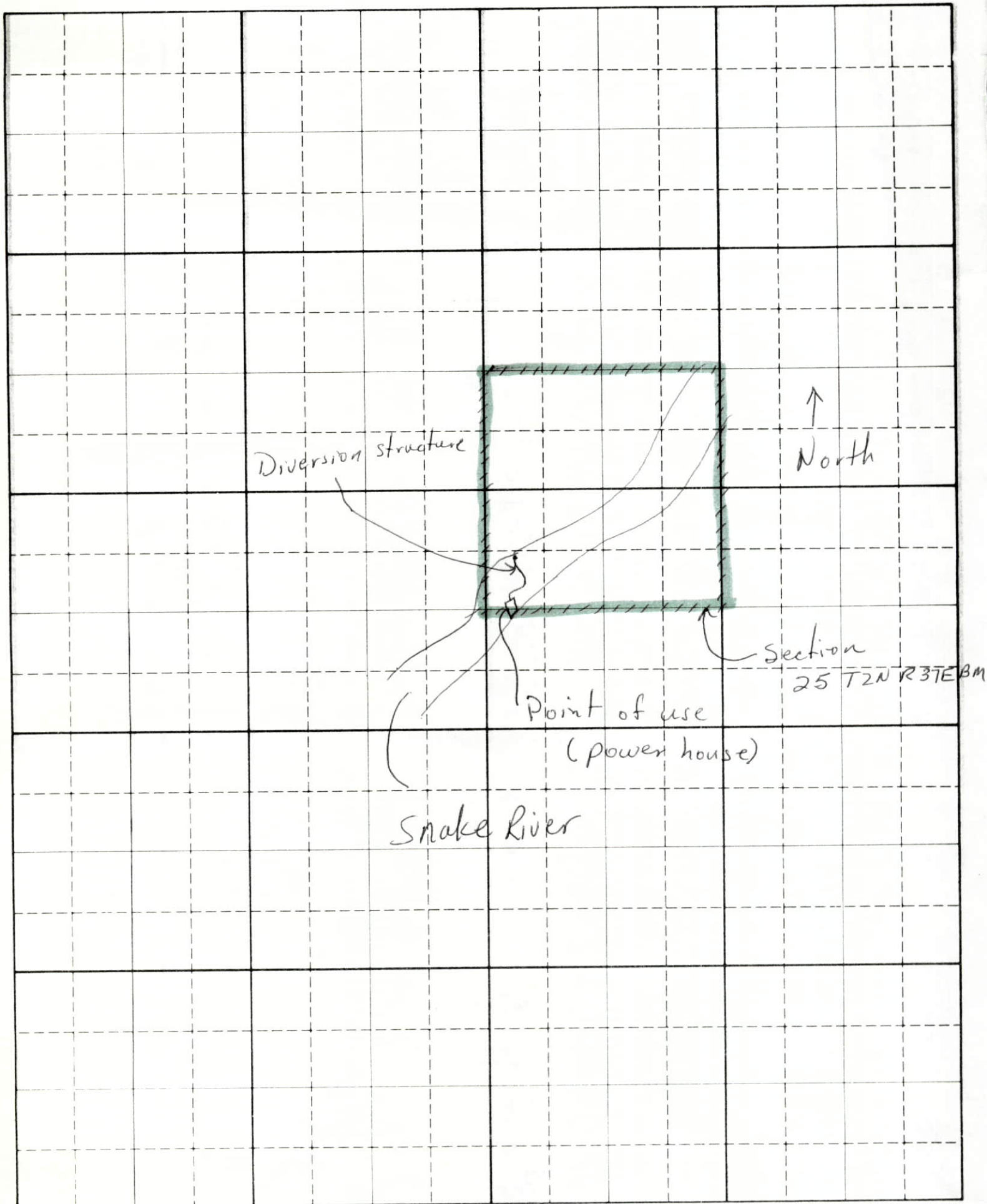


11. Map of proposed project: show clearly the proposed point of diversion, place of use, section number, township and range number.



Scale: 2 inches equal 1 mile

BE IT KNOWN that the undersigned hereby makes application for permit to appropriate the public waters of the State of Idaho as herein set forth.

Leadin Pedersen
(Applicant) MAYOR

Proof of Publication
The Post-Register

RECEIVED

NOV 30 1977

Department of Water Resources
Eastern District Office

State of Idaho,
County of Bonneville

ss.

I, J. Robb Brady, first being duly sworn, depose and say: That I am the Principal Clerk of The Post Company, a corporation of Idaho Falls, Bonneville County, Idaho, publishers of The Post-Register, a newspaper of general circulation, published daily, except Saturday, at Idaho Falls, Idaho; said Post-Register being a consolidation of the Idaho Falls Times, established in the year 1890, The Idaho Register, established in the year 1880 and the Idaho Falls Post, established in 1903, such consolidation being made on the 1st day of November, 1931, and each of said newspapers having been published continuously and uninterruptedly, prior to consolidation, for more than seventy-eighty (78) weeks and said Post-Register having been published continuously and uninterruptedly from the date of such consolidation, up to and including the last publication of notice hereinafter referred to.

That the notice, of which a copy is hereto attached and made a part of this affidavit, was published in said Post-Register for two consecutive weeks, first publication having been made on the 17th day of November, 1977, last publication having been made on the 24th day of November, 1977, and that the said notice was published in the regular and entire issue of said paper on the respective dates of publication, and that such notice was published in the newspaper and not in a supplement.

Subscribed and sworn to before me, this 28th day of November, 1977

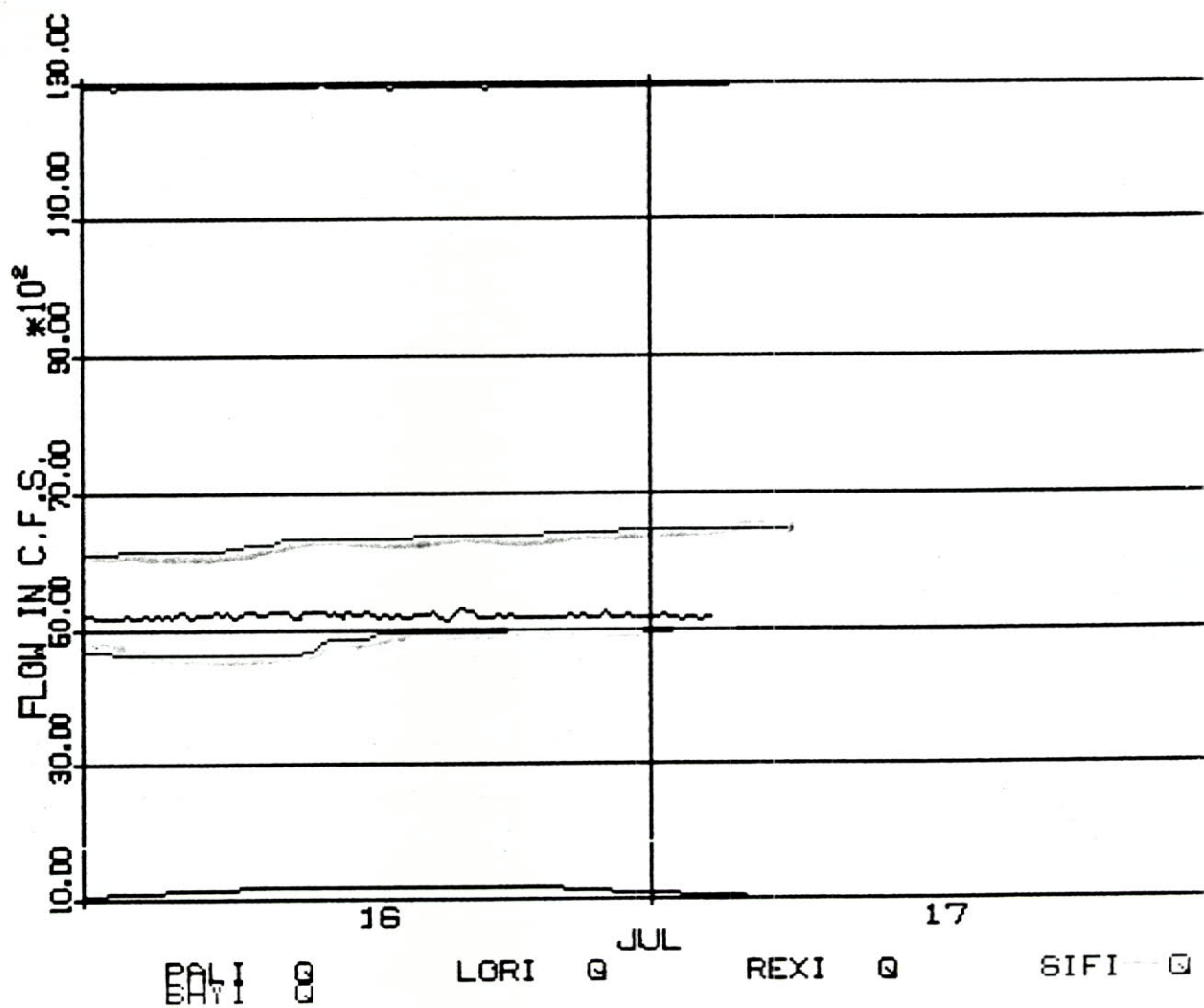
Karl H. Hall
Notary Public

My commission expires April 5, 1979

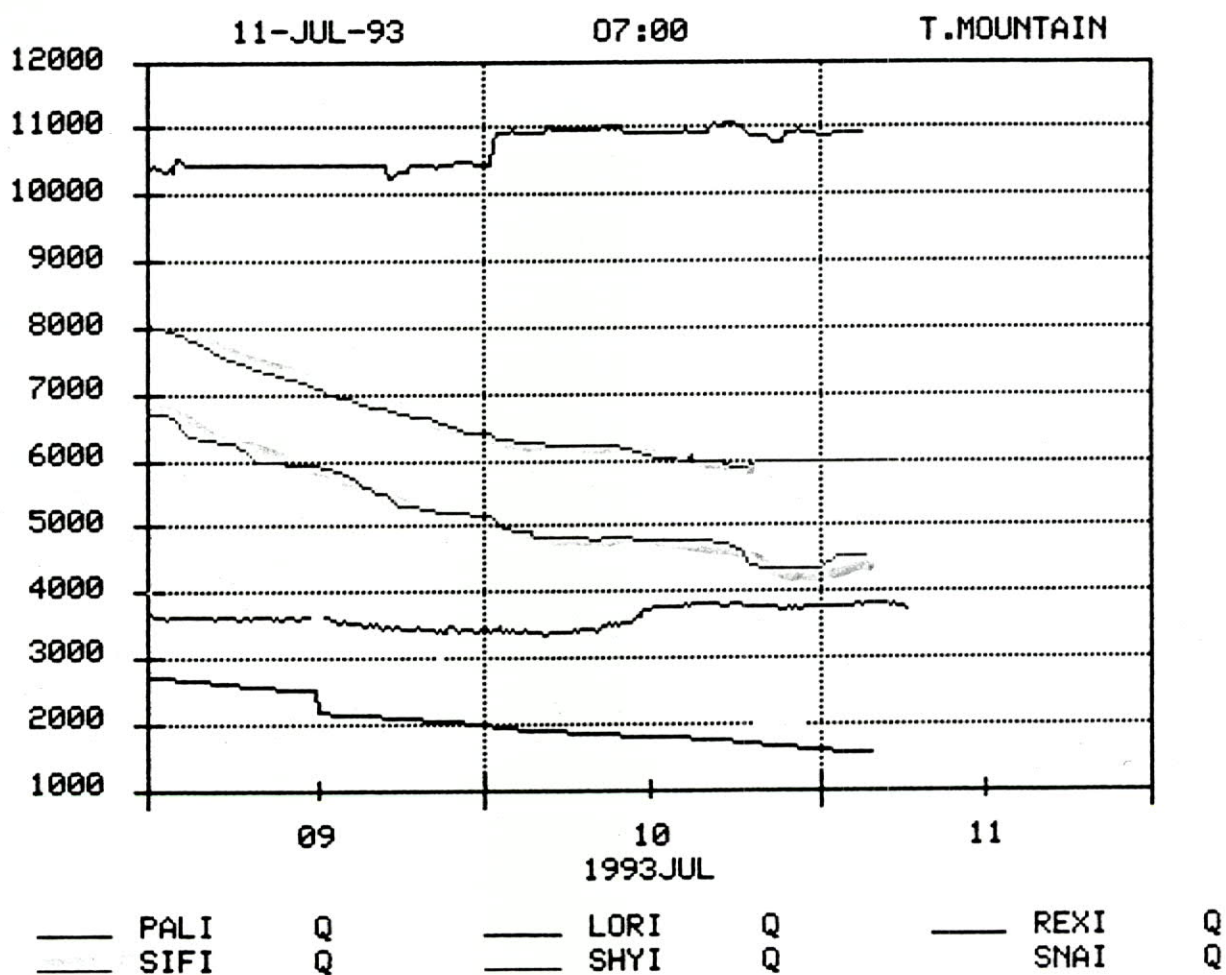
B10, 1M

**NOTICE OF APPLICATION
FOR WATER PERMIT**
Notice is hereby given that the City of Idaho Falls, Idaho Falls, Idaho has on 11-09-77 submitted Application No. 01-7014 for a permit to appropriate 5100 cubic feet per second of water from the Snake River tributary to Columbia River by means of a dam within the SW $\frac{1}{4}$ /SW $\frac{1}{4}$, Sec. 25, T. 2N, R. 37E, B.M., Bonneville County; to be used from Jan. 1 to Dec. 31 for power generation within the SW $\frac{1}{4}$ /SW $\frac{1}{4}$, Sec. 25, T. 2N, R. 37E, B.M.
If issued, this permit will be subject to all prior water rights. Protests against the granting of the permit must be filed with the Idaho Department of Water Resources, 1515 Lincoln Road, Idaho Falls, Idaho, 83401 on or before December 5, 1977.
C. STEPHEN ALLRED
Director
Pub.: Nov. 17 & 24, 1977.

