# APPENDICES
# TO CENTRAL PLATTE RIVER MODEL TECHNICAL DOCUMENTATION

**APPENDIX A** ADATA, CDATA, and HDATA input variables descriptions.

**APPENDIX B** Central Platte River Model OPSTUDY code variables dictionary.

**APPENDIX C** Operating Rules for Releases to be made from Lake McConaughy

**APPENDIX D** OPSTUDY Assumptions Regarding Water Operations for Diversions at the Keystone Diversion Dam and Central District Supply Canal

**APPENDIX E** Sample main input file (Present.inp)

# Appendix A

## Description of CDATA, ADATA, and HDATA input data

**CDATA** ITEMS

| Item Number | Variable Name | Description (Note: for all flags, 0=NO, 1=YES, except where noted) |
|---|---|---|
| 1 | HISTORIC | Flag to use historic diversion demnd assumption at Keystone and Central |
| 2 | LOHISTRIG | Lake McC trigger for suspending historic diversion assumption, KAF |
| 3 | CONHYDR | Flag to use discretionary operational hydro releases |
| 4 | CALIBRAT | Use Lake McConaughy maximum historic content limits (usually for calibration) |
| 5 | Not Used | blank |
| 6 | Not Used | blank |
| 7 | Not Used | blank |
| 8 | Not Used | blank |
| 9 | | Heading for data group "LAKE MCCONAUGHY" |
| 10 | EOMLST | Lake McConaughy starting content, KAF |
| 11 | EOMSEPT | Lake McConaughy End-of-Month Content (EOMC) for September, KAF; used to decide upcoming year type |
| 12 | DEAD | Lake McConaughy dead storage, KAF |
| 13 | ACMULT | Lake McConaughy area-capacity curve multiplier |
| 14 | ACEXP | Lake McConaughy area-capacity curve exponent |
| 15 | HWLCONS | Howell-Bunger Valve constant |
| 16 | HWLSLOP | Howell-Bunger Valve slope |
| 17 | HWJPER | Howell-Bunger Valve percentage, July |
| 18 | HWAPER | Howell-Bunger Valve percentage, August |
| 19 | HWSPER | Howell-Bunger Valve percentage, September |
| 20 | FLDFLO | Critical South Platte flow at ? in CFS to reduce Lake McConaughy outflow |
| 21 | MACMAX | Central District maximum diversion control content in Lake McC, KAF |
| 22 | MACMIN | Central District minimum diversion control content in Lake McC, KAF |
| 23 | FALLVH | Lake McC September EOMC Fall very high operational trigger, KAF |
| 24 | FALLHI | Lake McC September EOMC Fall high operational trigger, KAF |
| 25 | FALLNO | Lake McC September EOMC Fall normal operational trigger, KAF |
| 26 | FALLLO | Lake McC September EOMC Fall low operational trigger, KAF |
| 27 | SPRINGVH | Lake McC March EOMC + 4-month projected inflow Spring very high operational trigger, KAF |
| 28 | SPRINGHI | Lake McC March EOMC + 4-month projected inflow Spring high operational trigger, KAF |
| 29 | SPRINGNO | Lake McC March EOMC + 4-month projected inflow Spring normal operational trigger, KAF |
| 30 | SPRINGLO | Lake McC March EOMC + 4-month projected inflow Spring low operational trigger, KAF |
| 31 | TCPOINT | Line slope of max. Tri-County Diversion line, CFS (use 0.0 if not applicable) |
| 32 | Not Used | blank |
| 33 | Not Used | blank |
| 34 | Not Used | blank |
| 35 | Not Used | blank |
| 36 | | Heading for data group "CENTRAL DISTRICT" |
| 37 | NPMAC | Central District diversion bypass, low Lake McConaughy control content, KAF |
| 38 | COZOP | Cozad operational bypass, CFS |
| 39 | TCEFFLG | Flag to calculate Tri-County diversion efficiency, 1.0=use value of TCEF (next item in list) |
| 40 | TCEF | Constant Tri-County canal diversion efficiency factor |
| 41 | TCMDV | Central District minimum diversion requirement, CFS (state EA code may re-set this) |

| | | |
|---|---|---|
| 42 | EREOMC | Elwood Reservoir starting content, KAF |
| 43 | Not Used | blank |
| 44 | JLEOMC | Johnson Lake starting content, KAF |
| 45 | Not Used | blank |
| 46 | J2CAP | J2 return capacity, CFS |
| 47 | Not Used | blank |
| 48 | Not Used | blank |
| 49 | Not Used | blank |
| 50 | Not Used | blank |
| 51 | Not Used | blank |
| 52 | | Heading for data group "SUTHERLAND/NPPD SYSTEM" |
| 53 | KEYMAC | Keystone bypass - low Lake McConaughy control content, KAF |
| 54 | SCMAC | Sutherland Canal minimum diversion requirement - low Lake McConaughy control content, KAF |
| 55 | KTEFFLG | Flag to calculate Korty Canal diversion efficiency, 1.0=use value of KTEF (next item in list) |
| 56 | KTEF | Constant Korty canal diversion efficiency factor |
| 57 | KTKYMIN | Minimum combined Keystone-Korty diversion, CFS |
| 58 | SREOMC | Sutherland Reservoir starting content, KAF |
| 59 | Not Used | blank |
| 60 | NPHCAP | North Platte Hydro return capacity, CFS |
| 61 | Not Used | blank |
| 62 | Not Used | blank |
| 63 | Not Used | blank |
| 64 | Not Used | blank |
| 65 | Not Used | blank |
| 66 | | Heading for data group "ENVIRONMENTAL ACCOUNT, LAKE MCCONAUGHY" |
| 67 | STATEEA | Flag for whether Lake McConaughy environmental account (EA) is active |
| 68 | EALARGE | Flag for whether Lake McConaughy EA is enlarged |
| 69 | EASTART | EA starting capacity, KAF |
| 70 | ACCRUPER | Lewellen inflow to EA accrual, percent |
| 71 | Not Used | blank |
| 72 | CONSERV | Conservation/water leasing flag |
| 73 | IRRIGEDKS | Irrigation retaining factor, percent (Keystone-Sutherland canals conservation/leasing) |
| 74 | IRRIGREDSNP | Irrigation retaining factor, percent (Sutherland-North Platte canals conservation/leasing) |
| 75 | IRRIGREDTC | Irrigation retaining factor, percent (Central system conservation/leasing) |
| 76 | IRRIGREDBC | Irrigation retaining factor, percent (Brady-Cozad canals conservation/leasing) |
| 77 | IRRIGREDKR | Irrigation retaining factor, percent (Kearney canal conservation/leasing) |
| 78 | EANETCW | Net conserved water to add to EA, KAF |
| 79 | IRRIGREDWC | Irrigation retaining factor, percent (Western canal conservation/leasing of natural flow) |
| 80 | | Heading for data group "BORROW/PAYBACK FROM MAC AND POWER INTERFERENCE" |
| 81 | EALOAN | Flag to enable borrow/payback, EA may borrow from Lake McConaughy (See ADATA(48)) |
| 82 | PWRINTFER | Flag for power interference project |
| 83 | PWRDIVISOR | Power interference divisor (POTENTIAL/DIVISOR is amount credited to EA) |
| 84 | Not Used | blank |
| 85 | Not Used | blank |
| 86 | Not Used | blank |
| 87 | Not Used | blank |
| 88 | | Heading for data group "IS EA WATER PROTECTED OR UNPROTECTED? TAMARACK EXCHANGE" |
| 89 | KTPROT | Flag to protect Colorado conservation water past Korty Diversion |

| | | |
|---|---|---|
| 90 | KTPROTP | Flag to protect Colorado conservation water past Central Diversion |
| 91 | PROGH2O | Flag to protect EA releases from diversion into Central System |
| 92 | EAETOPCT | Percent of excess-to-ownership (ETO) water to place in the EA |
| 93 | COEXCHNG | Flag to exchange Tamarack EA water into Lake mcConaughy |
| 94 | | Heading for data group "EA PULSE FLOWS TARGETED IN MAY" |
| 95 | EAPFLG | Flag to select short EA pulse in May |
| 96 | MACMAXPULSE | Maximum CFS rate through turbine penstock for EA pulse |
| 97 | EAPTARGMAX | EA pulse flow target maximum at Overton, CFS |
| 98 | EAPDAYS | Number of days of sustained ("flat") pulse flow, not including rise and fall |
| 99 | EAPRISE | Ramp rate for rising limb of EA pulse flow hydrograph, CFS/day (always positive) |
| 100 | EAPFALL | Ramp rate for falling limb of EA pulse flow hydrograph, CFS/day (always negative) |
| 101 | EAPTARG | Peak daily decision flow level for EA pulse, October thru June, CFS |
| 102 | EAPTARGLOW | Amount below EAPTARG level to puse anyway if EA can |
| 103 | EARESERVE | EA storage to reserve between January and April for use in May, KAF |
| 104 | | Heading for data group "GROUNDWATER/LOWER SYSTEM PROGRAM PROJECTS" |
| 105 | GWMPROJ | Flag for whether Groundwater Management project is on |
| 106 | GWMKTARG | Groundwater Management project target (volume to store/pump each year), KAF |
| 107 | NDRYCKFLG | Flag to operate North Dry Creek groundwater pumping project |
| 108 | RIVRDFLAG | Flag to operate riverside drains |
| 109 | Not Used | blank |
| 110 | Not Used | blank |
| 111 | Not Used | blank |
| 112 | | Heading for data group " "PLUM CREEK" TYPE OF REREGULATING RESERVOIR" |
| 113 | PLUMCK | Flag for whether "Plum Creek" Reservoir project is operating |
| 114 | PLUMEOMLST | "Plum Creek" Reservoir starting content, KAF |
| 115 | PLUMCAP | "Plum Creek" Reservoir capacity, KAF |
| 116 | PLUMCFSIN | "Plum Creek" Reservoir inflow, CFS |
| 117 | PLUMDEAD | "Plum Creek" Reservoir dead storage, KAF |
| 118 | PLUMMULT | "Plum Creek" Reservoir area-capacity curve multiplier |
| 119 | PLUMEXP | "Plum Creek" Reservoir area-capacity curve exponent |
| 120 | PLUMSPFAC | "Plum Creek" Reservoir seepage factor, percent |
| 121 | PLUMCFSOUT | "Plum Creek" Reservoir outflow, CFS |
| 122-136 | Not Used | blank |

**ADATA** ITEMS
(ADATA(I,J);I=item number (up to 110 items);J=1-12, corresponding to months of the year)
Variable names are assigned in INITCOM subroutine as (NAME)=ADATA(I,J).

| Item Number | Variable Name | Description (Note: for all flags, 0=NO, 1=YES, except where noted) |
|---|---|---|
| 1 | CONMAX | Lake McConaughy maximum end-of-month content, KAF |
| 2 | NLEVAP | Net lake evaporation, feet/month |
| 3 | HWLBUNGR | Howell-Bunger data (computed by model for July through September) |
| 4 | FLDSTAGENP | Flow in North Platte River at North Platte, Nebraska flood stage (cfs) |
| 5 | unused | |
| 6 | unused | |
| 7 | unused | |
| 8 | unused | |
| 9 | DPM | Days per month |
| 10 | unused | |
| 11 | KEYMIN | Keystone minimum bypass requirement, KAF |
| 12 | unused | |
| 13 | MAXKEY | Maximum Keystone diversion, KAF |
| 14 | unused | |
| 15 | SCMIN | Sutherland Canal minimum diversion requirement, CFS |
| 16 | unused | |
| 17 | KCCAP | Korty Canal average MONTHLY capacity, KAF/month (=1,100 cfs) |
| 18 | SCCAP | Sutherland Canal average MONTHLY capacity, KAF/month (=2,000 cfs), except 110 KAF/month in April and October to account for maintenance |
| 19 | unused | |
| 20 | SSLOSS | Sutherland system loss, KAF/month |
| 21 | SSLOSSLP | Sutherland Canal loss function slope |
| 22 | unused | |
| 23 | unused | |
| 24 | TCCCAP | Central District canal average MONTHLY capacity, KAF/month (=2,170 CFS) |
| 25 | TCLOSSA | Upper Central District canal average loss, 1979-1991, KAF |
| 26 | TCLOSS | Central District middle canal constant loss term, KAF,month |
| 27 | TCLOSSLP | Central District canal loss function slope |
| 28 | JFRCAP | Jeffrey hydro return average MONTHLY capacity, KAF/month (=600 CFS) |
| 29 | TCLOSSB | Lower Central District canal average loss, 1979-1991, KAF |
| 30 | unused | |
| 31 | ERLOSS | Elwood Reservoir loss, KAF/month |
| 32 | unused | |
| 33 | unused | |
| 34 | NPMIN | Central District North Platte diversion minimum bypass requirement, cfs |
| 35 | | EA to reserve (minimum EA content), KAF |
| 36 | PRCNTEA | Percent of EA available each month for borrowing (any EA "borrow" month should be 1.0) |
| 37 | EAMINREL | Minimum EA release allowed; no EA releases less than this, CFS |
| 38 | OVFLAG | Flag to meet minimum flow requirement at Overton |
| 39 | WLSTR(1) | EA threshold volumes for instream flow releases, Level 1 (greatest) |
| 40 | WLSTR(2) | EA threshold volumes for instream flow releases, Level 2 (level 2 < level1, level 3 < level 2, etc.) |
| 41 | WLSTR(3) | EA threshold volumes for instream flow releases, Level 3 |
| 42 | WLSTR(4) | EA threshold volumes for instream flow releases, Level 4 |
| 43 | WLSTR(5) | EA threshold volumes for instream flow releases, Level 5 |

| | | |
|---|---|---|
| 44 | WLSTR(6) | EA threshold volumes for instream flow releases, Level 6 (least) |
| 45 | CONSBOR | Conservation water attributable to USBR funds added to EA, KAF (0 except for October) |
| 46 | EANDRYCK | Potential EA water added by North Dry Creek groundwater pumping project |
| 47 | RIVRDRAIN | Water added from riverside drains (Cozad - Overton reach), KAF |
| 48 | EALOANFLG | Flag to allow EA to borrow from Lake McC May-July, to be paid back before Oct. with WY EA deliveries |
| 49 | unused | |
| 50 | unused | |
| 51 | TISFR(1) | Suggested monthly flow requirement, Level 1, KAF/month |
| 52 | TISFR(2) | Suggested monthly flow requirement, Level 2, KAF/month |
| 53 | TISFR(3) | Suggested monthly flow requirement, Level 3, KAF/month |
| 54 | TISFR(4) | Suggested monthly flow requirement, Level 4, KAF/month |
| 55 | TISFR(5) | Suggested monthly flow requirement, Level 5, KAF/month |
| 56 | TISFR(6) | Suggested monthly flow requirement, Level 6, KAF/month |
| 57 | unused | |
| 58 | GIFLAG | Flag to meet minimum flow requirement at Grand Island |
| 59 | GISFR | USFWS 10-J recommended flows in critical habitat reach, KAF - Grand Island |
| 60 | FWSWET | FWS instream flow target for wet condition, KAF/month |
| 61 | FWSAVE | FWS instream flow target for normal condition, KAF/month |
| 62 | FWSDRY | FWS instream flow target for dry condition, KAF/month |
| 63 | PCSHORT(J) | Present condition instream flow shortage, KAF/month (uses wet/average/dry %) |
| 64 | PCEXCESS(J) | Present condition instream flow excess, KAF/month (uses wet/average/dry %) |
| 65 | KRCAP | Kearney Canal diversion capacity, KAF/month |
| 66 | unused | |
| 67 | KRLOSS | Kearney Canal system loss, KAF/month |
| 68 | unused | |
| 69 | unused | |
| 70 | unused | |
| 71 | | Function - Lake McConaughy elevation-storage,<br>CONT1 through CONT6 = storage in KAF,<br>ELEV1 through ELEV6 = elevation in feet |
| 72 | MACVH | McConaughy release flag, very high conditions |
| 73 | MACHI | McConaughy release flag, high conditions |
| 74 | MACNO | McConaughy release flag, normal conditions |
| 75 | MACLO | McConaughy release flag, low conditions |
| 76 | MACVL | McConaughy release flag, very low conditions |
| 77 | SUTHVH | Keystone Diversion flag, very high conditions |
| 78 | SUTHHI | Keystone Diversion flag, high conditions |
| 79 | SUTHNO | Keystone Diversion flag, normal conditions |
| 80 | SUTHLO | Keystone Diversion flag, low conditions |
| 81 | SUTHVL | Keystone Diversion flag, very low conditions |
| 82 | TRIVH | Tri-County Diversion flag, very high conditions |
| 83 | TRIHI | Tri-County Diversion flag, high conditions |
| 84 | TRINO | Tri-County Diversion flag, normal conditions |
| 85 | TRILO | Tri-County Diversion flag, low conditions |
| 86 | TRIVL | Tri-County Diversion flag, very low conditions |
| 87 | MACVHREL | Lake McConaughy release pattern, CFS, very high conditions |
| 88 | MACHIREL | Lake McConaughy release pattern, CFS, high conditions |
| 89 | MACNOREL | Lake McConaughy release pattern, CFS, normal conditions |
| 90 | MACLOREL | Lake McConaughy release pattern, CFS, low conditions |
| 91 | MACVLREL | Lake McConaughy release pattern, CFS, very low conditions (also used if Julesburg > flood flow) |

| | | |
|---|---|---|
| 92 | SUTHVHREL | Keystone Diversion pattern, CFS, very high conditions |
| 93 | SUTHHIREL | Keystone Diversion pattern, CFS, high conditions |
| 94 | SUTHNOREL | Keystone Diversion pattern, CFS, normal conditions |
| 95 | SUTHLOREL | Keystone Diversion pattern, CFS, low conditions |
| 96 | SUTHVLREL | Keystone Diversion pattern, CFS, very low conditions |
| 97 | TRIVHREL | Tri-County Diversion pattern, CFS, very high conditions |
| 98 | TRIHIREL | Tri-County Diversion pattern, CFS, high conditions |
| 99 | TRINOREL | Tri-County Diversion pattern, CFS, normal conditions |
| 100 | TRILOREL | Tri-County Diversion pattern, CFS, low conditions |
| 101 | TRIVLREL | Tri-County Diversion pattern, CFS, very low conditions |
| 102 | PLUMALLOW | Flag whether reregulating ("Plum Creek") reservoir is allowed to store |
| 103 | GWMCAP | Groundwater management MONTHLY seepage capacity, KAF (= approximately 85 cfs) |
| 104-110 | unused | |

**HDATA** ITEMS

(HDATA(K,I,J);K=item number (up to 32 items);I=year;J=1-12, corresponding to months of the year)

Variable names are assigned in INITCOM subroutine as (NAME)=ADATA(K,I,J).

| Item Number | Variable Name | Description (Note: for all flags, 0=NO, 1=YES, except where noted) |
|---|---|---|
| 1 | LEWELN | North Platte River at Lewellen, NE (value depends on alternative being considered), KAF |
| 2 | JULES | South Platte River near Julesburg, CO, adjusted historic inflows (Hydrosphere, 6/26/2000), KAF |
| 3 | BIRD | Birdwood Creek near Hershey, NE, historic discharge, KAF |
| 4 | KSGN | North Platte River - Keystone to Sutherland revised present condition reach gains, KAF |
| 5 | SPNPGN | North Platte River - Sutherland to North Platterevised present condition reach gains, KAF |
| 6 | JPGN | South Platte River - Julesburg, CO to Paxton, NE, historic reach gains, KAF |
| 7 | PNPGN | South Platte River - Paxton to North Platte revised present condition reach gains, KAF |
| 8 | NPBGN | Platte River - North Platte to Brady revised present condition reach gains, KAF |
| 9 | BCGN | Platte River - Brady to Cozad historic reach gains, KAF |
| 10 | COGN | Platte River - Cozad to Overton revised present condition reach gains, KAF |
| 11 | OOGN | Platte River - Overton to Odessa historic reach gains, KAF |
| 12 | OGIGN | Platte River - Odessa to Grand Island revised present condition reach gains, KAF |
| 13 | GIDGN | Platte River - Grand Island to Duncan historic reach gains, KAF |
| 14 | KSDM | Keystone-Sutherland irrigation demand, KAF |
| 15 | SNPDM | Sutherland-North Platte irrigation demand, KAF |
| 16 | WCDM | Western Canal irrigation demand, KAF |
| 17 | TCIDM | Tri-County irrigation demand, KAF |
| 18 | BCIDM | Brady-Cozad irrigation demand, KAF |
| 19 | KRIDM | Kearney Canal irrigation demand, KAF |
| 20 | EALEW | Environmental Account deliveries at Lewellen, KAF |
| 21 | EAJUL | Julesburg additions to gage flows (Colorado rereg.), KAF |
| 22 | EAETO | ETO that could have been stored in USBR North Platte reservoirs, KAF |
| 23 | HISKEY | Keystone historic diversion, KAF |
| 24 | HIS3CO | Central historic diversion (includes corrections for gage errors), KAF |
| 25 | EREOMC | Target end-of-month content of Elwood Reservoir, KAF |
| 26 | RSEEP | Combined seepage and bank storage for Lake McConaughy (historic from 1950-1994), KAF |
| 27 | SRTARG | Average Sutherland system storage, KAF |
| 28 | JLTARG | Average Johnson system storage, KAF |
| 29 | CONSCO | Colorado conservation water at Julesburg, KAF |
| 30 | DLOUGN | Platte River - Grand Island to Duncan historic reach gain 1954-1994, KAF (1947-1953 based on Ashland flow) |
| 31 | WYEAOWN | Environmental Account available for "borrowing", KAF |
| 32 | not used | |

# Appendix B

## OPSTUDY variables dictionary

## GLOBAL VARIABLE DEFINITION

| Standard Nomenclature at Flow Nodes | |
|---|---|
| ETS | Evapo-transpiration Salvage |
| GN | Gain |
| GWC | Change in groundwater depletions |
| GWD | Accumulated change in groundwater depletions |
| GWDP | Original value of accumulation change in ground water depletion prior to additional passes in Phase I |
| DMD | Demand at -- |

