332 -124 37	468 -1 17	194 -98	90 -46 0	103 -52 -43	130 -109 -6	192 -88 -6	-
VAPORATION EG INFLOW ELEASE TOR CHANGE TORAGE LEV FTMSL ISCH KCFS	457 12426 12555 -129 9921 1805.3 20.5	486 417 70 9991 1805.6 14.0	200 167 34 10024 1805.8 12.0	258 214 44 10068 1806.0 12.0	1100 893 208 10276 1807.0 15.0	1281 1076 205 10480 1808.0 17.5	2220 1250 971 11451 1812.4 21.0	28 1560 1261 300 11751 1813.7 20.5	89 832 1230 -398 11353 1811.9 20.0	110 721 914 -193 11159 1811.1 15.4	95 643 714 -70 11089 1810.7 11.6	43 370 345 25 11113 1810.9 11.6	20 173 161 12 11125 1810.9 11.6	23 216 286 -70 11055 1810.6 18.0	49 707 1199 -492 10563 1808.3 19.5	828 1291 -463 10100 1806.2 21.0	8 11 -3 97 1804 20
POWER AVE POWER M PEAK POW MW INERGY GWH	W 1552.7	139 350 50.1	120 351 20.1	120 351 25.9	150 355 108.2	176 359 131.2	216 375 155.2	215 379 160.2	210 373 156.1	160 370 115.3	121 369 89.9	121 369 43.5	121 369 20.3	186 368 35.7	199 360 148.3	211 352 156.6	13
OAHE IAT INFLOW DEPLETION HAN STOR VAPORATION DEG INFLOW DELEASE STOR CHANGE DISCH KCFS	1323 613 0 373 12891 13020 -129 10438 1573.7 18.5	249 23 35 679 353 326 10764 1575.4 11.8	116 11 283 256 27 10791 1575.5 18.4	149 14 350 362 -12 10778 1575.4 20.3	231 47 -16 1060 1238 -177 10601 1574.6 20.8	126 66 -14 1123 1401 -278 10323 1573.1 22.8	271 129 -19 1372 1218 154 10477 1573.9 20.5	103 151 3 1192 1728 -536 9941 1571.1 28.1	26 100 3 71 1087 1517 -430 9511 1568.7 24.7	81 25 26 89 907 699 208 9719 1569.9 11.7	7 -8 21 78 672 828 -156 9563 1569.0 13.5	-7 2 35 302 247 55 9618 1569.3 8.3	-3 1 0 141 121 20 9638 1569.4 8.7	-3 1 -36 19 226 137 89 9727 1569.9 8.7	-61 11 -8 41 1077 25 9752 1570.1 17.1	-15 16 -8 1252 835 417 10169 1572.3 13.6	11 10 103 1573 18
POWER AVE POWER M PEAK POW MW ENERGY GWH	W 1660.2	127 545 45.8	199 545 33.4	218 545 47.2	223 540 160.7	242 533 180.4	218 537 156.7	296 522 220.2	256 510 190.4	122 516 87.8	140 511 104.0	86 513 31.1	91 513 15.2	90 516 17.3	178 517 132.4	143 529 106.1	13
BIG BEND EVAPORATION REG INFLOW RELEASE STORAGE ELEV FTMSL DISCH KCFS	12891 12891 12891 1682 1420.0 18.5	353 353 1682 1420.0 11.8	256 256 1682 1420.0 18.4	362 362 1682 1420.0 20.3	1238 1238 1682 1420.0 20.8	1401 1401 1682 1420.0 22.8	1218 1218 1682 1420.0 20.5	8 1721 1721 1682 1420.0 28.0	24 1493 1493 1682 1420.0 24.3	31 668 668 1682 1420.0 11.2	27 801 801 1682 1420.0 13.0	12 235 235 1682 1420.0 7.9	6 115 115 1682 1420.0 8.3	7 131 1682 1420.0 8.2	14 1038 1038 1682 1420.0 16.9	835 835 1682 1420.0 13.6	10 10 1420 13