MICROFILMED



MICROFILMED
DEC 04 1967

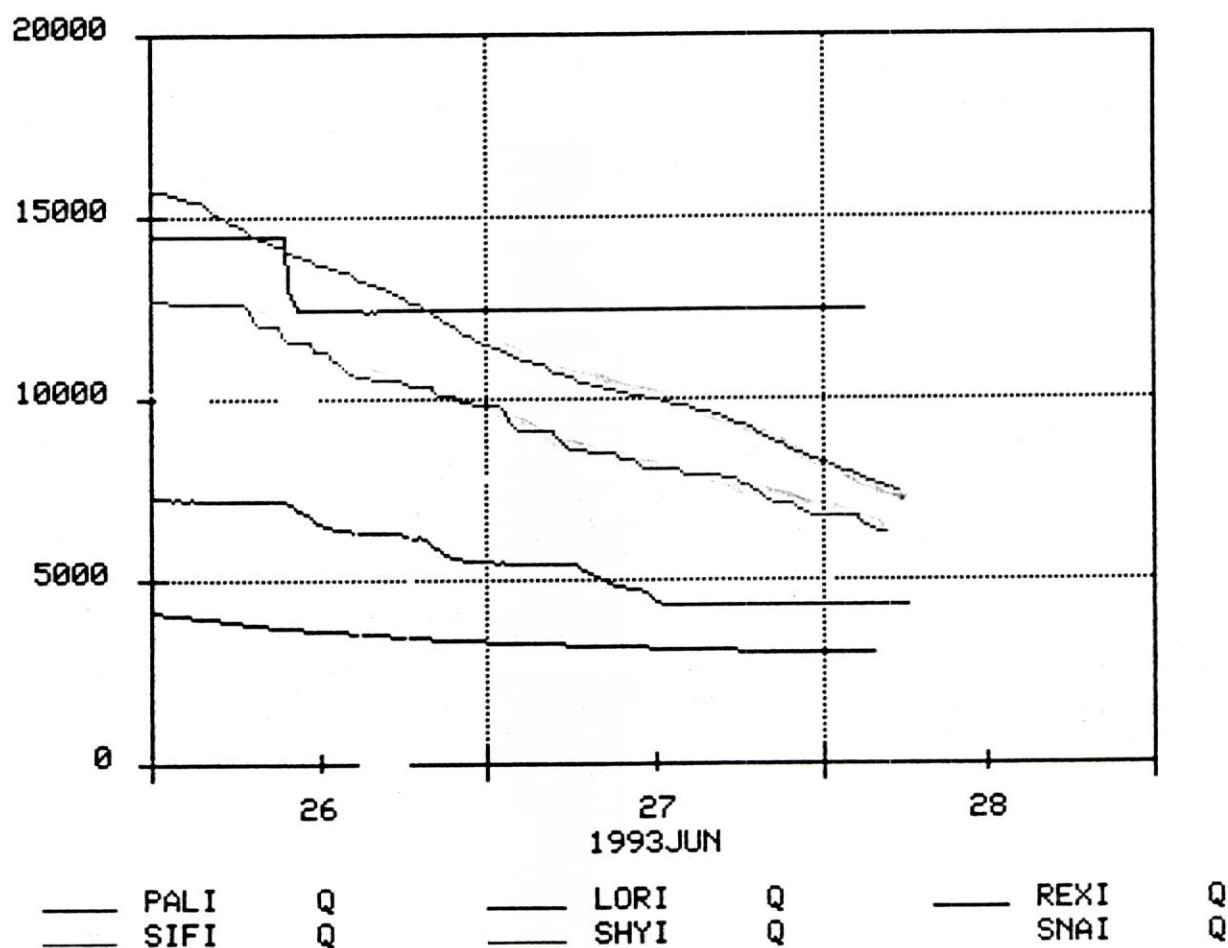


MICROFILMED
DEC 04 1997

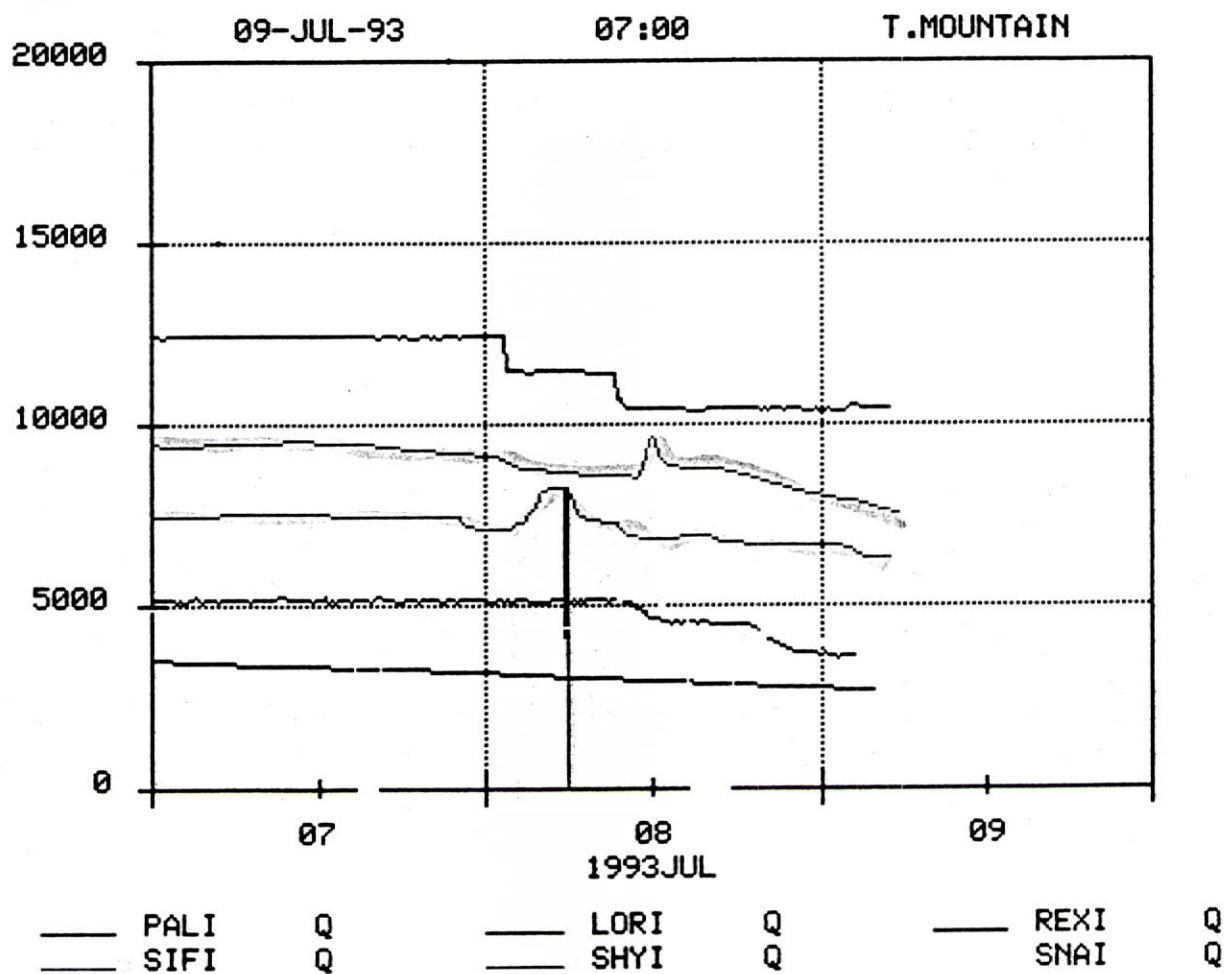
J.LINGER

06:30

28-JUN-93



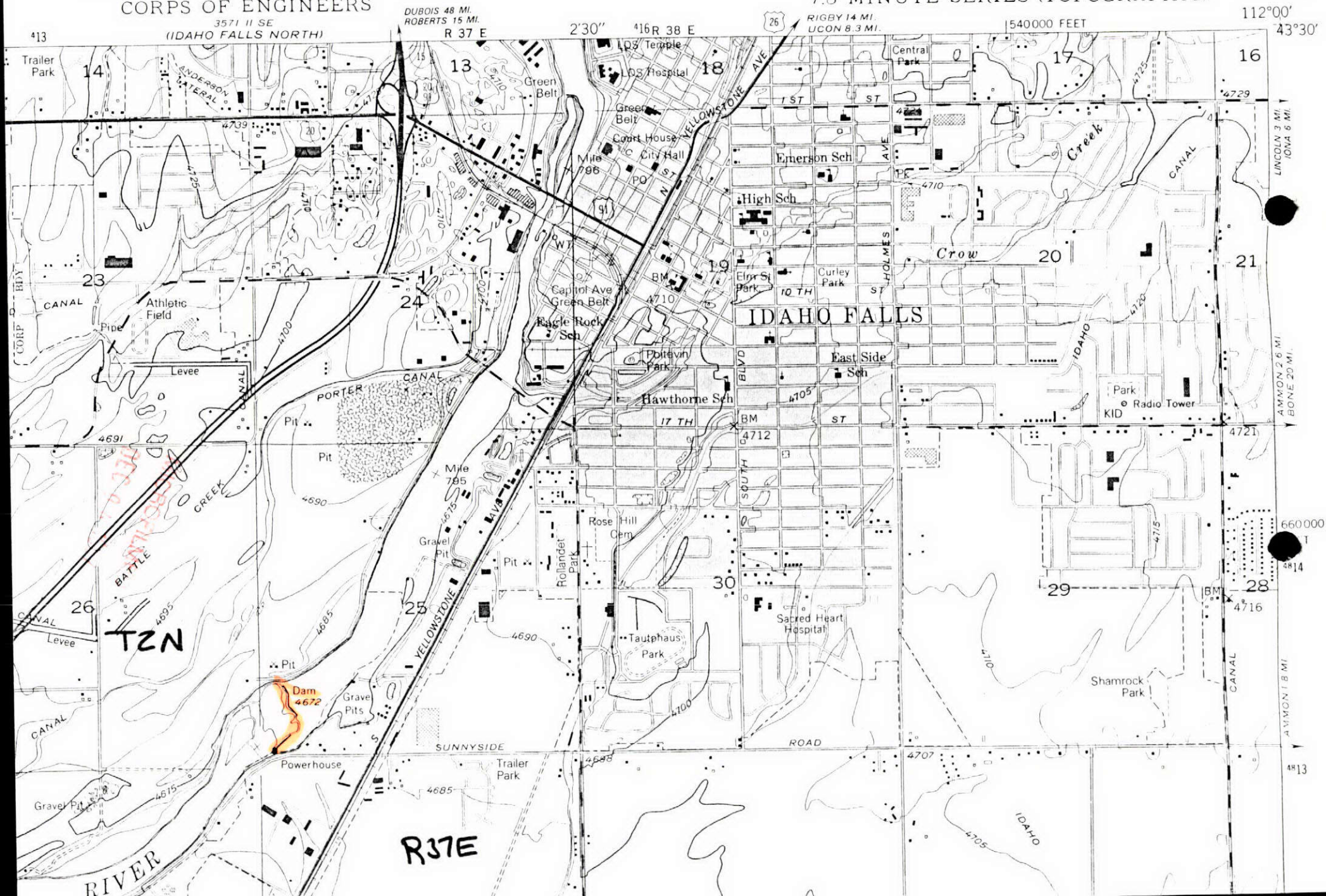
RECEIVED
DEC 04 1997

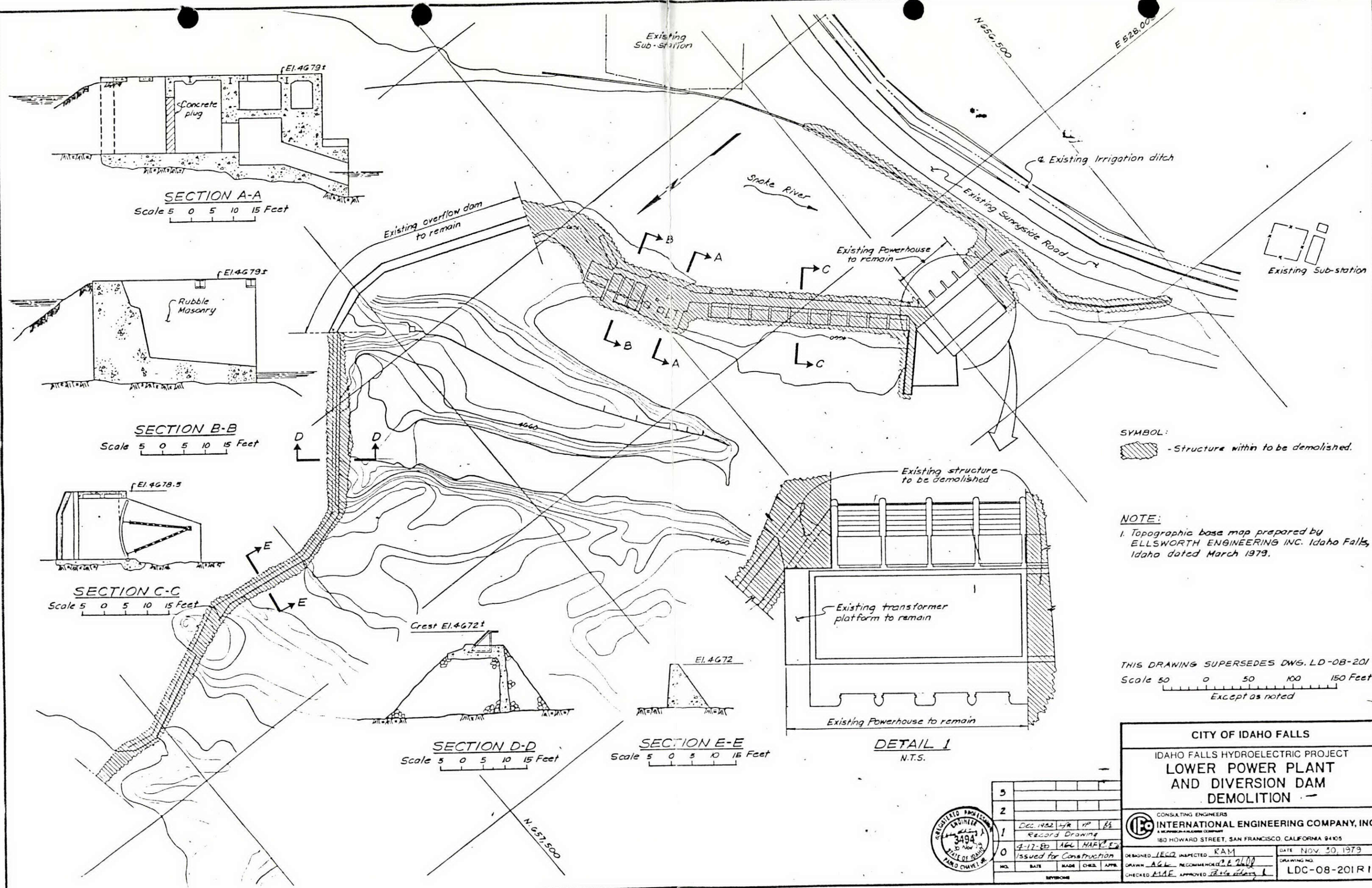


RECEIVED
DEC 8 1993

IDAHO FALLS SOUTH QUADRANGLE
IDAHO
7.5 MINUTE SERIES (TOPOGRAPHIC)

3671 III SW
(UCON)





LOWER PLANT



#01-7014



MICROFILMED
DEC 04 1997

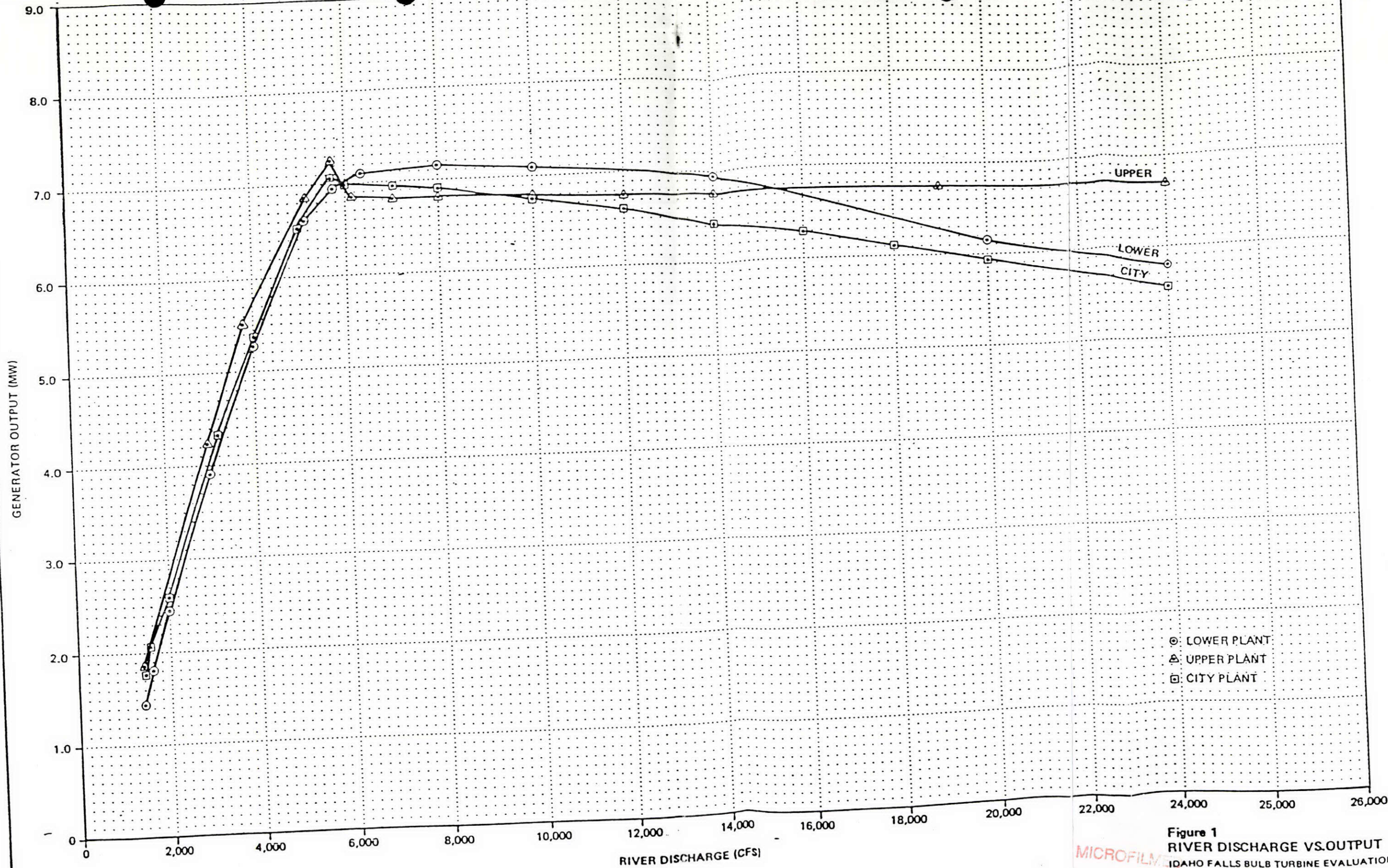
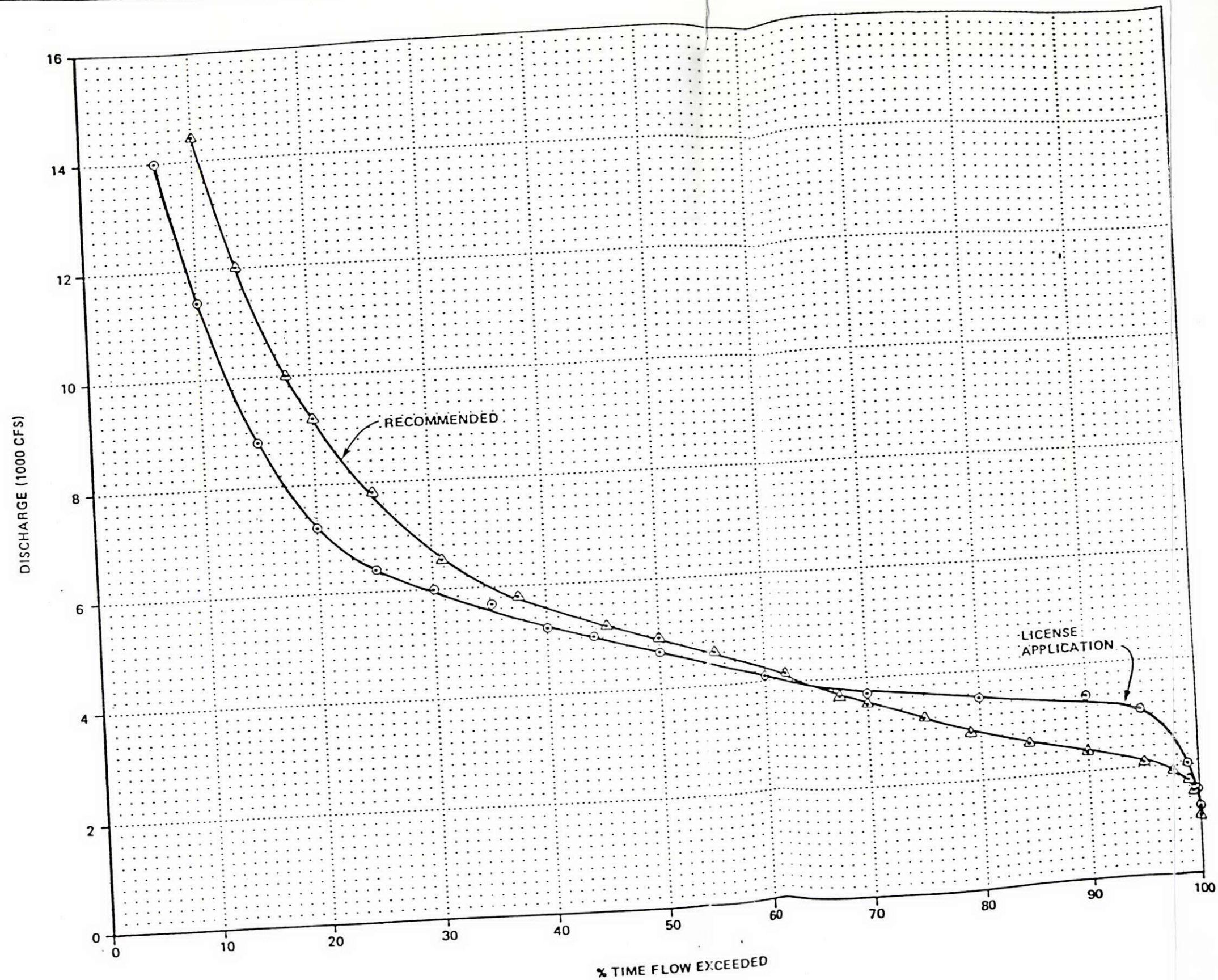