**Variable Names and Descriptions**

| Name | VariableType | Data Type | Description |
|---|---|---|---|
| ACCRUPER | REAL | CDATA | Lewellen Inflow to EA Accrual, PERCENT |
| ACEXP | REAL | CDATA | Lake McConaughy area-capacity curve exponent |
| ACMULT | REAL | CDATA | Lake McConaughy area-capacity curve multiplier |
| ADATA(110,12) | REAL ARRAY | input | Monthly constants |
| ADDSRDMD | REAL | computed | Additional Demand on Lake McConaughy to Meet Sutherland Demand, KAF |
| ADDTCDMD | REAL | computed | Additional demand on Lake McConaughy, KAF |
| ADJLEAP | REAL | computed | Adjust for leap year |
| AGHEAD(20) | CHARACTER | input | Line-group headings |
| ALHEAD(120) | CHARACTER | input | Line headings |
| ALOSCRED | REAL | computed | Give a loss credit for water diverted to JFHR since it doesn't hit middle reach |
| ALOSINC | not found | | Increase in Central Canal loss meeting minimum flow requirement |
| AMPM | REAL | assigned | Sets time as being either AM or PM |
| ANAME(110) | CHARACTER | input | Description of monthly constants |
| ATHEAD(130) | CHARACTER | input | Table headings |
| AVECON | REAL | computed | Average EOM contents in Lake McConaughy, KAF |
| AVGDAILY(17) | REAL ARRAY | COMPUTED | Average daily flow for the month at each of 17 locations, CFS |
| AVGKAF(12) | REAL ARRAY | ADATA | Avg instream flow recommendation, KAF |
| AVGROW | INTEGER | computed | Array element number (rows) in Table for which shortage is computed using avg recommendations. |

| | | | |
|---|---|---|---|
| AYEAR | REAL | assigned | Number of years in the model |
| BCDMORIG | REAL | assigned | Original Brady-Cozad irrigation demand, KAF |
| BCETS | REAL | computed | Evapo-transpiration Salvage from Brady to Cozad, KAF |
| BCGN | REAL | HDATA | Brady to Cozad gain, KAF |
| BCGWC | REAL | computed | Change in ground water depletion from Brady to Cozad, KAF |
| BCGWD | REAL | computed | Accumulation change in ground water depletion at Brady, KAF |
| BCGWDP | REAL | computed | Original value of accumulation change in ground water depletion prior to additional passes in preceding month at Brady, KAF |
| BCIDM | REAL | HDATA | Irrigation demand from Brady to Cozad, KAF |
| BCIDV | REAL | computed | Irrigation diversion from Brady toCozad, KAF |
| BCIRSAV | REAL | computed | Irrigation reduction in demand on storage, KAF |
| BCSHORT | REAL | computed | Irrigation shortage not including conservation, KAF |
| BIRD | REAL | HDATA | Flow from Birdwood Creek, KAF |
| BLOSINC | REAL | computed | Increase in Central Canal loss meeting minimum flow requirementFlow from Birdwood Creek, KAF |
| BRADY | REAL | computed | Platte River near Brady, NE, KAF |
| BRADYMAX | REAL | COMPUTED | Maximum pulse flow at Brady in May, CFS |
| BRADYMAX2 | REAL | COMPUTED | Maximum pulse flow at Brady in June, CFS |
| BRADYPULSE(61) | REAL ARRAY | COMPUTED | Routed pulse hydrograph ordinates at Brady, CFS |
| BRDMD | REAL | computed | Brady demand, KAF |
| BRDMDORIG | REAL | assigned | Original demand at Brady prior to Phase 2 looping, KAF |
| BYPASS | not found | | Flow passing central diversion dam (KAF) |
| BYPEST | not found | | Calculate Keystone Diversion Efficiency; based on analysis of historic data, Keystone doesn't divert all the water it can. Estimate annual by volume based on McConaughy storage in January |
| BYPSKEY | not found | | Unintentional Keystone bypass percentage |
| CALIBRAT | REAL | CDATA | Flag to use calibration option |
| CARRYOVER(4,5) | REAL ARRAY | computed | =SPIKEREL-SPIKERED (These terms are defined below), KAF |
| CASE(12) | CHARACTER | assigned | Case name |
| CDATA(140) | REAL ARRAY | input | Constant Data items (variable units) |
| CENTPULSE(61) | REAL ARRAY | COMPUTED | Routed pulse hydrograph ordinates for portion of pulse diverted into Central system, CFS |
| CFS | REAL | computed | Multiply by this to convert from CFS to KAF, divide for reverse |
| CHGMAX | INTEGER | input | Flag for historic Lake McConaughy levels. 0=use historic max if prior to 1984, 1=use max in ADATA |

| | | | |
|---|---|---|---|
| CHKDUNC | REAL | computed | Separate computations of flow at Duncan to check mass balance |
| CHTCDREQ | not found | | not found |
| CNAME(110) | CHARACTER | input | Names of constants and initializing terms |
| COETS | REAL | computed | Evapo-transpiration Salvage from Cozad to Overton, KAF |
| COEXCHNG | REAL | CDATA | Flag to exchange Julesburg EA water into Lake McConaughy |
| COGN | REAL | HDATA | Cozad to Overton gain, KAF |
| COGWC | REAL | computed | Change in ground water depletion from Cozad to Overton, KAF |
| COGWD | REAL | computed | Accumulation change in ground water depletion from Cozad to Overton, KAF |
| COGWDP | REAL | computed | Original value of accumulation change in ground water depletion prior to additional passes in preceding month from Cozad to Overton, KAF |
| COL | INTEGER | "DO" counter | Loop value to loop thru Table columns. |
| COMMENTS | CHARACTER | output | Output file comment line |
| CONDITION | REAL | assigned | Flag used to indicate very high, high, normal, low and very low storage and inflow conditions during operational release runs, KAF |
| CONHYDR | REAL | CDATA | Flag saying whether to use operational release during non-irrigation season |
| CONINF | REAL | computed | Sum of end of Sept. storage in Lake McConaughy and the inflow for the first six months of the water year to establish wet, dry, or transitional conditions, KAF |
| CONMAX | REAL | ADATA | Maximum Lake McConaughy content, KAF |
| CONMAXOLD | REAL | ADATA | Old McConaughy limits if an enlarged EA with the safety of dams fix is being modeled, KAF |
| CONMAXPRE | REAL | ADATA | Previous monthly allowable for calibration, KAF |
| CONS(12) | REAL ARRAY | computed | Amount of water added to the EA gathered from basin wide conservation, KAF |
| CONSBOR | REAL | ADATA | Conservation added to the EA as part of Reclamation's financing conservation in the Central District, KAF |
| CONSCO | REAL | HDATA | Conservation water from Colorado to be added to EAJUL, this water may or may not be exchanged into MAC EA, KAF |
| CONSCOC | REAL | computed | Amount of Colorad conservation water (CONSCO) in Tri-County Canal, KAF |
| CONSCOR | REAL | computed | Amount of Colorad conservation water (CONSCO) passingTri-County Canal (i.e. staying in river), KAF |
| CONSCORIG | REAL | assigned | Original Colorado conservation water prior to Phase 2 looping, KAF |
| CONSEASTOR | REAL | flag, CDATA | Flag to store new water from water conservation and groundwater management (0=no, 1=yes) |
| CONSERV | REAL | CDATA | Yes/No:  If 1 use phased conservation else conservation constant |
| CONSNCCW | REAL | ADATA | Net controllable conserved water added to EA, KAF |
| CONSTBY | not found | | Constant term in equation BYPEST |

| | | | |
|---|---|---|---|
| COZAD | REAL | computed | Platte River near Cozad, NE, KAF |
| COZADMAX | REAL | COMPUTED | Maximum pulse flow at Cozad in May, CFS |
| COZADMAX2 | REAL | COMPUTED | Maximum pulse flow at Cozad in June, CFS |
| COZADPULSE(61) | REAL ARRAY | COMPUTED | Routed pulse hydrograph ordinates at Cozad, CFS |
| COZDMD | REAL | computed | Demand at Cozad adjusted for the Brady-Cozad gain, KAF |
| COZOP | REAL | CDATA | Cozad operational bypass, KAF |
| COZPASS | REAL | computed | Operational bypass at Cozad, KAF |
| CPHASED | INTEGER | CDATA | Flag to use phased conservation |
| CPRCK | REAL | flag, CDATA | Flag to indicate if Central Platte reregulating reservoir is running (0=no, 1=yes) |
| CPRR | REAL | CDATA | Central Platte Re-regulating Reservoir Reservoir online? 0=false 1=true |
| CPRRALLOW | REAL | ADATA | Central Platte Re-regulating Reservoir allowed to store? (1=Yes, 0=No) |
| CPRRCAP | REAL | CDATA | Central Platte Re-regulating Reservoir capacity, KAF |
| CPRRCFS | REAL | CDATA | Central Platte Re-regulating Reservoir inlet & outlet rate, CFS |
| CPRRCFSIN | REAL | CDATA | Central Platte Re-regulating Reservoir inlet capacity, CFS |
| CPRRCFSOUT | REAL | CDATA | Central Platte Re-regulating Reservoir outlet capacity, CFS |
| CPRRDEAD | REAL | CDATA | Central Platte Re-regulating Reservoir dead pool, KAF |
| CPRREOMC | REAL | computed | Central Platte Re-regulating Reservoir Res end-of-month content, KAF |
| CPRREOMLST | REAL | CDATA | Central Platte Re-regulating Reservoir starting content, KAF |
| CPRREVAP | REAL | computed | Evaporation from proposed Central Platte Re-regulating Reservoir, computed by calling Subroutine EVAP from INITCOM, KAF |
| CPRREXP | REAL | CDATA | Central Platte Re-regulating Reservoir area/capacity curve exponent |
| CPRRFLAG | REAL | computed | Flag to control whether Central Platte Re-regulating Reservoir Code is executed (0=YES, 1=NO) |
| CPRRIN | REAL | computed | Inflow into Central Platte Re-regulating Reservoir, KAF |
| CPRRMINCFS | REAL | CDATA | Central Platte Re-regulating Reservoir minimum release allowed, CFS |
| CPRRMULT | REAL | CDATA | Central Platte Re-regulating Reservoir area/capacity curve multiplier |
| CPRROUT | REAL | computed | Outflow from Central Platte Re-regulating Reservoir, KAF |
| CPRRRATE | REAL | computed | Central Platte Re-regulating Reservoir inlet flow rate, CFS |
| CPRRREL | REAL | computed | Monthly release from proposed Central Platte Re-regulating Reservoir, KAF |
| CPRRSEEP | REAL | computed | Estimated monthly seepage out of proposed Central Platte Re-regulating Reservoir, KAF |
| CPRRSPACE | REAL | computed | Empty space in proposed Central Platte Re-regulating Reservoir reservoir, KAF |
| CPRRSPFAC | REAL | CDATA | Central Platte Re-regulating Reservoir seepage factor, decimal percent |

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|---|---|---|---|
| CPRRSPILL | REAL | computed | Central Platte Re-regulating Reservoir spill (KAF) |
| CPRRSTOR | REAL | computed | Central Platte Re-regulating Reservoir storage, KAF |
| D | INTEGER | screen input | If 6 dump debug data to screen. If 13 write to OPDEBUG.DAT |
| DAILYCFS(17,31) | REAL ARRAY | COMPUTED | Computed daily flows for every day of the month at each of 17 locations, CFS |
| DAYFLAG | INTEGER | flag, CDATA | Flag to indicate if daily flows are being calculated (0=no, 1=yes) |
| DEAD | REAL | CDATA | Lake McConaughy dead storage varied to hide EA water, KAF |
| DELALOSCRED | REAL | computed | Change in ALOSCRED applied in storage McConaughy, KAF |
| DIFDUNC | REAL | computed | Change in CHKDUNC-DUNCAN, KAF |
| DLOUGN | REAL | HDATA | Duncan-Louisville historic reach gain, KAF |
| DPM | REAL | ASSIGNED | Days per month |
| DPY | REAL | assigned | Days per year |
| DRYKAF(12) | REAL | ADATA | Hard code for dry targets, KAF |
| DUNCAN | REAL | computed | Platte River near Duncan, NE, KAF |
| EABORROW | REAL | computed | Amount EA borrows from Lake McConaughy storage in a current month, KAF |
| EABRADY | REAL | computed | Amount of EA water at Brady, KAF |
| EACCRUE | REAL | computed | Nebraska contribution to EA based on 10% Lewellen inflow during October through April, KAF |
| EACFSAVA | REAL | computed | Max CFS for the available EA supply |
| EACOZAD | REAL | computed | Amount of EA water at Cozad, KAF |
| EADAYSP | REAL | computed | Adjustment to EA when Lake McConaughy fills to regulatory limit (CONMAX), KAF |
| EADJUST | REAL | computed | Total EA adjustment, KAF |
| EADJUST1 | REAL | computed | EA adjustment due to Lake McConaughy being full in the first part, KAF |
| EADJUST2 | REAL | computed | EA adjustment due to Lake McConaughy being full in the second part, KAF |
| EADJUST3 | REAL | computed | EA adjustment due to EA at capacity in first part, KAF |
| EADJUST4 | REAL | computed | EA adjustment due to EA at capacity in second part, KAF |
| EAEOMLSTMO | REAL | assigned | EA contents previous month, KAF |
| EAEOMMAR | REAL | assigned | EA end-of-month content for March, KAF |
| EAEOMSEPT | REAL | assigned | EA end-of-month content for September, KAF |
| EAETO | REAL | computed | Excess to Ownership contributed to EA, KAF |
| EAETOPCT | REAL | CDATA | Percent of ETO that is stored in the EA |
| EAEVAP | REAL | computed | Evaporation allocated to EA, KAF |
| EAFUNC | REAL | computed | Maximum potential release available from EA, KAF |

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|---|---|---|---|
| EAGRNDISL | REAL | computed | Amount of EA water at Grand Island, KAF |
| EAJFHR | REAL | computed | Amount of EA water at the Jeffrey Hydro Return, KAF |
| EAJNT | REAL | computed | Net EA water that makes it to Paxton is what would be exchanged into Lake Mac, KAF |
| EAJUL | REAL | HDATA | Colorado contribution to EA, KAF. It is assumed that the water is directly offset against water released from Lake McConaughy for non-EA purpose |
| EAJULLST | REAL | computed | Colorado EA water lost to negative Julesburg-Paxton gain, KAF |
| EAKAFAVA | REAL | computed | EA KAF available for pulse volume |
| EAKEYSTN | REAL | computed | Amount of EA water at Keystone, KAF |
| EALARGE | REAL | CDATA | Flag to raise Lake McConaughy storage limits |
| EALEW | REAL | HDATA | Wyoming contribution to EA, KAF |
| EALOAN | REAL | CDATA | Enables EA to borrow from Lake McConaughy storage |
| EALOANFLG | REAL | ADATA | Specifies months in which EA may borrow from lake McConaught storage |
| EAMINREL | REAL | ADATA | Minimum EA release allowed in CFS |
| EANDRYCK | REAL | ADATA | EA water that is flowing in via North Dry Creek near Kearney, KAF. |
| EANEEDCFS | REAL | computed | Amount of water EA needs to borrow to make a pulse release, CFS |
| EANEEDKAF | REAL | computed | Amount of water EA needs to borrow to make a pulse release, KAF |
| EANETCW | REAL | CDATA | Net conserved water to add to the EA, KAF |
| EANPNP | REAL | computed | Amount of EA water in the North Platte River at North Platte, KAF |
| EAODESSA | REAL | computed | Amount of EA water at Odessa, KAF |
| EAOVERTON | REAL | computed | Amount of EA water at Overton, KAF |
| EAOWED | REAL | computed | Total amount EA owes Lake McConaughy for borrowing storage, KAF |
| EAPAYBK | REAL | computed | Amount EA pays back toward loan in a current month, KAF |
| EAPCDAYS | REAL | CDATA | Days of crest (flat) pulse, doesn't include rise & fall time |
| EAPCFS | REAL | assigned | EA pulse CFS release each month |
| EAPCFS1 | REAL | computed | Max CFS rate considering max Overton flow |
| EAPCFS2 | REAL | assigned | Minimum CFS needed and available cfs turbine space |
| EAPCFS3 | REAL | computed | Minimum of: CFS needed, available turbine space, channel capacity, CFS |
| EAPCFS4 | REAL | computed | Minimum of: EAPCFS3, available supply, CFS |
| EAPCODE | INTEGER | flag | Integer variable that tells why pulse was or wasn't made in May |
| EAPFALL | REAL | CDATA | Ramp rate down in CFS/DAY for falling limb of pulse release, must be - |
| EAPFDAYS | REAL | computed | Time in days of falling pulse limb |

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|---|---|---|---|
| EAPFLG | REAL | CDATA | Flag to select short EA pulse in May, 1=Y, 0=N |
| EAPKAF | REAL | computed | Estimated KAF volume needed to reach pulse target |
| EAPKREL | REAL | assigned | EA pulse KAF release each month |
| EAPKREL5 | REAL | assigned | Keep track of EA pulse release in May, KAF |
| EAPRDAYS | REAL | computed | Time in days of rising pulse limb |
| EAPRIFLG | REAL | flag, CDATA | Flag to give EA pulse release priority over other EA releases (0=no, 1=yes) |
| EAPRISE | REAL | computed | Ramp rate up in CFS/DAY for rising limb of pulse release, must be + |
| EAPTARG | REAL | CDATA | Decision point CFS for May & June regarding making an EA Pulse |
| EAPTARGLOW | REAL | CDATA | CFS below the EAPTARG which an EA Pulse is still allowed for if possible |
| EAPTARGMAX | REAL | CDATA | Pulse flow maximum allowed at Overton, CFS |
| EARESERVE | REAL | CDATA | Amount of EA water to hold back January-April to have enough for May and beyond, KAF |
| EASPNP | REAL | computed | Amount of EA water in the South Platte River at North Platte, KAF |
| EASTART | REAL | CDATA | Initial EA content, KAF |
| EASUM | REAL | computed | Cumulative EACRUE limited to 100 KAF/Yr |
| EASUTHLND | REAL | computed | Amount of EA water at Sutherland, KAF |
| EDAYSP | REAL | computed | Total days of EA pulse release (rise,crest,fall) |
| EOMACRE | REAL | computed | Reservoir surface area of Lake McConaughy at EOM, acres |
| EOMC | REAL | computed | End of month contents, KAF |
| EOMCEA | REAL | computed | End of month contents of EA, KAF |
| EOMCEAPRE | REAL | assigned | Amount of water that is available for delivery from the EA at the beginning of the current month, KAF |
| EOMCEATST | REAL | computed | Check of the mass balance on the EA, KAF |
| EOMELEV | REAL | computed | Elevation at Lake McConaughy, feet |
| EOMLST | REAL | computed | Previous month's Lake McConaughy contents, KAF |
| EOMLST2 | REAL | computed | Volume credited to the EA, KAF |
| EOMMAR | REAL | assigned | Lake McConaughy end-of-March content, KAF |
| EOMSEPT | REAL | assigned | End of September storage in Lake McConaughy, KAF |
| ERCHNG | REAL | computed | Change in Elwood reservation contents, KAF |
| ERDEAD | REAL | computed | Dead storage in Elwood, KAF |
| ERDMD | REAL | computed | Additional demand on Elwood Reservoir, KAF |
| EREOMC | REAL | computed | EOMC in Elwood, KAF |
| ERLOSS | REAL | ADATA | Evaporation and seepage in Elwood, KAF |

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| ERTARG | REAL | ADATA | Target storage in Elwood, KAF |
| EXCESS | REAL | computed | Instream Flow Excess, KAF |
| EXTAB | INTEGER | assigned | Table number of excess values which subroutine SHORTEX will update with wet/avg/dry shortage and excess. |
| FALLHI | REAL | CDATA | Fall trigger to determine when conditions are high, KAF |
| FALLLO | REAL | CDATA | Fall trigger to determine when conditions are low, KAF |
| FALLNO | REAL | CDATA | Fall trigger to determine when conditions are normal, KAF |
| FALLVH | REAL | CDATA | Fall trigger to determine when conditions are very high, KAF |
| FERCNPPD | REAL | computed | FERC diversion requirement for Keystone/Sutherland system, KAF |
| FERCTRIC | REAL | assigned | FERC diversion requirement for Tri-County system, KAF |
| FLDFLO | REAL | CDATA | Flow in Julesberg in CFS which triggers a minimum release in Lake McConaughy to control flooding in base line scenarios |
| FLDSTAGENP | REAL | CDATA | Flood stage flow in the North Platte River at North Platte, CFS |
| FLOTOT | REAL | computed | Total gains of inflow and EA allocations from Colorado & Wyoming, KAF |
| FLOW(130,13) | REAL ARRAY | assigned | Monthly flow/gain/loss at each of 120 locations for 12 months and (13-th) the average annual value, KAF |
| FOURINF | REAL | computed | Inflow to Lake McConaughy for April, May, June, and July, KAF |
| FWSAVE | REAL | ADATA | Fish and Wildlife in stream flow target for average conditions,KAF |
| FWSDRY | REAL | ADATA | Fish and Wildlife in stream flow target for dry conditions, KAF |
| FWSWET | REAL | ADATA | Fish and Wildlife in stream flow target for wet conditions, KAF |
| GIAVA | REAL | computed | Available flow at Grand Island to determine EA release, KAF |
| GIDETS | REAL | computed | Evapo-transpiration Salvage from Grand Island to Duncan, KAF |
| GIDGN | REAL | HDATA | Gain from Grand Island to Duncan, KAF |
| GIDGWC | REAL | computed | Change in groundwater depletions from Grand Island to Duncan, KAF |
| GIDGWD | REAL | computed | Accumulation change in ground water depletion from Grand Island to Duncan, KAF |
| GIDGWDP | REAL | computed | Original value of accumulation change in ground water depletion prior to additional passes in preceding month from Grand Island to Duncan, KAF |
| GIDMD | REAL | computed | Grand Island at Duncan demand, KAF |
| GIEXCES | REAL | computed | Surplus flow relative in stream flow target at Grand Island, KAF |
| GIFLAG | REAL | ADATA | Fish and Wildlife recommendations for Grand Island, KAF |
| GIREQ | REAL | ADATA | Required in stream flow at Grand Island, KAF |
| GISFR | REAL | ADATA | **Average** FWS flow recommendation for Fish and Wildlife at Grand Island, KAF |
| GISHORT | REAL | computed | Minimum flow shortage at Grand Island, KAF |