POWER AVE POWER M PEAK POW MW ENERGY GWH	W 748.2	56 518 20.2	86 510 14.5	95 509 20.5	97 509 70.1	107 509 79.4	96 509 69.0	131 509 97.4	115 518 85.5	57 538 40.9	66 538 48.9	40 538 14.4	42 538 7.1	42 538 8.0	84 538 62.5	67 538 50.0	5
FORT RANDA JAT INFLOW DEPLETION SEG INFLOW RELEASE TTOR CHANGE STORAGE ELEV FTMSL DISCH KCFS DOWE	LL 433 80 129 13108 13108 0 3123 1350.0 10.4	80 1 431 167 264 3388 1353.3 5.6	37 1 293 148 144 3532 1355.0 10.7	48 1 409 392 17 3549 1355.2 22.0	62 4 1296 1296 3549 1355.2 21.8	50 9 1442 1442 3549 1355.2 23.4	174 12 1380 1380 0 3549 1355.2 23.2	19 18 10 1712 1712 0 3549 1355.2 27.8	52 15 31 1499 1673 -174 3375 1353.1 27.2	-15 7 33 606 1611 -1005 2369 1338.8 27.1	-75 1 23 702 775 -73 2296 1337.5 12.6	-4 10 221 221 0 2296 1337.5 7.4	-2 0 5 108 108 0 2296 1337.5 7.8	-2 1 5 123 123 0 2296 1337.5 7.8	3 13 1022 750 272 2568 1342.1 12.2	-9 3 823 732 91 2659 1343.5 11.9	1 3 135 1
POWER NE POWER M PEAK POW MW INERGY GWH	W 1286.6	46 349 16.7	90 354 15.1	185 355 40.0	184 355 132.4	198 355 147.2	196 355 140.9	234 355 174.2	227 348 168.9	211 288 151.7	92 283 68.7	54 283 19.6	57 283 9.6	57 283 10.9	91 305 67.6	91 311 67.7	5
GAVINS POI IAT INFLOW)EPLETION THAN STOR VAPORATION REG INFLOW RELEASE STOR CHANGE STOR CHANGE	NT 1246 114 -1 47 14192 14192 358	91 0 9 267 267	42 0 -10 181 181	54 0 -22 425 425	125 5 0 1416 1416	136 19 -3 1556 1556	143 24 0 1500 1500	79 39 -9 3 1740 1740	79 10 1 1735 1722 13 371	57 -5 0 11 1662 1636 26 297	108 2 27 10 898 898	47 5 10 5 268 268	22 2 -1 125 125	25 3 0 2 143 143	70 10 -8 5 797 797	68 1 799 799	: ; ;
ELEV FTMSL DISCH KCFS POWER AVE POWER M	1206.0 13.0	1206.0 9.0	1206.0 13.0 46	1206.0 23.8 82	1206.0 23.8 82	1206.0 25.3 87	1206.0 25.2 86	1206.0 28.3 96	1206.5 28.0 96	1207.5 27.5 95	1207.5 14.6 52	1207.5 9.0 32	1207.5 9.0 32	1207.5 9.0 32	1207.5 13.0 46	1207.5 13.0 46	120 1
GAVINS POI	594.4 NT - SIOU	114 11.3 JX CITY	114 7.7	114 17.6	114 58.7	114 64.4	114 62.1	114 71.6	115 71.3	117 68.7	117 38.5	117 11.6	117 5.4	117 6.2	78 34.2	78 34.3	3
EPLETION GULATED FL KAF KCFS	251 OW AT SIC 14726	52 6 DUX CIT 312 10.5	24 3 Y 202 14.6	31 4 452 25.3	1505 25.3	205 35 1726 28.1	151 30 1621 27.2	68 37 1771 28.8	31 34 1719 28.0	21 22 1635 27.5	20 10 908 14.8	14 6 276 9.3	6 3 129 9.3	7 3 147 9.3	14 12 799 13.0	-7 13 779 12.7	1