Figure 1
RIVER DISCHARGE VS. OUTPUT
IDAHO FALLS BULB TURBINE EVALUATION
CITY OF IDAHO FALLS, IDAHO

MICROFILM

DEC 8 4 1957



- △ DAILY O SHELLEY GAGE 1960 - 1985
- 1975 DEVELOPMENT MONTHLY 1978 - 1972

Figure 2
DAILY FLOW DURATION
SHELLEY GAGE (USGS)
IDAHO FALLS BULB TURBINE EVALUATION
CITY OF IDAHO FALLS, IDAHO

ROFILMED

04 1997

CKM HILL

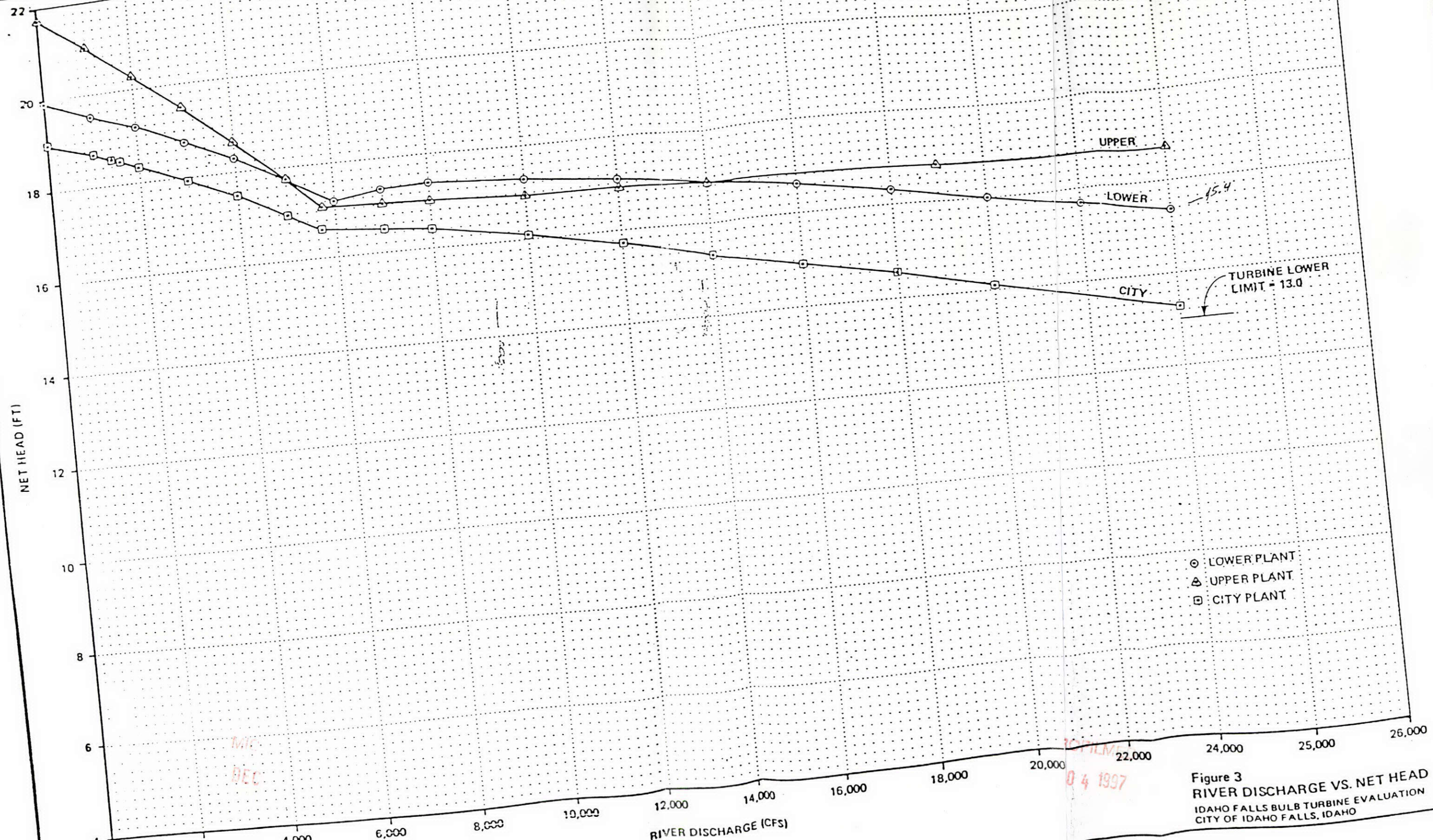


Figure 3
RIVER DISCHARGE VS. NET HEAD
IDAHO FALLS BULB TURBINE EVALUATION
CITY OF IDAHO FALLS, IDAHO

TOP FILE
04 1997

RUNNER DIAMETER (4.85 m) 190 15/16 inch
 SYNCHRONOUS SPEED 94.73 rpm
 CENTERLINE RUNNER
 UPPER PLANT 4696.3 ft
 CITY PLANT 4657.2 ft
 LOWER PLANT 4636.7 ft

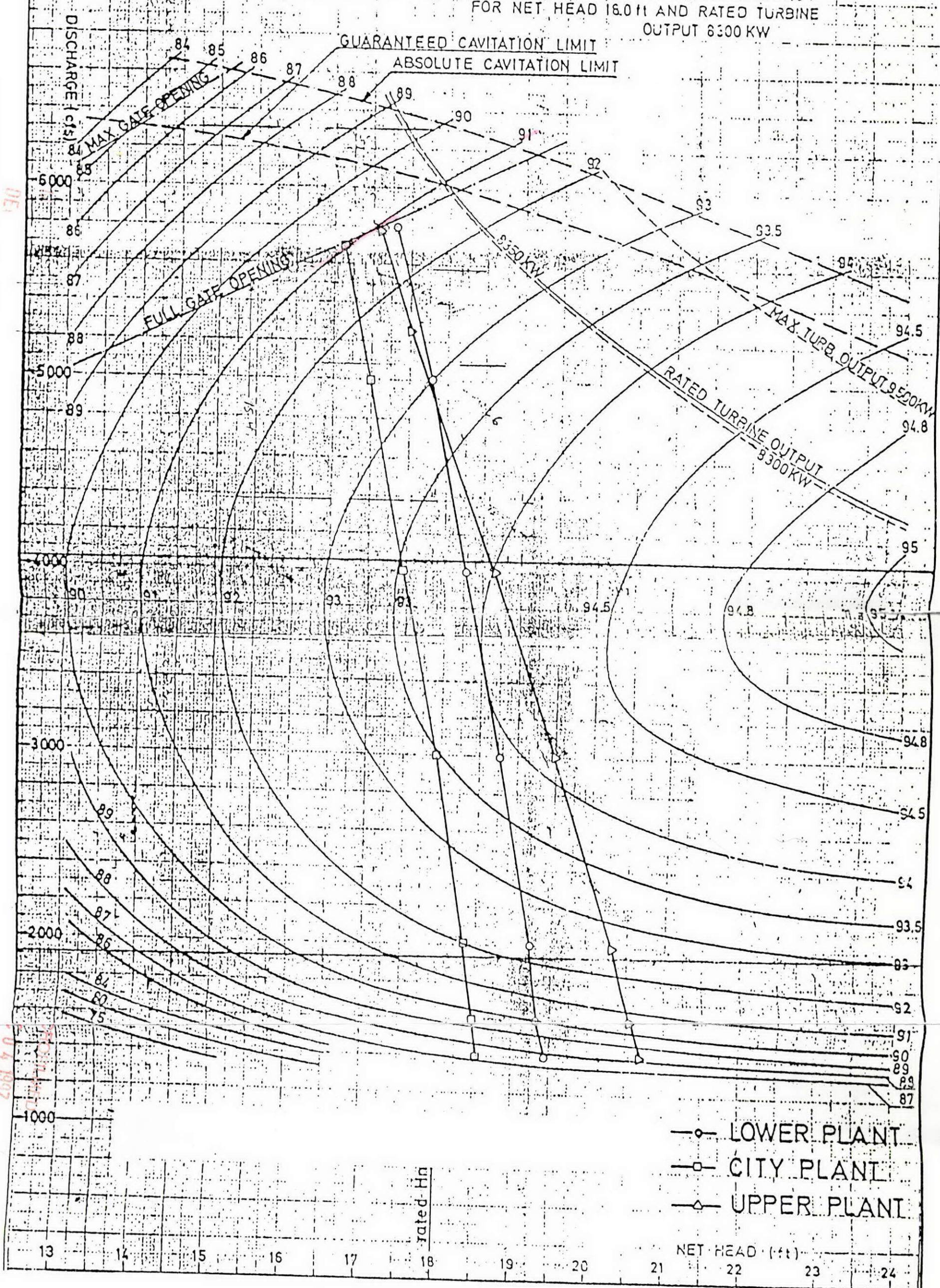
TOLERANCE OF MEASUREMENT IEC

THE CAVITATION LIMITS ARE BASED ON THE FOLLOWING NORMAL RESERVOIR ELEVATIONS

UPPER PLANT CITY PLANT LOWER PLANT
 4734.0 ft 4694.25 ft 4674.0 ft

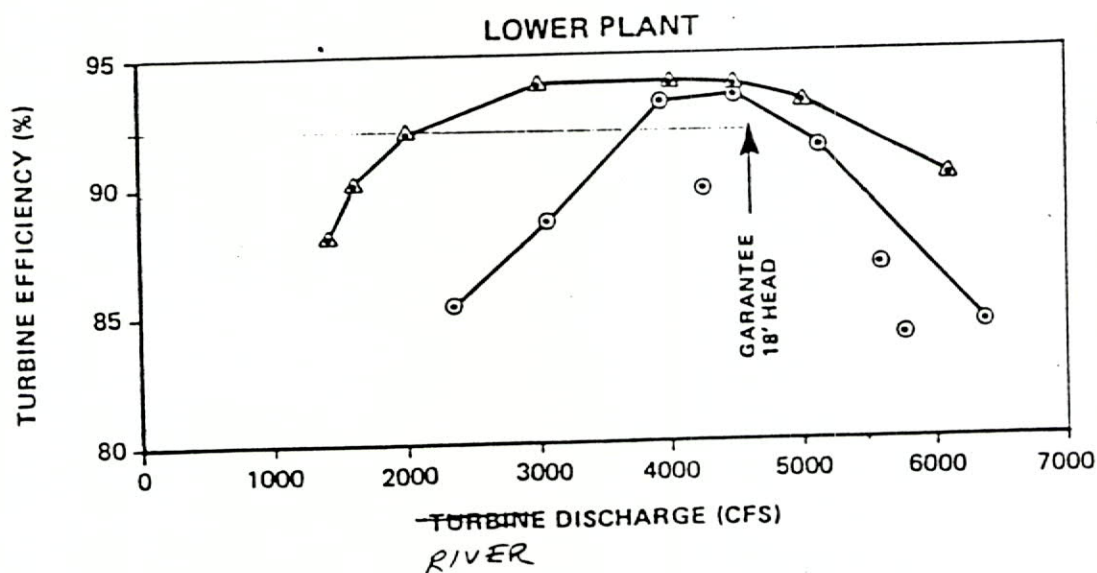
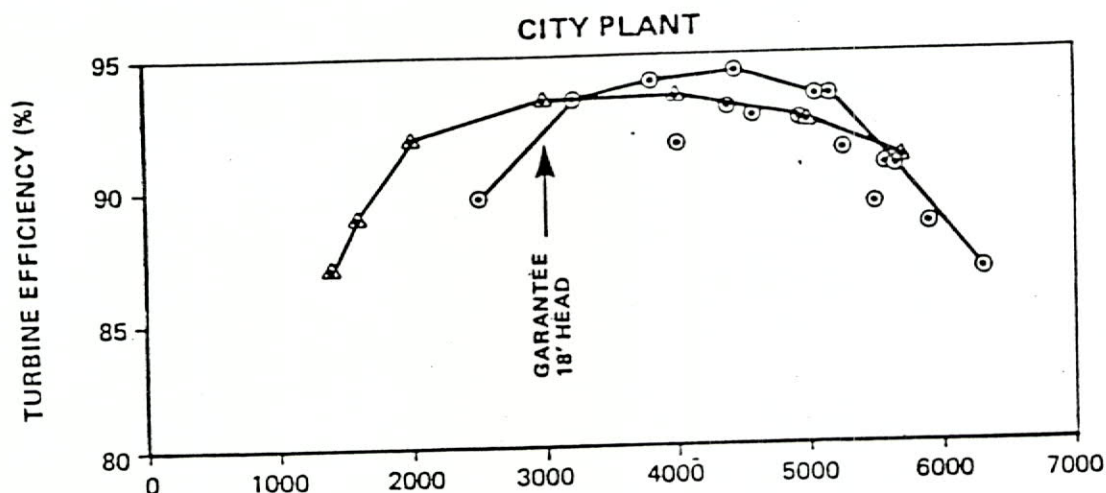
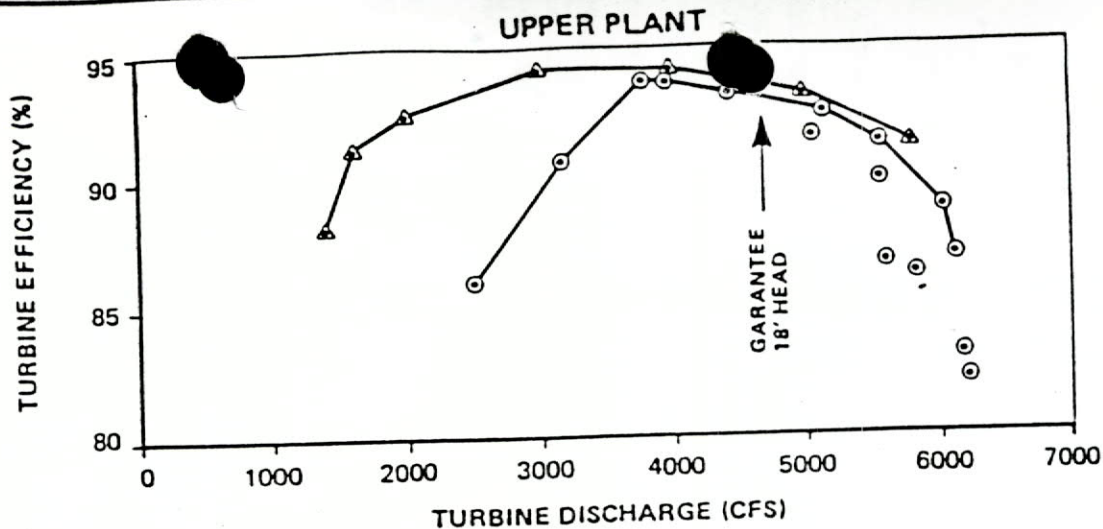
FULL GATE OPENING = NOMINAL OPENING
 FOR NET HEAD 16.0 ft AND RATED TURBINE
 OUTPUT 8300 KW

GUARANTEED CAVITATION LIMIT
 ABSOLUTE CAVITATION LIMIT



SOURCE: Hill diagram from Voest Alpine
 Index Test Report, Dec. 1983.