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| GRNDILAST | REAL | assigned | Previous month's flow volume at Grand Island, KAF |
| GRNDISL | REAL | computed | Platte River near Grand Island, NE, KAF |
| GWCTOT | REAL | computed | Total of changes in ground water depletions for all reaches, KAF |
| GWMCAP | REAL | ADATA | Seepage capcity in KAF for GW Mgmt Project |
| GWMCRED | REAL | computed | GW Mgmt credit/month for EA & reduced Central demand, KAF |
| GWMCREDSUM | REAL | computed | GW Mgmt total credit sum, KAF |
| GWMEOMC | REAL | computed | End of month content in groundwater storage, KAF |
| GWMFLAG | REAL | computed | Flag to control whether the GW Management Project is executed |
| GWMKTARG | REAL | CDATA | GW Mgmt Proj target vol. to store & pump per year, KAF |
| GWMPROJ | REAL | CDATA | Flag tells whether GW Management Project is on |
| GWMPUMP | REAL | computed | Amount removed from ground water storage for irrigation in May-Sep, KAF |
| GWMSPACE | REAL | computed | Available "storage" space (GWMKTARG-GWMEOMC), KAF |
| GWMSTORE | REAL | computed | Amount taken from J2 Return and sent down the canals for groundwater storage, KAF |
| HDATA(34,52,12) | REAL ARRAY | input | 34 Variables, 52 years, 12 months of hydrologic data (variable units) |
| HEADER | CHARACTER | HDATA | 40-character header in HDATA file |
| HIDEEA | REAL | computed | EA water hidden in dead storage to prevent non-EA diversion when reservoir low, KAF |
| HIDEEASET | REAL | flag | Variable indicating that EA releases from WY & CO are being "hidden in dead storage" to prevent their use for other needs |
| HIS3CO | REAL | HDATA | History tri-county diversion, KAF |
| HISKEY | REAL | HDATA | Historic Keystone diversion, KAF |
| HISTDAILY(17,31) | REAL ARRAY | INPUT | Historic daily flows for every day of the month at each of 17 locations, CFS |
| HISTFLAG | REAL | flag, CDATA | Flag indicating whether historic flows are being simulated (0=no, 1=yes) |
| HISTORIC | REAL | CDATA | Switch to use historic diversion demand assumption at Keystone and Central diversions |
| HOLD(130,13) | REAL ARRAY | computed | Accumulation variables for summing flow data, KAF |
| HWAPER | REAL | CDATA | Percentage of Howell Bunger release allocated to August |
| HWJPER | REAL | CDATA | Percentage of Howell Bunger release allocated to July |
| HWLBUNGR(12) | REAL ARRAY | ADATA | Flow at Howell-Bunger valve, KAF |
| HWLCONS | REAL | CDATA | Percentage of Howell Bunger release allocated a constant term in June-Sept. |
| HWLOUT | REAL | computed | Constant term in the Howell Bunger equation as a function of Lake McConaughy June contents |
| HWLSLOP | REAL | CDATA | Slope term in the Howell Bunger equation as a function of Lake McConaughy June contents |
| HWSPER | REAL | CDATA | Percentage of Howell Bunger release allocated to September |

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| HYOUT | REAL | assigned | Hydraulic capacity of Lake McConaughy turbines, KAF |
| HYOUTMAY | REAL | computed | Monthly avg hydro outflow in May, (doesn't include pulse), CFS |
| I | INTEGER | counter | Year variable (1 through [number of years]) |
| IBEG | INTEGER | computed | model year to begin calculations |
| IDAY | INTEGER | assigned | Day of the month [1-31] |
| IDUM | INTEGER | HDATA | Year of data counter |
| IDXWLSTR | INTEGER | assigned | Index variable associating the storage level with the instream flow requirements at Overton and Grand Island |
| IEND | INTEGER | input | Number of years in the model |
| IFINI | INTEGER | computed | Last year being analyzed |
| IFLAG | INTEGER | assigned | zero if within model; 1 after run completed |
| IFLG2 | INTEGER | assigned | Flag indicating screen dump or debug file dump has started |
| IFRST | INTEGER | input | First year in Hdata input file |
| IGROUP(20) | INTEGER ARRAY | input | Number of lines in each group count |
| IHR | INTEGER | system | Hour that the model was run |
| IMIN | INTEGER | system | Minute that the model was run |
| IMON | INTEGER | assigned | Month of the year [1-13; Jan = 1; Tot/Avg = 13] |
| INFILE | CHARACTER | input from scrn | Name of the input file |
| INFO | CHARACTER | input | Comment text |
| INHDATA | CHARACTER | input | Name of HDATA input file |
| IPAS1 | INTEGER | assigned | Code indicating a recomputation of McConaughy Demand |
| IPLT | INTEGER | input flag | Flag to write output in columns to .PLT file |
| IRRGREDBC | REAL | CDATA | Irrigation retaining factor for Brady-Cozad reach |
| IRRGREDKR | REAL | CDATA | Irrigation retaining factor for Kearney Canal |
| IRRGREDKS | REAL | CDATA | Irrigation retaining factor for Keystone-Sutherland reach |
| IRRGREDSNP | REAL | CDATA | Irrigation retaining factor for Sutherland-North platte reach |
| IRRGREDTC | REAL | CDATA | Irrigation retaining factor for Tri-County Canal |
| IRRGREDWC | REAL | CDATA | Irrigation retaining factor for Western Canal |
| ISTART | INTEGER | input | First year in study |
| ISTUDY | CHARACTER | input | Name of the study |
| ITRUEIPAS | INTEGER | computed index | Number of times McConaughy Demand has been computed |

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| IV | INTEGER | counter | Month counter element establishing 6-month flow requirements |
| IVOL | INTEGER | counter | Threshold volumes associated with in stream flow releases counter |
| IWND | INTEGER | assigned | Hydrologic parameters wet, dry, transitional |
| IYEAR | INTEGER | computed index | Year being calculated in study |
| IYR | INTEGER | assigned | Today's year when making a run |
| IYRPS | INTEGER | input, assigned | Year to begin debug info |
| J | INTEGER | counter | Month variable (1 through 12) |
| J2CAP | REAL | CDATA | Capacity of J2 return, KAF |
| J2DCH | REAL | computed | Discharge to Johnson to hydro-electric project, KAF |
| J2GEN | REAL | computed | Johnson generation, KAF |
| J2HR | REAL | computed | Return flow to the Platte River, KAF |
| J2PULSE(61) | REAL ARRAY | COMPUTED | Routed pulse hydrograph ordinates for portion of diverted pulse coming back in at J2 Return, CFS |
| JEA | not found | | Month of EA eomc to use with PERFUNC percentage |
| JEFFREYPULSE(61) | REAL ARRAY | COMPUTED | Routed pulse hydrograph ordinates for portion of diverted pulse coming back in at Jeffrey Return, CFS |
| JFAVA | REAL | computed | Flow available to Jeffrey Hydro project, KAF |
| JFAVA2 | REAL | computed | Lesser of the capacity available in the Central Canal or Jeffrey return, KAF |
| JFGEN | REAL | computed | Jeffrey generation, KAF |
| JFHR | REAL | computed | Jeffrey hydro return, KAF |
| JFRCAP | REAL | ADATA | Jeffrey capacity, KAF |
| JJ | INTEGER | counter | Counter for potential loss |
| JLCHNG | REAL | computed | Change in Johnson Lake storage, KAF |
| JLDEAD | REAL | computed | Dead storage in Johnson, KAF |
| JLDMD | REAL | computed | Additional demand on Johnson Lake, KAF |
| JLEOMC | REAL | computed | Julesberg EOM content, KAF |
| JLSPIKECAP | REAL | CDATA | Storage available in Johnson Lake to attenuate spike flows, KAF |
| JLSPIKEFLAG | INTEGER | flag, CDATA | Flag to attenuate spike flows with Johnson Reservoir releases (0=no, 1=yes) |
| JLSPIKESTOR | REAL | computed | Previous spike storage in Johnson Lake, KAF |
| JLTARG | REAL | HDATA | Target storage for Johnson Lake, KAF |
| JPETS | REAL | computed | Evapo-transpiration Salvage at Julesberg-Paxton, KAF |
| JPGN | REAL | HDATA | Julesberg-paxton gain, KAF |

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| JPGWC | REAL | computed | Change in groundwater depletions at Julesberg-Paxton, KAF |
| JPGWD | REAL | computed | Accumulation change in ground water depletion at Julesberg, KAF |
| JPGWDP | REAL | computed | Original value of accumulation change in ground water depletion prior to additional passes in preceding month at Julesberg, KAF |
| JULES | REAL | HDATA | South Platte River near Julesburg, CO, KAF |
| JULES_ESTJ | REAL | COMPUTED | Total June flow at Julesburg, KAF |
| K | INTEGER | counter | Counter to compute FLOTOT mass balance check |
| KAFTAB | INTEGER | assigned | Table number of KAF values which subroutine SHORTEX will update with wet/avg/dry shortage and excess. |
| KCCAP | REAL | ADATA | Capacity at Korty Canal, KAF |
| KCDV | REAL | computed | Korty Canal diversion, KAF |
| KDIS | INTEGER | flag | Flag for whether to write information to screen |
| KEYCAP | REAL | COMPUTED | Allowable channel capacity in the Keystone Diversion, CFS |
| KEYDEC | REAL | assigned | Keystone diversion value for previous December, KAF |
| KEYDMD | REAL | computed | Keystone demand, KAF |
| KEYDV | REAL | computed | Sutherland canal diversion at Keystone, KAF |
| KEYMAC | REAL | CDATA | Lake McConaughy trigger level for Keystone bypass, KAF |
| KEYMIN | REAL | ADATA | Keystone bypass requirement, KAF |
| KEYPULSE(61) | REAL ARRAY | COMPUTED | Routed pulse hydrograph ordinates at Keystone, CFS |
| KEYSDMD | REAL | computed | Keystone demand on storage, KAF |
| KEYSTN | REAL | computed | Flow at Keystone, KAF |
| KORTY | REAL | computed | Korty at South Platte river flow, KAF |
| KORTYAV | REAL | computed | Flow available at Korty for diversion, KAF |
| KRCAP | REAL | ADATA | Kearney Canal Capacity, KAF |
| KRDV | REAL | computed | Kearney Canal total diversion, KAF |
| KRHDM | REAL | ADATA | Kearney Canal hydro demand, KAF |
| KRHRTN | REAL | computed | Kearney Hydro Return, KAF |
| KRIDM | REAL | HDATA | Kearney Canal irrigation demand, KAF |
| KRIDMORIG | REAL | assigned | Original Kearney Canal irrigation demand, KAF |
| KRIDV | REAL | computed | Kearney Canal total diversion, KAF |
| KRIRSAV | REAL | computed | Irrigation savings (conservation) for Western Canal |
| KRLOSS | REAL | computed | Kearny canal system loss, KAF |

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| KRSDMD | REAL | computed | Kearney Canal storage demand, KAF |
| KRSHORT | REAL | computed | Kearney Canal irrigation shortage, KAF |
| KSDM | REAL | HDATA | Keystone-Sutherland irrigation demand, KAF |
| KSDMORIG | REAL | assigned | Original Keystone-Sutherland irrigation demand, KAF |
| KSDV | REAL | computed | Keystone-Sutherland total diversion, KAF |
| KSETS | REAL | computed | Evapo-transpiration Salvage at Keystone-Sutherland, KAF |
| KSGN | REAL | HDATA | Keystone to Sutherland gain, KAF |
| KSGWC | REAL | computed | Change in groundwater depletions from Keystone to Sutherland, KAF |
| KSGWD | REAL | computed | Accumulation change in ground water depletion from Keystone to Sutherland, KAF |
| KSGWDP | REAL | computed | Original value of accumulation change in ground water depletion prior to additional passes in preceding month from Keystone to Sutherland, KAF |
| KSIRSAV | REAL | computed | Reduction in Korty-Sutherland irrigation demand, KAF |
| KSSHORT | REAL | computed | Keystone-Sutherland irrigation diversion shortage, KAF |
| KTEF | REAL | computed | Constant Korty diversion efficiency |
| KTEFFLG | INTEGER | CDATA | If zero use equations, otherwise constant |
| KTKYMIN | REAL | CDATA | Combined minimum flow for Keystone and Korty diversion, KAF |
| KTMP | REAL | computed | Korty diversion in CFS |
| KTPROT | REAL | CDATA | Flag to protect CO Conservation Water past Korty Div. |
| LENCASE | INTEGER | assigned | Number of characters in name CASE |
| LEWELN | REAL | HDATA | North Platte River at Lewellen, NE, KAF |
| LIMIT | INTEGER | assigned | Bubble sort variable |
| LIMITCODE1 | INTEGER | computed | Counter for how often EA water availability limits pulse releases |
| LIMITCODE2 | INTEGER | computed | Counter for how often channel capacity at North Platte limits pulse releases |
| LIMITCODE3 | INTEGER | computed | Counter for how often turbine capacity limits pulse releases |
| LIMITCODE4 | INTEGER | computed | Counter for how often pulse release is made with borrowing |
| LIMITCODE5 | INTEGER | computed | Counter for how often pulse release requirements are met |
| LIMITEA | INTEGER | computed | Counter for how often EA is limited by North Platte choke point |
| LOHISTRIG | REAL | CDATA | Lake McConaughy trigger volume for suspending historic diversion assumption, KAF |
| LOUISCFS | REAL | computed | Platte River near Louisville, NE, CFS |
| LOUISKAF | REAL | computed | Platte River near Louisville, NE, KAF |
| LUNAVG | INTEGER | logical unit | File containing score, change in excess, and minimum, average, maximum line from each Table. |

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| LUNDAY | INTEGER | assigned | Logical unit number for daily flow output file |
| LUNDEB | INTEGER | assigned | OPDEBUG.DAT Logical unit number |
| LUNGAG | INTEGER | assigned | Logical unit number for output flow at critical points |
| LUNHDT | INTEGER | assigned | Logical unit number for HDATA input file (.INH) |
| LUNHIS | INTEGER | assigned | Logical unit number for historic daily flow output file |
| LUNINP | INTEGER | assigned | Logical unit number for main input file (.INP) |
| LUNOPO | INTEGER | assigned | Logical unit number for main (chronological) output file |
| LUNOPT | not found | | Output file |
| LUNOST | INTEGER | assigned | Logical unit number for EA acct and Lake Mac variables output |
| LUNPLS | INTEGER | assigned | Logical unit number for EA pulse release output file |
| LUNPLT | INTEGER | assigned | Logical unit number for output of data in column format for plotting |
| LUNTAB | INTEGER | assigned | Logical unit number for output of data in table format |
| LUNTAR | INTEGER | assigned | Logical unit number for daily IFR target output file |
| LUNTXT | INTEGER | assigned | Logical unit number for output of data in comma-delimeted text table format |
| M | INTEGER | counter | Day counter used in DAILY subroutine |
| MACDMD | REAL | computed | Lake McConaughy demand, KAF |
| MACELEV | REAL | computed | Lake McConaughy elevation for current month, feet |
| MACEST | REAL | computed | Estimated Mac outflow thru turbines in May, KAF |
| MACESTCFS | REAL | computed | Estimated Mac outflow thru turbines in May, CFS |
| MACEVAP | not found | | Lake McConaughy evaporation |
| MACGEN | REAL | computed | Kingsley hydro, KAF |
| MACHEAD | REAL | computed | Gross head at Kingsley, feet |
| MACHI | REAL | ADATA | Elevation of Lake McConaughy which triggers maximum operation release, feet |
| MACHIREL | REAL | computed | Operational releases from Lake McConaughy during high conditions, KAF |
| MACLO | REAL | ADATA | Lake McConaughy content for minimum operational release, KAF |
| MACLOREL | REAL | computed | Operational releases from Lake McConaughy during low conditions, KAF |
| MACMAX | REAL | CDATA | Previous EOM of McConaughy which sets Central (Tri-county) Canal flow to canal capacity, KAF |
| MACMAXPULSE | REAL | CDATA | Maximum CFS rate thru turbine penstock for EA pulse |
| MACMIN | REAL | CDATA | Previous EOM of McConaughy above the flow in the canal is at the target, KAF |
| MACNO | REAL | ADATA | Flag to make operational releases from Lake McConaughy during normal conditions, KAF |
| MACNOREL | REAL | ADATA | Operational releases from Lake McConaughy during normal conditions, KAF |

| | | | |
|---|---|---|---|
| MACOUT | REAL | computed | Total flow out of Lake McConaughy,KAF |
| MACOUTDAILY(61) | REAL ARRAY | COMPUTED | Daily outflow from Lake McConaughy, CFS |
| MACOUTMAY | REAL | computed | Total Mac outflow in May, KAF |
| MACREL | REAL | computed | Operational release from Lake McConaughy for baseline scenarios, KAF |
| MACVH | REAL | ADATA | Flag to make operational releases from Lake McConaughy during very high conditions, KAF |
| MACVHREL | REAL | ADATA | Operational releases from Lake McConaughy during very high conditions, KAF |
| MACVL | REAL | ADATA | Flag to make operational releases from Lake McConaughy during very low conditions, KAF |
| MACVLREL | REAL | ADATA | Operational releases from Lake McConaughy during very low conditions, KAF |
| MASSTRIG | INTEGER | assigned | Switch indicating an imbalance has occurred, execution will stop after December of current year |
| MAXDAILY(17) | REAL ARRAY | computed | maximum daily flow for each gage during the month, CFS |
| MAXDAILYJUNE(17) | REAL ARRAY | computed | maximum daily flow for each gage during June, CFS |
| MAXDAILYMAY(17) | REAL ARRAY | computed | maximum daily flow for each gage during May, CFS |
| MAXKEY | REAL | ADATA | Monthly maximum Keystone diversion, KAF |
| MAXLOCATION | INTEGER | assigned | Day (in May or June) when maximum flow occurred at Julesburg |
| MAXVALUE | REAL | COMPUTED | Maximum flow at Julesburg, CFS |
| MAYJUNECFS(17,61) | REAL ARRAY | COMPUTED | Computed daily flows for May and June at each of 17 locations, CFS |
| MINDAILY(17) | REAL ARRAY | COMPUTED | Minimum daily flow for the month, CFS |
| MNGSPL | REAL | computed | Spill through morning glory spillway, KAF |
| MONAME(12) | CHARACTER | assigned | Month name (ie January) |
| MOPAUS | INTEGER | assigned | Debug dump for months |
| N | INTEGER | ASSIGNED | Location number assigned to each location and read into subroutine DISTDAILY |
| NA | INTEGER | input | Number of average monthly ADATA elements |
| NC | INTEGER | input | Number of elements in CDATA |
| NCL | INTEGER | input | Number of comment lines |
| NDRYCKFLG | REAL | CDATA | Flag tells whether North Dry Creek GW pumping project is on |
| NG | INTEGER | input | Number of line group headings |
| NH | INTEGER | input | Number of monthly elements in HDATA |
| NL | INTEGER | input | Number of line headings |
| NLEVAP | REAL | computed | Net Lake evaporation in feet per month |
| NLN | INTEGER | "DO" index | Number of flow arrays |
| NMTH | INTEGER | "DO" index | Number of month |

| | | | |
|---|---|---|---|
| NONEABRADY | REAL | computed | Amount of non-EA water at Brady, KAF |
| NONEACOZAD | REAL | computed | Amount of non-EA water at Cozad, KAF |
| NONEAGRNDISL | REAL | computed | Amount of non-EA water at Grand Island, KAF |
| NONEAJFHR | REAL | computed | Amount of non-EA water at the Jeffrey Hydro Return, KAF |
| NONEAKEYSTN | REAL | computed | Amount of non-EA water at Keystone, KAF |
| NONEANPNP | REAL | computed | Amount of non-EA water in the North Platte River at North Platte, KAF |
| NONEAODESSA | REAL | computed | Amount of non-EA water at Odessa, KAF |
| NONEAOVERTON | REAL | computed | Amount of non-EA water at Overton, KAF |
| NONEASPNP | REAL | computed | Amount of non-EA water in the South Platte River at North Platte, KAF |
| NONEASUTHLND | REAL | computed | Amount of non-EA water at Sutherland, KAF |
| NPATNPCAP | REAL | COMPUTED | Difference between flood capacity in North Platte River at North Platte (NPNP) and the flow in NPNP 2 days before a planned pulse flow release, CFS |
| NPBETS | REAL | computed | Evapo-transpiration Salvage from N. Platte to Brady, KAF |
| NPBGN | REAL | HDATA | Gain from N. Platte to Brady, KAF |
| NPBGWC | REAL | computed | Change in groundwater depletions from N. Platte to Brady, KAF |
| NPBGWD | REAL | computed | Accumulation change in ground water depletion from N. Platte to Brady |
| NPBGWDP | REAL | assigned | Groundwater depletion from North Platte to Brady, KAF |
| NPBYDMD | REAL | computed | Water that must bypass the Tri-County diversion dam to satisfy the on-stream demand below North Platte, KAF |
| NPCHKFLG | INTEGER | flag, CDATA | Flag to indicate if flow in the North Platte River at North Platte is being restricted to flood stage flow (0=no, 1=yes) |
| NPFLOWAV | REAL | computed | Available flow capacity in the North Platte River at North Platte |
| NPHCAP | REAL | CDATA | North Platte hydro return capacity, KAF |
| NPHR | REAL | computed | North Platte hydro return, KAF |
| NPHYSICAL | REAL | computed | Physically available flow at the Tri-County Diversion, KAF |
| NPMAC | REAL | CDATA | McConaughy control content for Central Diversion bypass, KAF |
| NPMIN | REAL | ADATA | Central Diversion N. Platte diversion minimum bypass requirement, KAF |
| NPNP | REAL | computed | North Platte River flow at North Platte, KAF |
| NPSDMD | REAL | computed | Storage demand at N. Platte, KAF |
| NPTOTAL | not found | | Total flow at North Platte, KAF |
| NPTOTAV | REAL | computed | Total flow at North Platte, KAF |
| NRES | INTEGER | input | Element number for EOM content line in flow array |
| NT | INTEGER | input | Number of summary tables |

| | | | |
|---|---|---|---|
| NTBL | INTEGER | "DO" index | Number of Tables |
| NUMYRS | INTEGER | computed | Number of years in Tables |
| NYEAR | INTEGER | computed | Number of model years |
| NYEAR | INTEGER | INPUT | Model simulation year |
| NYI | INTEGER | input | Number of years of HDATA |
| NYR | INTEGER | "DO" index | Number of years in the analysis |
| ODESSA | REAL | computed | Platte River at Odessa, NE, KAF |
| ODEXCES | REAL | computed | Excess at Odessa relative to avg IFR, KAF |
| ODSHORT | REAL | computed | Shortage at Odessa relative to avg IFR, KAF |
| OGIETS | REAL | computed | Evapo-transpiration Salvage at Odessa to Grand Island, KAF |
| OGIGN | REAL | HDATA | Gain from Odessa to Grand Island, KAF |
| OGIGWC | REAL | computed | Change in groundwater depletions from Odessa to Grand Island, KAF |
| OGIGWD | REAL | computed | Accumulation change in ground water depletion from Odessa to Grand Island, KAF |
| OGIGWDP | REAL | computed | Original value of accumulation change in ground water depletion prior to additional passes in preceding month from Odessa to Grand Island, KAF |
| OISFR | REAL | ADATA | Fish and wild life recommendations for Overton, KAF |
| OOETS | REAL | computed | Evapo-transpiration Salvage at Overton to Odessa, KAF |
| OOGN | REAL | HDATA | Gain from Overton to Odessa, KAF |
| OOGWC | REAL | computed | Change in groundwater depletions at Overton to Odessa, KAF |
| OOGWD | REAL | computed | Accumulation change in ground water depletion from Overton to Odessa, KAF |
| OOGWDP | REAL | computed | Original value of accumulation change in ground water depletion prior to additional passes in preceding month from Overton to Odessa, KAF |
| ORGSCCAP | REAL | assigned | Sutherland canal capacity, KAF |
| OUTAVG | CHARACTER | assigned | Name of *.AVG (average) output file |
| OUTGAG | CHARACTER | assigned | Output filename for flows in gauged locations |
| OUTOPO | CHARACTER | assigned | Output filename for listing by months and years |
| OUTOST | CHARACTER | assigned | Output filename for spread sheet parameters |
| OUTPLS | CHARACTER | assigned | Name of *.PLS (pulse) output file |
| OUTPLT | CHARACTER | assigned | Output filename for plotting parameters |
| OUTTAB | CHARACTER | assigned | Output filename for tabular output |
| OUTTXT | CHARACTER | assigned | Name of *.TXT (text) output file which is input into "EISgraphsndata.xls" spread sheet |