TOTAL AT INFLOW EPLETION HAN STOR VAPORATION TORAGE	18297 2424 -8 1524 33792	1060 41 101 34601	494 19 1 34875	636 24 -22 35012	1948 179 -27 35249	2483 648 -39 35319	4287 1391 -41 36553	2297 902 -6 96 36075	906 183 4 298 34786	749 -199 56 366 33788	889 -54 65 315 33574	422 -118 10 142 33706	197 -55 -1 66 33762	225 -63 -79 76 33748	458 -181 -22 165 33401	460 -181 -13 33250	-
YSTEM POWE VE POWER M EAK POW MW NERGY GWH AILY GWH	R W 6550.4	446 2039 160.6 10.7	586 2039 98.5 14.1	747 2040 161.2 17.9	794 2041 571.8 19.1	891 2038 663.1 21.4	916 2060 659.5 22.0	1078 2047 801.7 25.9	1008 2028 749.2 24.2	710 1993 511.4 17.0	518 1983 385.2 12.4	381 1986 137.2 9.1	390 1987 65.5 9.4	499 1988 95.8 12.0	695 1961 517.4 16.7	660 1969 490.8 15.8	1 48 1
	INI-SUM	15MAR	22MAR	31MAR	30APR	31MAY	3 OJUN	31JUL	31AUG	30SEP	310CT	15NOV	22NOV	3 ONOV	31DEC	31JAN	2

DATE OF STUD	Y 01/10/0	03		2	2002-200	3 AOP B	EXTENSIC	ONS, LOV	VER DECI	LE RUNC	OFF SIMU	JLATION	99001	9901 9	9901 PZ	AGE	1
TIME OF STUD	Y 09:48:4	14	2007		CWCP, FI	LOW TO T VALUES	TARGET, 5 IN 100	46-DAY 00 AF EX	SHORTEN CEPT AS	ED SEAS	SON ATED			200	าล	STUDY NC) 42
EOPT DECK	INI-SUM	15MAR	2007 22MAR	31MAR	30APR	31MAY	30JUN	31JUL	31AUG	30SEP	310CT	15NOV	22NOV	30NOV	31DEC	31JAN	29FEB
NAT INFLOW DEPLETION	5919 410	272 - 3	127 -1	163 -2	598 76	909 309	1156 482	509 166	294 - 38	281 -124	371 -60	184 -33	86 -15	98 -18	314 -106	238 -124	319 -99
EVAPORATION MOD INFLOW RELEASE	388 5121 5023	275 119	128 56	165 71	522 298	600 430	674 536	24 319 553	74 258 523	92 313 342	81 350 255	180 122	84 57	20 96 127	43 377 523	362 523	418 489
STOR CHANGE STORAGE	99 8144 2194 1	156 8300 2195 2	73 8373 2195 8	93 8466 2196 4	224 8691 2198 0	170 8860 2199.1	138 8999 2200.0	-234 8764 2198.5	-265 8500 2196.6	-30 8470 2196.4	95 8566 2197.1	58 8623 2197.5	27 8650 2197.7	-31 8619 2197.5	-145 8474 2196.5	-161 8314 2195,3	-71 8243 2194.8
DISCH KCFS POWER	9.0	4.0	4.0	4.0	5.0	7.0	9.0	9.0	8.5	5.7	4.1	4.1	4.1	8.0	8.5	8.5	8.5
AVE POWER M PEAK POW MW ENERGY GWH	w 699.2	45 162 16.3	163 7.7	46 164 9.9	166 41.5	168 60.5	169 75.5	167 77.9	164 72.8	164 47.5	165 35.5	166 17.1	166 8.0	165 17.7	164 72.5	162 71.9	162 66.9
GARRISON NAT INFLOW DEPLETION	9185 962	340 -5 57	158 -2	204 -3	881 -11	1136 211	2542 734	1607 514	454 74	349 -126	491 -4	203 -91	95 -42	108 -49	136 -100	201 -78	281 -59
EVAPORATION REG INFLOW	462 12790	521	216	278	1178	1333	2321	28 1618	90 819	111 736	96 671	44 373	20 174	23 217	50 704	802	829
RELEASE STOR CHANGE STORAGE	12696 94 9792	417 104 9896	167 50 9946	214 64 10011	893 286 10296	1076 257 10553	1279 1042 11595	1291 327 11922	1261 -442 11480	882 -146 11334	714 -43 11291	352 20 11311	164 9 11321	286 -68 11252	1230 -526 10726	1291 -490 10236	1179 -350 9886