Figure 4
 OPERATING CONDITIONS



○ FROM INDEX TEST
 △ FROM GUARANTEED HILL DIAGRAM

Figure 5
EFFICIENCY COMPARISON

IDAHO FALLS BULB TURBINE EVALUATION
CITY OF IDAHO FALLS, IDAHO

MICROFILMED
DEC 04 1997

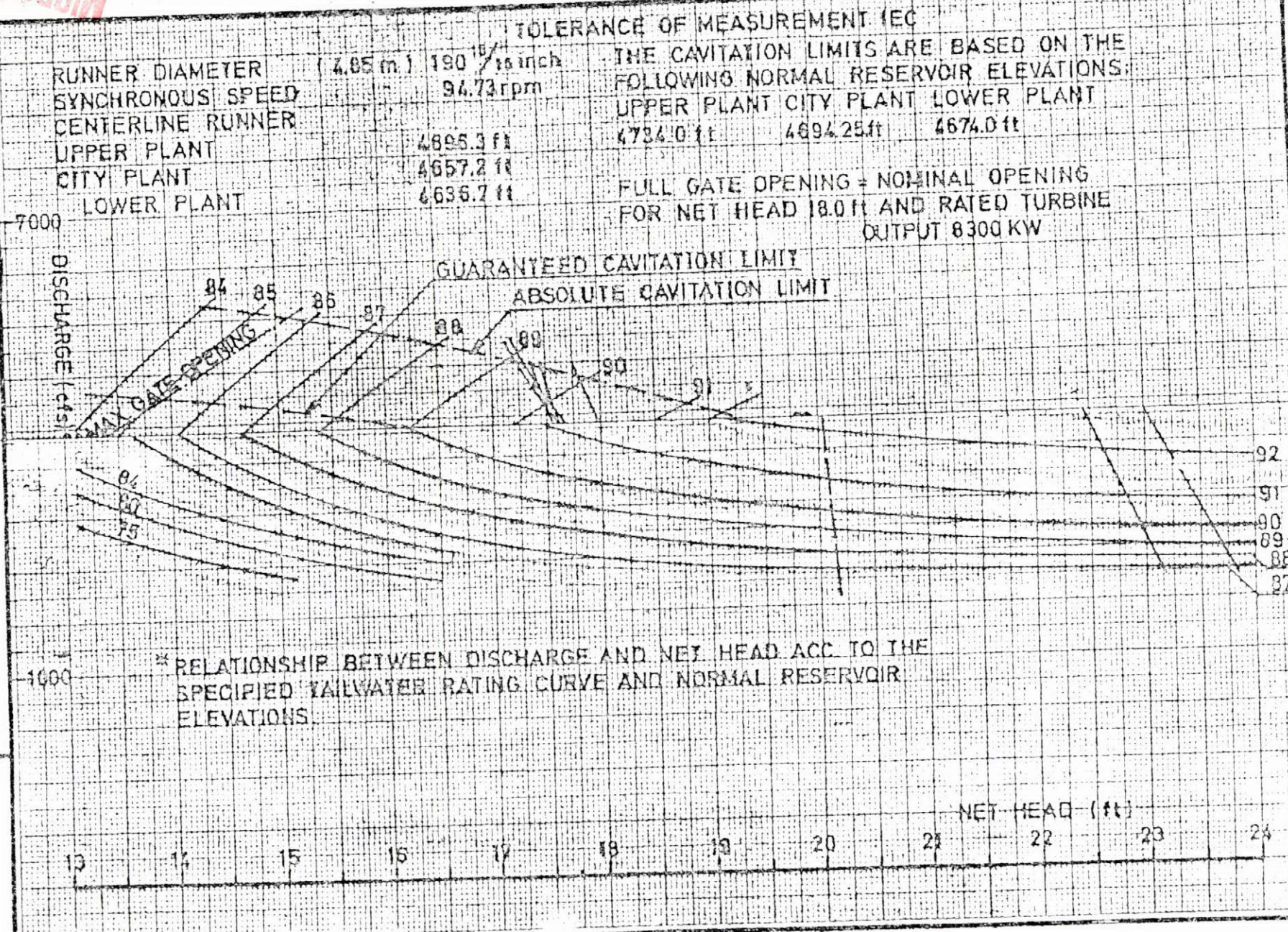
VOEST-ALPINE AG, Postfach 1

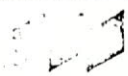
Messingless
(folded map)

MB9-908.4575

VOEST-ALPINE AG
Finalbericht Linz

TLM 2





VOEST-ALPINE AG
Friedrich-Linz

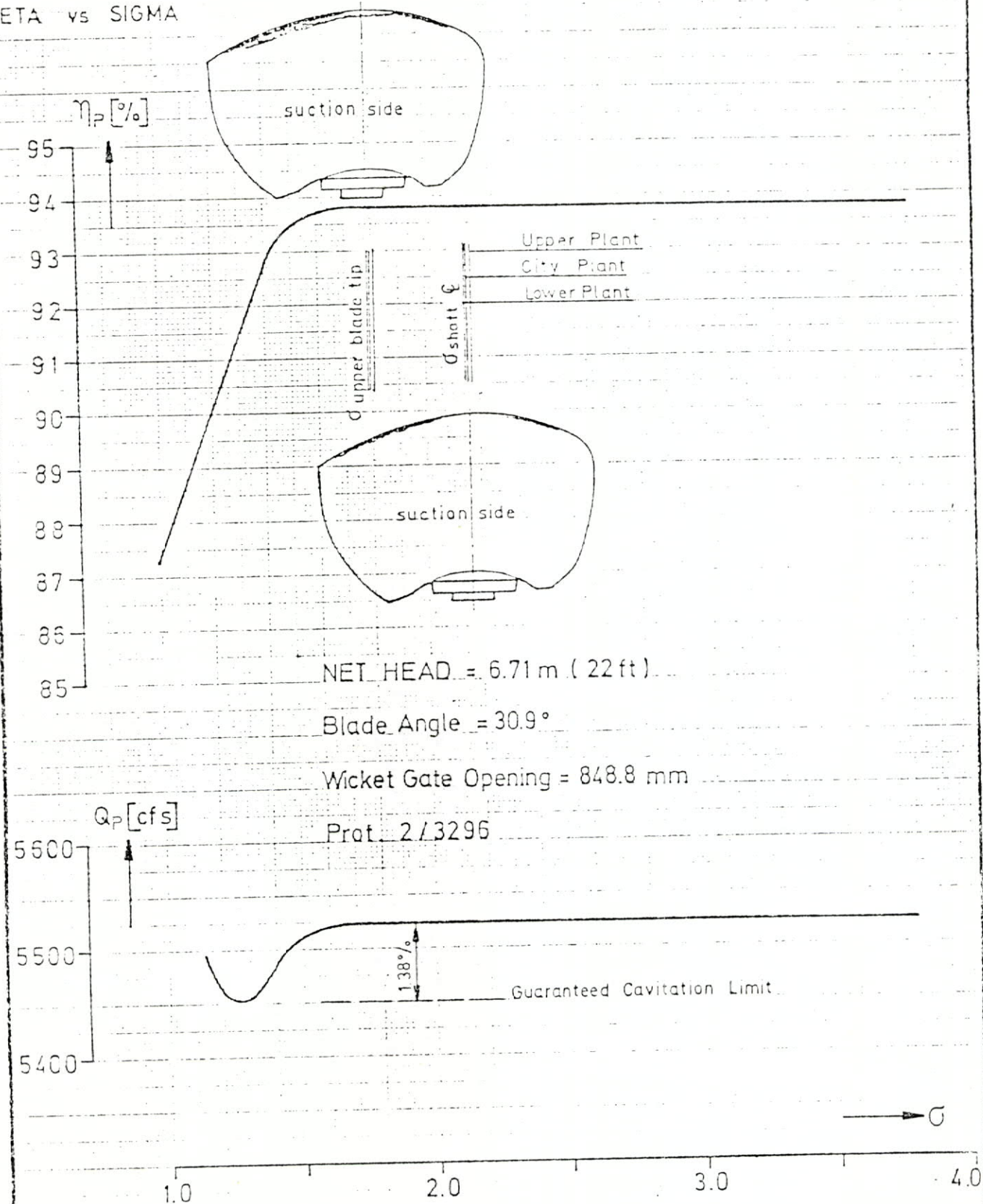
IDAHO FALLS HYDROELECTRIC PROJECT

S.O. 5644/10714

TLM 2

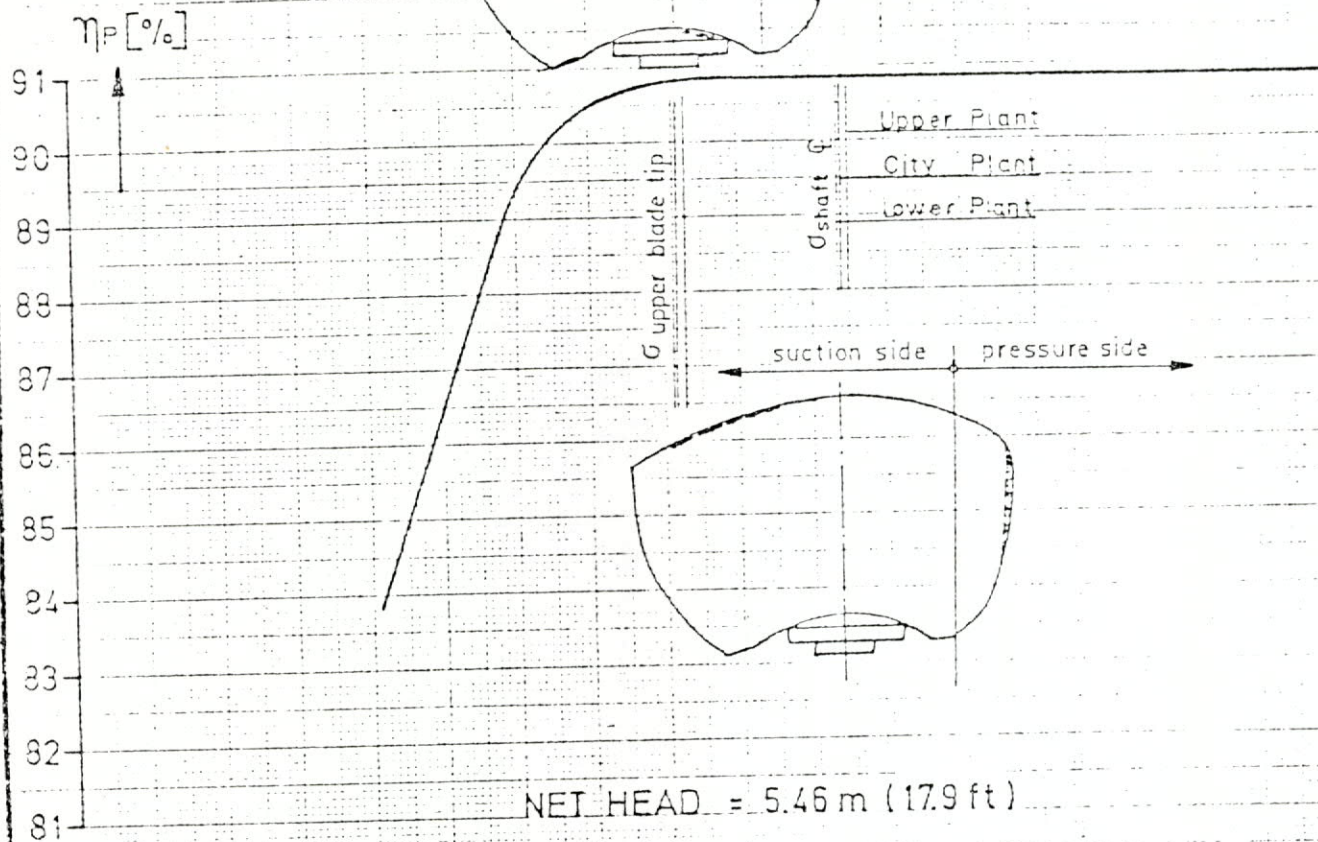
MODEL 344-4

ETA vs SIGMA



MODEL 344-4

ETA VS. SIGMA

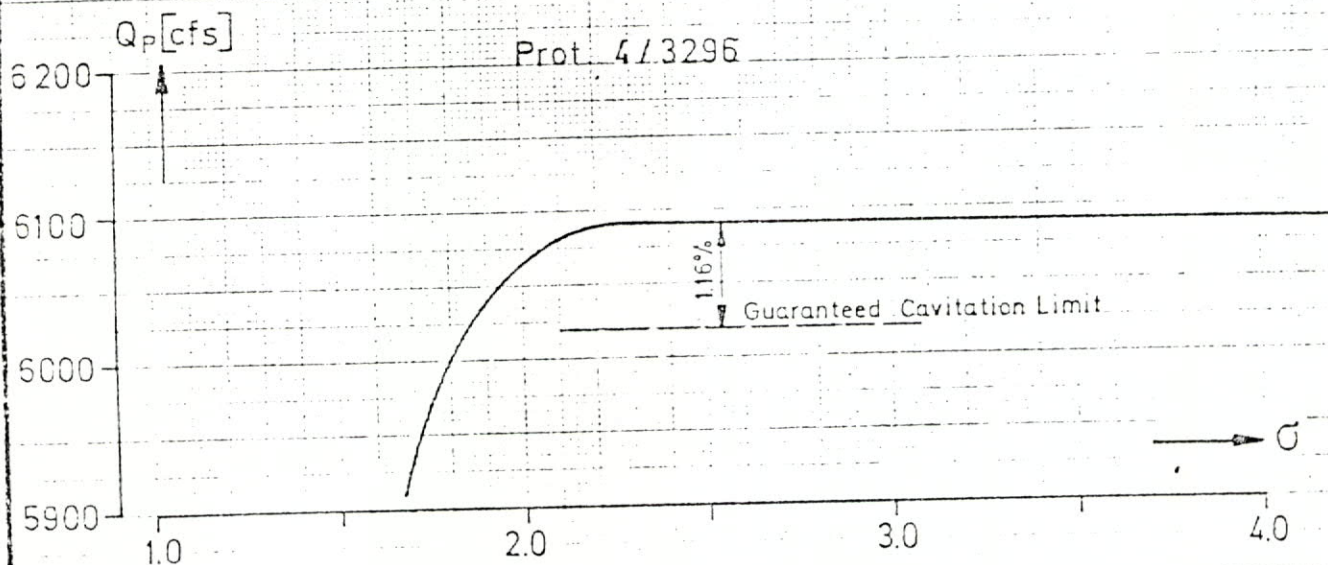


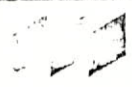
NET HEAD = 5.46 m (17.9 ft)

Blade Angle = 33.25°

Wicket Gate Opening = 884.4 mm

Prot. 4/3296





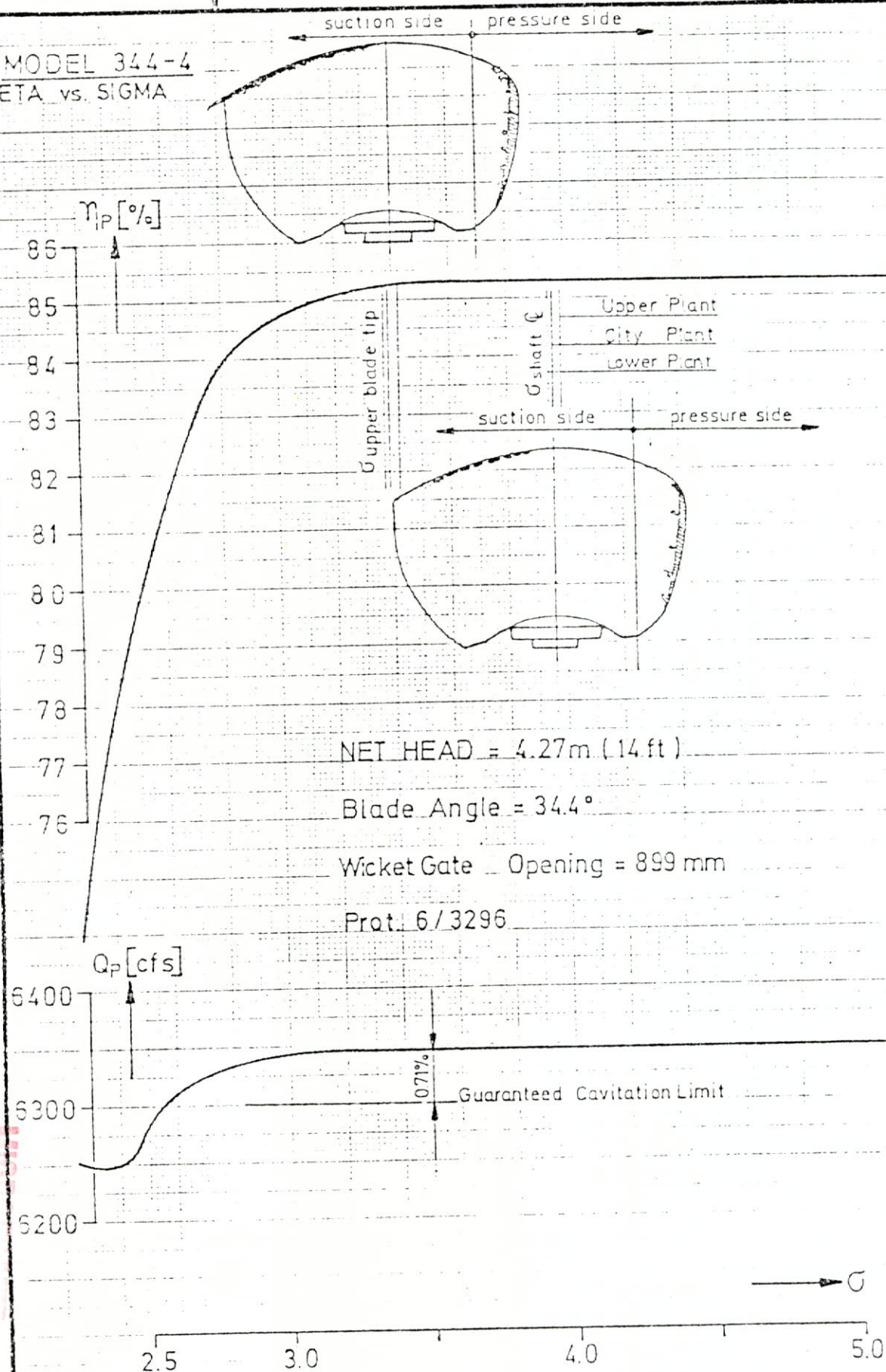
VÖEST-ALPINE AG
Finalbereich Linz

IDAHO FALLS HYDROELECTRIC PROJECT

S.O. 5644/10714

TLM 2

MODEL 344-4
ETA vs. SIGMA



State of Idaho
Department of Water Resources

WATER RIGHT LICENSE

WATER RIGHT NO. 01-07014

Priority: November 9, 1977

Maximum Diversion Rate:

4800.00 CFS

This is to certify, that CITY OF IDAHO FALLS

C/O M GENDRON

PO BOX 50220

IDAHO FALLS ID 83405

has complied with the terms and conditions of the permit, issued pursuant to Application for Permit dated November 9, 1977; and has submitted Proof of Beneficial Use on February 18, 1983. An examination indicates that the works have a diversion capacity of 7540.000 cfs of water from:

SNAKE RIVER

tributary to COLUMBIA RIVER

source, and a water right has been established as follows:

<u>BENEFICIAL USE</u>	<u>PERIOD OF USE</u>	<u>RATE OF DIVERSION</u>	<u>ANNUAL VOLUME</u>
POWER	01/01 to 12/31	4800.00 CFS	

LOCATION OF POINT(S) OF DIVERSION:

SWSW , Sec. 25, Township 02N, Range 37E
BONNEVILLE County

PLACE OF USE: POWER

TWN RGE SEC

02N 37E 25

SWSW

CONDITIONS OF APPROVAL AND REMARKS

1. This water right is appurtenant to the described place of use.
2. This right is subject to all prior water rights and may be forfeited by five years of non-use.
3. Modifications to or variance from this license shall be made within the limits of Section 42-222, Idaho Code, or the applicable Idaho law.
4. The water right confirmed in this license for hydropower purposes shall be junior and subordinate to all rights to the use of water, other than hydropower, within the State of Idaho that are initiated later in time than the priority of this license and shall not give rise to any right or claim against any future rights to the use of water, other than hydropower, within the State of Idaho initiated later in time than the priority of this license.
5. Use of water under this water right will be regulated by the watermaster of State Water District No. 01.
6. Use of water under this right shall be non-consumptive.