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|---|---|---|---|
| OVAVA | REAL | computed | Platte river flow available at Overton before in stream flow releases, KAF |
| OVCFSMAYPK | REAL | computed | May peak flow at Overton (if a pulse was made), CFS |
| OVDMD | REAL | computed | Wildlife demand at Overton, KAF |
| OVERACFT | REAL | computed | Monthly volume at Overton in acre-ft |
| OVERTON | REAL | computed | Platte River near Overton, NE, KAF |
| OVEXCES | REAL | computed | Minimum flow excess at Overton (KAF) |
| OVFLAG | REAL | ADATA | Flag to meet minimum flow requirement at Overton |
| OVINCDMD | not found | | Incremental flow at Overton between current value in Phase 2 and wild life release in Phase 1 |
| OVINCR | not found | | Overton incremental flow to meet daily flow requirements |
| OVMAY23CFS | REAL | computed | May 23 flow at Overton, CFS |
| OVMAYMAXCFS | REAL | computed | Estimated maximum daily flow at Overton May 15-May 31, CFS |
| OVMAYMINCFS | REAL | computed | Estimated Overton minimum daily flow, CFS |
| OVMAYNOPULSEAF | REAL | computed | Estimated Overton May flow w/o an EA pulse release, acre-feet |
| OVMAYNOPULSECFS | REAL | computed | Estimated Overton May flow w/o an EA pulse release, CFS |
| OVMAYPK | REAL | computed | Peak flow at Overton (May 10th or May 23rd), CFS |
| OVMAYWLSREL | REAL | computed | Total EA release in May (monthly base + pulse), KAF |
| OVREQ | REAL | ADATA | Overton wildlife storage demand, KAF |
| OVSHORT | REAL | computed | Minimum flow shortage at Overton (KAF) |
| PAXTON | REAL | computed | South Platte River near Paxton, NE, KAF |
| PCEXCESS (13) | REAL ARRAY | ADATA | Present Condition Excess, KAF |
| PCSHORT (13) | REAL ARRAY | ADATA | Present Condition Shortage, KAF |
| PEAKCFS | REAL | computed | Overton peak daily flow in CFS within the current month |
| PEAKSPRING | REAL | computed | Maximum mean daily flow at Overton in May and June, CFS |
| PEAKYRCFS | REAL | sorted out | Maximum Daily Peak CFS at Overton for the water year |
| PEAKYRJ | INTEGER | assigned | Month the Maximum Daily Peak CFS at Overton for the water year occurred (1=Jan, 2=Feb, etc.) |
| PNPETS | REAL | computed | Evapo-transpiration Salvage at Paxton to N. Platte, KAF |
| PNPGN | REAL | HDATA | Gain from Paxton to N. Platte, KAF |
| PNPGWC | REAL | computed | Change in groundwater depletions at Paxton to N. Platte, KAF |
| PNPGWD | REAL | computed | Accumulation change in ground water depletion at Paxton to N. Platte, KAF |
| PNPGWDP | REAL | computed | Original value of accumulation change in ground water depletion prior to additional passes in preceding month at Paxton to N. Platte, KAF |

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|---|---|---|---|
| PRCNTEA | REAL | ADATA | EA percentage available each month |
| PROGH2O | REAL | CDATA | Volume of program water at confluence of North and South Platte Rivers, KAF |
| PULSE1 | INTEGER | computed | |
| PULSE10 | INTEGER | computed | |
| PULSE2 | INTEGER | computed | |
| PULSE3 | INTEGER | computed | |
| PULSE4 | INTEGER | computed | |
| PULSE5 | INTEGER | computed | These variables count the number of pulse flow events |
| PULSE6 | INTEGER | computed | |
| PULSE7 | INTEGER | computed | |
| PULSE8 | INTEGER | computed | |
| PULSE9 | INTEGER | computed | |
| PULSECAP(61) | REAL ARRAY | COMPUTED | Daily pulse flow release capacity from Lake McConaughy, CFS |
| PULSECAP(61) | REAL ARRAY | COMPUTED | Computed pulse flow release from Lake McConaughy, CFS |
| PULSELOAN | REAL | assigned | A subset of EABORROW, amount borrowed for pulse release in May, KAF |
| PULSESUM | REAL | COMPUTED | Volume of water used to make a pulse release, CFS |
| PWPROT | REAL | assigned | Flag enables all program water to be protected from diversion at Central, used in conjunction with TCPROT |
| PWRDIVISOR | REAL | CDATA | Divide the power interference volume by this factor for amoount to give to EA |
| PWRINTFR | REAL | assigned | Flag to select power interference scenario, must be used with STATEEA=1 |
| PWRLOOP | INTEGER | counter | This variable controls execution of power interference code and assignment of water to EA |
| PWRXKAF | REAL | computed | Amount of MACDMD that can be not released and credited to EA (power interference) |
| PX1 | REAL | computed | |
| PX2 | REAL | computed | |
| PX3 | REAL | computed | x-coordinates for May EA pulse flow hydrograph, CFS |
| PX4 | REAL | computed | first point is (px1,py1), 2nd point is (px2,py2), etc. |
| PX5 | REAL | computed | |
| PX6 | REAL | computed | |
| PXSSDMD | REAL | computed | Amount of SSDMD that is "excess" to basic canal requirements (power interference), KAF |
| PXTCDMD | REAL | computed | Amount of TCDREQ that is "excess" to basic canal requirements (power interference), KAF |
| PY1 | REAL | computed | |
| PY2 | REAL | computed | |

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|---|---|---|---|
| PY3 | REAL | computed | y-coordinates for May EA pulse flow hydrograph, CFS |
| PY4 | REAL | computed | computed at the end of the COMPUTE subroutine |
| PY5 | REAL | computed | |
| PY6 | REAL | computed | |
| REDUCEDMD | REAL | assigned | Reduced irrigation demand due to conservation, KAF |
| RELEAS | REAL | assigned | Release from Lake McConaughy excluding spills, KAF |
| REVAP | REAL | computed | Evaporation loss from Lake McConaughy, KAF |
| RIVRDFLG | REAL | CDATA | Flag tells whether Cozad to Overton Riverside Drains are active |
| RIVRDRAIN | REAL | ADATA | Cozad to Overton inflow from Riverside Drains, KAF |
| RSEEP | REAL | HDATA | Lake McConaughy seepage and bank storage factors, KAF |
| SCCAP | REAL | computed | Sutherland canal capacity, KAF |
| SCDV | REAL | computed | Sutherland Canal diversion, KAF |
| SCMAC | REAL | CDATA | McConaughy control content for Sutherland canal minimum diversion, KAF |
| SCMIN | REAL | ADATA | Sutherland minimum diversion requirement, KAF |
| SCORES (13) | REAL ARRAY | computed | Grand Island Shortage, KAF |
| SCOREX (13) | REAL ARRAY | computed | Grand Island Excess, KAF |
| SCRATCH(52,2) | REAL | computed | Temporary location |
| SEEP | REAL | computed | Lake McConaughy seepage and bank storage factors, KAF |
| SGEN | REAL | computed | Sutherland hydro generation, KAF |
| SHORT | REAL | computed | Current flow in the river minus previous groundwater depletions, KAF |
| SHTAB | INTEGER | assigned | Table number of shortage values which subroutine SHORTEX will update with wet/avg/dry shortage and excess. |
| SIXINF | REAL | computed | Summation of flows of N. Platte river at Lewellen October-Dec of current year, Jan-March of later year, KAF |
| SNPDM | REAL | computed | Reduced Sutherland to N. Platte irrigation demand, KAF |
| SNPDMORIG | REAL | assigned | Original Sutherland-North Platte irrigation demand, KAF |
| SNPDV | REAL | computed | Sutherland-North Platte irrigation diversion and shortage, KAF |
| SNPETS | REAL | computed | Evapo-transpiration Salvage at Sutherland to N. Platte, KAF |
| SNPGN | REAL | HDATA | Gain from Sutherland to N. Platte, KAF |
| SNPGWC | REAL | computed | Change in groundwater depletions from Sutherland to N. Platte, KAF |
| SNPGWD | REAL | computed | Accumulation change in ground water depletion from Sutherland to N. Platte, KAF |
| SNPGWDP | REAL | computed | Original value of accumulation change in ground water depletion prior to additional passes in preceding month from Sutherland to N. Platte, KAF |

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| SNPIRSAV | REAL | computed | reduction in irrigation demand - Sutherland to N. Platte, KAF |
| SNPSHORT | REAL | computed | Sutherland to N. Platte shortage, KAF |
| SPIKERED | REAL | computed | The amount of "spike flow" attenuated at the J2 Return, KAF |
| SPIKEREL | REAL | computed | The amount of "spike flow" released through the J2 Return, KAF |
| SPILL | REAL | computed | Spill over Kingsley Dam Morning Glory spillway, KAF |
| SPILL_ESTJ | REAL | computed | Estimated reservoir spill in June (Estimate is made in May), KAF |
| SPILL_MAY | REAL | computed | May reservoir spill (morning glory & turbine), KAF |
| SPILL_MAY | REAL | computed | Reservoir spill im May, KAF |
| SPILL2 | REAL | computed | That portion of the wild life storage release that would have spilled due to the regulatory capacity of Lake McConaughy, KAF |
| SPNP | REAL | computed | South Platte at N. Platte, KAF |
| SPRINGHI | REAL | CDATA | Spring trigger to determine when conditions are high, KAF |
| SPRINGLO | REAL | CDATA | Spring trigger to determine when conditions are low, KAF |
| SPRINGNO | REAL | CDATA | Spring trigger to determine when conditions are normal, KAF |
| SPRINGVH | REAL | CDATA | Spring trigger to determine when conditions are very high, KAF |
| SRCHNG | REAL | computed | Change in storage at Sutherland Reservoir, KAF |
| SRDEAD | REAL | computed | Dead storage in Sutherland reservoir, KAF |
| SRDMD | REAL | computed | Sutherland Reservoir Storage demand, KAF |
| SREOMC | REAL | computed | Sutherland reservoir initial EOM content, KAF |
| SRTARG | REAL | HDATA | Sutherland reservoir target EOM storage, KAF |
| SSDMD | REAL | computed | Sutherland system demand, KAF |
| SSDMDOLD | REAL | assigned | Sutherland system demand prior to the addition of the canal operational flow, KAF |
| SSINCRS | REAL | computed | Increase in the Sutherland canal flow to bring up to the minimum canal flow, KAF |
| SSLOSS | REAL | ADATA | Sutherland system loss, KAF |
| SSLOSS1 | REAL | computed | Sutherland Canal losses in Phase 2, KAF |
| SSLOSSINC | REAL | computed | Sutherland System loss increment (loss on water to makeup loss), KAF |
| SSLOSSINCEA | REAL | computed | EA losses in Sutherland System, KAF |
| SSLOSSLP | REAL | ADATA | Sutherland canal loss function slope |
| SSLOSSM | REAL | computed | Maximum potential loss in the Sutherland canal and hydro system, KAF |
| STATEEA | REAL | CDATA | Switch to do Nebraska state EA |
| SUM_SPIKERED | REAL | computed | Johnson Lake spike reduction for the month, KAF |

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| SUMHEAD(130) | REAL ARRAY | flag | When set to zero causes the table variable to be added, set to one prorates the sum based on the yielding annual average ratio |
| SUMLINE(145) | REAL ARRAY | input | Determine whether 13th value of line output is sum(1) or average(2) of monthly values |
| SUMPCEX | REAL | computed | Sum of monthly Present Condition Excess values,KAF |
| SUMPCSH | REAL | computed | Sum of monthly Present Condition Shortage values, KAF |
| SUMTABLE(145) | REAL ARRAY | input | Determine whether 13th value of table output is sum(1), average(2), or max. (3) of monthly values |
| SUTHCAP | REAL | COMPUTED | Max. Sutherland Canal capacity - Sutherland Diversion flow - previous day's Korty Diversion flow, CFS |
| SUTHDEAD | not found | | Dead storage in Sutherland reservoir |
| SUTHDMD | REAL | computed | Irrigation demand at Sutherland, KAF |
| SUTHFLOWAV | REAL | computed | Remaining capacity in the Sutherland Canal, KAF |
| SUTHHI | REAL | ADATA | Flag to make operational diversion to the Sutherland Canal during high conditions |
| SUTHHIREL | REAL | ADATA | Operational diversion to the Sutherland Canal during high conditions, KAF |
| SUTHLND | REAL | computed | North Platte River at Sutherland, NE, KAF |
| SUTHLO | REAL | ADATA | Flag to make operational diversion to the Sutherland Canal during low conditions |
| SUTHLOREL | REAL | ADATA | Operational diversion to the Sutherland Canal during low conditions, KAF |
| SUTHNO | REAL | ADATA | Flag to make operational diversion to the Sutherland Canal during normal conditions |
| SUTHNOREL | REAL | ADATA | Operational diversion to the Sutherland Canal during normal conditions, KAF |
| SUTHPULSE(61) | REAL ARRAY | COMPUTED | Routed pulse hydrograph ordinates for portion of pulse diverted into Sutherland system, CFS |
| SUTHREL | REAL | computed | Target release of storage from Sutherland Reservoir, KAF |
| SUTHRETCAP | REAL | COMPUTED | Max. Sutherland Hydro Return capacity - Sutherland Hydro Return flow 2 days before planned pulse release, CFS |
| SUTHVH | REAL | ADATA | Flag to make operational diversion to the Sutherland Canal during very high conditions |
| SUTHVHREL | REAL | ADATA | Operational diversion to the Sutherland Canal during very high conditions, KAF |
| SUTHVL | REAL | ADATA | Flag to make operational diversion to the Sutherland Canal during very low conditions |
| SUTHVLREL | REAL | ADATA | Operational diversion to the Sutherland Canal during very low conditions, KAF |
| SWITCH | REAL | assigned | Bubble sort variable |
| TABLE(130,55,13) | REAL ARRAY | assigned | Tabular data (various units) |
| TABROW | INTEGER | assigned | Correct row in table for a given year |
| TCAVA | REAL | computed | Demand on system storage, KAF |
| TCCCAP | REAL | ADATA | Central canal capacity, KAF |
| TCDMD | REAL | computed | Total Tri-County demand, KAF |
| TCDPRE | REAL | computed | Value of Tri-County diversion requirement before setting it to full canal flow when the previous EOM is greater than |

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|---|---|---|---|
| | | | the regulator limit in Lake McConaughy, KAF |
| TCDREQ | REAL | computed | Tri-county diversion requirement, KAF |
| TCDREQ1 | REAL | computed | Historic Tristage required, KAF |
| TCDV | REAL | computed | Tri-County Canal diversion, KAF |
| TCEF | REAL | computed | Tri-County diversion efficiency |
| TCEFFLG | REAL | CDATA | Flag to determine if Tri-County efficiency is either 1 or total Platte river |
| TCGEN | REAL | computed | Central District hydro generation, KAF |
| TCIDM | REAL | computed | Tri-county irrigation demand, KAF |
| TCIDMORIG | REAL | assigned | Original Tri-County (Central system) irrigation demand, KAF |
| TCIDV | REAL | computed | Tri-county diversion, KAF |
| TCIRSAV | REAL | computed | Reduction in tri-county irrigation demand, KAF |
| TCLMAX | REAL | computed | Maximum loss in Tri-County canal for a given month flow, KAF |
| TCLOSS | REAL | ADATA | intercept of the Tri-County canal loss function |
| TCLOSS1 | REAL | computed | Tri-County loss, KAF |
| TCLOSSA | REAL | ADATA | Upper central canal average loss, KAF |
| TCLOSSB | REAL | ADATA | Lower central canal average loss, KAF |
| TCLOSSINC | REAL | computed | Incremental losses in Tri-County canal associated with wild life flow release and Kearney storage demand releases, KAF |
| TCLOSSINCEA | REAL | computed | EA losses in Tri-County System (KAF) |
| TCLOSSLP | REAL | ADATA | slope of the Tri-County canal loss function |
| TCMDIV | REAL | computed | Minimum Tri-county diversion, KAF |
| TCMDV | REAL | CDATA | Tri-county min div requirement(central diversion), CFS |
| TCPASS | REAL | computed | Flow pass Central. District. N. Platte div., KAF |
| TCPOINT | REAL | CDATA | Value for line slope of max Tri-County diversion equation, CFS |
| TCPROT | REAL | assigned | Flag to say whether Colorado Conservation water (CONSCO) is being protected from diversion past the Tri-County and downstream canals (1.0=YES, 0.0=NO) |
| TCSHORT | REAL | computed | Irrigation shortage for Tri-County, KAF |
| TEMP | REAL | assigned | Temporary scratch variable |
| TEMP1 | REAL | assigned | Bubble sort variable |
| TEMP2 | REAL | assigned | Bubble sort variable |
| TETS | REAL | computed | Total Evapo-transpiration Salvage, KAF |

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|---|---|---|---|
| THNKGRAN | not found | | What you think you are getting at Grand Island in Phase 1 |
| THNKOVER | not found | | What you think you are getting at Overton in Phase |
| TIME | CHARACTER | assigned | Dummy variable called by the function Call DATE_AND_TIME |
| TISFR (6) | REAL ARRAY | ADATA | Target instream flow requirement which is set depending on the storage in the EA account in the previous month, KAF |
| TITLE(2) | CHARACTER | ----> | Study title(1, assigned) and description (2, input) |
| TOTAVA | not found | | Estimate total available flow at North Platte |
| TOTGEN | REAL | computed | Total hydro generation, KAF |
| TOTIRRDV | REAL | computed | Summation of all irrigation diversion, KAF |
| TOTIRSAV | REAL | computed | Summation of reduced irrigation demands, KAF |
| TOTIRSHORT | REAL | computed | Total irrigation shortage, KAF |
| TOTIRSHT | REAL | computed | Total irrigation shortage, projects only, KAF |
| TOTLOSS | REAL | computed | Summation of losses from Elwood reservoir, Kearney Canal, Sutherland, and Tri-county, KAF |
| TOTSTOR | REAL | computed | Summation of total change of storage for Sutherland, Elwood, and Johnson, KAF |
| TRIHI | REAL | ADATA | Flag to make operational diversion to the Tri-county Canal during high conditions |
| TRIHIREL | REAL | ADATA | Operational diversion to the Tri-county Canal during high conditions, KAF |
| TRILO | REAL | ADATA | Flag to make operational diversion to the Tri-county Canal during low conditions |
| TRILOREL | REAL | ADATA | Operational diversion to the Tri-county Canal during low conditions, KAF |
| TRINO | REAL | ADATA | Flag to make operational diversion to the Tri-county Canal during normal conditions |
| TRINOREL | REAL | ADATA | Operational diversion to the Tri-county Canal during normal conditions, KAF |
| TRIVH | REAL | ADATA | Flag to make operational diversion to the Tri-county Canal during very high conditions |
| TRIVHREL | REAL | ADATA | Operational diversion to the Tri-county Canal during very high conditions, KAF |
| TRIVL | REAL | ADATA | Flag to make operational diversion to the Tri-county Canal during very low conditions |
| TRIVLREL | REAL | ADATA | Operational diversion to the Tri-county Canal during very low conditions, KAF |
| TURSPACE | REAL | computed | Estimated available turbine space left in May, CFS |
| TURSPL | REAL | computed | Water released through turbines in excess of storage demand |
| USEBCGN | REAL | assigned, HDATA | Brady-Cozad gain that can be used for irrigation, KAF |
| USEJPGN | REAL | assigned, HDATA | Julesburg-Paxton gain that can be used for irrigation, KAF |
| USENPBGN | REAL | assigned, HDATA | North Platte-Brady gain that can be used for irrigation, KAF |
| V1 | REAL | computed | Volume of rising limb of pulse flow hydrograph, AF |

| | | | |
|---|---|---|---|
| V2 | REAL | computed | Volume of steady limb of pulse flow hydrograph, AF |
| V3 | REAL | computed | Volume of falling limb of pulse flow hydrograph, AF |
| WCDM | REAL | HDATA | Western Canal irrigation demand, KAF |
| WCDMORIG | REAL | assigned | Original Western Canal irrigation demand, KAF |
| WCDV | REAL | assigned | West Canal diversion, KAF |
| WCIRSAV | REAL | computed | Irrigations savings (conservation) for Western Canal, KAF |
| WCSHORT | REAL | computed | Western Canal shortage, = Western Canal demand less Western Canal diversion, KAF. |
| WETKAF(12) | REAL ARRAY | ADATA | Wet instream flow recommendation, KAF |
| WETROW | INTEGER | computed | Array element number (rows) in Table for which shortage is computed using wet recommendations. |
| WLSDMD | REAL | computed | Wildlife storage demand, KAF |
| WLSREL | REAL | computed | Total storage release for wild life purposes, KAF |
| WLSTR (6) | REAL ARRAY | ADATA | Threshold storage values which help determine the volume to be released from the EA, KAF |
| WYEAOWN | REAL | HDATA | Amount which accrues to Wyoming EA accounts, by month, KAF |
| WYEAOWNTOT | REAL | computed | Running total amount in Wyoming EA which Nebraska EA may borrow from Lake McConaughy and pay back out of the Wyoming EA later |
| XTMP | REAL | assigned | Set temporary variable |
| ZJFHR | REAL | assigned | The Jeffrey Hydro computed in Phase I of the Compute subroutine, KAF |
| ZONE | CHARACTER | assigned | Dummy variable called by the function Call DATE_AND_TIME |