ELEV FTMSL DISCH KCFS POWER	1804.7 20.5	1805.2 14.0	1805.4 12.0	1805.7 12.0	1807.1 15.0	1808.3 17.5	1813.0 21.5	1814.4 21.0	1812.5 20.5	1811.8 14.8	1811.7 11.6	1811.7 11.8	1811.8 11.8	1811.5 18.0	1809.1 20.0	1806.8 21.0	1805.1 20.5
AVE POWER M PEAK POW MW ENERGY GWH	W 1576.3	139 348 49.9	119 349 20.0	120 350 25.8	150 355 108.1	177 360 131.4	222 377 159.5	222 382 164.9	216 375 160.7	155 373 111.9	122 372 90.5	124 372 44.6	124 372 20.8	187 371 36.0	206 363 153.0	212 354 157.6	203 348 141.6
OAHE NAT INFLOW DEPLETION CHAN STOR	1408 626 0	265 23 36	123 11 11	159 14	245 47 -16	134 67 -14	288 132 -22	110 156 3	28 103 3	86 25 32	7 -9 18	-7 2 -1	-3 1	-3 1 -35	-64 12 -11	-16 17 -6	56 26 3
EVAPORATION REG INFLOW RELEASE	375 13102 13004	694 345	290 252	359 357	1074 1232	1129 1395	1413 1200	23 1225 1726	72 1117 1512	90 886 699	78 669 835	35 308 253	17 144 121	19 228 137	42 1101 1053	1253	1212
STOR CHANGE STORAGE	98 10309	349 10658	38 10696	2 10698	-157	-265	213 10488	- 502	-396	187 9778	-166 9612	9667	24 9690	90 9781	48	418 10247	160 10407
DISCH KCFS POWER	18.5	11.6	18.2	20.0	20.7	22.7	20.2	28.1	24.6	11.8	13.6	8.5	8.7	8.7	1570.5	13.6	1573.6
AVE POWER M PEAK POW MW ENERGY GWH	1659.2	124 542 44.7	195 543 32.7	215 543 46.4	222 539 159.6	241 531 179.3	214 537 154.3	296 523 220.2	256 512 190.2	122 517 88.1	141 513 105.1	88 514 31.8	90 515 15.2	90 518 17.4	179 519 132.9	143 531 106.4	194 535 135.1
BIG BEND EVAPORATION REG INFLOW	 129 12876	345	252	357	1232	1395	1200	8 1719	24 1488	31 668	27 808	12 240	6 115	7 131	14 1039	835	1052
RELEASE STORAGE ELEV ETMSL	12876 1682 1420 0	345 1682	252 1682	357 1682	1232 1682	1395 1682	1200 1682	1719 1682	1488 1682	668 1682	808 1682	240 1682	115 1682	131 1682	1039	835 1682	1052
DISCH KCFS POWER	18.5	11.6	18.2	20.0	20.7	22.7	20.2	28.0	24.2	1420.0	1420.0	8.1	8.3	8.2	1420.0	1420.0	1420.0
PEAK POWER M PEAK POW MW ENERGY GWH	747.4	518 19.8	510 14.3	509 20.2	509 69.8	509 79.0	509 68.0	509 97.3	518 85.2	538 40.9	538 49.4	41 538 14.7	42 538 7.0	42 538 8.0	84 538 62.6	67 538 50.0	88 529 61.1
FORT RANDA NAT INFLOW DEPLETION	LL 476 80	88 1	41 1	53 1	68 4	55	191 12	21 18	57 15	-16	- 82 1	- 4	-2	- 2	з	-10	19
EVAPORATION REG INFLOW	129 13135	432	292	409	1296	1441	1379	10 1712	31 1499	33 605	23 702	10 226	5 108	5 123	13 1023	822	1068
STOR CHANGE STORAGE	3123	265	144 3532	17 3549	3549	3549	3549	1712 0 3549	-174 3375	-1006 2369	-72 2296	228 0 2296	2296	2296	273 2569	/32 90 2659	464 3123