MICROFILMED

DEC 04 1997

State of Idaho
Department of Water Resources

WATER RIGHT LICENSE

WATER RIGHT NO. 01-07014

CONDITIONS OF APPROVAL AND REMARKS

7. Use of water under this license shall not cause unreasonable fluctuations in the flows of the Snake River which impair the ability of prior right holders to divert their water.
8. The diversion and use of water under this license is subject to review by the Director after the date of expiration of license 2842 issued by the Federal Energy Regulatory Commission. Upon appropriate findings relative to the interest of the public, the Director may cancel all or any part of the use authorized herein and may revise, delete or add conditions under which the right may be exercised.
9. This power facility is known locally as the "Lower" Plant.

This license is issued pursuant to the provisions of Section 42-219, Idaho Code. Witness the seal and signature of the Director, affixed at Boise, this 7th day of NOVEMBER, 1997.


Acting for KARL J. DREHER Director

MICROFILMED

DEC 9 1997

RECEIVED
MAR 18 1987
Department of Water Resources
Eastern District Office

STATE OF IDAHO

DEPARTMENT OF WATER RESOURCES

EXAMINATION FEE INFORMATION

DEC 08 1987

For Office Use Only
Fee Received _____
Date _____
Receipt # _____
Receipt by _____
Sent to S.O. _____

1. Permit No. 01-7014

Department of Water Resources

ONE OF THE FOLLOWING BOXES SHOULD BE MARKED TO DESIGNATE YOUR CHOICE:

☐ I choose to have the department make the field examination of this permit; attached is the examination fee. (If this box is marked, complete items 1 thru 8.)

2. Permit Holder: City of Idaho Falls

3. Post Office Address: PO Box 220 Idaho Falls, Id 83402

Telephone No. 208 529 1430

4. Source of Water: _____

5. Extent of Use:

Domestic _____ (No. of households) Stockwater _____ (No. and type of stock)

Irrigation _____ (acres) Other/Remark Hydro generation

6. Total rate &/or volume for which proof is submitted 5100 cfs _____ acre-feet

7. Show the date water was first diverted and beneficially used under this permit:

4-30-82
7-19-82 "From DOW Final report, May 1986"

8. Person to contact to accompany the department representative during the field examination:

(Name)

(Address)

(Telephone Number)

☒ I choose to have the field examination conducted by a certified water right examiner. Attached is a statement from the certified examiner I have selected verifying that he has been retained to conduct the examination. (If this box is marked, complete items 1 thru 7.)

March 16, 1987
Date

DEC 04 1987
Mac Electric Division
Signature of Permit Holder (and title, if appropriate)

BEFORE THE DEPARTMENT OF WATER RESOURCES
OF THE
STATE OF IDAHO

IN THE MATTER OF THE MEASURING DEVICE
REQUIREMENT ON PERMIT NOS. 01-7013, 01-7014,
01-7015, 01-7023, 01-7024 AND 01-7025 IN THE
NAME OF THE CITY OF IDAHO FALLS, IDAHO

ORDER

WHEREAS, on March 5, 1979, the Department of Water Resources issued the above-captioned permits with the conditions: "that proof of construction of works and application of water to beneficial use be submitted on or before April 1, 1983" and that "a measuring device of a type approved by this Department shall be installed and maintained as part of the diverting works"; and,

WHEREAS, on February 18, 1983, the Department received proof of beneficial use and a request to waive the measuring device requirement on each of the permits; and,

WHEREAS, the Department has determined that an installed measuring device is not necessary to measure the flow of water if other suitable methods of measurement as determined by the Director are readily available;

IT IS, THEREFORE, HEREBY ORDERED that the condition of approval requiring the installation of a measuring device of a type approved by the Department as part of the diverting works be changed to require that the permit holder shall provide information and/or flow data sufficient as determined by the Director to accurately reflect the rate of flow beneficially used under Permit Nos. 01-7013, 01-7014, 01-7015, 01-7023, 01-7024 and 01-7025.

Dated this 25th day of February, 1983.



L. GLEN SAXTON

Chief, Operations Bureau

RECORDED

Identification No. 01 7014
Application No. _____

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
APPLICATION FOR PERMIT

APPROVED

To Appropriate the Public Waters of the State of Idaho
(TYPE OR PRINT IN INK)

1. Name of applicant The City of Idaho Falls % G.S. Harrison Phone: 522-5891
post office address P.O. Box 220
2. Source of water supply Snake River which is a tributary of Columbia
3. a. Location of point of diversion is SW $\frac{1}{4}$ of SW $\frac{1}{4}$ of Section 25 Township 2N
Range 37E B.M. Bonneville County; additional points of diversion if any: _____
- b. If water is not consumed, it will be discharged into Snake River at a point in SW $\frac{1}{4}$ of SW $\frac{1}{4}$ of Section 25 Township 2N Range 37E B.M. _____
4. Water will be used for the following purposes: Lower Plant
Power Generation
Amount 5100 for _____ purpose from January 1 to December 31 (both dates inclusive)
(cfs or acre-feet per annum)
Amount _____ for _____ purpose from _____ to _____ (both dates inclusive)
(cfs or acre-feet per annum)
Amount _____ for _____ purpose from _____ to _____ (both dates inclusive)
(cfs or acre-feet per annum)
5. Total quantity to be appropriated:
a. 5100 CFS cubic feet per second and/or
b. _____ acre feet per annum.
6. Proposed diverting works:
a. Description of ditches, flumes, pumps, headgates, etc. Diversion is accomplished by means of a combination wood and gated concrete structure varying in height to a maximum of 20 feet and extending approximately 1200 ft. in length.
- b. Height of storage dam N.A. feet, active reservoir capacity N.A. acre feet; total reservoir capacity N.A. acre feet, materials used in storage dam: N.A.
Period of year during which storage will occur N.A. to N.A. inclusive.
(Mo. Day) (Mo. Day)
- c. Proposed well diameter is N.A. inches; proposed depth of well is N.A. feet.
7. a. Time required for the completion of the works and application of the water to the proposed beneficial use is 4 years.
b. Estimated construction cost is \$ 11 million
8. Description of proposed uses:
a. If water is **not** for irrigation:
(1) Give the place of use of water: SW $\frac{1}{4}$ of SW $\frac{1}{4}$ of Section 25 Township 2N
Range 37E B.M.
(2) Amount of power to be generated: 14,678 hp under 19.5 feet of head.
(3) List number of each kind of livestock to be watered N.A.
(4) Name of municipality to be served N.A., or number of families to be supplied with domestic water N.A.
(5) If water is to be used for other purposes describe: N.A.

MINUS

b. If water is for irrigation, indicate acreage in each subdivision in the tabulation below:

TWP.	RANGE	SEC.	NE 1/4				NW 1/4				SW 1/4				SE 1/4				TOTALS
			NE 1/4	NW 1/4	SW 1/4	SE 1/4	NE 1/4	NW 1/4	SW 1/4	SE 1/4	NE 1/4	NW 1/4	SW 1/4	SE 1/4	NE 1/4	NW 1/4	SW 1/4	SE 1/4	

Total number of acres to be irrigated N.A.

c. Describe any other water rights used for the same purposes as described above. Existing water rights include a 1905 right for 1500 CFS and a claim for an additional 1000 CFS the sum of which represents the previous historical use.

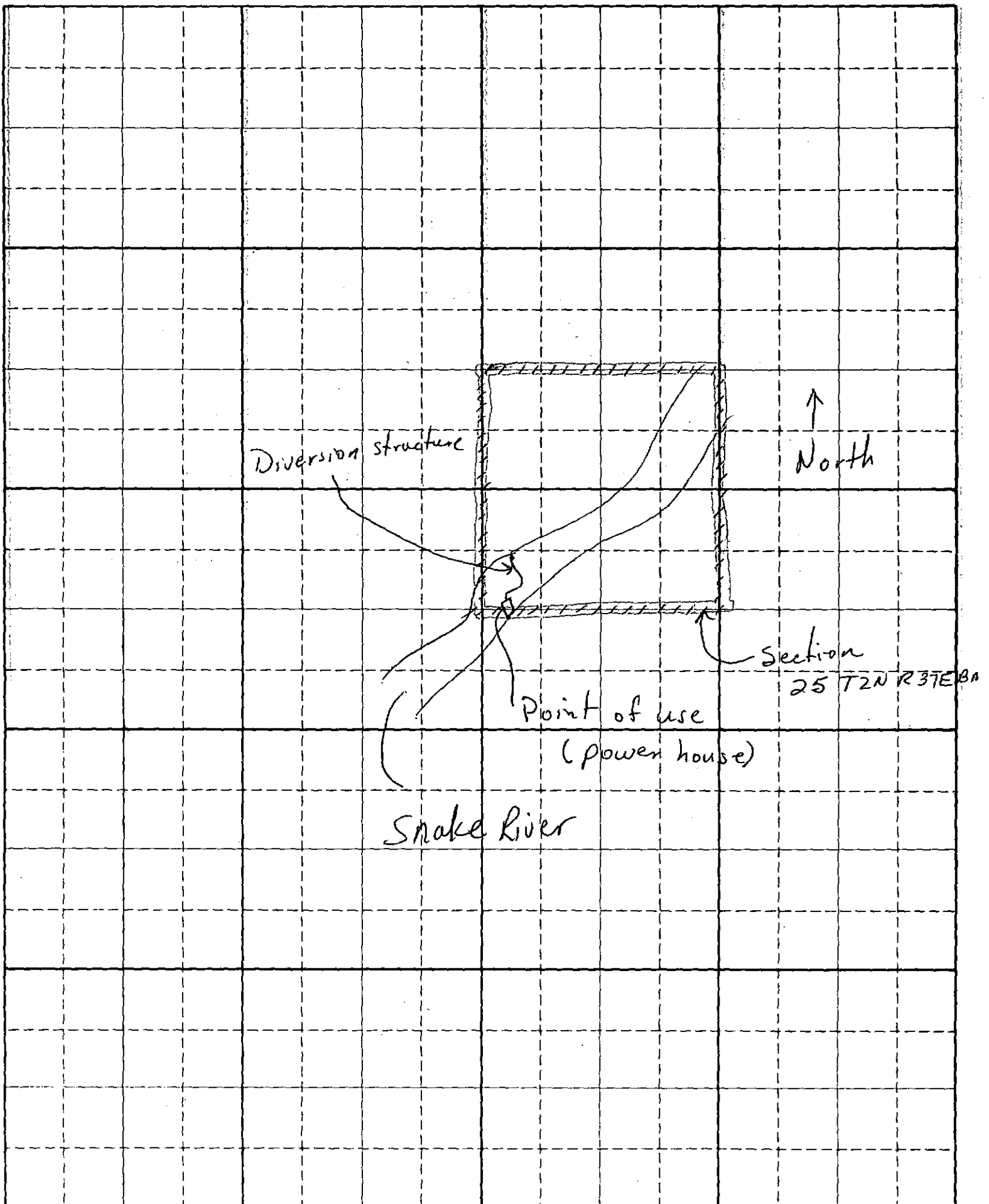
9. a. Who owns the property at the point of diversion The City of Idaho Falls.

b. Who owns the land to be irrigated or place of use _____

c. If the property is owned by a person other than the applicant, describe the arrangement enabling the applicant to make this filing _____

10. Remarks The power site has been in continuous use since about 1905. Plans are being developed to expand the generating capacity at the site by installation of a new turbine adjacent to the existing facilities. The new machine will require an additional 5100 CFS to operate at full capacity. The total water required to operate the new and existing machines will be the sum of the existing and claimed rights plus the 5100 CFS herein applied for making a total of 7600 CFS.

11. Map of proposed project: show clearly the proposed point of diversion, place of use, section number, township and range number.



Scale: 2 inches equal 1 mile

BE IT KNOWN that the undersigned hereby makes application for permit to appropriate the public waters of the State of Idaho as herein set forth.

Leah Peterson
(Applicant) MAYOR

Proposed Priority 11-9-77

Received by CW Date 11-09-77 Time 2:15p.
Preliminary check by EMC Fee \$ 1425⁰⁰
Received by CW Date 11-09-77 # 9088
Publication prepared by CW Date 11-10-77
Published in East Register
Publication dates Nov. 17 & 24-1977
Publication approved me Date November 30, 1977
Priority reduced to _____ Reason _____

Protests filed by: Klement Madison
WITHDRAWN

Copies of protests forwarded by cd
Hearing held by _____ Date _____
Recommended for approval denial by EMC DRT

ACTION OF THE DIRECTOR, DEPARTMENT OF WATER RESOURCES

This is to certify that I have examined Application for Permit to appropriate the public waters of the State of Idaho No. 01-7014, and said application is hereby APPROVED.

1. Approval of said application is subject to the following limitations and conditions:

- a. SUBJECT TO ALL PRIOR WATER RIGHTS.
- b. Proof of construction of works and application of water to beneficial use shall be submitted on or before April 1, 19 83.
- c. Other: (1) A measuring device of a type approved by this Department shall be permanently installed and maintained as part of the diverting works. (2) Use of water under this permit is subject to control by the watermaster of State Water District 01, Snake River. (3) This permit is subject to the provisions of Sections 42-205 through 42-210, Idaho Code, restricting the sale, transfer, assignment, or mortgage of this permit. Failure to comply with these provisions is cause for immediate cancellation of this permit. (4) This project shall be operated in a manner that will not conflict or interfere with the future upstream diversion of water for irrigation or other beneficial consumptive uses.

Witness my hand this 5th day of March 19 79.

J. Glen Saxton
Chief, Operations Bureau

BEFORE THE DIRECTOR OF THE IDAHO DEPARTMENT OF

WATER ADMINISTRATION

RECEIVED

DEC 5 1977

Department of Water Resources
Eastern District Office

IN THE MATTER OF THE APPLICATION OF :
CITY OF IDAHO FALLS, IDAHO, NOS. :
017013, 017014, and 017015 TO : PROTEST OF FREMONT-
ESTABLISH EXISTING USES OF WATER : MADISON IRRIGATION
AND ACQUIRE NEW WATER RIGHTS. : DISTRICT.
:

Comes now Fremont-Madison Irrigation District, a quasi-municipal corporation of the State of Idaho with its office and post office address at St. Anthony, Idaho, and in response to notice given that the City of Idaho Falls, Idaho, made applications Nos. 017013, 017014, and 017015 to establish existing uses of water and acquire new water rights from the Snake River and its tributaries, and makes the following protest against the approval of such application:

1. That the supply of water from the Henry's Fork of the Snake River and its tributaries is not sufficient to warrant such appropriation for power purposes.
2. That such appropriation would be in violation of the conditions of that certain contract between the United States of America, Fremont-Madison Irrigation District, Idaho of Idaho Falls, Idaho, and Utah Power and Light Company concerning power rights and release of damages, dated September 28, 1935.
3. That if such rights are granted, the City of Idaho Falls could force release of water from upstream dams to keep the water flowing up to the capacity of its rights.
4. The granting of any such rights would prevent the development of any additional irrigated lands upstream.
5. That the anticipation of the applicant to appropriate the water of Snake River and its tributaries is speculative because of the lack of water in said river and its tributaries and any such attempt will reduce the quantity of water to existing water rights.

R. Willis Walker
R. Willis Walker, Chairman of
Board of Directors, Fremont-Madison
Irrigation District.

John A. [illegible]

MINUTES

STATE OF IDAHO,)
 (SS
County of Madison.)

R. WILLIS WALKER, being first duly sworn, says that he is Chairman of the Board of Directors of Fremont-Madison Irrigation District and he makes this verification for and on behalf of said District; that affiant has read the foregoing Protest and knows the contents thereof and as to the matters and things therein alleged, affiant believes the same to be true.

R. Willis Walker

Subscribed and sworn to before this 5th day of
December, 1977.

Mary Smith
Notary Public, residing at
Rexburg, Idaho. My commission
expires: Life.

(Seal)

Proof of Publication
The Post-Register

RECEIVED

NOV 30 1977

Department of Water Resources
Eastern District Office

State of Idaho,
County of Bonneville } ss.

I, J. Robb Brady, first being duly sworn, depose and say: That I am the
Principal Clerk of The Post Company, a corporation of Idaho Falls, Bonneville
County, Idaho, publishers of The Post-Register, a newspaper of general circulation, published daily,
except Saturday, at Idaho Falls, Idaho; said Post-Register being a consolidation of the Idaho Falls
Times, established in the year 1890, The Idaho Register, established in the year 1880 and the Idaho
Falls Post, established in 1903, such consolidation being made on the 1st day of November, 1931,
and each of said newspapers having been published continuously and uninterruptedly, prior to consoli-
dation, for more than seventy-eighty (78) weeks and said Post-Register having been published contin-
uously and uninterruptedly from the date of such consolidation, up to and including the last publica-
tion of notice hereinafter referred to.

That the notice, of which a copy is hereto attached and made a part of this affidavit, was pub-
lished in said Post-Register for two consecutive weeks, first publication having been made
on the 17th day of November, 19 77, last publication
having been made on the 24th day of November, 19 77, and that the
said notice was published in the regular and entire issue of said paper on the respective dates of
publication, and that such notice was published in the newspaper and not in a supplement.

Subscribed and sworn to before me, this 28th day of November, 19 77

J. Robb Brady

Karee Hulse

Notary Public

My commission expires April 5, 19 79

B10, 1M

NOTICE OF APPLICATION
FOR WATER PERMIT

Notice is hereby given that the City of
Idaho Falls, Idaho has on
11-09-77 submitted Application No. 01-7014
for a permit to appropriate 5100 cubic
feet per second of water from the Snake
River tributary to Columbia River by
means of a dam within the SW $\frac{1}{4}$ /SW $\frac{1}{4}$,
Sec. 25, T. 2N, R. 37E, B.M., Bonneville
County; to be used from Jan. 1 to Dec. 31
for power generation within the
SW $\frac{1}{4}$ /SW $\frac{1}{4}$, Sec. 25, T. 2N, R. 37E, B.M.
If issued, this permit will be subject to
all prior water rights. Protests against
the granting of the permit must be filed
with the Idaho Department of Water
Resources, 1515 Lincoln Road, Idaho
Falls, Idaho, 83401 on or before
December 5, 1977.