**APPENDIX C. RESERVOIR OPERATING RULES DURING THE NON-IRRIGATION SEASON FOR PREDICTED YEAR TYPES** *(summarized from: Appendix A, Water Component; TAB 1A, An Environmental Account for Storage Reservoirs on the Platte River System in Nebraska, of the Cooperative Agreement for Platte River Research and Other Efforts Relating to Endangered Species Habitats Along the Central Platte River, Nebraska)*

| Year Type | **Lake McConaughy Contents [1]** | **Keystone Diversion Dam[3]** | **Central Diversion Dam[3]** | ***Other*** |
|---|---|---|---|---|
| ***Very Wet*** | Plus PSNI[2]<br>> 2.1 maf | ≥700 cfs<br><br>Avg.≥875 cfs | Oct. 10 - Nov. 15:<br>≥1,000 cfs; Avg. 1,600 cfs<br><br>Nov. 16-Feb. 14:<br>≥800 cfs; Avg. 1,000 cfs<br><br>Feb. 15-≈May 1[4]:<br>≥1,100 cfs; Avg. 1,400 cfs | No upper limit on outflows from Lake McConaughy other than meeting standards for safety and beneficial use. |
| Wet | ≥1.50 maf *or*<br><br>Plus PSNI[2]:<br>1.85 maf - 2.1 maf | ≥ 700 cfs<br><br>If Oct.1 lake level is <1.25maf:<br>≥450 cfs | Oct. 10 - Nov. 15:<br>≥900 cfs; Avg. 1,200 cfs<br><br>Nov. 16-Feb. 14:<br>≥800 cfs; Avg. 1,000 cfs<br><br>Feb. 15-≈May 1[4]:<br>≥1,000 cfs; Avg. 1,240 cfs | No upper limit on outflows from Lake McConaughy other than meeting standards for safety and beneficial use.<br><br>Releases should be managed to allow Lake McConaughy to fill to ≈1.5 maf by Mar. 31 and to licensed or authorized capacity thereafter.<br><br>Filling to less than ≈1.5 maf by Mar. 31 is allowed if expected inflows after that date could cause spills or downstream flooding.<br><br>If needed to allow Lake McConaughy to fill, releases from Central Diversion Dam could follow rates outlined for Transitional conditions. |
| Transitional | Between wet and dry conditions | ≥450 cfs<br><br>Avg. ≤900 cfs (exclusive of the EA) | Oct. 10 - Nov. 15:<br>≥900 cfs; Avg. 1,000 cfs<br><br>Nov. 16-Feb. 14:<br>≥800 cfs; Avg. 950 cfs<br><br>Feb. 15-≈May 1[4]:<br>≥850 cfs; Avg. 1,100 cfs | No upper limit on outflows from Lake McConaughy other than meeting standards of safety and beneficial use.<br><br>Releases should be managed to allow Lake McConaughy to fill to between 1.27 and 1.5 maf by Mar. 31, taking into account if the transition is from wet to dry or dry to wet.<br><br>If needed to allow Lake McConaughy to fill, releases from Central Diversion Dam could follow rates outlined for dry conditions. |

## APPENDIX C. CONT.

| Year Type | **McConaughy Contents[1]** | **Keystone Diversion Dam[3]** | **Central Diversion Dam** | ***Other*** |
|---|---|---|---|---|
| **Dry** | < 800 kaf **or**<br><br>Plus PSNI[2]:<br>< 1.55 maf | Avg. 250 cfs - 700 cfs<br>(exclusive of EA) | Oct. 10 - Nov. 15:<br>≥700 cfs; Avg. 900 cfs<br><br>Nov. 16-Feb. 14:<br>≥700 cfs; Avg. 850 cfs<br><br>Feb. 15-≈May 1[4]:<br>≥800 cfs; Avg. 960 cfs | No upper limit on outflows from Lake McConaughy other than meeting standards for safety and beneficial use.<br><br>Releases should be managed to impound between 250 kaf and 550 kaf during the non-irrigation season to optimize reservoir storage.<br><br>If needed to allow Lake McConaughy to fill, releases from Central Diversion Dam may be less than the average but not less than the minimums for a dry year. |
| Very Dry | <650 kaf | Avg. 250 -700 cfs | | Non-irrigation season releases below those for a very dry year shall be coordinated and managed to maximize multiple use of water and to share shortage effects. |

[1] As of Oct. 1 and including the EA
[2] Oct. 1-Mar. 31
[3] Non-Irrigation Season Releases
[4] Beginning of irrigation season

# APPENDIX D

## OPSTUDY Assumptions Regarding Water Operations for Diversions at the Keystone Diversion Dam and Central District Supply Canal

The following information was developed by Central Nebraska Public Power and Irrigation District (CNPPID) and Nebraska Public Power District (NPPD) (collectively the Districts) and the EIS Team to provide reasonable assumptions for hydrologic modeling and analysis of diversions at the Keystone Diversion Dam and Central Diversion Dam to be used for analysis in the EIS and BO.

This attachment describes how the procedures and priorities for storing and releasing water from Lake McConaughy (operations) are simulated for the Program. For the Program, the Districts suggested that the assumptions described below could be used by the EIS Team in the Central Platte OPSTUDY model to represent the range of future diversions at the facilities as part of a Program (Personal Communications, Mike Drain, CNPPID, and Frank Kwapnioski, NPPD, August 1999).

The licenses issued by the Federal Energy Regulatory Commission to the Districts in 1998 provide that certain flows are to be available at diversion structures owned by the Districts (see a description of non-irrigation season releases from Lake McConaughy for diversion at the Keystone Diversion Dam and the Central Diversion Dam, is in Program Attachment 5, Section 5, An Environmental Account for Storage Reservoirs on the Platte River System in Nebraska (EA Document)). In most instances, however, the Districts expect flows at the Central Diversion Dam will be greater than those required in the EA Document. In 1999, in order to make the OPSTUDY modeling more realistic than assuming only the required flows, the Districts assisted the EIS team in developing "Operational Assumptions" for use in OPSTUDY to evaluate the Program. The Districts believe those assumptions are still reasonable for the purpose of modeling, assuming water supply received from the North and South Platte Rivers and other conditions are similar to those in the 48 year study period in OPSTUDY (1947-1994). The Districts' actual operations, however, will be in accordance with the Districts' Annual Operating Plan (AOP), and will take into consideration many more factors than could be reflected in the "Operational Assumptions". Actual flows likely will be greater or lesser than the flows in the "Operational Assumptions" used in OPSTUDY. For example, although specific diversion quantities are specified for modeling purposes for each storage condition, actual flows may be substantially less in years of extreme drought, and substantially greater in years that are closer to the transition between the "dry" and "very dry" ranges1. In addition, the severe drought conditions experienced from 2000 to 2005 may result in water supplies and diversions smaller than those assumed in the 1947 to 1994 period of analysis.

Appendix B (FWS' Use of The Central Platte OPSTUDY Model in Computing Reductions in Shortages to target Flows) describes how Program water project operations are compared to project descriptions in annual reviews during the first Program increment. Because the modeling

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1Note: Storage conditions defined in Attachment 5, Section 5, use classifications of "Very Wet", "Wet", "Transitional", "Dry" and "Very Dry". Storage Conditions defined in this document use classifications of "Very High", "High", "Normal", "Low", and "Very Low". All storage conditions are included in the OPSTUDY model.

assumptions are very simplified representations of ranges of District operations, actual annual operating data is not expected to "match up" with the modeling assumptions. If, however, data on actual operations indicates over time that the "operating assumptions" in the model are unrealistic, the operating assumptions in the model can be updated and the resulting change in scoring of shortage reduction towards the First Increment objective determined. Significant differences between actual operating data over time and operating assumptions which suggest to FWS that the operating assumptions are unrealistic must first be brought to the Governance Committee.

**OPSTUDY Modeling of Proposed Program Reservoir Operations**

Water is often released from Lake McConaughy in excess of the volume needed to satisfy the downstream operating flows described in the EA Document. The size of the release depends on the amount of water requested by a water user holding rights to the water, how much water is available in Lake McConaughy, natural flow availability, system operational requirements, weather and drought conditions to the point of delivery, other demands on the river, the ability to produce power with the water, the need for power, and other factors.

In the Central Platte OPSTUDY model, the amount of water to release depends on the end of September and the end of March storage in Lake McConaughy. The model, beginning in October, determines a release level for the non-irrigation season based on the end of September Lake McConaughy storage. The model then reevaluates the release level based on the end of March Lake McConaughy storage plus the April though July inflow into Lake McConaughy. The model determines whether conditions are very high, high, normal, low, or very low, and also determines whether conditions are very wet, wet, transitional, dry, or very dry. The levels of estimated Lake McConaughy storage and inflow that trigger the various classifications are shown in the table below (see Attachment 5, Section 5, for classifications of "Very Wet", "Wet", "Transitional", "Dry" and "Very Dry"):

| Condition | October Estimate (acre-feet). | April Estimate (acre-feet) |
|---|---|---|
| Very High | >1,400,000 | >2,000,000 |
| High | 1,300,000 to 1,400,000 | 1,600,000 to 2,000,000 |
| Normal | 1,000,000 to 1,300,000 | 1,200,000 to 1,600,000 |
| Low | 800,000 to 1,000,000 | 800,000 to 1,200,000 |
| Very Low | < 800,000 | < 800,000 |

For each of the above conditions, the following modeling assumptions guide releases and deliveries.

**Very high conditions**

1. Meet the following diversion to Tri-County.

| | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| (cfs) | 1600. | 2000. | 2000. | 2200. | 2200. | 2200. | 2200. | 2200. | 2000. | 2000. | 2000. | 1600. |

2. Also, ensure that the flow out of Lake McConaughy never goes below.

| | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| (cfs) | 0. | 0. | 0. | 2000. | 2000. | 2000. | 2000. | 0. | 0. | 0. | 0. | 0. |

3. Also, ensure that the diversion to the Sutherland Canal never goes below.

| | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| (cfs) | 0. | 0. | 0. | 1000. | 1000. | 1000. | 0. | 0. | 0. | 0. | 0. | 0. |

**High conditions**

1. Meet the following diversion to Tri-County.

| | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| (cfs) | 1400. | 1800. | 1800. | 2000. | 2000. | 2000. | 2000. | 2000. | 2000. | 1800. | 1800. | 1400. |

**Normal conditions:**

1. Meet the following diversion to Tri-County.

| | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| (cfs) | 1200. | 1400. | 1400. | 1600. | 1600. | 1600. | 1600. | 1600. | 1600. | 1400. | 1400. | 1200. |

**Low conditions**

1. Meet the following diversion to Tri-County.

| | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| (cfs) | 800. | 900. | 900. | 900. | 900. | 900. | 900. | 900. | 900. | 900. | 900. | 800. |

**Very low conditions**

1. Meet the following diversion to Tri-County.

| | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| (cfs) | 700. | 700. | 700. | 700. | 700. | 700. | 700. | 700. | 700. | 700. | 700. | 700. |

# Appendix E

## Sample Main Input File (Present.inp)

```
CENTRAL NEBRASKA OPSTUDY MODEL, PLATTE RIVER EIS OFFICE
PRESENT CONDITION WITH OPERATIONAL RULES
Present.inh             Name of file containing HDATA
Present        ISTUDY   Name of the study
1947           ISTART   First year of study (usually equal to IFRST)
1994           IEND     Last year of study (usually last year of avail data)
17             NG       Number of line group headings
123            NL       Number of line headings
175            NT       Number of Summary tables
150            NC       Number of elements in CDATA
110            NA       Number of average monthly ADATA elements
40             NH       Number of monthly elements in HDATA
1947           IFRST    First year of data in HDATA
48             NYI      Number of years of HDATA
0              IPLT     Flag to write output in columns to the *.PLT file
2              KDIS     Whether to write info to screen
14             NCL      Number of comment lines (the next NCL of lines are comments)
COMMENTS
' This is the EIS staff interpretation of the Present Condition Baseline.
' OPERATING RULES
'
' LEWELLEN REFERENCE INFLOWS
'
' ADJUSTED MAC RELEASE PATTERN !!!!!!!!!!!!
'
' VERY HIGH, HIGH, NORMAL, DRY, VERY DRY RELEASE PATTERNS TIED TO FALL/SPRING STORAGE
'
'
'
DATA              FLAG SETTINGS ALWAYS MEAN:  1=TRUE, 0=FALSE                          ----------
 VARIABLE  -------
###-VALUE-----CENTRAL PLATTE RIVER OPSTUDY MODEL----PLATTE RIVER EIS OFFICE             unit/type
   ###   name
  1 0.0       USE HISTORIC DIVERSION DEMAND ASSUMPTION AT KEYSTONE AND CENTRAL            FLAG
      1   HISTORIC
  2 0.0       MAC TRIGGER FOR SUSPENDING HISTORIC DIVERSION ASSUMPTION                    KAF
      2   LOHISTRIG
  3 1.0       USE DISCRETIONARY OPERATIONAL HYDRO RELEASES                                FLAG
      3   CONHYDR
  4 0.0       USE MCCONAUGHY MAXIMUM HISTORIC CONTENT LIMITS (USUALLY FOR CALIBRATION)    FLAG
      4   CALIBRAT
  5 1.0       FLAG TO CALCULATE DAILY FLOWS                                               FLAG
      5   DAYFLAG
  6 0.0       FLAG TO HAVE THE MODEL PRODUCE NEAR HISTORIC FLOW VALUES                    FLAG
      6   HISTFLAG
  7 0.0       NOT USED                                                                    blank
      7
  8 0.0       NOT USED                                                                    blank
      8
  9 9999999.9 ********** LAKE MCCONAUGHY **********                                      blank
      9
 10 1535.0    LAKE MC CONAUGHY STARTING CONTENT                                           KAF
     10   EOMLST
 11 1469.0    LAKE MCCONAUGHY EOMC SEPTEMBER DECISION CONTENT FOR YEAR TYPE               KAF
     11   EOMSEPT
 12 0.0       LAKE MC CONAUGHY DEAD STORAGE                                               KAF
     12   DEAD
 13 0.43237   LAKE MC CONAUGHY AREA-CAPACITY CURVE MULTIPLYER                              REAL
     13   ACMULT
 14 0.58035   LAKE MC CONAUGHY AREA-CAPACITY CURVE EXPONENT                                REAL
     14   ACEXP
 15 150.21    HOWELL-BUNGER VALVE CONSTANT                                                REAL
     15   HWLCONS
 16 -0.07244  HOWELL-BUNGER VALVE SLOPE                                                   REAL
     16   HWLSLOP
 17 0.3       HOWELL BUNGER VALVE PERCENTAGE, JULY                                        REAL
     17   HWJPER
 18 0.5       HOWELL BUNGER VALVE PERCENTAGE, AUGUST                                      REAL
     18   HWAPER
 19 0.2       HOWELL BUNGER VALVE PERCENTAGE, SEPTEMBER                                   REAL
     19   HWSPER
 20 1600.0    CRITICAL S. PLATTE CFS TO REDUCE MAC OUTFLOW                                KAF
     20   FLDFLO
 21 1580.0    UPPER MCCONAUGHY CONTROL CONTENT CENTRAL                                    KAF
     21   MACMAX
 22 0.0       CENTRAL DISTRICT MINIMUM DIVERSION CONTROL CONTENT                          KAF
     22   MACMIN
```

```
23 1600.0    MAC SEPT EOMC FALL VERY HIGH OPERATIONAL TRIGGER                              KAF
    23   FALLVH
24 1450.0    MAC SEPT EOMC FALL HIGH OPERATIONAL TRIGGER                                   KAF
    24   FALLHI
25 1200.0    MAC SEPT EOMC FALL NORMAL OPERATIONAL TRIGGER                                 KAF
    25   FALLNO
26 900.0     MAC SEPT EOMC FALL LOW OPERATIONAL TRIGGER                                    KAF
    26   FALLLO
27 600.0     MAC SEPT EOMC FALL VERY LOW OPERATIONAL TRIGGER                               KAF
    27   FALLVL
28 2800.0    MAC MAR EOMC + 4 MONTH INFLOW SPRING VERY HIGH OPERATIONAL TRIGGER            KAF
    28   SPRINGVH
29 1950.0    MAC MAR EOMC + 4 MONTH INFLOW SPRING HIGH OPERATIONAL TRIGGER                 KAF
    29   SPRINGHI
30 1700.0    MAC MAR EOMC + 4 MONTH INFLOW SPRING NORMAL OPERATIONAL TRIGGER               KAF
    30   SPRINGNO
31 1400.0    MAC MAR EOMC + 4 MONTH INFLOW SPRING LOW OPERATIONAL TRIGGER                  KAF
    31   SPRINGLO
32 1000.0    MAC MAR EOMC + 4 MONTH INFLOW SPRING VERY LOW OPERATIONAL TRIGGER             KAF
    32   SPRINGVL
33 0.0       CFS VALUE FOR LINE SLOPE OF MAX TRI COUNTY DIV, USE 0.0 IF NOT APPLICABLE   REAL
    33   TCPOINT
34 0.0       NOT USED                                                                     blank
    34
35 0.0       NOT USED                                                                     blank
    35
36 9999999.9 ********** CENTRAL DISTRICT **********                                       blank
    36
37 0.0       CD DIVERSION BY-PASS - LOW MCCONAUGHY CONTROL CONTENT                        KAF
    37   NPMAC
38 50.0      COZAD OPERATIONAL BYPASS                                                     CFS
    38   COZOP
39 0.0       CALCULATE TRI-COUNTY DIVERSION EFFICIENCY, 1.0=USE NEXT CDATA)               FLAG
    39   TCEFFLG
40 1.0       CONSTANT TRI_COUNTY CANAL DIVERSION EFFICIENCY FACTOR                        REAL
    40   TCEF
41 0.0       CENT DIST MIN DIV REQ (CFS), STATE EA CODE MAY RESET THIS                    CFS
    41   TCMDV
42 14.2      ELWOOD RESERVOIR STARTING CONTENT                                            KAF
    42   EREOMC
43 0.0       FLAG TO NOT DIVERT AT TRI-COUNTY DURING PULSE FLOWS                          FLAG
    43   CENTPULSE
44 40.0      JOHNSON LAKE STARTING CONTENT                                                KAF
    44   JLEOMC
45 450.0     J2 MINIMUM RETURN                                                            CFS
    45   J2MIN
46 2000.0    J2 RETURN CAPACITY                                                           CFS
    46   J2CAP
47 0.0       FLAG TO RELEASE IRRIGATION WATER TO AUGMENT THE PULSE                        FLAG
    47   TCIRRPULSE
48 0.0       FLAG TO NOT DIVERT WATER TO ELWOOD RESERVOIR THUS AUGMENTING THE PULSE       FLAG
    48   ELWPULSE
49 0.0       NOT USED                                                                     blank
    49
50 0.0       NOT USED                                                                     blank
    50
51 0.0       NOT USED                                                                     blank
    51
52 9999999.9 ********** SUTHERLAND/NPPD SYSTEM **********                                 blank
    52
53 0.0       KEYSTONE BY-PASS - LOW MCCONAUGHY CONTROL CONTENT                            KAF
    53   KEYMAC
54 0.0       SUTHERLAND CANAL MIN. DIV. REQ. LOW MCC. CONTROL CONTENT                     KAF
    54   SCMAC
55 0.0       CALCULATE DIVERSION EFFICIENCY, 1.0 = USE NEXT CDATA)                        FLAG
    55   KTEFFLG
56 1.0       CONSTANT KORTY CANAL DIVERSION EFFICIENCY FACTOR                             REAL
    56   KTEF
57 000.0     MINIMUM COMBINED SUTHERLAND-KEYSTONE DIVERSION                               CFS
    57   KTKYMIN
58 42.5      SUTHERLAND RESERVOIR STARTING CONTENT                                        KAF
    58   SREOMC
59 0.0       FLAG TO CONSIDER A CHOKE POINT AT NORTH PLATTE FOR EA OPERATIONS             FLAG
    59   NPCHKFLG
60 1850.0    NORTH PLATTE HYDRO RETURN CAPACITY                                           CFS
    60   NPHCAP
61 80.0      FIRST YEAR PREVIOUS DEC SUTH DIV                                             KAF
```

```
    61   KEYDEC
62 0.0       FLAG TO NOT DIVERT AT KORTY DURING PULSE FLOWS                                FLAG
    62   KORTYPULSE
63 0.0       NOT USED                                                                      blank
    63
64 0.0       NOT USED                                                                      blank
    64
65 0.0       NOT USED                                                                      blank
    65
66 9999999.9 ********** ENVIRONMENTAL ACCOUNT, LAKE MCCONAUGHY **********                 blank
    66
67 0.0       ENVIRONMENTAL ACCOUNT IN LAKE MCCONAUGHY IS ACTIVE                            FLAG
    67   STATEEA
68 0.0       ENLARGED EA FLAG (RAISED MCCONAUGHY STORAGE LIMITS)                           FLAG
    68   EALARGE
69 0.0       ENVIRONMENTAL ACCOUNT STARTING CAPACITY                                       KAF
    69   EASTART
70 0.0       LEWLLEN INFLOW TO EA ACCRUAL (%)                                              REAL
    70   ACCRUPER
71 0.0       IF MAC FILLS SET EA CONTENT=100 KAF 1= ALWAYS 2= ONLY IF EA CONTENT>100 KAF FLAG
    71   LMFILLFLG
72 9999999.9 ******IRRIGATION LEASING/CONSERVATION**********                              blank
    72
73 0.0       CONSERVATION/LEASING WATER FLAG                                               FLAG
    73   CONSERV
74 1.00000   IRRIG RETAINING FACTOR, % (KEY-SUTH CANALS CONSERVE/LEASING)                  REAL
    74   IRRIGREDKS
75 1.00000   IRRIG RETAINING FACTOR, % (SUTH-NP CANALS CONSERVE/LEASING)                   REAL
    75   IRRIGREDSNP
76 1.00000   IRRIG RETAINING FACTOR, % (TC CANAL CONSERVE/LEASING)                         REAL
    76   IRRIGREDTC
77 1.00000   IRRIG RETAINING FACTOR, % (BRADY-COZAD CANALS CONSERVE/LEASING)               REAL
    77   IRRIGREDBC
78 1.00000   IRRIG RETAINING FACTOR, % (KEARNEY CANAL CONSERVE/LEASING)                    REAL
    78   IRRIGREDKR
79 0.0       NET CONSERVED WATER ADDED TO EA, SUM OF ABOVE, OR CALC. BY MODEL IF 0.0      KAF
    79   EANETCW
80 1.00000   IRRIG RETAINING FACTOR, % (WESTERN CANAL CONS/LEASE OF NATFLOW                REAL
    80   IRRIGREDWC
81 9999999.9 ******BORROW/PAYBACK FROM MAC AND POWER INTERFERENCE******                    blank
    81
82 0.0       ENABLE BORROW/PAYBACK, EA MAY BORROW FROM MAC (SEE A48)                       FLAG
    82   EALOAN
83 0.0       FLAG FOR POWER INTERFERENCE PROJECT                                           FLAG
    83   PWRINTFR
84 0.0       POWER INTERFERENCE DIVISOR (POTENTIAL/DIVISOR IS AMOUNT TO EA)                REAL
    84   PWRDIVISOR
85 0.0       FLAG TO USE REMAINING POWER INTERFERENCE FOR NE FUTURE DEPLETIONS             FLAG
    85   NE_PWRINTFR
86 0.0       NOT USED                                                                      blank
    86
87 0.0       NOT USED                                                                      blank
    87
88 9999999.9 ******IS EA WATER PROTECTED OR UNPROTECTED, TAMARACK EXCHANGE **********     blank
    88
89 0.0       FLAG TO PROTECT CO CONSERVATION (CONSCO) WATER PAST KORTY DIV                 FLAG
    89   KTPROT
90 0.0       FLAG TO PROTECT CONSCO WATER PAST CENTRAL DIVERSION                           FLAG
    90   TCPROTP
91 0.0       FLAG TO PROTECT EA RELEASES FROM DIVERSION AT CENTRAL                         FLAG
    91   PROGH2O
92 0.0       PERCENT OF ETO WATER TO PLACE IN THE EA                                       REAL
    92   EAETOPCT
93 0.0       FLAG TO EXCHANGE TAMARACK EA WATER INTO MAC                                   FLAG
    93   COEXCHNG
94 9999999.9 ******EA PULSE FLOWS TARGETED IN APRIL/MAY **********                        blank
    94
95 0.0       FLAG TO SELECT SHORT EA PULSE IN MAY,                                         FLAG
    95   EAPFLG
96 0.0       FLAG TO GIVE PULSE FLOWS PRIORTIY                                             FLAG
    96   EAPRIFLG
97 5700.     MAXIMUM CFS RATE THRU TURBINE PENSTOCK FOR EA PULSE                           CFS
    97   MACMAXPULSE
98 0.0       EA PULSE FLOW TARGET MAXIMUM AT OVERTON                                       CFS
    98   EAPTARGMAX
99 0.0       DAYS OF SUSTAINED (FLAT) PULSE NOT INCL. RISE & FALL                          DAYS
    99   EAPCDAYS
```

```
100 0.0       RAMP RATE UP IN CFS/DAY FOR RISING LIMB,  + VALUE                              CFS/DAY
   100   EAPRISE
101 0.0       RAMP RATE DOWN IN CFS/DAY FOR FALLING LIMB, - VALUE                            CFS/DAY
   101   EAPFALL
102 0.0       PK DAILY DECISION FLOW LEVEL RE EA PULSE, CFS OCT-JUN                          CFS
    102   EAPTARG
103 0.0       AMOUNT BELOW EAPTARG LEVEL TO PULSE ANYWAY IF EA CAN                           CFS
    103   EAPTARGLOW
104 0.        1ST DAY PULSE IS TO OCCUR, VALUE BTWN 5 & 53 (5=APR 5, 53=MAY 23, 0=RANDOM) DAYS
    104   PULSEDAY1
105 0.        2ND DAY PULSE IS TO OCCUR, VALUE BTWN 5 & 53 (5=APR 5, 53=MAY 23, 0=RANDOM) DAYS
    105   PULSEDAY2
106 9999999.9 ******GROUNDWATER/LOWER SYSTEM PROGRAM PROJECTS**********                      blank
    106
107 0.0       FLAG TELLS WHETHER GW MANAGEMENT PROJECT IS ON                                 FLAG
    107   GWMPROJ
108 0.0       GW MGMT PROJ KAF TARGET (VOL TO STORE/PUMP EACH YEAR)                          KAF
    108   GWMKTARG
109 0.0       FLAG TELLS WHETHER GW MANAGEMENT FOR NE FUTURE DEPL PROJECT IS ON              FLAG
    109   NE_GWMPROJ
110 0.0       NE FUTURE DEPL GW MGMT PROJ KAF TARGET (VOL TO STORE/PUMP EACH YEAR)           KAF
    110   NE_GWMKTARG
111 0.0       FLAG TO OPERATE N. DRY CREEK GW PUMPING PROJECT                                FLAG
    111   NDRYCKFLG
112 0.0       FLAG TO OPERATE RIVERSIDE DRAINS                                              FLAG
    112   RIVRDFLAG
113 0.0       FLAG TO STORE WATER CONSERVATION AND GW MANAGEMENT IN EA                      FLAG
    113   CONSEASTOR
114 9999999.9 ******CENTRAL PLATTE REREGULATING RESERVOIR**********                         blank
    114
115 0.0       CP REREG RESERVOIR IS BEING OPERATED FLAG                                     FLAG
    115   CPRRCK
116 0.0       CP REREG RES STARTING CONTENT                                                 KAF
    116   CPRREOMLST
117 0.0       CP REREG RES CAPACITY                                                         KAF
    117   CPRRCAP
118 0.0       CP REREG RES INLET RATE                                                       CFS
    118   CPRRCFSIN
119 0.0       CP REREG RES DEAD POOL                                                        KAF
    119   CPRRDEAD
120 0.0       CP REREG RES AREA/CAPACITY CURVE MULT.                                        REAL
    120   CPRRMULT
121 0.0       CP REREG RES AREA/CAPACITY CURVE EXP.                                         REAL
    121   CPRREXP
122 0.0       CP REREG RES SEEPAGE FACTOR (DECIMAL PERCENT)                                 REAL
    122   CPRRSPFAC
123 0.0       CP REREG RES OUTLET RATE                                                      CFS
    123   CPRRCFSOUT
124 0.0       FLAG TO USE CP REREG RES TO AUGMENT PULSE FLOWS                               FLAG
    124   CPRRPULSE
125 0.000     CAPACITY OF CP REREG RES FOR PULSING PURPOSES                                 KAF
    125   CPRRPLSCAP
126 0.0       NOT USED                                                                      blank
    126
127 9999999.9 ******JOHNSON LAKE FLOW ATTENUATION OF PEAK FLOWS**********                   blank
    127
128 0.0       FLAG TO ATTENUATE SPIKE FLOWS WITH JOHNSON RESERVOIR                          FLAG
    128   JLSPIKEFLAG
129 17000.0   MAXIMUM DESIRED FLOW AT OVERTON                                               CFS
    129   OVERPEAK
130 0.0       STORAGE AVAILBLE IN JOHNSON LAKE TO ATTENUATE SPIKE FLOWS                     AF
    130   JLSPIKECAP
131 0.0       FLAG TO USE JOHNSON RESERVOIR TO AUGMENT PULSE FLOWS                          FLAG
    131   JLPULSE
132 0000.0    STORAGE AVAILBLE IN JOHNSON LAKE TO PULSE                                     AF
    132   JLPULSECAP
133 0000.0    MAXIMUM CFS THAT PULSE CAN BE AUGMENTED                                       FLAG
    133   JLOUTCAP
134 0.0       NUMBER OF DAYS TO PULSE OUT OF JOHNSON LAKE                                   DAYS
    134   JLPLSDAYS
135 0.0       NOT USED                                                                      blank
    135
136 0.0       NOT USED                                                                      blank
    136
137 9999999.9 ******INCREASE CP REREG RESERVOIR FOR NE FUTURE DEPLETIONS**********          blank
    137
138 0.0       NE FUTURE DEPL CP REREG RESERVOIR IS BEING OPERATED FLAG                       FLAG
```