DISCH KCFS POWER	1350.0	5.6	1355.0	22.0	21.8	23.4	1355.2 23.2	1355.2 27.8	1353.1 27.2	1338.8 27.1	1337.5 12.6	1337.5 7.6	1337.5 7.8	1337.5 7.7	1342.1 12.2	1343.5 11.9	1350.0 10.5
AVE POWER M PEAK POW MW ENERGY GWH	W 1289.1	46 349 16.7	90 354 15.1	185 355 40.0	184 355 132.4	198 355 147.0	196 355 140.8	234 355 174.2	227 348 168.9	211 288 151.7	92 283 68.7	56 283 20,0	57 283 9.5	57 283 10.9	91 305 67.6	91 311 67.7	83 338 57.9
GAVINS POI NAT INFLOW	NT 1252	91	42	55	125	137	144	79	79	57	109	47	22	25	70	68	102
DEPLETION CHAN STOR EVAPORATION	114 -1 47	0 9	0 -10	0 - 22	5 0	19 -3	24 0	39 -9 3	10	-5 0 11	2 27	5 9	2 0	3	10 - 8	1	3
REG INFLOW RELEASE	14224 14224	267 267	181 181	425 425	1416 1416	1556 1556	1500 1500	$1740 \\ 1740$	1735 1722	1662 1636	898 898	272 272	125 125	143 143	5 797 797	799 799	709 748
STORAGE ELEV FTMSL DISCH KCFS	358 1206.0 13.0	358 1206.0 9.0	358 1206.0 13.0	358 1206.0 23.8	358 1206.0 23.8	358 1206.0 25.3	358 1206.0 25.2	358 1206.0 28.3	371 1206.5 28.0	397 1207.5 27.5	397 1207.5 14.6	397 1207.5 9.2	397 1207.5 9.0	397 1207.5 9.0	397 1207.5 13.0	397 1207.5 13.0	-39 358 1206.0 13.0
AVE POWER M PEAK POW MW ENERGY GWH	W 595.7	32 114 11.4	46 114 7.7	82 114 17.6	82 114 58.7	87 114 64.4	86 114 62.1	96 114 71.6	96 115 71.3	95 117 68.7	52 117 38.5	33 117 11.8	32 117 5.4	32 117 6.2	46 78 34,2	46 78 34.3	46 76 31.9
GAVINS POI NAT INFLOW	NT - SIOU 862	JX CITY- 57	27	34	121	225	166	74	34	23	22	15	7	8	16	- 8	41
DEPLETION REGULATED FL KAF	254 OW AT SIC 14832	00X CIT 318	205	4	21 1516	35 1746	30 1636	37	35	23	10	6	3	3	12	13	14
KCFS		10.7	14.7	25.5	25.5	28.4	27.5	28.9	28.0	27.5	14.8	282 9.5	9.3	148 9.3	801 13.0	12.7	775 13.5
NAT INFLOW DEPLETION CHAN STOP	19102 2446	1112 22	519 10	667 13	2038 142	2596 650	4487 1414	2400 930	946 199	780 -200	918 -60	438 ~111	204 -52	234 - 59	472 -169	473 -168	818 -115
EVAPORATION STORAGE	1531 33408	102 34282	1 34587	-22 34763	-27 35116	-39 35277	-44 36671	-6 96 36262	9 299 34998	55 368 34029	63 316 33844	9 143 33977	0 67 34037	-78 76 34028	-25 166 33677	-5	33690
AVE POWER MY PEAK POW MW	R M	441 2033	581 2034	741 2036	792 2039	889 2037	917 2062	1084	1007	707	521	389	393	501	703	656	710
ENERGY GWH DAILY GWH	6567.0	158.8 10.6	97.5 13.9	160.0 17.8	570.0 19.0	661.6 21.3	660.1 22.0	806.1 26.0	749.0 24.2	508.8 17.0	387.6 12.5	140.0 9.3	1992 66.0 9.4	96.1 12.0	1966 522.8 16.9	1974 488.0 15.7	1988 494.5 17.1
	INI-SUM	15MAR	22MAR	31MAR	30APR	31MAY	30JUN	31JUL	31AUG	30SEP	310CT	15NOV	22NOV	30NOV	31DEC	31JAN	29FEB