C. STEPHEN ALLRED
Director
Pub.: Nov. 17 & 24, 1977.

MICROFILMED



State of Idaho

DEPARTMENT OF WATER RESOURCES

1301 North Orchard Street, P.O. BOX 83720, Boise, Idaho 83720-0098

Phone: (208) 327-7900 FAX: (208) 327-7866

PHILIP E. BATT
GOVERNOR

KARL J. DREHER
DIRECTOR

November 10, 1997

CITY OF IDAHO FALLS
C/O M GENDRON
PO BOX 50220
IDAHO FALLS ID 83405-0220

RE: WATER RIGHTS 01-07013/01-07014/01-07015/01-07023/01-07024

Dear Water Right Holder(s):

The Department of Water Resources (the Department) has issued the enclosed licenses confirming that water rights have been established in accordance with the permits referenced above. The licenses are preliminary orders issued by the Department pursuant to section 67-5243, Idaho Code. They can and will become final orders without further action of the Department unless a party petitions for reconsideration or files an exception and/or brief as further described below.

PETITION FOR RECONSIDERATION

Any party may file a petition for reconsideration of a preliminary order with the Department within fourteen (14) days of the service date of this order. The Department will act on a petition for reconsideration within twenty-one (21) days of its receipt, or the petition will be considered denied by operation of law. See section 67-5243(3) Idaho Code.

EXCEPTIONS AND BRIEFS

Within twenty-one (21) days after (a) the service date of a preliminary order, (b) the service date of a denial of a petition for reconsideration from this preliminary order, or (c) the failure within twenty-one (21) days to grant or deny a petition for reconsideration from this preliminary order, any party may in writing support or take exceptions to any part of a preliminary order and may file briefs in support of the party's position on any issue in the proceeding. Otherwise, this preliminary order will become a final order of the Department.

If any party appeals or takes exceptions to this preliminary order, opposing parties shall have twenty-one (21) days to respond to any party's appeal. Written briefs in support of or taking exceptions to the preliminary order shall be filed with the Department. The Department retains the right to review the preliminary order on its own motion.

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ORAL ARGUMENT

If the Department grants a petition to review the preliminary order, the Department shall allow all parties an opportunity to file briefs in support of or taking exceptions to the preliminary order and may schedule oral argument in the matter before issuing a final order. If oral arguments are to be heard, the Department will within a reasonable time period notify each party of the place, date and hour for the argument of the case. Unless the Department orders otherwise, all oral arguments will be heard in Boise, Idaho.

CERTIFICATE OF SERVICE

All exceptions, briefs, requests for oral argument and any other matters filed with the Department in connection with the preliminary order shall be served on all other parties to the proceedings in accordance with Rules of Procedure 302 and 303.

FINAL ORDER

The Department will issue a final order within fifty-six (56) days of receipt of the written briefs, oral argument or response to briefs, whichever is later, unless waived by the parties or for good cause shown. The Department may remand the matter for further evidentiary hearings if further factual development of the record is necessary before issuing a final order. The Department will serve a copy of the final order on all parties of record.

Section 67-5246(5), Idaho Code, provides as follows:

Unless a different date is stated in a final order, the order is effective fourteen (14) days after its issuance if a party has not filed a petition for reconsideration. If a party has filed a petition for reconsideration with the agency head, the final order becomes effective when:

- (a) the petition for reconsideration is disposed of; or
- (b) the petition is deemed denied because the agency head did not dispose of the petition within twenty-one (21) days.

APPEAL OF FINAL ORDER TO DISTRICT COURT

Pursuant to sections 67-5270 and 67-5272, Idaho Code, if this preliminary order becomes final, any party aggrieved by the final order or orders previously issued in this case may appeal the final order and all previously issued orders in this case to district court by filing a petition in the district court of the county in which:

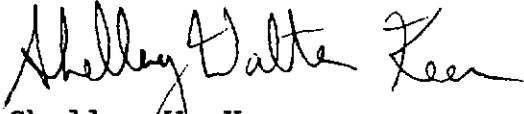
- i. A hearing was held,
- ii. The final agency action was taken,
- iii. The party seeking review of the order resides, or
- iv. The real property or personal property that was the subject of the agency action is located.

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The appeal must be filed within twenty-eight (28) days of this preliminary order becoming final. See section 67-5273, Idaho Code. The filing of an appeal to district court does not itself stay the effectiveness or enforcement of the order under appeal.

Sincerely,



Shelley W. Keen
Water Rights Supervisor

SK:klt

Enclosure

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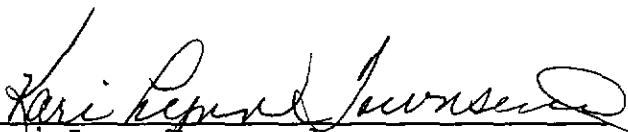
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CERTIFICATE OF MAILING

I hereby certify that on the 10th day of **NOVEMBER, 1997**, I mailed a true and correct copy, postage prepaid, of the foregoing **PRELIMINARY ORDERS (Approved Licenses)** to the person(s) listed below:

Water Rights 01-07013/01-07014/01-07015/01-07023/01-07024

CITY OF IDAHO FALLS
C/O M GENDRON
PO BOX 50220
IDAHO FALLS ID 83405-0220


Kari Lynn Townsend
Secretary

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Law Offices
HOLDEN, KIDWELL, HAHN & CRAPO, P.L.L.C.

FRED J. HAHN
KENT W. FOSTER
ROBERT E. FARNAM
WILLIAM D. FALER
STEPHEN E. MARTIN
CHARLES A. HOMER
GARY L. MEIKLE
GAYLE A. SORENSON, P.A.
DONALD L. HARRIS, P.A.
DALE W. STORER
MARIE T. TYLER
JOHN G. SIMMONS
ROBERT M. FOLLETT
FREDERICK J. HAHN, III
SHAN B. PERRY

U.S. BANK OF IDAHO BUILDING
330 SHOUP AVENUE, THIRD FLOOR
P.O. BOX 50130
IDAHO FALLS, IDAHO 83405

TELEPHONE (208) 523-0620
FACSIMILE (208) 523-9518
E-MAIL HOLDNLAW@SRV.NET

Arthur W. Holden
(1877-1967)
Robert B. Holden
(1911-1971)
Terry L. Crapo
(1939-1982)
William S. Holden
(1907-1988)

October 30, 1997

RECEIVED
NOV 03 1997

Department of Water Resources

Mr. Jim Johnson
IDAHO DEPARTMENT OF
WATER RESOURCES
1301 North Orchard Street
Statehouse Mail
Boise, Idaho 83720

Re: Permit Nos. 01-07013/07014/07015/07023/07024/07025

Dear Mr. Johnson:

We are enclosing with this letter the executed relinquishment of permit no. 01-07025 and the applications for amendments of permits nos. 01-07023 and 01-07013. As we understand it, this now completes the paperwork from our end. We have also enclosed our check in the amount of \$100.00 for the amendment filing fees.

We will look forward to the issuance of the five licenses and if there is any way we may be of further assistance please feel free to call upon us at your convenience.

Yours very truly,



Kent W. Foster

Enclosures

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State of Idaho

DEPARTMENT OF WATER RESOURCES

1301 North Orchard Street, P.O. BOX 83720, Boise, Idaho 83720-0098

Phone: (208) 327-7900 FAX: (208) 327-7866

October 9, 1997

PHILIP E. BATT
GOVERNOR

KARL J. DREHER
DIRECTOR

Kent Foster
Holden, Kidwell, Hahn & Crapo
PO Box 50130
Idaho Falls, ID 83405

RE: Permit Nos. 01-07013/07014/07015/07023/07024/07025

Dear Mr. Foster:

In response to your phone conversation with Jim Johnson this morning, enclosed are modified Applications for Amendment on Permit Nos. 01-07013 and 01-07023. In addition, the other three permits which are attempting to license have had the same data entry changes as the two requiring amendments. Specifically, the address has been updated in care of Mr. Gendron at PO Box 50220, and the condition/remark concerning fluctuations in flows of the river has been changed to read "unreasonable fluctuations".

The other remaining permit, No. 01-07025 is the one we sent a relinquishment form out for the purpose of clearing our records. We look forward to receiving the signed relinquishment along with the two amendment applications and their filing fees so that we can finish the licensing process.

If you have any questions, just let me know.

Sincerely,

A handwritten signature in cursive script that reads 'Sharla Curtis'.

SHARLA CURTIS
Water Resource Agent

Enclosures

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State of Idaho

DEPARTMENT OF WATER RESOURCES

1301 North Orchard Street, P.O. BOX 83720, Boise, Idaho 83720-0098

Phone: (208) 327-7900 FAX: (208) 327-7866

PHILIP E. BATT
GOVERNOR

KARL J. DREHER
DIRECTOR

September 18, 1997

CITY OF IDAHO FALLS
PO BOX 220
IDAHO FALLS ID 83402-0220

RE: Permit Nos. 01-07013, 01-07014, 01-07015
01-07023, 01-07024, and 01-07025

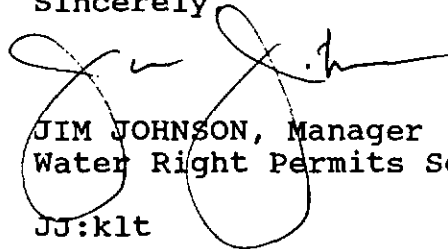
Gentlemen:

I previously wrote to you on August 11, 1997 regarding the above permits and stated that we are ready to finalize the licensing process.

Included with that letter were applications for amendment of Permit Nos. 01-07013 and 01-07023, a relinquishment form for Permit No. 01-07025 and draft copies of the licenses for the remaining rights, 01-07014, 01-07015 and 01-07024. I am enclosing copies of the applications for amendment, a relinquishment form and draft copies of the licenses as were sent with the August 11th letter.

If you have not already done so, please review the documents and if you concur, sign the amendments and relinquishment form and return them to our office along with the amendment filing fees (\$100 total - \$50 each permit). on receipt of the fees and forms, we will issue the licenses and clear our records for 01-07025.

Sincerely,



JIM JOHNSON, Manager
Water Right Permits Section

JJ:klt

Enclosures

cc: Kent Foster

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State of Idaho
DEPARTMENT OF WATER RESOURCES

1301 North Orchard Street, P.O. BOX 83720, Boise, Idaho 83720-0098
Phone: (208) 327-7900 FAX: (208) 327-7866

PHILIP E. BATT
GOVERNOR

KARL J. DREHER
DIRECTOR

August 11, 1997

City of Idaho Falls
PO Box 220
Idaho Falls, ID 83402

RE: Permit Nos. 01-07013, 01-07014, 01-07015,
01-07023, 01-07024, and 01-07025

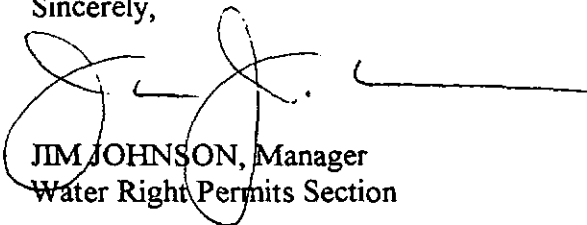
Gentlemen:

After a site visit and extensive review of the above referenced permits, we are ready to finalize the licensing process. I understand that Ralph Mellin of this department has forwarded a copy of his recommendations to Mark Gendron and that you are now in agreement with the proposals identified on the enclosed documents.

The enclosures are 1) applications for amendment of Permit Nos. 01-07013 and 01-07023, 2) a relinquishment form for Permit No. 01-07025, and 3) draft copies of the licenses for the remaining rights, 01-07014, 01-07015 and 01-07024.

Please review the documents and if you concur, sign the amendments and relinquishment form and return them to our office along with the amendment filing fees (\$100 total - \$50 each permit). Upon receipt of the fees and forms, we will issue the licenses and clear our records for 01-07025.

Sincerely,



JIM JOHNSON, Manager
Water Right Permits Section

JJ:sc

Enclosures

cc: Kent Foster

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DEC 04 1997

MEMORANDUM

June 16, 1997

TO: Jim Johnson, Section Manager, State Office
Harold Jones, Water Resource Supervisor, Idaho Falls Regional Office

FROM: Ralph Mellin, Special Projects Coordinator *Rm*

SUBJECT: Idaho Falls Hydroelectric Plants Proposed License Flow

This memorandum culminates the request earlier this year for a review of past work in the analysis of water right field examinations and related work to license two water right permits at each of three hydroelectric plants; the City Plant, Upper Plant, and Lower Plant built for and operated by the City of Idaho Falls on the Snake River near Idaho Falls.

HISTORY:

The field examinations for these water rights were completed by a licensed consulting engineer just prior to the deadline date for submitting the Beneficial Use Field Report (field examination) on the applicable water permits. These field examinations are stamped as received on March 17, 1988. The river flow on January 12, 1988, the date of the field examination, was approximately one-half the amount needed to use the capacity of the turbines. In the field examination for water right file 01-07013, under Flow Measurements, it is stated that

"Flow on this date was determined by power generation using the formula flow x head / 14 = kilowatts. On this date power output was 3,800 kW. Head = 18. Therefore flow = 2,955 cfs. At time of measurement this was total flow."

Additional information on previous higher amounts of water use by the newly constructed power plants does not appear to have been submitted.

On May 18, 1993, Kent Foster, private attorney for the City of Idaho Falls, requested issuance of the applicable water licenses. On May 26, 1993, IDWR's staff review of the water permit files showed there was documentation for licensing the water permits for the amount of water shown on the field examinations. An internal memorandum to the files dated February 3, 1994, indicates the licenses were prepared for the Department's Administrator's signature in June 1993; however, questions were raised about the low amount of water use relative to the amount allowed in the water permits.

On June 30, 1993, Mr. Foster wrote a follow-up to a previous telephone conversation with the Department and indicated "that each of the plants is a replacement for a former smaller plant at each site." No clarifying information was provided that the two older operating turbines were left at the Lower Plant. Also, a 1986 draft copy of an extensive post-project report prepared by CH2M Hill was submitted to the IDWR apparently near this time. (The

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August 1989 final report was recently obtained by this author. No change was found from the draft report.) This CH2M Hill report indicates in its Hill Diagram (Figure 4) of turbine flows related to turbine efficiency and rated head that the "full gate opening" allowed 5,700 cfs for the City Plant and 5,800 cfs for the Upper Plant and the Lower Plants. This "full gate opening" is when all water possible is entering the turbine without water flowing over the spillway.

The above mentioned February 3, 1994, memorandum to the files, recommended licensing the water permits based on these full gate opening flows; although, the graph for the Upper Plant apparently was misread and 5,700 cfs was indicated as the proposed license amount instead of 5,800 cfs. (The proposed new license flow would be for that portion of water when added to the current water right flows at each plant would total the above noted amounts.) On March 3, 1994, the Department sent to Mr. Foster draft copies of the proposed licenses based on the "full gate opening" flows.

On June 21, 1994, Mr. Foster wrote that the city's engineers were reviewing the water use amounts; however, "at the lower plant, the (Department's) exams and reports didn't even take into consideration the existence of the old machines which are still used as well as the newer bulb turbine." On October 10, 1994, Mr. Foster transmitted a City of Idaho Falls letter to him with calculations that showed a maximum water use of 6,700 cfs at the City Plant, 6,200 cfs at the Upper Plant, and 8,700 cfs at the Lower Plant (which included 2,831 cfs for the old plant that has 2,740 cfs of water rights). (It appears the turbine efficiencies used are lower than the efficiencies shown in the Hill Diagram of the CH2M Hill report. This would give higher water flows.)

On November 15, 1994, our letter to Mr. Foster indicated that review of the material received suggested the correct total water use of the Upper Plant and the Lower Plant (apparently including the old plant) remained as previously listed, 5,700 cfs and 5,800 cfs respectively and the maximum use for the city plant could be increased to the permitted amount of 6,000 cfs.

THIS CURRENT ANALYSIS:

On March 4, 1997, we (Jim Johnson, Harold Jones, and Ralph Mellin) went to the office of the Hydroelectric Division, City of Idaho Falls to tour their Lower Plant, City Plant, and Upper Plant all operated by the city.

Before the tour, Mark Gendron, Director, Hydroelectric Division; Scott McBride, Engineer; and Steve Elliot, Hydro Plant Mechanical Foreman, discussed the general operation of the plants and answered our general questions. Then Mr. McBride lead us first through the Lower Plant, then the City Plant, and lastly the Upper Plant. (Harold Jones returned to our Eastern Region office after the tour of the City Plant.) Upon returning to the Hydroelectric Division office, Steve Elliot provided us with a computer disk of hourly generation and 15-minute flow data for the previous 5 months of October 1996 through February 1997. These

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plants were operating near capacity during our visit; however, subsequent review of the generation data showed slightly higher generation levels existed prior to our tour.

The Upper Plant, the City Plant, and the new construction for the Lower Plant have water rights and approved water permits for a total of 6,000 cfs. The new construction at each plant is a single 7,200 kW generator powered by a horizontal bulb turbine. At the City Plant and the Upper Plant, the new construction replaced and expanded the existing power plants. At the Lower Plant, the two older generators with a maximum generation of 3,100 kW recorded in the November 1996 to February 1997 period were retained in their separate, adjacent powerhouse. The previous water rights at the Lower Plant consist of water right no. 01-00281 for 1,500 cfs and no. 01-04001 for 1,240 cfs which gives a total of 2,740 cfs for the older turbines. These water rights and the quantity of water use by the turbines located in the old powerhouse of the Lower Plant was not reviewed in this analysis.