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    138   NE_CPRRCK
139 0.0       NE FUTURE DEPL CP REREG RES STARTING CONTENT                                  KAF
    139   NE_CPRREOMLST
140 0.0       NE FUTURE DEPL CP REREG RES CAPACITY                                         KAF
    140   NE_CPRRCAP
141 0.0       NE FUTURE DEPL CP REREG RES INLET RATE                                       CFS
    141   NE_CPRRCFSIN
142 0.0       NE FUTURE DEPL CP REREG RES DEAD POOL                                        KAF
    142   NE_CPRRDEAD
143 0.0       NE FUTURE DEPL CP REREG RES AREA/CAPACITY CURVE MULT.                        REAL
    143   NE_CPRRMULT
144 0.0       NE FUTURE DEPL CP REREG RES AREA/CAPACITY CURVE EXP.                         REAL
    144   NE_CPRREXP
145 0.0       NE FUTURE DEPL CP REREG RES SEEPAGE FACTOR (DECIMAL PERCENT)                 REAL
    145   NE_CPRRSPFAC
146 0.0       NE FUTURE DEPL CP REREG RES OUTLET RATE                                      CFS
    146   NE_CPRRCFSOUT
147 0.0       NE FUTURE DEPL FLAG TO USE CP REREG RES TO AUGMENT PULSE FLOWS               FLAG
    147   NE_CPRRPULSE
148 0.0       NE FUTURE DEPL CAPACITY OF CP REREG RES FOR PULSING PURPOSES                 KAF
    148   NE_CPRRPLSCAP
149 0.0       FLAG TO ADD NE FUTURE DEPLETIONS FLOW BACK TO THE RIVER                      FLAG
    149   NE-CPRRADDFLOW
150 0.0       NOT USED                                                                     blank
    150
ADATA ITEMS
1
   LAKE MCCONAUGHY - MAXIMUM END-OF-MONTH CONTENT (KAF)
   JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
1594.11594.11594.11609.11743.11743.11743.11668.61594.11594.11594.11594.1
2
   NET LAKE EVAPORATION (FT/MO)
   JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
  .058  .078  .119  .168  .182  .237  .426  .408  .254  .195  .106  .050
3
   HOWELL-BUNGER STUFF (KAF?)  JULY-SEP COMPUTED IN PROGRAM EACH YEAR
   JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
  0.35  0.00  0.00  0.11  2.50  9.70 9999. 9999. 9999.  10.8  2.35  0.01
4
   FLOW AT FLOOD STAGE IN THE NORTH PLATTE AT NORTH PLATTE, NE (CFS)
   JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
 1980. 1980. 1980. 1980. 1980. 1980. 1980. 1980. 1980. 1980. 1980.  1980.
5
   UNUSED ADATA ITEM
   JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.
6
   UNUSED ADATA ITEM
   JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.
7
   INCREASED MAC CONTENT LIMITS
   JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.
8
   UNUSED ADATA ITEM
   JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.
9
   DAYS PER MONTH
   JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
   31.   28.   31.   30.   31.   30.   31.   31.   30.   31.   30.   31.
10
   UNUSED ADATA ITEM
   JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.
11
   KEYSTONE MINIMUM BY-PASS REQUIREMENT, CFS
   JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.
12
   UNUSED ADATA ITEM
   JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.
13
   MAXIMUM KEYSTONE DIVERSION, CFS
   JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
```

```
 2100. 2100. 2100. 2100. 2100. 2100. 2100. 2100. 2100. 2100. 2100. 2100.
14
   UNUSED ADATA ITEM
   JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.
15
   SUTHERLAND CANAL MINIMUM DIVERSION REQUIREMENT, CFS
   JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.
16
   UNUSED ADATA ITEM
   JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.
17
   KORTY CANAL AVE. MONTHLY CAPACITY, CFS
   JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
 1100. 1100. 1100. 1100. 1100. 1100. 1100. 1100. 1100. 1100. 1100. 1100.
18
   SUTHERLAND CANAL CAPACITY, 2000 CFS EXCEPT OCT & APR which are 1800 to reflect maint.)
   JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
 2000. 2000. 2000. 1800. 2000. 2000. 2000. 2000. 2000. 1800. 2000. 2000.
19
   UNUSED ADATA ITEM
  JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
  0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
20
   SUTHERLAND SYSTEM LOSS (KAF/MO)
   JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
11.184 7.509 9.639 9.06014.33716.836-5.436-6.104 6.44913.10212.03711.218
21
   SUTHERLAND CANAL LOSS FUNCTION SLOPE
   JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
.01552.05502.05129.05349.00109.05040.25248.21665.08707.01181.00632.02544
22
   UNUSED ADATA ITEM
   JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.
23
   UNUSED ADATA ITEM
   JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.
24
   CENTRAL DISTRICT CANAL CAPACITY, CFS
   JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
 2250. 2250. 2250. 2250. 2250. 2250. 2250. 2250. 2250. 2250. 2250. 2250.
25
   UPPER CENTRAL CANAL AVERAGE LOSS (KAF) (1971-1991)
   JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
 7.595 6.515 6.430 6.240 6.780 7.075 8.730 8.155 5.460 5.570 5.400 7.190
26
   CENTRAL DISTRICT MIDDLE CANAL CONSTANT LOSS TERM (KAF/MO)
   JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
 3.858 3.517 7.74010.097 9.67613.136 7.76416.62213.61810.168 9.323 7.548
27
   CENTRAL CANAL LOSS FUNCTION SLOPE
   JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
.11399.11256.06417.04318.06225.05034.15987.09098.07705.07811.06785.07805
28
   JEFFREY RETURN CAPACITY, CFS
   JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
  600.  600.  600.  600.  600.  600.  600.  600.  600.  600.  600.  600.
29
   LOWER CENTRAL CANAL AVERAGE LOSS (KAF) 1971-1991
   JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
  0.41 0.675 1.100 1.295 1.205 1.365 1.370 1.270 1.520 1.115 0.445 0.335
30
   UNUSED ADATA ITEM
   JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.
31
   ELWOOD RESERVOIR LOSS (KAF/MO)
   JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
   0.9   0.8   1.4   3.7   4.1   4.6   1.9   1.5   1.1   1.3   1.2   1.1
32
   UNUSED ADATA ITEM
   JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
```

33
UNUSED ADATA ITEM
JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC
0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0.
34
CD N.P. DIVERSION MINIMUM BY-PASS REQUIREMENT, CFS
JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC
0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0.
35
EA KAF to reserve (Min EA content), KAF
JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC
0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0.
36
PERCENT OF EA AVAILABLE IN JAN, FEB, MAR...DEC (0.0 TO 1.0) (ANY EA 'BORROW' MONTH SHOULD BE 1.0)
JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC
0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0.
37
MINIMUM EA RELEASE ALLOWED (I.E. NO EA RELEASES LESS THAN THIS), CFS
JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC
0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0.
38
FLAG TO MEET MINIMUM FLOW REQUIREMENT AT OVERTON 1=YES 0=NO
JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC
0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0.
39
EA STORAGE THRESHOLD FOR INSTREAM FLOW RELEASES, LEVEL 1 (GREATEST), KAF
JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC
0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0.
40
EA STORAGE THRESHOLD FOR INSTREAM FLOW RELEASES, LEVEL 2 ( LEVEL 2 <= LEVEL 1, ETC.), KAF
JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC
0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0.
41
EA STORAGE THRESHOLD FOR INSTREAM FLOW RELEASES, LEVEL 3, KAF
JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC
0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0.
42
EA STORAGE THRESHOLD FOR INSTREAM FLOW RELEASES, LEVEL 4
JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC
0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0.
43
EA STORAGE THRESHOLD FOR INSTREAM FLOW RELEASES, LEVEL 5, KAF
JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC
0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0.
44
EA STORAGE THRESHOLD FOR INSTREAM FLOW RELEASES, LEVEL 6 (LEAST), KAF
JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC
0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0.
45
NET CONTROLLABLE CONSERVED WATER ADDED TO EA, KAF
JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC
0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0.
46
POTENTIAL EA WATER ADDED VIA N. DRY CREEK GROUNDWATER PUMPING PROJECT, KAF
JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC
0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0.
47
WATER ADDED VIA RIVERSIDE DRAINS (COZAD TO OVERTON REACH), KAF
JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC
0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
48
ALLOW EA TO BORROW FROM MAC IN MAY-JUL, PAY BACK BEFORE OCT WITH WY EA DELIVERIES,(1=YES 0=NO)
JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC
0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0.
49
UNUSED ADATA ITEM
JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC
0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0.
50
UNUSED ADATA ITEM
JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC
0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0.
51
SUGGESTED MONTHLY FLOW REQUIREMENT LEVEL 1, CFS
JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC
1000. 2575. 2575. 2400. 2400. 2600. 800. 800. 300. 1300. 1150. 1000.