DATE OF STUDY 01/10/0	3
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TIME OF STUDY 09:48:44

2002-2003 AOP EXTENSIONS, LOWER DECILE RUNOFF SIMULATION 99001 9901 9901 PAGE 1 CWCP, FLOW TO TARGET, 46-DAY SHORTENED SEASON

29	VALUES IN 1000 AF EXCEPT AS INDICATED																
	INI-SUM	15MAR	22MAR	31MAR	30APR	31MAY	30JUN	31JUL	31AUG	30SEP	310CT	15NOV	22NOV	3 ONOV	31DEC	31JAN	28FEB
FORT PEC NAT INFLOW DEPLETION EVAPORATIO MOD INFLOW RELEASE STOR CHANG STORAGE ELEV FTMSL DISCH KCFS DISCH KCFS	K 5961 419 N 391 5151 5055 E 96 8243 2194.8 8.5	274 -3 277 119 158 8400 2196.0 4.0	128 -1 129 56 74 8474 2196.5 4.0	164 -2 166 71 95 8569 2197.1 4.0	602 76 298 228 8797 2198.7 5.0	915 310 605 430 175 8972 2199.8 7.0	1164 486 536 142 9114 2200.8 9.0	513 173 24 316 553 -237 8877 2199.2 9.0	296 -34 75 255 523 -267 8610 2197.4 8.5	283 -125 93 315 326 -11 8598 2197.3 5.5	374 -62 82 354 258 97 8695 2198.0 4.2	185 -35 37 183 125 58 8753 2198.4 4.2	86 -16 17 85 27 8780 2198.6 4.2	99 -19 20 97 127 -30 8750 2198.4 8.0	317 -110 43 384 523 -139 8612 2197.4 8.5	240 -127 553 -186 8425 2196.1 9.0	321 -92 413 500 -87 8339 2195.5 9.0
AVE POWER PEAK POW M ENERGY GWH	MW W 707.2	46 163 16.4	46 164 7.7	46 165 9.9	58 167 41.7	82 169 60.7	105 170 75.8	105 168 78.2	98 165 73.2	63 165 45.5	49 166 36.1	49 167 17.5	49 167 8.2	93 167 17.8	98 165 73.0	103 164 76.6	102 163 68.7
GARRISO NAT INFLOW DEPLETION CHAN STOR EVAPORATIO REG INFLOW RELEASE STOR CHANG STORAGE ELEV FTMSL DISCH KCFS	N 9293 1088 -5 N 465 12790 12670 E 119 9886 1805.1 20.5	344 0 51 387 126 10013 1805.7 13.0	160 0 216 167 49 10062 1806.0 12.0	206 0 277 214 63 10125 1806.3 12.0	891 -11 1177 893 285 10409 1807.6 15.0	1150 212 -22 1346 1107 239 10648 1808.7 18.0	2572 744 -22 2341 1279 1062 11710 1813.5 21.5	1626 530 29 1621 1291 330 12040 1814.9 21.0	460 79 5 90 819 1261 -442 11598 1813.0 20.5	353 -128 33 112 729 922 -194 11405 1812.2 15.5	496 -8 14 97 679 704 -25 11379 1812.0 11.5	205 -95 0 44 380 341 39 11419 1812.2 11.5	96 -44 0 21 177 160 18 11436 1812.3 11.5	109 -50 -42 23 221 286 -64 11372 1812.0 18.0	137 -73 -6 50 677 1230 -553 10820 1809.5 20.0	204 -51 -6 803 1291 -488 10331 1807.3 21.0	284 -29 813 1139 -326 10006 1805.7 20.5
POWER AVE POWER PEAK POW M ENERGY GWH	MW W 1579.4	129 350 46.5	120 351 20.1	120 352 25.9	151 357 108.6	182 361 135.6	222 379 160.1	222 384 165.5	217 377 161.3	163 374 117.3	120 373 89.5	120 374 43.3	121 374 20.3	188 373 36.1	207 364 153.6	213 356 158.1	204 350 137.3