Solutions:

A simple solution to determine the additional amount of water to license would be to:

1. Leave unchanged the 2,740 cfs of the non-reviewed water rights at the old Lower Plant.
2. License total water rights, including present water rights, for the single new turbine at each new plant based on the "full gate opening" shown in the Hill Diagram in the CH2M Hill post-project-construction report. According to the graph the "full gate opening" is 5,700 cfs for the City Plant and 5,800 cfs each for the Upper Plant and the addition to the Lower Plant.

It is noted, based on the Hill Diagram in the CH2M Hill report, the turbines can take more water than the "full gate opening" flow. There is shown on the graph a "maximum gate opening" flow; however, as this flow is approached a "guaranteed cavitation limit" is reached and subsequently an "absolute cavitation limit." There are flows above the "full gate opening" flow that are below the "guaranteed cavitation limit"; see subsequent detailed discussion for the City Plant.

A detailed solution was used and is recommended because of the availability of individual-plant operational data that reflects actual operating conditions; that is:

1. Also, leave unchanged the 2,740 cfs of the non-reviewed water rights at the old Lower Plant.
2. License total water rights for the single new turbine at each plant based on calculations from the more specific separate formulas for each plant given in the CH2M Hill report and use the maximum generation level obtained in the last 5 months (October 1, 1996 through February 28, 1997) which includes a high-water flow.

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A total of 58 additional dates from 1988 to 1996 were reviewed in which the river flow was only slightly above the design capacity of all turbines in the Lower Plant to see if a higher total generation existed for the combination of the new turbine and the old turbines. No higher total hourly generation existed than the amount in the spring of 1997 with its exceedingly high runoff.

The new license amounts, calculated on the attached sheets, would be total 6,000 cfs for the City Plant, 6,000 cfs for the Upper Plant, and 4,800 cfs for the addition to Lower Plant.

Details:

Specific calculations are appended. The highest hourly generation level found was used. Turbine flow calculations also were made at river flows only slightly above the turbine capacity; however, the turbine flows were found to be slightly less than at the high river flows.

To calculate the turbine flow for a particular kW generation level, an estimated turbine flow first had to be used in order to determine the remaining flow over the spillway which would determine the head-water level. Estimated turbine flow also needed to be used to determine the head loss through the turbines.

Since the estimated turbine flow was used to determine the actual turbine flow, up to four iterations were needed before the two numbers would be closely matched. I have shown the first and last iteration for the each plant. It also is noted, the calculations for the City Plant and for the Upper Plant had to be done by linearly extending the graph provided by CH2M Hill past its termination at the "full gate opening."

For the City Plant, this above noted extension appeared to move into an area where the formula gave unstable results. It is repeated from earlier in this memorandum that the "full gate opening" is 5,700 cfs. The 6,800 cfs of calculated flow with the river at 11,052 cfs is past the absolute cavitation limit of 6,500 cfs. (Calculated flow of 6,400 cfs, not attached, was determined at a river flow of 7,500 cfs on Jan 11, 1997.) The guaranteed cavitation limit is at 6,150 cfs.

All numbers are suggested to be rounded to the nearest 100 units because of accuracy able to be obtained in the calculations. Dissenters could correctly state that three significant figures is the least number used in the input data so the answer should be carried to three significant figures or to the nearest ten units. This rule is expanded with the clarification that the last significant figure in the answer is not necessarily correct but represents merely the most probable value.

For the City Plant, this would allow for 6,100 cfs since a water right likely would not be given for an operation level that would cavitate the turbine impellers and at which the

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turbine owners would hesitate to operate within. In addition, since 6,000 cfs is the total allowed in the available water permits, this 6,000 cfs would be the maximum that currently could be licensed at the City Plant.

It is noted the calculation flow for the Upper Plant was 6,000 cfs or slightly past the "full gate opening" of 5,800 cfs. This flow takes place when there is extra flow to build up a head above the spillway lip.

For the new part of the Lower Plant, a flow rate of 5,200 cfs was calculated when the old turbines were not operating. The new water rights, however, should be limited to the 4,800 cfs of additional water used only through the new turbine when the turbines in both powerhouses are operating at capacity. It is noted for the Lower Plant, the maximum generation in the new powerhouse found when all turbines in both powerhouses were operating at capacity within the 5-months reviewed was 6,310 kW. That is somewhat below the 7,200 kW installed in the new powerplant. (Evidently the operation of the old turbines lowers the headwater for the new turbine with, of course, no corresponding lowering of the tailwater.) That 6,310 kW maximum increases to 7,100 kW when only the new turbine is in operation. (7,390 kW is the maximum generation recorded in both the City Plant and the Upper Plant.)

SUMMARY:

The total amount of flow recommended to be licensed follows.

Upper Plant:	6,000 cfs (3,840 cfs of new water rights)
City Plant:	6,000 cfs (4,060 cfs of new water rights)
Lower Plant:	7,540 cfs (4,800 cfs of new water rights)

Plant capacities would be shown as 6,100 cfs for the City Plant, 6,000 cfs for the Upper Plant, and 7,540 cfs for the Lower Plant. The plant capacity for the Lower Plant consists of 2,740 cfs non-reviewed capacity, under existing water rights, for the two older turbines left in-place plus 4,800 cfs for the new bulb turbine when both turbines in the older power house are operating but only 5,200 cfs for the new bulb turbine when neither turbine in the older power house is operating.

A revised summary of city of Idaho Falls hydroelectric water rights is enclosed.

A draft of this memorandum was sent to Mark Gendren, on April 11, 1997 and reviewed by telephone with Scott McBride and Jim Lingo, Generation Superintendent on May 20, 1997. A tentative agreement of flow amounts was provided in the telephone review with the stipulation that when the new turbine in the lower plant is operating alone, it can first use the earlier priority water rights.

cc: Mark Gendron

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UPPER PLANT

Generating 7,390 kW on 2/11/1997 at 0300

$Q_{\text{river (r)}} = 11,164$ cfs at Idaho Falls gage (Graph in Figure 1 does not fit.)

$Q_{\text{turbine (t)}} = \frac{6,050}{5,800}$ cfs estimate

$Q_{\text{spillway (s)}} = Q_r - Q_t = 11,164 - \frac{6,050}{5,800} = \frac{5,114}{5,364}$ cfs

The following formulas, specific to each power plant, are from the CH2M Hill report

Turbine efficiency (TE) = see Hill chart using flow & net head (Figure 4, CH2M Hill report)

Generator efficiency (GE) = 0.966 from CH2M Hill

Headwater Level (HW) = $4,733.7 + (Q_s/1,900)^{0.667} = 4,733.7 + \frac{5,114}{(5,364/1,900)^{0.667}}$

$$= 4,733.7 + \frac{1.94}{2.00} = \frac{4,735.64}{4,735.70} \text{ ft vs } \frac{4,735.00}{4,735.00} \text{ IF 8212}$$

Tailwater Level (TW) = $4,712 + Q_t/1,500 + (Q_s/1,700)^{0.667}$

$$= 4,712 + \frac{6,050}{5,800/1,500} + \frac{5,114}{(5,364/1,700)^{0.667}} = 4,712 + \frac{4.03}{3.87} + \frac{2.08}{2.15} = \frac{4,718.11}{4,718.02} \text{ ft}$$

Head Loss (HL) = $(Q_t/6,325)^2 = \frac{6,050}{(5,800/6,325)^2} = \frac{0.91}{0.84}$ ft

Net Head (NH) = HW - TW - HL = $\frac{4,735.64}{4,735.70} - \frac{4,718.11}{4,718.02} - \frac{0.91}{0.84} = \frac{16.62}{16.84}$ ft

$Q_t = 11.8 \times \text{kW} / \text{NH} \times \text{TE} \times \text{GE} = 11.8 \times 7,390 / \frac{16.62}{16.84} \times 0.909 \times 0.966 = \frac{6,041}{5,897}$ cfs Use 6,000 cfs

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CITY PLANT

Generating 7,390 kW on 1/30/1997 at 1900

$Q_{\text{river (r)}} = 11,124$ cfs at Idaho Falls gage (Graph in Figure 1 does not fit.)

$$Q_{\text{turbine (t)}} = \overset{6,750}{\cancel{6,500}} \text{ cfs estimate}$$

$$Q_{\text{spillway (s)}} = Q_r - Q_t = 11,164 - \overset{6,750}{\cancel{6,500}} = 4,624 \text{ cfs}$$

The following formulas, specific to each power plant, are from the CH2M Hill report

Turbine efficiency (TE) = see Hill chart using flow & net head (Figure 4, CH2M Hill report)

Generator efficiency (GE) = 0.966 from CH2M Hill report

$$\text{Headwater Level (HW)} = 4,694.5 + (Q_s/7,020)^{0.667} = 4,694.5 + \overset{H.414}{\cancel{(4,624/7,020)^{0.667}}}$$

$$= 4,694.5 + \overset{0.73}{\cancel{0.76}} = \overset{H.414}{\cancel{4,695.26}} \text{ ft}$$

*vs 4,695.16 ft
~ H.414
3 F 8 1/2*

$$\text{Tailwater Level (TW)} = 4,675.5 + Q_r/3,500 = 4,675.5 + 11,124/3,500 = 4,675.5 + 3.18 = 4,678.68 \text{ ft}$$

$$\text{Head Loss (HL)} = (Q_r/6,508)^2 = \overset{6,750}{\cancel{(6,500/6,508)^2}} = \overset{1.08}{\cancel{1.00}} \text{ ft}$$

$$\text{Net Head (NH)} = \text{HW} - \text{TW} - \text{HL} = \overset{4,695.23}{\cancel{4,695.26}} - 4,678.68 - \overset{1.08}{\cancel{1.00}} = \overset{15.50}{\cancel{15.58}} \text{ ft}$$

$$Q_t = 11.8 \times \text{kW} / \text{NH} \times \text{TE} \times \text{GE} = 11.8 \times 7,390 / \overset{15.5}{\cancel{15.58}} \times \overset{0.855}{\cancel{0.867}} \times 0.966 = \overset{6.811}{\cancel{6.683}} \text{ cfs}$$

use 6800 cfs

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LOWER (NEW) PLANT

Generating 6,310 kW on 2/12/1997 at 0900
With both old turbines operating near capacity--3,100 kW

$$Q_{\text{river (r)}} = 11,052 \text{ cfs at Idaho Falls gage (Graph in Figure 1 does not fit.)}$$

$$Q_{\text{turbine new plant (t)}} = \overset{4,750}{\cancel{5,200}} \text{ cfs (estimate)}$$

$$Q_{\text{turbine old plant (top)}} = 2,740 \text{ cfs (used previous water rights)}$$

$$Q_t + \text{top} = \overset{4,750}{\cancel{5,200}} + \overset{7,490}{2,740} = \overset{7,490}{\cancel{7,940}} \text{ cfs}$$

$$Q_{\text{spillway (s)}} = Q_r - Q_t + \text{top} = 11,052 - \overset{7,490}{\cancel{7,940}} = \overset{3,562}{\cancel{3,112}} \text{ cfs}$$

The following formulas, specific to each power plant, are from the CH2M Hill report

Turbine efficiency (TE) = see Hill chart using flow & net head (Figure 4, CH2M Hill report)

Generator efficiency (GE) = 0.966 from CH2M Hill report

$$\text{Headwater Level (HW)} = 4,674.5 + (Q_s/2,424)^{0.667} = 4,674.5 + \overset{3,562}{\cancel{(3,112/2,424)^{0.667}}}$$

$$= 4,674.5 + \overset{1.29}{\cancel{1.18}} = \overset{4,675.79}{\cancel{4,675.68}} \text{ ft}$$

$\sqrt[0.667]{4,675.79} = 1.29$
 $\sqrt[0.667]{4,675.68} = 1.18$

$$\text{Tail Water Level (TW)} = 4,654.6 + Q_r/3,226 = 4,654.6 + 11,052/3,226 = 4,654.6 + 3.43 = 4,658.03 \text{ ft}$$

$$\text{Head Loss (HL)} = (Q_t/6,535)^2 = \overset{4,750}{\cancel{(5,200/6,535)^2}} = \overset{0.53}{\cancel{0.63}} \text{ ft}$$

$$\text{Net Head (NH)} = \text{HW} - \text{TW} - \text{HL} = \overset{4,675.79}{\cancel{4,675.68}} - 4,658.03 - \overset{0.53}{\cancel{0.63}} = \overset{17.23}{\cancel{17.02}} \text{ ft}$$

$$Q_t = 11.83 \text{ kW} / \text{NH} \times \text{TE} \times \text{GE} = 11.83 \times 6,310 / \overset{17.23}{\cancel{17.02}} \times \overset{0.9335}{\cancel{0.927}} \times 0.966 = \overset{4,804}{\cancel{4,899}} \text{ cfs}$$

Use 4,800 cfs

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LOWER (NEW) PLANT

Generating 7,100 kW on 1/11/1997 at 1300
Without old turbines operating

$$Q_{\text{river } (r)} = 7,495 \text{ cfs at Idaho Falls gage (Graph in Figure 1 fits!)}$$

$$Q_{\text{turbine new plant } (t)} = \overset{5,200}{\cancel{5,400}} \text{ cfs (estimate)}$$

$$Q_{\text{turbine old plant (top)}} = \text{ZERO}$$

$$Q_{t + \text{top}} = \overset{5,200}{\cancel{5,400}} + 0 = \overset{5,200}{\cancel{5,400}} \text{ cfs}$$

$$Q_{\text{spillway } (s)} = Q_r - Q_{t + \text{top}} = 7,495 - \overset{5,200}{\cancel{5,400}} = \overset{2,295}{\cancel{2,095}} \text{ cfs}$$

The following formulas, specific to each power plant, are from the CH2M Hill report

Turbine efficiency (TE) = see Hill chart using flow & net head (Figure 4, CH2M Hill report)

Generator efficiency (GE) = 0.966 from CH2M Hill report

$$\text{Headwater Level (HW)} = 4,674.5 + (Q_s/2,424)^{0.667} = 4,674.5 + \overset{2,295}{(\cancel{2,095}/2,424)^{0.667}}$$

$$= 4,674.5 + \overset{0.96}{\cancel{0.91}} = \overset{4,675.46}{\cancel{4,675.41}} \text{ ft}$$

*VS 4,675.40
J.F. 8.12*

$$\text{Tailwater Level (TW)} = 4,654.6 + Q_r/3,226 = 4,654.6 + 7,495/3,226 = 4,654.6 + 2.32 = 4,656.92 \text{ ft}$$

$$\text{Head Loss (HL)} = (Q/6,535)^2 = \overset{5,200}{(\cancel{5,400}/6,535)^2} = \overset{0.63}{\cancel{0.68}} \text{ ft}$$

$$\text{Net Head (NH)} = \text{HW} - \text{TW} - \text{HL} = \overset{4,675.46}{\cancel{4,675.41}} - 4,656.92 - \overset{0.63}{\cancel{0.68}} = \overset{17.91}{\cancel{17.81}} \text{ ft}$$

$$Q_t = 11.8 \text{ kW} / \text{NH} \times \text{TE} \times \text{GE} = 11.8 \times 7,100 / \overset{17.91}{\cancel{17.81}} \times 0.924 \times 0.966 = \overset{5,215}{\cancel{5,270}} \text{ cfs}$$

Use 5,200 cfs

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DEC 0 4 1997

UPPER PLANT located 3 miles north of Idaho Falls with diversions in Sec. 25, T. 3 N., R. 37 E., B.M.

Water Right No.	Type of Water Right or Decree Name	Decree Date, File No., & Page No. in Decree	Priority Date	Flow in cfs	Subordination	
					Permit	License/Decree
01-02047	Permitted 12-19-1927 Licensed 2-11-1939		10-28-1927	500 ¹	No	No
01-04003	Idaho Falls Decree	9-03-1980, 01-B-4, p. 3	5-03-1930	580		No
01-02049	Permitted 5-15-1936 Licensed 3-14-1939		1-14-1936	1,080 ¹	No	No
01-07013	Permitted 3-05-1979 Field exam 3-17-1988		11-09-1977	2,600	For diversion to beneficial uses ²	
01-07023	Permitted 3-16-1979 Field exam 3-17-1988		2-15-1979	1,240	For diversion to beneficial uses ²	
Subtotal of non-subordinated water rights				2,160 cfs		
Total (using permitted quantities)				6,000 cfs		

The footnotes are numbered consecutively for the group of four powerplants operated by the city of Idaho Falls.
Revised on June 12, 1997.

¹ See City of Idaho Falls vs Carlson, 9-03-80, File 01-B-4; the Stipulation makes no change in license 01-02047, but it reduces the subsequent licensed right 01-02049 from 1,500 cfs to 1,080 cfs.

² Idaho Code 42-203B(6) allows for subordination to upstream "depletionary uses." Water Appropriation Rules, July 1, 1993, Rule 10.16 (010.16) defines a subordinated water right to be subject to depletion "for a purpose other than hydropower generation" (which appears to include recharge and non-hydropower storage). This type of language, which may clarify the status of recharge and non-hydropower storage, likely will be used at license time. A recent example is the condition placed on water license 01-07051 at Idaho Fall's Gem State Project which was licensed on 11-2-92 with the condition of subordination to future rights "other than hydropower." Idaho Code 42-4201A which states subsequent recharge rights are to be secondary to prior rights would have no bearing since the prior water right noted in this text would be a limited right in itself.

DEC 9 4 1997
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CITY PLANT located in the city of Idaho Falls with diversions in Sec. 24, T. 2 N., R. 37 E., B.M.