```
52
   SUGGESTED MONTHLY FLOW REQUIREMENT  LEVEL 2, CFS
   JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
 1000. 2575. 2575. 2400. 2000. 1700.  500.  500.  300. 1300. 1150. 1000.
53
   SUGGESTED MONTHLY FLOW REQUIREMENT  LEVEL 3, CFS
   JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
  600. 1725. 1725. 1700. 1100.  800.  500.  500.  300. 1300.  950.  600.
54
   SUGGESTED MONTHLY FLOW REQUIREMENT  LEVEL 4, CFS
   JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
55
   SUGGESTED MONTHLY FLOW REQUIREMENT  LEVEL 5, CFS
   JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
56
   SUGGESTED MONTHLY FLOW REQUIREMENT  LEVEL 6, CFS
   JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
57
   UNUSED ADATA ITEM
   JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
58
   FLAG TO MEET MINIMUM FLOW REQUIREMENT AT GRAND ISLAND    1=YES  0=NO
   JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.
59
   USFWS 10J RECOMMENDED FLOWS IN CRITICAL HABITAT REACH (KAF) GRAND ISLAND
   JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
  61.5 143.0 167.5 142.8 150.0 158.7  73.8  73.8  65.5 110.7  83.3  61.5
60
   FWS INSTREAM FLOW TARGET FOR WET CONDITION W/PULSE    (KAF/MO)
   JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
  61.5 143.0 167.5 142.8 170.8 158.7  73.8  73.8  65.5 147.6 101.2  61.5
61
   FWS INSTREAM FLOW TARGET FOR AVE CONDITION W/PULSE    (KAF/MO)
   JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
  61.5 143.0 167.5 142.8 150.0 158.7  73.8  73.8  65.5 110.7  83.3  61.5
62
   FWS INSTREAM FLOW TARGET FOR DRY CONDITION W/PULSE   (KAF/MO)
   JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
  36.9  95.8 114.0 101.2  67.0  47.6  49.2  49.2  41.7  79.9  56.5  36.9
63
   PRESENT CONDITION INSTREAM FLOW SHORTAGE (KAF/MO) (USES WET/AVG/DRY %)
   JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
   0.6  20.7  24.7  37.3  43.9  40.5  15.8  32.1  26.0  37.9   5.1   0.0          284.6 Total
average
64
   PRESENT CONDITION INSTREAM FLOW EXCESS (KAF/MO) (USES WET/AVG/DRY %)
   JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
  47.7  19.7  20.2  24.6  42.9  80.5  41.7   2.3  11.4  11.9  17.2  39.3          359.4 Total
average
65
   KEARNEY CANAL DIVERSION CAPACITY, CFS (MAR & NOV DIVERT 1/2 THE MONTH)
   JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
   0.0   0.0 112.5  325.  325.  325.  325.  325.  325.  325. 112.5   0.0
66
   UNUSED ADATA ITEM
   JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.
67
   KEARNEY CANAL SYSTEM LOSS (KAF/MO)
   JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
   0.0   0.0   0.6   1.5   0.8   0.9   0.1   0.1   0.2   1.6   0.8   0.0
68
   UNUSED ADATA ITEM
   JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.
69
   UNUSED ADATA ITEM
   JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.
70
   UNUSED ADATA ITEM
   JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
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   0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.
71
   FUNCTION - LAKE MCCONAUGHY ELEVATION VS STORAGE
 CONT1 CONT2 CONT3 CONT4 CONT5 CONT6 ELEV1 ELEV2 ELEV3 ELEV4 ELEV5 ELEV6
   0.0 686.01086.91323.61594.11900.6 3130. 3220. 3240. 3250. 3260. 3270.
72
   MCCONAUGHY RELEASE FLAG (0=FALSE 1=TRUE) VERY HIGH CONDITIONS
   JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
    0.    0.    0.    1.    1.    1.    1.    0.    0.    0.    0.    0.
73
   MCCONAUGHY RELEASE FLAG (0=FALSE 1=TRUE) HIGH CONDITIONS
   JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.
74
   MCCONAUGHY RELEASE FLAG (0=FALSE 1=TRUE) NORMAL HIGH CONDITIONS
   JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.
75
   MCCONAUGHY RELEASE FLAG (0=FALSE 1=TRUE) LOW CONDITIONS
   JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.
76
   MCCONAUGHY RELEASE FLAG (0=FALSE 1=TRUE) VERY LOW CONDITIONS
   JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.
77
   MCCONAUGHY RELEASE FLAG (0=FALSE 1=TRUE) EXTREMELY LOW CONDITIONS
   JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.
78
   KEYSTONE DIVERSION FLAG (0-FALSE 1=TRUE) VERY HIGH CONDITIONS
   JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
    1.    1.    1.    1.    1.    1.    1.    0.    0.    1.    1.    1.
79
   KEYSTONE DIVERSION FLAG (0-FALSE 1=TRUE) HIGH CONDITIONS
   JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
    1.    1.    1.    1.    1.    1.    1.    0.    0.    1.    1.    1.
80
   KEYSTONE DIVERSION FLAG (0-FALSE 1=TRUE) NORMAL CONDITIONS
   JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
    1.    1.    1.    1.    1.    1.    1.    0.    0.    1.    1.    1.
81
   KEYSTONE DIVERSION FLAG (0-FALSE 1=TRUE) LOW CONDITIONS
   JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
    1.    1.    1.    1.    1.    1.    1.    0.    0.    1.    1.    1.
82
   KEYSTONE DIVERSION FLAG (0-FALSE 1=TRUE) VERY LOW CONDITIONS
   JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
    1.    1.    1.    1.    1.    1.    1.    0.    0.    1.    1.    1.
83
   KEYSTONE DIVERSION FLAG (0-FALSE 1=TRUE) EXTREMELY LOW CONDITIONS
   JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.
84
   TRI-COUNTY DIVERSION FLAG (0-FALSE 1=TRUE) VERY HIGH CONDITIONS
   JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
    1.    1.    1.    1.    1.    1.    1.    0.    0.    1.    1.    1.
85
   TRI-COUNTY DIVERSION FLAG (0-FALSE 1=TRUE) HIGH CONDITIONS
   JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
    1.    1.    1.    1.    1.    1.    1.    0.    0.    1.    1.    1.
86
   TRI-COUNTY DIVERSION FLAG (0-FALSE 1=TRUE) NORMAL CONDITIONS
   JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
    1.    1.    1.    1.    1.    1.    1.    0.    0.    1.    1.    1.
87
   TRI-COUNTY DIVERSION FLAG (0-FALSE 1=TRUE) LOW CONDITIONS
   JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
    1.    1.    1.    1.    1.    1.    1.    0.    0.    1.    1.    1.
88
   TRI-COUNTY DIVERSION FLAG (0-FALSE 1=TRUE) VERY LOW CONDITIONS
   JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
    1.    1.    1.    1.    1.    1.    1.    0.    0.    1.    1.    1.
89
   TRI-COUNTY DIVERSION FLAG (0-FALSE 1=TRUE) EXTREMELY LOW CONDITIONS
   JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.
```

90
MCCONAUGHY RELEASE PATTERN, VERY HIGH CONDITIONS, CFS
JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC
696. 654. 415. 2000. 2000. 2000. 2000. 900. 900. 900. 844. 768.
91
MCCONAUGHY RELEASE PATTERN, HIGH CONDITIONS, CFS
JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC
696. 654. 415. 900. 900. 900. 900. 900. 900. 900. 844. 768.
92
MCCONAUGHY RELEASE PATTERN, NORMAL CONDITIONS, CFS
JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC
467. 479. 281. 605. 700. 700. 700. 700. 700. 700. 700. 585.
93
MCCONAUGHY RELEASE PATTERN, LOW CONDITIONS, CFS
JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC
467. 479. 281. 605. 700. 700. 700. 700. 700. 700. 700. 585.
94
MCCONAUGHY RELEASE PATTERN, VERY LOW CONDITIONS, CFS (also set if Jules > flood flow)
JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC
408. 274. 265. 407. 491. 400. 400. 400. 400. 368. 380. 387.
95
MCCONAUGHY RELEASE PATTERN, EXTREMELY LOW CONDITIONS, CFS (also set if Jules > flood flow)
JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC
200. 200. 200. 200. 200. 200. 200. 200. 200. 200. 200. 200.
96
KEYSTONE DIVERSION PATTERN, VERY HIGH CONDITIONS, CFS
JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC
250. 250. 250. 1000. 1000. 1000. 250. 250. 250. 250. 250. 250.
97
KEYSTONE DIVERSION PATTERN, HIGH CONDITIONS, CFS
JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC
250. 250. 250. 250. 250. 250. 250. 250. 250. 250. 250. 250.
98
KEYSTONE DIVERSION PATTERN, NORMAL CONDITIONS, CFS
JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC
250. 250. 250. 250. 250. 250. 250. 250. 250. 250. 250. 250.
99
KEYSTONE DIVERSION PATTERN, LOW CONDITIONS, CFS
JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC
250. 250. 250. 250. 250. 250. 250. 250. 250. 250. 250. 250.
100
KEYSTONE DIVERSION PATTERN, VERY LOW CONDITIONS, CFS
JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC
250. 250. 250. 250. 250. 250. 250. 250. 250. 250. 250. 250.
101
KEYSTONE DIVERSION PATTERN, EXTREMELY LOW CONDITIONS, CFS
JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC
200. 200. 200. 200. 200. 200. 200. 200. 200. 200. 200. 200.
102
TRI-COUNTY DIVERSION PATTERN, VERY HIGH CONDITIONS, CFS
JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC
1800. 2200. 2200. 2200. 2200. 2200. 2200. 2200. 2200. 1800. 1800. 1800.
103
TRI-COUNTY DIVERSION PATTERN, HIGH CONDITIONS, CFS
JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC
1250. 1250. 1250. 1200. 2000. 2000. 2000. 2000. 2000. 1250. 1250. 1250.
104
TRI-COUNTY DIVERSION PATTERN, NORMAL CONDITIONS, CFS
JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC
1150. 1250. 1250. 1100. 1600. 1600. 1600. 1600. 1600. 1150. 1150. 1150.
105
TRI-COUNTY DIVERSION PATTERN, LOW CONDITIONS, CFS
JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC
1000. 1000. 1100. 900. 1100. 900. 900. 900. 1000. 1000. 1000. 1000.
106
TRI-COUNTY DIVERSION PATTERN, VERY LOW CONDITIONS, CFS
JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC
700. 700. 700. 700. 700. 700. 700. 700. 700. 700. 700. 700.
107
TRI-COUNTY DIVERSION PATTERN, EXTREMELY LOW CONDITIONS, CFS
JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC
300. 300. 300. 300. 300. 300. 300. 300. 300. 300. 300. 300.
108
CP REREG RESERVOIR ALLOWED TO STORE (USES AVERAGE TARGETS) 1=YES/0=NO
JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC
0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0.
109

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   GROUNDWATER MANAGEMENT SEEPAGE CAPACITY, KAF   (APPROXIMATELY 85 CFS)
   JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.
110
   UNUSED ADATA ITEM
   JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.
GROUP HEADER                                              GRP LNS GRP_LN    LINE HEADER
        SUMLINE (0=SUM, 1=AVG)
LAKE MC CONAUGHY                                            1 13   1      1 NORTH PLATTE R. AT
LEWELLEN 0     CALC. 0=SUM, 1=AVG OF ANN. FLOW VALUES                        2      2 RESERVOIR
EVAPORATION       0                              0=SUM, 1=AVG
                                                              3      3 RES SEEPAGE AND
BANKSTORAGE 0                                 0=SUM, 1=AVG
                                                              4      4 RES DEMAND (INCL.
EA PULSE) 0                                  0=SUM, 1=AVG
                                                              5      5 TURBINE RELEASE
(W/O PULSE) 0                                 0=SUM, 1=AVG
                                                              6      6 TURBINE RELEASE (EA
PULSE)  0                                   0=SUM, 1=AVG
                                                              7      7 HOWELL BUNGER
RELEASE       0                                  0=SUM, 1=AVG
                                                              8      8 RESERVOIR SPILL,
TURBINE    0                                  0=SUM, 1=AVG
                                                              9      9 RESERVOIR SPILL,
M.GLORY    0                                  0=SUM, 1=AVG
                                                             10     10 TOTAL RESERVOIR
SPILL       0                                  0=SUM, 1=AVG
                                                             11     11 END-OF-MONTH
CONTENT        1                                  0=SUM, 1=AVG
                                                             12     12 TOT RES OUTFLOW
(W/O PULSE) 0                                 0=SUM, 1=AVG
                                                             13     13 SUTHERLAND CANAL
DIVERSION  0                                  0=SUM, 1=AVG
N. PLATTE R. - KEYSTONE TO SUTHERLAND                       2  8     1   14 NORTH PLATTE R. NR
KEYSTONE 0                                   0=SUM, 1=AVG
                                                                2   16 IRRIGATION DEMAND
         0                                   0=SUM, 1=AVG
                                                                3   17 IRRIGATION
DIVERSION        0                                  0=SUM, 1=AVG
                                                                4   18 IRRIGATION SHORTAGE
        0                                   0=SUM, 1=AVG
                                                                5   19 SECTION GAIN
         0                                   0=SUM, 1=AVG
                                                                6   20 RIVER CHANNEL E.T.
SALVAGE  0                                   0=SUM, 1=AVG
                                                                7   21 CHANNEL G.W. STOR.
CHANGE   0                                   0=SUM, 1=AVG
                                                                8   22 N. PLATTE NEAR
SUTHERLAND   0                                     0=SUM, 1=AVG
N. PLATTE R. - SUTHERLAND TO NORTH PLATTE                   3  8     1   23 BIRDWOOD CREEK NR
HERSHEY   0                                   0=SUM, 1=AVG
                                                                2   24 IRRIGATION DEMAND
         0                                   0=SUM, 1=AVG
                                                                3   25 IRRIGATION
DIVERSION        0                                  0=SUM, 1=AVG
                                                                4   26 IRRIGATION SHORTAGE
        0                                   0=SUM, 1=AVG
                                                                5   27 SECTION GAIN
         0                                   0=SUM, 1=AVG
                                                                6   28 RIVER CHANNEL E.T.
SALVAGE  0                                   0=SUM, 1=AVG
                                                                7   29 CHANNEL G.W.
STORAGE CHANGE 0                                   0=SUM, 1=AVG
                                                                8   30 NO. PLATTE R. AT
NO. PLATTE 0                                  0=SUM, 1=AVG
SOUTH PLATTE R. - JULESBURG TO PAXTON                       4 10     1   31 SO. PLATTE R. AT
JULESBURG  0                                  0=SUM, 1=AVG
                                                                2   32 TAMARACK WATER AT
JULESBURG 0                                   0=SUM, 1=AVG
                                                                3   33 WESTERN CANAL
DEMAND        0                                   0=SUM, 1=AVG
                                                                4   34 WESTERN CANAL
DIVERSION     0                                   0=SUM, 1=AVG
                                                                5   35 WESTERN CANAL
SHORTAGE      0                                   0=SUM, 1=AVG
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         0                                0=SUM, 1=AVG                                  6   36 SECTION GAIN
SALVAGE  0                                0=SUM, 1=AVG                                  7   37 RIVER CHANNEL E.T.
STORAGE CHANGE 0                                 0=SUM, 1=AVG                           8   38 CHANNEL G.W.
DIVERSION       0                                 0=SUM, 1=AVG                         9   39 KORTY CANAL
PAXTON        0                                0=SUM, 1=AVG                           10   40 SO. PLATTE AT
SOUTH PLATTE R. - PAXTON TO NORTH PLATTE                                    5  4   1     41 SECTION GAIN
         0                                0=SUM, 1=AVG                                  2   42 RIVER CHANNEL E.T.
SALVAGE  0                                0=SUM, 1=AVG                                  3   43 CHANNEL G.W.
STORAGE CHANGE 0                                 0=SUM, 1=AVG                           4   44 SO. PLATTE R. AT
NO. PLATTE 0                               0=SUM, 1=AVG
SUTHERLAND SYSTEM (NPPD)                                    6  5    1   45 SUTHERLAND CANAL
DIVERSION  0                               0=SUM, 1=AVG
DIVERSION       0                                 0=SUM, 1=AVG                         2   46 KORTY CANAL
LOSS      0                                0=SUM, 1=AVG                               3   47 SUTHERLAND SYSTEM
STORAGE CHNG 0                                   0=SUM, 1=AVG                         4   48 SUTHERLAND SYS
RETURN   0                                0=SUM, 1=AVG                                  5   49 NORTH PLATTE HYDRO
PLATTE RIVER AT NORTH PLATTE                                7  1   1     50 TOTAL FLOW AT N & S
PLATTE  0                               0=SUM, 1=AVG
CENTRAL DISTRICT SYSTEM (CNPPID)                            8 10    1   51 CENTRAL DIST.
DIVERSION     0                                0=SUM, 1=AVG                           2   52 JEFFREY HYDRO
RETURN        0                                0=SUM, 1=AVG                           3   52 CENTRAL DIST.
SYSTEM LOSS   0                                0=SUM, 1=AVG                           4   52 CENTRAL DIST.
STORAGE CHNG  0                                0=SUM, 1=AVG                           5   52 JOHNSON HYDRO
RETURN        0                                0=SUM, 1=AVG                           6   52 ELWOOD RESERVOIR
LOSS       0                                 0=SUM, 1=AVG                           7   52 ELWOOD STORAGE
CHANGE       0                                  0=SUM, 1=AVG                         8   52 CENTRAL DIST. IRR.
DEMAND   0                                0=SUM, 1=AVG                                  9   52 CENTRAL DIST. IRR.
DELIVERY 0                                0=SUM, 1=AVG                                  10   60 CENTRAL DIST. IRR.
SHORTAGE 0                                0=SUM, 1=AVG
PLATTE RIVER - NORTH PLATTE TO BRADY                        9  5   1     61 FLOW PASSING
CENT.DIST.DIV. 0                                 0=SUM, 1=AVG                         2   62 SECTION GAIN
         0                                0=SUM, 1=AVG                                  3   63 RIVER CHANNEL E.T.
SALVAGE  0                                0=SUM, 1=AVG                                  4   64 CHANNEL G.W.
STORAGE CHANGE 0                                 0=SUM, 1=AVG                           5   65 PLATTE R. NR BRADY
         0                                0=SUM, 1=AVG
PLATTE RIVER - BRADY TO COZAD                              10  8    1   66 JEFFREY HYDRO
RETURN        0                                0=SUM, 1=AVG                           2   67 IRRIGATION DEMAND
         0                                0=SUM, 1=AVG                                  3   68 IRRIGATION
DIVERSION        0                                  0=SUM, 1=AVG                       4   69 IRRIGATION SHORTAGE
        0                               0=SUM, 1=AVG                                   5   70 SECTION GAIN
         0                                0=SUM, 1=AVG                                  6   71 RIVER CHANNEL E.T.
SALVAGE  0                                0=SUM, 1=AVG                                  7   72 CHANNEL G.W.
STORAGE CHANGE 0                                 0=SUM, 1=AVG                           8   73 PLATTE RIVER NEAR
COZAD     0                                0=SUM, 1=AVG
PLATTE RIVER - COZAD TO OVERTON                            11  5   1     74 SECTION GAIN
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         0                                  0=SUM, 1=AVG
SALVAGE  0                                  0=SUM, 1=AVG
STORAGE CHANGE 0                                  0=SUM, 1=AVG
RETURN        0                                  0=SUM, 1=AVG
OVERTON     0                                  0=SUM, 1=AVG
PLATTE RIVER - OVERTON TO ODESSA
DIVERSION     0                                  0=SUM, 1=AVG
         0                                  0=SUM, 1=AVG
DELIVERY 0                                  0=SUM, 1=AVG
SHORTAGE 0                                  0=SUM, 1=AVG
         0                                  0=SUM, 1=AVG
SALVAGE  0                                  0=SUM, 1=AVG
STORAGE CHANGE 0                                  0=SUM, 1=AVG
ODESSA    0                                   0=SUM, 1=AVG
PLATTE RIVER - ODESSA TO GRAND ISLAND
RETURN  0                                  0=SUM, 1=AVG
         0                                  0=SUM, 1=AVG
SALVAGE  0                                  0=SUM, 1=AVG
STORAGE CHANGE 0                                  0=SUM, 1=AVG
ISLAND   0                                  0=SUM, 1=AVG
PLATTE RIVER - GRAND ISLAND TO DUNCAN
         0                                  0=SUM, 1=AVG
SALVAGE  0                                  0=SUM, 1=AVG
STORAGE CHANGE 0                                  0=SUM, 1=AVG
DUNCAN      0                                  0=SUM, 1=AVG
EA OPERATION (MONTHLY & PULSE)
         1                                  0=SUM, 1=AVG
         0                                  0=SUM, 1=AVG
         0                                  0=SUM, 1=AVG
LEWELLEN  0                                   0=SUM, 1=AVG
EXCHANGED     0                                  0=SUM, 1=AVG
         0                                  0=SUM, 1=AVG
         0                                  0=SUM, 1=AVG
         0                                  0=SUM, 1=AVG
         0                                  0=SUM, 1=AVG
(W/O PULSE) 0                                  0=SUM, 1=AVG
        0                                  0=SUM, 1=AVG
         0                                  0=SUM, 1=AVG
         1                                  0=SUM, 1=AVG
CENTAL PLATTE REREGULATORY RESERVOIR
1=Y, 0=N   0                                  0=SUM, 1=AVG
IFR)    0                                  0=SUM, 1=AVG
IFR)     0                                  0=SUM, 1=AVG
(AVG IFR) 0                                  0=SUM, 1=AVG
```

| | | | | |
|---|---|---|---|---|
| | | 2 | 75 | RIVER CHANNEL E.T. |
| | | 3 | 76 | CHANNEL G.W. |
| | | 4 | 77 | JOHNSON HYDRO |
| | | 5 | 78 | PLATTE RIVER AT |
| 12 | 8 | 1 | 79 | KEARNEY CANAL |
| | | 2 | 80 | KEARNEY CANAL LOSS |
| | | 3 | 81 | KEARNEY CANAL IRR. |
| | | 4 | 82 | KEARNEY CANAL IRR. |
| | | 5 | 83 | SECTION GAIN |
| | | 6 | 84 | RIVER CHANNEL E.T. |
| | | 7 | 86 | CHANNEL G.W. |
| | | 8 | 87 | PLATTE RIVER NEAR |
| 13 | 5 | 1 | 88 | KEARNEY CANAL HYDRO |
| | | 2 | 89 | SECTION GAIN |
| | | 3 | 90 | RIVER CHANNEL E.T. |
| | | 4 | 91 | CHANNEL G.W. |
| | | 5 | 92 | PLATTE R. AT GRAND |
| 14 | 4 | 1 | 93 | SECTION GAIN |
| | | 2 | 94 | RIVER CHANNEL E.T. |
| | | 3 | 95 | CHANNEL G.W. |
| | | 4 | 96 | PLATTE RIVER AT |
| 15 | 13 | 1 | 97 | MAC EOMC |
| | | 2 | 98 | MAC SPILL |
| | | 3 | 99 | NE EA ACCRUAL |
| | | 4 | 100 | PATH MOD WATER AT |
| | | 5 | 101 | TAMARACK+CONS |
| | | 6 | 102 | OTHER NE WATER |
| | | 7 | 103 | OTHER WY WATER |
| | | 8 | 104 | BLANK |
| | | 9 | 105 | EA EVAP |
| | | 10 | 106 | WILDLIFE DEMAND |
| | | 11 | 107 | EA RELEASE, MONTHLY |
| | | 12 | 108 | EA RELEASE, PULSE |
| | | 13 | 109 | EA EOMC |
| 16 | 10 | 1 | 110 | STORAGE ALLOWED? |
| | | 2 | 111 | OVERTON EXCESS (AVG |
| | | 3 | 112 | ODESSA EXCESS (AVG |
| | | 4 | 113 | GRAND ISL. EXCESS |