OAHE- NAT INFLOW DEPLETION CHAN STOR EVAPORATIO REG INFLOW RELEASE STOR CHANG STORAGE ELEV FTMSL DISCH KCFS POWER	- 1429 641 0 13079 12960 5 119 10407 1573.6 18.3	269 23 41 673 343 330 10737 1575.2 11.5	125 11 5 286 251 36 10773 1575.4 18.1	161 14 361 356 5 10778 1575.4 19.9	249 48 -16 1077 1230 -152 10626 1574.7 20.7	136 68 -16 1159 1394 -235 10391 1573.5 22.7	293 135 -19 1418 1196 222 10613 1574.6 20.1	112 160 3 24 1222 1726 -504 10109 1572.0 28.1	29 106 3 72 1114 1510 -396 9712 1569.8 24.6	87 26 28 921 700 220 9933 1571.1 11.8	7 -9 23 80 663 836 -173 9760 1570.1 13.6	-7 2 36 297 247 49 9809 1570.4 8.3	-3 1 0 17 139 121 18 9827 1570.5 8.7	-4 1 -36 19 225 137 88 9915 1571.0 8.7	-65 12 -11 42 1100 1053 47 9962 1571.2 17.1	-16 17 -6 1253 835 418 10380 1573.4 13.6	56 27 3 1170 1025 146 10526 1574.2 18.4
AVE POWER I PEAK POW MI ENERGY GWH	ww N 1660.2	124 544 44.5	194 545 32.7	215 545 46.3	222 541 159.7	242 535 179.8	214 541 154.4	297 527 221.1	256 515 190.7	123 522 88.6	142 517 105.8	87 518 31.3	91 519 15.3	91 521 17.4	179 523 133.5	144 534 106.8	197 538 132.1
BIG BEN EVAPORATIO REG INFLOW RELEASE STORAGE ELEV FTMSL DISCH KCFS POWER AVE POWER 1 DEAK DOW M	N 129 12831 12831 1682 1420.0 18.3	343 343 1682 1420.0 11.5 55	251 251 1682 1420.0 18.1 85	356 356 1682 1420.0 19.9 93	1230 1230 1682 1420.0 20.7 97	1394 1394 1682 1420.0 22.7 106	1196 1196 1682 1420.0 20.1 94	8 1719 1719 1682 1420.0 28.0 131	24 1486 1486 1682 1420.0 24.2 114	31 669 669 1682 1420.0 11.2	27 809 809 1682 1420.0 13.2 66	12 235 235 1682 1420.0 7.9 40	6 115 115 1682 1420.0 8.3 42	7 131 131 1682 1420.0 8.2 42	14 1039 1039 1682 1420.0 16.9 84	835 835 1682 1420.0 13.6 67	1025 1025 1682 1420.0 18.4 88
ENERGY GWH	744.8	19.6	14.2	20.2	69.7	509 79.0	509 67.8	509 97.3	518 85.1	538 41.0	538 49.4	538 14.4	538 7.1	538 8.0	538 62.6	538 50.0	529 59.5
FORT RANDJ NAT INFLOW DEPLETION EVAPORATION REG INFLOW RELEASE STOR CHANGH STORAGE ELEV FTMSL DISCH KCFS POWER	ALL 489 80 129 13104 13104 8 0 3123 1350.0 10.5	90 1 431 167 265 3388 1353.3 5.6	42 1 292 148 144 3532 1355.0 10.7	54 1 409 392 17 3549 1355.2 22.0	70 4 1296 1296 3549 1355.2 21.8	56 9 1441 1441 3549 1355.2 23.4	195 12 1379 1379 3549 1355.2 23.2	21 18 10 1712 1712 0 3549 1355.2 27.8	59 15 31 1499 1673 -174 3375 1353.1 27.2	-16 7 33 606 1611 -1005 2370 1338.8 27.1	-84 1 23 701 774 -73 2296 1337.5 12.6	-4 10 221 221 0 2296 1337.5 7.4	-2 0 5 108 0 2296 1337.5 7.8	-2 1 5 123 123 0 2296 1337.5 7.7	3 13 1023 750 273 2569 1342.1 12.2	-10 3 822 732 90 2659 1343.5 11.9	20 3 1042 578 464 3123 1350.0 10.4
AVE POWER N PEAK POW MV ENERGY GWH	1286.2	46 349 16.7	90 354 15.1	185 355 40.0	184 355 132.4	198 355 147.0	196 355 140.8	234 355 174.2	227 348 168.9	211 288 151.7	92 283 68.7	54 283 19.6	57 283 9.6	57 283 10.9	91 305 67.6	91 311 67.7	82 338 55.4
NAT INFLOW DEPLETION CHAN STOR EVAPORATION RELEASE STOR CHANGE STORAGE ELEV FIMSL DISCH KCFS POWER	1252 114 -1 14194 14194 358 1206.0 13.0	91 0 9 267 267 267 1205.0 9.0	42 0 -10 181 181 358 1206.0 13.0	55 0 -22 425 425 358 1206.0 23.8	125 50 1416 1416 1416 1206.0 23.8	137 19 -3 1556 1556 1556 1206.0 25.3	144 24 0 1500 1500 358 1206.0 25.2	79 39 -9 3 1740 1740 358 1206.0 28.3	79 10 1 1735 1722 13 371 1206.5 28.0	57 -5 0 11 1662 1636 26 397 1207.5 27.5	109 2 27 10 898 898 397 1207.5 14.6	47 5 268 268 397 1207.5 9.0	22 2 -1 125 125 397 1207.5 9.0	25 3 0 2 143 143 397 1207.5 9.0	70 10 -8 5 797 797 397 1207.5 13.0	68 1 799 799 397 1207.5 13.0	102 3 682 721 -39 358 1206.0 13.0
AVE POWER M PEAK POW MW ENERGY GWH	W 594.4	32 114 11.4	46 114 7.7	82 114 17.6	82 114 58.7	87 114 64.4	86 114 62.1	96 114 71.6	96 115 71.3	95 117 68.7	52 117 38.5	32 117 11.6	32 117 5.4	32 117 6.2	46 78 34.2	46 78 34.3	46 76 30.8
GAVINS POI NAT INFLOW DEPLETION REGULATED FL KAF KCFS	NT - SIOU 879 255 OW AT SIC 14818	JX CITY- 58 6 DUX CITY 319 10.7	27 3 205 14.8	35 4 456 25.6	123 21 1518 25.5	230 35 1751 28.5	169 30 1639 27.5	76 38 1778 28.9	35 35 1722 28.0	24 23 1637 27.5	22 10 910 14.8	15 6 277 9.3	7 3 129 9.3	8 3 148 9.3	16 12 801 13.0	-8 13 778 12.7	42 14 749 13.5
TOTAL NAT INFLOW DEPLETION CHAN STOR EVAPORATION STORAGE SYSTEM DOME	19303 2597 -13 1541 33699 R	1125 28 101 34578	525 13 -4 34880	675 17 -22 35061	2060 154 -27 35421	2624 653 -42 35600	4537 1431 -41 37026	2427 958 ~6 97 36614	958 211 9 301 35348	788 -202 54 370 34385	924 -66 63 318 34210	441 -117 10 144 34356	206 -54 -1 67 34419	235 -62 -78 77 34413	475 -146 -25 167 34042	478 -144 -11 33875	825 -77 6
AVE POWER M PEAK POW MW ENERGY GWH DAILY GWH	6572.3 INI-SUM	431 2038 155.2 10.3 15MAR	580 2039 97.5 13.9 22MAR	741 2041 160.1 17.8 31MAR	793 2044 570.8 19.0 30APR	896 2043 666.5 21.5 31MAY	918 2068 660.9 22.0 30JUN	1086 2057 807.9 26.1 31JUL	1009 2039 750.4 24.2 31AUG	712 2004 512.8 17.1 30SEP	522 1995 388.1 12.5 310CT	383 1998 137.7 9.2 15NOV	392 1999 65.9 9.4 22NOV	502 2000 96.4 12.1 30NOV	705 1973 524.5 16.9 31DEC	664 1981 493.7 15.9 31JAN	720 1994 483.8 17.3 28FEB