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                                                                    5  114 INFLOW TO STORAGE
         0                                0=SUM, 1=AVG
                                                                    6  115 RELEASE
         0                                0=SUM, 1=AVG
                                                                    7  116 EVAPORATION
         0                                0=SUM, 1=AVG
                                                                    8  117 SEEPAGE
         0                                0=SUM, 1=AVG
                                                                    9  118 SPILL
         0                                0=SUM, 1=AVG
                                                                   10  119 END OF MONTH
CONTENT        1                                0=SUM, 1=AVG
OTHER EA PROJECTS                                                  17  6   1    120 NORTH DRY CREEK GW
         0                                0=SUM, 1=AVG
                                                                        2    121 GW MGMT STOREAGE
         0                                0=SUM, 1=AVG
                                                                        3    122 GW MGMT CREDIT TO
EA        0                                0=SUM, 1=AVG
                                                                        4    123 CO CONS WATER AT
CONFLUENCE 0                                0=SUM, 1=AVG
                                                                        5    124 CO CONS WATER IN
CANAL      0                                0=SUM, 1=AVG
                                                                        6    125 CO CONS WATER AT
BRADY      0                                0=SUM, 1=AVG
TABLE HEADERS
TABLE 1. LAKE MCCONAUGHY END-OF-MONTH CONTENT (KAF)
1                                                                   CALC. 0=SUM, 1=AVG, 2=MAX OF ANN.
FLOW VALUES
TABLE 2. LAKE MCCONAUGHY END-OF-MONTH ELEVATION (FEET ABOVE MSL)
1                                                                                                0=SUM,
1=AVG, 2=MAX
TABLE 3. LAKE MCCONAUGHY TOTAL OUTFLOW (INCLUDES PULSE FLOWS), KAF
0                                                                                                0=SUM,
1=AVG, 2=MAX
TABLE 4. KINGSLEY DAM SPILL THROUGH KINGSLEY HYDRO (KAF)
0                                                                                                0=SUM,
1=AVG, 2=MAX
TABLE 5. KINGSLEY DAM SPILL THROUGH KINGSLEY MORNING GLORY (KAF)
0                                                                                                0=SUM,
1=AVG, 2=MAX
TABLE 6. TOTAL KINGSLEY DAM SPILL (KAF)
0                                                                                                0=SUM,
1=AVG, 2=MAX
TABLE 7. TOTAL STORAGE DEMAND ON LAKE MCCONAUGHY (INCLUDES PULSE FLOWS), KAF
0                                                                                                0=SUM,
1=AVG, 2=MAX
TABLE 8. HYDRO RELEASE (FOR OPERATIONAL RULES RUNS ONLY) (KAF)
1                                                                                                0=SUM,
1=AVG, 2=MAX
TABLE 9. HYDRO CONDITION (CONHYDR) 1=VERY HIGH, 2=HIGH, 3=NORMAL, 4=DRY, 5=VERY DRY
1                                                                                                0=SUM,
1=AVG, 2=MAX
TABLE 10. NE PLAN CONDITIONS (1=VERY WET,2=WET, 3=TRANS, 4=DRY, 5=VERY DRY)
1                                                                                                0=SUM,
1=AVG, 2=MAX
TABLE 11. SUTHERLAND LAKE END-OF-MONTH CONTENT (KAF)
1                                                                                                0=SUM,
1=AVG, 2=MAX
TABLE 12. ELWOOD RESERVOIR END-OF-MONTH CONTENT (KAF)
1                                                                                                0=SUM,
1=AVG, 2=MAX
TABLE 13. JOHNSON LAKE END-OF-MONTH CONTENT (KAF)
1                                                                                                0=SUM,
1=AVG, 2=MAX
TABLE 14. TRI-COUNTY IRR. AND ELWOOD RES. WATER USED TO AUGMENT PULSE (KAF)
0                                                                                                0=SUM,
1=AVG, 2=MAX
TABLE 15. TRI-COUNTY DIVERSION REQUIREMENT (KAF)
0                                                                                                0=SUM,
1=AVG, 2=MAX
TABLE 16. FLOW PASSING CENTRAL DIST. DIVERSION DAM (PULSE FLOWS NOT INCLUDED), KAF
0                                                                                                0=SUM,
1=AVG, 2=MAX
TABLE 17. CENTRAL DIST. DIVERSION AT DIVERSION DAM (PULSE FLOWS NOT INCLUDED), KAF
0                                                                                                0=SUM,
1=AVG, 2=MAX
TABLE 18. NPPD DIVERSION AT KEYSTONE DIVERSION DAM (PULSE FLOWS NOT INCLUDED), KAF
```

0 0=SUM,
1=AVG, 2=MAX
TABLE 19. NPPD DIVERSION AT KORTY DIVERSION DAM (KAF)
0 0=SUM,
1=AVG, 2=MAX
TABLE 20. COMBINED KORTY-KEYSTONE DIVERSION (PULSE FLOWS NOT INCLUDED), CFS
1 0=SUM,
1=AVG, 2=MAX
TABLE 21. SUTHERLAND CANAL LOSS (KAF)
0 0=SUM,
1=AVG, 2=MAX
TABLE 22. CENTRAL CANAL LOSSES (KAF)
0 0=SUM,
1=AVG, 2=MAX
TABLE 23. SUTHERLAND HYDRO GENERATION (PULSE FLOWS NOT INCLUDED), MKWH
0 0=SUM,
1=AVG, 2=MAX
TABLE 24. CENTRAL DISTRICT HYDRO GENERATION (PULSE FLOWS NOT INCLUDED), MKWH
0 0=SUM,
1=AVG, 2=MAX
TABLE 25. KINGSLEY HYDRO GENERATION (INCLUDES PULSE RELEASE), MKWH
0 0=SUM,
1=AVG, 2=MAX
TABLE 26. TOTAL HYDRO GENERATION (MKWH)
0 0=SUM,
1=AVG, 2=MAX
TABLE 27. AVAILABLE FLOW GRAND ISLAND BEFORE EA RELEASE (PULSE FLOWS NOT INCLUDED), KAF
0 0=SUM,
1=AVG, 2=MAX
TABLE 28. AVAILABLE FLOW AT OVERTON BEFORE EA RELEASE (PULSE FLOWS NOT INCLUDED), KAF
0 0=SUM,
1=AVG, 2=MAX
TABLE 29. OVERTON INSTREAM FLOW RECOMMENDATION (PULSE FLOWS NOT INCLUDED), KAF
0 0=SUM,
1=AVG, 2=MAX
TABLE 30. PULSING OUT OF JOHNSON LAKE AND THE J2 FOREBAY, KAF
0 0=SUM,
1=AVG, 2=MAX
TABLE 31. TOTAL WILDLIFE STORAGE DEMAND (PULSE FLOWS NOT INCLUDED), KAF
0 0=SUM,
1=AVG, 2=MAX
TABLE 32. STORAGE RELEASE FOR WILDLIFE FLOW DEMAND (PULSE FLOWS NOT INCLUDED), KAF
0 0=SUM,
1=AVG, 2=MAX
TABLE 33. INSTREAM FLOW SHORTAGE AT OVERTON (PULSE FLOWS NOT INCLUDED), KAF
0 0=SUM,
1=AVG, 2=MAX
TABLE 34. INSTREAM FLOW EXCESS AT OVERTON (PULSE FLOWS NOT INCLUDED), KAF
0 0=SUM,
1=AVG, 2=MAX
TABLE 35. INSTREAM FLOW SHORTAGE AT GRAND ISLAND (PULSE FLOWS NOT INCLUDED), KAF
0 0=SUM,
1=AVG, 2=MAX
TABLE 36. INSTREAM FLOW EXCESS AT GRAND ISLAND (PULSE FLOWS NOT INCLUDED), KAF
0 0=SUM,
1=AVG, 2=MAX
TABLE 37. NORTH PLATTE RIVER NEAR LEWELLEN, NE. (KAF)
0 0=SUM,
1=AVG, 2=MAX
TABLE 38. SOUTH PLATTE RIVER NEAR JULESBURG, CO. (KAF)
0 0=SUM,
1=AVG, 2=MAX
TABLE 39. NORTH PLATTE RIVER AT KEYSTONE, NE. (PULSE FLOWS NOT INCLUDED), KAF
0 0=SUM,
1=AVG, 2=MAX
TABLE 40. NORTH PLATTE RIVER AT SUTHERLAND, NE (PULSE FLOWS NOT INCLUDED), KAF
0 0=SUM,
1=AVG, 2=MAX
TABLE 41. SOUTH PLATTE RIVER AT NORTH PLATTE (KAF)
0 0=SUM,
1=AVG, 2=MAX
TABLE 42. NORTH PLATTE RIVER AT NORTH PLATTE (PULSE FLOWS NOT INCLUDED), KAF
0 0=SUM,
1=AVG, 2=MAX
TABLE 43. SOUTH PLATTE RIVER AT PAXTON (KAF)
0 0=SUM,
1=AVG, 2=MAX

TABLE 44. NORTH PLATTE HYDRO RETURN (PULSE FLOWS NOT INCLUDED), KAF
0 0=SUM,
1=AVG, 2=MAX
TABLE 45. TOTAL PLATTE RIVER FLOW AT NORTH PLATTE (PULSE FLOWS NOT INCLUDED), KAF
0 0=SUM,
1=AVG, 2=MAX
TABLE 46. JEFFREY HYDRO RETURN (PULSE FLOWS NOT INCLUDED), KAF
0 0=SUM,
1=AVG, 2=MAX
TABLE 47. JOHNSON 2 HYDRO RETURN (PULSE FLOWS NOT INCLUDED), KAF
0 0=SUM,
1=AVG, 2=MAX
TABLE 48. PLATTE RIVER FLOW NEAR BRADY (PULSE FLOWS NOT INCLUDED), KAF
0 0=SUM,
1=AVG, 2=MAX
TABLE 49. PLATTE RIVER FLOW NEAR COZAD (PULSE FLOWS NOT INCLUDED), KAF
0 0=SUM,
1=AVG, 2=MAX
TABLE 50. PLATTE RIVER FLOW NEAR ODESSA (PULSE FLOWS NOT INCLUDED), KAF
0 0=SUM,
1=AVG, 2=MAX
TABLE 51. KEARNEY CANAL TOTAL DIVERSION (PULSE FLOWS NOT INCLUDED), KAF
0 0=SUM,
1=AVG, 2=MAX
TABLE 52. KEARNEY CANAL HYDRO RETURN FLOW (PULSE FLOWS NOT INCLUDED), KAF
0 0=SUM,
1=AVG, 2=MAX
TABLE 53. PLATTE RIVER NEAR OVERTON, NE. (PULSE FLOWS NOT INCLUDED), KAF
0 0=SUM,
1=AVG, 2=MAX
TABLE 54. PLATTE RIVER NEAR OVERTON, NE. (PULSE FLOWS NOT INCLUDED), CFS
1 0=SUM,
1=AVG, 2=MAX
TABLE 55. PLATTE RIVER NEAR GRAND ISLAND, NE. (PULSE FLOWS NOT INCLUDED), KAF
0 0=SUM,
1=AVG, 2=MAX
TABLE 56. PLATTE RIVER NEAR GRAND ISLAND, NE. (PULSE FLOWS NOT INCLUDED), CFS
1 0=SUM,
1=AVG, 2=MAX
TABLE 57. TOTAL IRRIGATION DIVERSION (NOT INCLUDING WESTERN CANAL) (KAF)
0 0=SUM,
1=AVG, 2=MAX
TABLE 58. TOTAL IRRIGATION SHORTAGE (NOT INCLUDING WESTERN CANAL) (KAF)
0 0=SUM,
1=AVG, 2=MAX
TABLE 59. END-OF-MONTH CONTENT OF ENVIRONMENTAL ACCOUNT (KAF)
1 0=SUM,
1=AVG, 2=MAX
TABLE 60. MONTHLY RELEASE FROM STATE EA (PULSE FLOWS NOT INCLUDED), KAF
0 0=SUM,
1=AVG, 2=MAX
TABLE 61. RELEASE FROM STATE EA (PULSE FLOWS NOT INCLUDED), CFS
1 0=SUM,
1=AVG, 2=MAX
TABLE 62. NE CONSERVATION WATER FROM MAC STORAGE (IRRIG. REDUCTION, USBR CONSERVATION) (KAF)
0 0=SUM,
1=AVG, 2=MAX
TABLE 63. SUM OF CONTRIBUTIONS TO LAKE MCCONAUGHY ENVIRONMENTAL ACCOUNT (KAF)
0 0=SUM,
1=AVG, 2=MAX
TABLE 64. LAKE MCCONAUGHY EA PERCENTAGE ACCRUAL OF LEWELLEN INFLOW (KAF)
0 0=SUM,
1=AVG, 2=MAX
TABLE 65. SUM OF NE (EA%, IRRIG & USBR CONS, POWER INT, N. DRY CK, GW MGMT) (KAF)
0 0=SUM,
1=AVG, 2=MAX
TABLE 66. SUM OF WY CONTRIBUTIONS TO THE EA (PATH MOD, ETO) (KAF)
0 0=SUM,
1=AVG, 2=MAX
TABLE 67. CO WATER EXCHANGED INTO LAKE MCCONAUGHY EA (INCLUDES LOSS) (KAF)
0 0=SUM,
1=AVG, 2=MAX
TABLE 68. CO ENVIRONMENTAL WATER LOST FROM JULESBURG TO PAXTON (KAF)
0 0=SUM,
1=AVG, 2=MAX
TABLE 69. EA ADJUSTMENTS WHEN MCCONAUGHY FILLS (+ ARE GAINS, - ARE LOSSES) (KAF)
0 0=SUM,

1=AVG, 2=MAX
TABLE 70. LAKE MCCONAUGHY ENVIRONMENTAL ACCOUNT EVAPORATION (KAF)
0 0=SUM,
1=AVG, 2=MAX
TABLE 71. TOTAL IRRIGATION SAVINGS (WESTERN, KEY-N.PLATTE, CENTRAL, BRADY-COZAD, KEARNEY) (KAF)
0 0=SUM,
1=AVG, 2=MAX
TABLE 72. CENTRAL PLATTE REREGULATION RESERVOIR END OF MONTH CONTENT (KAF)
1 0=SUM,
1=AVG, 2=MAX
TABLE 73. CENTRAL PLATTE REREGULATION RESERVOIR INFLOW (KAF)
0 0=SUM,
1=AVG, 2=MAX
TABLE 74. CENTRAL PLATTE REREGULATION RESERVOIR OUTFLOW (INCLUDES PULSE FLOWS), KAF
0 0=SUM,
1=AVG, 2=MAX
TABLE 75. CENTRAL PLATTE REREGULATION RESERVOIR EVAPORATION (KAF)
0 0=SUM,
1=AVG, 2=MAX
TABLE 76. CENTRAL PLATTE REREGULATION RESERVOIR SEEPAGE (KAF)
0 0=SUM,
1=AVG, 2=MAX
TABLE 77. CENTRAL PLATTE REREGULATION RESERVOIR SPILL (KAF)
0 0=SUM,
1=AVG, 2=MAX
TABLE 78. EA PULSE RELEASE (DOES NOT INCLUDE MONTHLY RELEASE) (KAF)
0 0=SUM,
1=AVG, 2=MAX
TABLE 79. TOTAL EA RELEASE, MONTHLY + PULSE (KAF)
0 0=SUM,
1=AVG, 2=MAX
TABLE 80. PEAK DAILY FLOW AT OVERTON (INCLUDES PULSE FLOWS), CFS
1 0=SUM,
1=AVG, 2=MAX
TABLE 81. EA PULSE RELEASE (DOES NOT INCLUDE MONTHLY RELEASE) (CFS)
0 0=SUM,
1=AVG, 2=MAX
TABLE 82. EA LOSS INCREMENT IN SUTHERLAND AND TRI-COUNTY SYSTEMS (KAF)
0 0=SUM,
1=AVG, 2=MAX
TABLE 83. COLORADO CONSERVATION WATER AT JULESBURG, CO (KAF)
0 0=SUM,
1=AVG, 2=MAX
TABLE 84. INSTREAM FLOW SHORTAGE AT ODESSA (PULSE FLOWS NOT INCLUDED), KAF
0 0=SUM,
1=AVG, 2=MAX
TABLE 85. INSTREAM FLOW EXCESS AT ODESSA (PULSE FLOWS NOT INCLUDED), KAF
0 0=SUM,
1=AVG, 2=MAX
TABLE 86. WATER FROM NORTH DRY CREEK GROUNDWATER PUMPING PROJECT (KAF)
0 0=SUM,
1=AVG, 2=MAX
TABLE 87. GW MANAGEMENT PROJECT STOREAGE OCT-APR  (water year operation) (KAF)
0 0=SUM,
1=AVG, 2=MAX
TABLE 88. GW MANAGEMENT PROJECT, CREDIT & REDUCED CENTRAL DEMAND, MAY-SEP (wat yr oper) (KAF)
0 0=SUM,
1=AVG, 2=MAX
TABLE 89. SUM OF CO CONTRIBUTIONS TO THE EA (TAMARACK, CONSERVATION) (KAF)
0 0=SUM,
1=AVG, 2=MAX
TABLE 90. POWER INTERFERENCE VOLUME CREDITED TO EA (KAF)
0 0=SUM,
1=AVG, 2=MAX
TABLE 91. PLATTE RIVER NEAR LOUISVILLE (INCLUDES PULSE FLOWS), CFS
1 0=SUM,
1=AVG, 2=MAX
TABLE 92. AMOUNT NE EA BORROWED FROM MAC STORAGE USING WY EA AS PAYBACK (KAF)
0 0=SUM,
1=AVG, 2=MAX
TABLE 93. AMOUNT NE EA PAID BACK TO MAC STORAGE FOR OUTSTANDING LOAN (KAF)
0 0=SUM,
1=AVG, 2=MAX
TABLE 94. AMOUNT NE EA BORROWED FOR PULSE RELEASE IN MAY (PORTION OF TABLE 92) (KAF)
0 0=SUM,
1=AVG, 2=MAX
TABLE 95. EA AT GRAND ISLAND (PULSE FLOWS NOT INCLUDED), KAF

0 0=SUM,
1=AVG, 2=MAX
TABLE 96. EA AT ODESSA (PULSE FLOWS NOT INCLUDED), KAF
0 0=SUM,
1=AVG, 2=MAX
TABLE 97. EA AT OVERTON (PULSE FLOWS NOT INCLUDED), KAF
0 0=SUM,
1=AVG, 2=MAX
TABLE 98. EA AT COZAD (PULSE FLOWS NOT INCLUDED), KAF
0 0=SUM,
1=AVG, 2=MAX
TABLE 99. EA AT BRADY (PULSE FLOWS NOT INCLUDED), KAF
0 0=SUM,
1=AVG, 2=MAX
TABLE 100. EA IN NORTH PLATTE AT NORTH PLATTE (PULSE FLOWS NOT INCLUDED), KAF
0 0=SUM,
1=AVG, 2=MAX
TABLE 101. EA IN SOUTH PLATTE AT NORTH PLATTE (PULSE FLOWS NOT INCLUDED), KAF
0 0=SUM,
1=AVG, 2=MAX
TABLE 102. NON-EA AT GRAND ISLAND (PULSE FLOWS NOT INCLUDED), KAF
0 0=SUM,
1=AVG, 2=MAX
TABLE 103. NON-EA AT ODESSA (PULSE FLOWS NOT INCLUDED), KAF
0 0=SUM,
1=AVG, 2=MAX
TABLE 104. NON-EA AT OVERTON (PULSE FLOWS NOT INCLUDED), KAF
0 0=SUM,
1=AVG, 2=MAX
TABLE 105. NON-EA AT COZAD (PULSE FLOWS NOT INCLUDED), KAF
0 0=SUM,
1=AVG, 2=MAX
TABLE 106. NON-EA AT BRADY (PULSE FLOWS NOT INCLUDED), KAF
0 0=SUM,
1=AVG, 2=MAX
TABLE 107. NON-EA IN NORTH PLATTE AT NORTH PLATTE (PULSE FLOWS NOT INCLUDED), KAF
0 0=SUM,
1=AVG, 2=MAX
TABLE 108. NON-EA IN SOUTH PLATTE AT NORTH PLATTE (PULSE FLOWS NOT INCLUDED), KAF
0 0=SUM,
1=AVG, 2=MAX
TABLE 109. WATER FROM RIVERSIDE DRAINS IN BRADY TO COZAD REACH (KAF)
0 0=SUM,
1=AVG, 2=MAX
TABLE 110. CO CONSERVATION WATER IN BRADY TO COZAD REACH (KAF)
0 0=SUM,
1=AVG, 2=MAX
TABLE 111. WESTERN CANAL IRRIGATION DEMAND (KAF)
0 0=SUM,
1=AVG, 2=MAX
TABLE 112. KEYSTONE-SUTHERLAND IRRIGATION DEMAND (KAF)
0 0=SUM,
1=AVG, 2=MAX
TABLE 113. SUTHERLAND-N.PLATTE IRRIGATION DEMAND (KAF)
0 0=SUM,
1=AVG, 2=MAX
TABLE 114. BRADY-COZAD IRRIGATION DEMAND (KAF)
0 0=SUM,
1=AVG, 2=MAX
TABLE 115. TRI-COUNTY IRRIGATION DEMAND (KAF)
0 0=SUM,
1=AVG, 2=MAX
TABLE 116. KEARNEY CANAL IRRIGATION DEMAND (KAF)
0 0=SUM,
1=AVG, 2=MAX
TABLE 117. WESTERN CANAL IRRIGATION DIVERSION (KAF)
0 0=SUM,
1=AVG, 2=MAX
TABLE 118. KEYSTONE-SUTHERLAND IRRIGATION DIVERSION (KAF)
0 0=SUM,
1=AVG, 2=MAX
TABLE 119. SUTHERLAND-N.PLATTE IRRIGATION DIVERSION (KAF)
0 0=SUM,
1=AVG, 2=MAX
TABLE 120. BRADY-COZAD IRRIGATION DIVERSION (KAF)
0 0=SUM,
1=AVG, 2=MAX

TABLE 121. TRI-COUNTY IRRIGATION DIVERSION (KAF)
0 0=SUM,
1=AVG, 2=MAX
TABLE 122. KEARNEY CANAL IRRIGATION DIVERSION (KAF)
0 0=SUM,
1=AVG, 2=MAX
TABLE 123. WESTERN CANAL IRRIGATION SHORTAGE (KAF)
0 0=SUM,
1=AVG, 2=MAX
TABLE 124. KEYSTONE-SUTHERLAND IRRIGATION SHORTAGE (KAF)
0 0=SUM,
1=AVG, 2=MAX
TABLE 125. SUTHERLAND-N.PLATTE IRRIGATION SHORTAGE (KAF)
0 0=SUM,
1=AVG, 2=MAX
TABLE 126. BRADY-COZAD IRRIGATION SHORTAGE (KAF)
0 0=SUM,
1=AVG, 2=MAX
TABLE 127. TRI-COUNTY IRRIGATION SHORTAGE (KAF)
0 0=SUM,
1=AVG, 2=MAX
TABLE 128. KEARNEY CANAL IRRIGATION SHORTAGE (KAF)
0 0=SUM,
1=AVG, 2=MAX
TABLE 129. WESTERN CANAL IRRIGATION CONSERVATION (KAF)
0 0=SUM,
1=AVG, 2=MAX
TABLE 130. KEYSTONE-SUTHERLAND IRRIGATION CONSERVATION (KAF)
0 0=SUM,
1=AVG, 2=MAX
TABLE 131. SUTHERLAND-N.PLATTE IRRIGATION CONSERVATION (KAF)
0 0=SUM,
1=AVG, 2=MAX
TABLE 132. BRADY-COZAD IRRIGATION CONSERVATION (KAF)
0 0=SUM,
1=AVG, 2=MAX
TABLE 133. TRI-COUNTY IRRIGATION CONSERVATION (KAF)
0 0=SUM,
1=AVG, 2=MAX
TABLE 134. KEARNEY CANAL IRRIGATION CONSERVATION (KAF)
0 0=SUM,
1=AVG, 2=MAX
TABLE 135. PLATTE RIVER FLOW NEAR ODESSA (PULSE FLOWS NOT INCLUDED), CFS
0 0=SUM,
1=AVG, 2=MAX
TABLE 136. BELOW J2 RETURN (W/O COZ. - OVER. GAIN) (PULSE FLOWS NOT INCLUDED), CFS
0 0=SUM,
1=AVG, 2=MAX
TABLE 137. PLATTE RIVER FLOW NEAR COZAD (PULSE FLOWS NOT INCLUDED), CFS
0 0=SUM,
1=AVG, 2=MAX
TABLE 138. JOHNSON 2 HYDRO RETURN (PULSE FLOWS NOT INCLUDED), CFS
0 0=SUM,
1=AVG, 2=MAX
TABLE 139. NORTH PLATTE HYDRO RETURN (PULSE FLOWS NOT INCLUDED), CFS
0 0=SUM,
1=AVG, 2=MAX
TABLE 140. SOUTH PLATTE RIVER AT NORTH PLATTE (PULSE FLOWS NOT INCLUDED), CFS
0 0=SUM,
1=AVG, 2=MAX
TABLE 141. NORTH PLATTE RIVER AT NORTH PLATTE (PULSE FLOWS NOT INCLUDED), CFS
0 0=SUM,
1=AVG, 2=MAX
TABLE 142. MAXIMUM FLOW AT OVERTON WITHOUT PULSE, CFS
2 0=SUM,
1=AVG, 2=MAX
TABLE 143. MAXIMUM FLOW AT OVERTON WITH PULSE (CFS)
2 0=SUM,
1=AVG, 2=MAX
TABLE 144. JOHNSON LAKE SPIKE REDUCTION (KAF)
0 0=SUM,
1=AVG, 2=MAX
TABLE 145. NET CONTROLLABLE CONSERVED WATER (KAF)
0 0=SUM,
1=AVG, 2=MAX
TABLE 146. KINGSLEY HYDRO CAPACITY (MW)
0 0=SUM,

1=AVG, 2=MAX
TABLE 147. CENTRAL PLATTE CAPACITY (MW)
0 0=SUM,
1=AVG, 2=MAX
TABLE 148. SOUTH PLATTE RIVER AT KORTY
0 0=SUM,
1=AVG, 2=MAX
TABLE 149. BIRDWOOD CREEK
0 0=SUM,
1=AVG, 2=MAX
TABLE 150. SUTHERLAND SYSTEM LOSSES
0 0=SUM,
1=AVG, 2=MAX
TABLE 151. TRI-COUNTY SYSTEMS LOSSES
0 0=SUM,
1=AVG, 2=MAX
TABLE 152. PLATTE RIVER AT DUNCAN (PULSE FLOWS NOT INCLUDED), KAF
0 0=SUM,
1=AVG, 2=MAX
TABLE 153. EA LIMITED BY NP CHANNEL CAPACITY
0 0=SUM,
1=AVG, 2=MAX
TABLE 154. MAX FLOW N. PLATTE AT N. PLATTE WITH PULSE (CFS)
0 0=SUM,
1=AVG, 2=MAX
TABLE 155. CP REREG RES SPIKE REDUCTION (KAF)
0 0=SUM,
1=AVG, 2=MAX
TABLE 156. NE DEPLETIONS CENTRAL PLATTE REREGULATION RESERVOIR END OF MONTH CONTENT (KAF)
1 0=SUM,
1=AVG, 2=MAX
TABLE 157. NE DEPLETIONS CENTRAL PLATTE REREGULATION RESERVOIR INFLOW (KAF)
0 0=SUM,
1=AVG, 2=MAX
TABLE 158. NE DEPLETIONS CENTRAL PLATTE REREGULATION RESERVOIR OUTFLOW (INCLUDES PULSE FLOWS),
KAF
0 0=SUM,
1=AVG, 2=MAX
TABLE 159. NE DEPLETIONS CENTRAL PLATTE REREGULATION RESERVOIR EVAPORATION (KAF)
0 0=SUM,
1=AVG, 2=MAX
TABLE 160. NE DEPLETIONS CENTRAL PLATTE REREGULATION RESERVOIR SEEPAGE (KAF)
0 0=SUM,
1=AVG, 2=MAX
TABLE 161. NE DEPLETIONS CENTRAL PLATTE REREGULATION RESERVOIR SPILL (KAF)
0 0=SUM,
1=AVG, 2=MAX
TABLE 162. NE DEPLETIONS CP REREG RES SPIKE REDUCTION (KAF)
0 0=SUM,
1=AVG, 2=MAX
TABLE 163. NE POWER INTERFERENCE USED TO OFFSET FUTURE DEPLETIONS
0 0=SUM,
1=AVG, 2=MAX
TABLE 164. NE GW MANAGEMENT USED TO OFFSET FUTURE DEPLETIONS
0 0=SUM,
1=AVG, 2=MAX
TABLE 165. UNUSED
0 0=SUM,
1=AVG, 2=MAX
TABLE 166. UNUSED
0 0=SUM,
1=AVG, 2=MAX
TABLE 167. UNUSED
0 0=SUM,
1=AVG, 2=MAX
TABLE 168. UNUSED
0 0=SUM,
1=AVG, 2=MAX
TABLE 169. UNUSED
0 0=SUM,
1=AVG, 2=MAX
TABLE 170. UNUSED
0 0=SUM,
1=AVG, 2=MAX
TABLE 171. UNUSED
0 0=SUM,
1=AVG, 2=MAX

TABLE 172. UNUSED
0 0=SUM,
1=AVG, 2=MAX
TABLE 173. UNUSED
0 0=SUM,
1=AVG, 2=MAX
TABLE 174. UNUSED
0 0=SUM,
1=AVG, 2=MAX
TABLE 175. UNUSED
0 0=SUM,
1=AVG, 2=MAX