Water Right No.	Type of Water Right or Decree Name	Decree Date, File No., & Page No. in Decree	Priority Date	Flow in cfs	Subordination Permit License/Decree	
01-00197	Rexburg Decree	12-16-1910, 01-B, p. 59	11-18-1898	(75) ³	No	
01-00040	Rexbury Decree	12-16-1910, 01-B, p. 10	4-20-1900	140 ⁴	No	
01-00041	Rexburg Decree	12-16-1910, 01-B, p. 11	10-22-1904	48 ⁴	No	
01-02014	Permitted 12-14-1907 Licensed 2-11-1918		12-03-1907	485 ⁵	No	No
01-00360	Idaho Falls Decree	9-03-1980, 01-B-4, p. 2	2-05-1915	388	No	
01-00361	Idaho Falls Decree	9-03-1980, 01-B-4, p. 3	7-18-1919	394	No	
01-04002	Idaho Falls Decree	9-03-1980, 01-B-4, p. 3	10-05-1923	485	No	
01-07015	Permitted 3-05-1979 Field exam 3-17-1988		11-09-1977	2,600	For diversion to beneficial uses ²	
01-07024	Permitted 3-16-1979 Field exam 3-17-1988		2-15-1979	1,460	For diversion to beneficial uses ²	
Subtotal of non-subordinated water rights				1,940 cfs		
Total (using permitted quantities)				6,000 cfs		

³ This Rexburg Decree water right in the name of G. G. Wright has not had an adjudication claim filed on it. This water right was not mentioned in the City of Idaho Falls vs Carlson Decree, 9-03-80, File 01-B-4, Findings of Fact and Conclusions of Law or the Stipulation. No transfer of ownership information or confirmation of this place of use is available. Evidently this power plant was dismantled; however, its exact location is unknown. Quantity not used in the totals.

⁴ Also see City of Idaho Falls vs Carlson, 9-03-80, File 01-B-4, Findings of Fact and Conclusions of Law, p. 4.

⁵ See City of Idaho Falls vs Carlson, 9-03-80, File 01-B-4; the Stipulation reduces the licensed right from 600 cfs to 485 cfs.

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DEC 8 4 1987

LOWER PLANT located 1/2 mile south of Idaho Falls with diversions in Sec. 25, T. 2 N., R. 37 E., B.M.

Water Right No.	Type of Water Right or Decree Name	Decree Date, File No., & Page No. in Decree	Priority Date	Flow in cfs	Subordination Permit License/Decree
01-00281	Woodville Decree ⁶	6-29-1929, 01-K, p. 26	12-29-1905	1,500 ⁴	No
01-00282	Woodville Decree ^{6,7}	6-29-1929, 01-K, P. 26	9-07-1915	(100)	No
01-04001	Idaho Falls Decree	9-03-1980, 01-B-4, p. 3	10-05-1940	1,240	No
01-07014	Permitted 3-05-1979 Field exam 3-17-1988		11-09-1977	(5,100) ⁸ 4,800 ⁹	For diversion to beneficial uses ²
01-07025	Permitted 3-16-1979 Field exam 3-17-1988		2-15-1979	(900) ⁸ (860) ¹⁰ 0 ⁹	For diversion to beneficial uses ²
Subtotal of non-subordinated water rights				2,740 cfs	
Total (using permitted quantities)				(8,740 cfs) ⁸	
Total (using turbine capacity)				(8,700 cfs) ¹⁰	
Total				7,540 cfs	

⁶ Listed in the name of Utah Power and Light Co.

⁷ This water right was issued for the Shelley power plant located 1 1/2 miles downstream from the Lower Plant in Sec. 34, T. 2 N., R. 37 E., B.M. The water right for this site now removed could not be transferred to the City's Lower Plant because an expansion of a water right is not allowed.

⁸ Permitted amount. See water right file 01-07013 for most related data.

⁹ Total of new flow, 4,800 cfs recommended for new license. Add 1,500 cfs + 1,240 cfs for old plant.

¹⁰ Maximum amount needed. City of Idaho Falls "preliminarily determined turbine flow capacities to be" 8,700 cfs. See letter of October 4, 1994, to their private attorney, Kent Foster, located in water right file 01-07025.

DEC 6 1997

RECORDED

GEM STATE PROJECT located 4 miles south of Idaho Falls with diversions in Sec. 15, T. 1 N., R. 37 E., B.M.

Water Right No.	Type of Water Right or Decree Name	Decree Date, File No., & Page No. in Decree	Priority Date	Flow in cfs	Subordination Permit License/Decree
01-00283	Woodville Decree ⁶	6-29-1929, 01-K, p. 26	11-14-1924	(1,500) ¹¹	No
01-07051	Permitted 12-18-1985 Licensed 11-2-1992 ⁶		4-09-1980	3,000	Yes Yes ¹²
01-07018	Permitted 7-21-1982 Licensed 11-02-1992		3-17-1978	5,000	Yes Yes ¹²
Subtotal of non-subordinated water rights				none	
Total (using permitted and turbine capacity quantities)				8,000 cfs ¹³	

¹¹ The Decree refers to a water permit number that never was developed into a license.

¹² This water right was licensed on 11-2-92 with the condition that it is subordinate to future rights "other than hydropower."

¹³ October 14, 1992, Memorandum to File 01-07051 indicates the turbine capacity found during the field examination is 8,000 cfs.

2004 04 02

01-07051-01-07051



State of Idaho
DEPARTMENT OF WATER RESOURCES

1301 North Orchard Street, Statehouse Mail, Boise, Idaho 83720-9000
Phone: (208) 327-7900 FAX: (208) 327-7866

CECIL D. ANDRUS
GOVERNOR

R. KEITH HIGGINSON
DIRECTOR

November 15, 1994

RE: Permit Nos. 01-07013/07014/07015/07023/07024/07025

Kent W. Foster
Holden, Kidwell, Hahn & Crapo
PO Box 50130
Idaho Falls, ID 83405

Dear Mr. Foster:

We have reviewed your correspondence of October 10, which included the comments from the Chief Electrical Engineer from the City of Idaho Falls in relation to the above referenced permits. In response, I offer the following.

The information you submitted was routed to a departmental engineer who is familiar with power generating facilities. He reviewed the information along with the 1986 CH2M Hill report. Peak plant outputs taken from the city engineer's report were plotted onto the Hill diagram from the CH2M Hill report (copy enclosed). At 7.58 MW, the turbine flow at the "City Plant" would be about 6500 cfs, however, this operating point is on the absolute cavitation limit line. It is not logical that such a flow is utilized often and it would not be prudent to recommend a flow which could cause damage to the turbine. As you can see on the chart, the guaranteed cavitation limit line intersects at about 6150 cfs. The licenses to be issued for this plant will be changed to allow the maximum amounts permitted, thus bringing the city's rights for the plant to a total of 6000 cfs.

Plant output for the "Upper" and "Lower" plants calculates turbine flows below what has already been recommended by the Department, thus the figures recommended in our previous correspondence are generous and are the maximum to be considered for licensing.

One final note is that the figures recommended by the city's engineer for the "Upper" plant are considerably higher than what the city has water rights to cover, even after including the maximum rates permitted by the rights currently under review for that plant as well.

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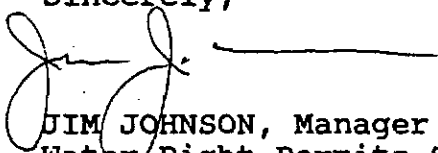
DEC 04 1997

Kent Foster
November 15, 1994
Page 2

I have again enclosed licensing amendments and a relinquishment form to finalize the licensing processing of these permits. Note that the amendment for Permit 01-07024 has been changed to the permitted rate of 1460.0 cfs to bring the total licensed amount for the "City" Plant to 6000.0 cfs.

If you have any further questions or concerns, feel free to give me a call at 327-7947.

Sincerely,

A handwritten signature in dark ink, appearing to read "Jim Johnson", followed by a horizontal line.

JIM JOHNSON, Manager
Water Right Permits Section

Enclosures

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DEC 04 1997

MEMORANDUM

November 8, 1994

To: ^{File} ~~Jim Johnson and Sharla Curtis~~

From: Jeff Peppersack

Re: City of Idaho Falls Hydropower

I have reviewed the information submitted by the City dated October 4, 1994 and other information from the water right files including the 1986 CH2M Hill report.

In order to gain some understanding of the relationship between plant output and turbine flows I plotted the peak plant outputs submitted by the City onto the Hill diagram from the CH2M Hill report (Figure 4.) which shows the operating conditions for each plant. Plant output was calculated as recommended in the report.

From the plot it can be seen that at 7.58 MW the turbine flow at the City plant would be about 6500 cfs. Note that this operating point is on the absolute cavitation limit line. Although turbine flow at the plant may have been near 6500 cfs it does not seem prudent to recommend a flow which could cause damage to the turbine. The guaranteed cavitation limit line intersects at about 6150 cfs. This flow would appear to be a reasonable upper limit for the plant.

Plant output for the Upper and Lower plants gives turbine flows below that already recommended by the Department.

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DEC 04 1997

Law Offices
HOLDEN, KIDWELL, HAHN & CRAPO, P.L.L.C.

FRED J. HAHN
KENT W. FOSTER
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CHARLES A. HOMER
GARY L. MEIKLE
GAYLE A. SORENSON, P.A.
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DALE W. STORER
MARIE T. TYLER
JOHN G. SIMMONS, P.A.
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JAMES K. SLAVENS

WEST ONE BANK BLDG.
330 SHOUP AVENUE, THIRD FLOOR
P.O. BOX 50130
IDAHO FALLS, IDAHO 83405

TELEPHONE (208) 523-0620
TELEFAX (208) 523-9518

RECEIVED

OCT 13 1994

Department of Water Resources

Arthur W. Holden
(1877-1967)
Robert B. Holden
(1911-1971)
Terry L. Crapo
(1939-1982)
William S. Holden
(1907-1988)

October 10, 1994

Mr. Jim Johnson
IDAHO DEPARTMENT OF WATER
RESOURCES
1301 North Orchard Street
Statehouse Mail
Boise, Idaho 83720

Re: Permit Nos. 01-07013 / 07014 / 07015 / 07023 / 07024 / 07025

Dear Mr. Johnson:

We have now received a letter from the City of Idaho Falls Chief Electrical Engineer containing that department's comments relating to the proposed licenses, permit amendments, and relinquishment form which you sent to us some time ago. With the permission of the engineer, we have elected to send you the original of his letter to us with all of the attachments for your further consideration.

Would you please review this material and feel free to call us for any additional information that might be helpful in order to make appropriate adjustments. We will look forward to hearing from you when it is convenient.

Very truly yours,



Kent W. Foster

Enclosure

c. Mark Gendron

G:\WPDATA\SANDRA\KWF\LETTE\00JIM01.LTR:sjw

MICROFILMED
DEC 04 1997



ELECTRIC DIVISION

CITY OF IDAHO FALLS

P.O. BOX 50220
IDAHO FALLS, IDAHO 83405-0220

RECEIVED OCT

6 1994

PHONE (208) 529-1430

October 4, 1994

Mr. Kent Foster
Holden, Kidwell, Hahn & Crapo
P.O. Box 50130
Idaho Falls, ID 83405

Dear Kent:

After review of your letter of March 21, 1994, transmitting proposed licenses, permit amendments, and a relinquishment form from IDWR relating to the Bulb Turbine Project, FERC No. 2842, we have the following comments:

The IDWR has used the CH₂M Hill generation report as a basis for establishing turbine capacities, and claim to have confirmed those capacities from power production records. After review of our records, we have determined the proposed capacities to be deficient for all three plants. Using the formulas from the CH₂M Hill report, actual generation records obtained from the Bonneville Power Administration billing records, river flow information from the USGS SIFI and SHYI gauges, turbine efficiencies from manufacturer generator tests, we have preliminarily determined turbine flow capacities to be:

Upper Plant	:	6,200 cfs ¹
City Plant	:	6,700 cfs
Lower Plant	:	8,700 cfs

The calculations are attached. The generation MW output used to calculate flow was not necessarily the highest on record, but the highest in 1993. This allowed utilization of the daily river flow data available to us in our office. The generation output is expressed in hourly averages. Instantaneous peaks would be equal or higher, resulting in equal or higher flow. Also, maximum generation levels do not necessarily yield the maximum turbine flow. Maximum turbine flow results from a combination of high power output, low net head, and low turbine-generator efficiency.

¹Does not include 100 cfs FERC license required bypass flow.

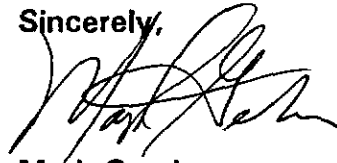
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We have not carefully evaluated turbine flow under any condition other than maximum power output. Summarizing, the flows listed above are not necessarily maximum quantities.

Also of concern is the proposed relinquishment of right 07025 (Lower Plant) and apparent reduction of rights 02049 (Upper Plant) and 02014 (City Plant). Finally, the flows for City Plant rights 04002, 00360, and 00361 do not agree with our records.

We believe that the licensed water rights for the Upper, City, and Lower Plants should be the higher of either the calculated flows herein or the sum of all old decrees, permits, and licenses, as summarized in your letter to Dale Storer dated March 25, 1986. After you have reviewed this information, please call to discuss our strategy with IDWR.

Sincerely,



Mark Gendron
Chief Engineer

MOG/180/mf
Enc.

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MAXIMUM GENERATION SUMMARY							
UPPER		CITY		LOWER		OLD LOWER	
MW	Date	MW	Date	MW	Date	MW	Date
7.20	9/2/93	7.14	8/3/93	6.93	7/9/93	3.14	6/26/93
7.25	8/9/93	7.58	7/8/93	6.96	3/7/86	3.256	7/10/86
7.30	7/16/93			6.98	8/1/85		
7.32	12/9/83			7.11	11/20/84		
				7.15	12/2/83		
				7.22	11/4/83		
				7.33	8/17/83		

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Upper Plant

Maximum Actual MW : 7.30

Date : 7/16/93 2300

River Q : 7,000 cfs

Assume Turbine Q = 6,000 cfs at SIFI gauge

From CH₂ Report:

$$HW = 4733.7 + \frac{1000}{1900}^{.667} = 4734.4$$

Qs = 1000 cfs not 1,000 cfs

for 5700 cfs

4733.84

$$TW = 4712 + \frac{Q_t}{1500} + \frac{Q_s}{1700}^{.667} = 4716.7$$

4712 + 380 + 0.15 = 4715.95

NH $HL = \left(\frac{Q_T}{6325} \right)^2 = 0.81$

$$HL = HW - TW - HL = 16.8 \text{ ft.}$$

4733.84 - 4715.95 - 0.81 = 17.08

0.84 at tower plant? $(E_T) = \frac{.86}{0.91}$ $E_G = .965$ $E = .83$

0.91 x 0.966 = 0.88

$$Q_T = \frac{(11.83)(kW)}{(NH)(E)} = \frac{(11.83)(7,300)}{(16.8)(.83)} = 6,193 \text{ cfs}$$

*11.8 * 7200 / 17.08 * 0.88 = 5653 cfs*

(5731)

IDWR Q = 5,700

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City Plant

Maximum Actual MW : 7.58 MW

Date : 7/8/93 1400

River Q : 8,000 cfs

Assume Turbine Q = 6,000 cfs

From CH₂ Report:

$$HW = 4694.5 + \frac{Q_s^{.667}}{7020} = 4694.9$$

Q_s = 100 cfs

For 5700 cfs

4694.56

$$TW = 4675.5 + \frac{Q_r}{3,500} = 4677.8$$

4677.16

$$HL = \frac{Q_t^2}{6508} = .8$$

→ 0.77

$$NH = HW - TW - HL = 16.3 \text{ ft} \quad 4694.56 - 4677.16 - 0.77 = 16.63$$

*0.84
at lower
plant?*

$$(E_T) = \frac{.86}{0.91} \quad E_G = .966 \quad E = .83 \quad 0.91 \times 0.966 = 0.88$$

$$Q_T = \frac{(11.83)(kW)}{(NH)(E)} = \frac{(11.83)(7.580)}{(16.3)(.83)} = 6,628 \text{ cfs} \quad \frac{11.8 \cdot 7200}{16.63 \cdot 0.88} = 5806 \text{ cfs}$$

IDWR Q = 5,700 cfs

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Lower Plant

Actual MW : 6.93 *

Date : 7/9/93 1800

River Q : 6,500 cfs @ SIFI gauge Assume Turbine Q = 6,000 cfs

From CH₂ Report:

$$HW = 4674.5 + \frac{Q_s^{.667}}{2424} = 4674.8 \quad \text{for } 5800 \text{ cfs} \quad 4674.62$$

$$TW = 4654.6 + \frac{Q_r}{3226} = 4656.6 \quad 4656.43$$

$$HL = \frac{Q_t^2}{6535} = .8 \quad 0.79$$

$$NH = HW - TW - HL = 17.4 \text{ ft} \quad 4674.62 - 4656.43 - 0.79 = 17.40$$

$$E_g = .966 \quad E_t = .84 \quad E = .81 \quad 0.91 \times 0.966 = 0.88$$

$$Q_T = \frac{(11.83)(kW)}{(NH)(E)} = \frac{(11.83)(6930)}{(17.4)(.81)} = 5,817 ** \quad \frac{11.8 \cdot 7200}{17.4 \cdot 0.88} = 5547 \text{ cfs} \quad 65340$$

IDWR Q = 5,900 cfs

* Actual maximum output has exceeded 6.93 MW on several occasions (3/7/86, 8/1/85, 11/20/84, 12/2/83, 11/4/83, and 8/17/83) This output was used because we have better river Q data at this time.

** Combined with the Old Lower Plant Q_T of 2831 cfs the Lower Plant total turbine flow should be 8,648 cfs.

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Old Lower Plant

Actual MW : 3.14 *

Date : 6/26/93 1400

River Q : 12,000 cfs @ SIFI gauge Assume Combined Turbine Q = 9,000 cfs

From CH₂ Report:

$$HW = 4674.5 + \frac{Q_s^{.667}}{2424} = 4675.7$$

$$TW = 4654.6 + \frac{Q_r}{3226} = 4658.3$$

HL = 1 ft. assumed

$$NH = HW - TW - HL = 16.4 \text{ ft}$$

E assumed = .8

$$Q_T = \frac{(11.83)(kW)}{(NH)(E)} = \frac{(11.83)(3140)}{(16.4)(.8)} = 2,831$$

* Actual maximum output has exceeded 3.14 MW (3.256 MW on 7/10/86 for example) this output was used for this calculation due the available river flow records.

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DEC 04 1997

U.S. DEPARTMENT OF ENERGY
BONNEVILLE POWER ADMINISTRATION
WHOLESALE POWER BILL

Box 3621

Portland, OR 97208-3621

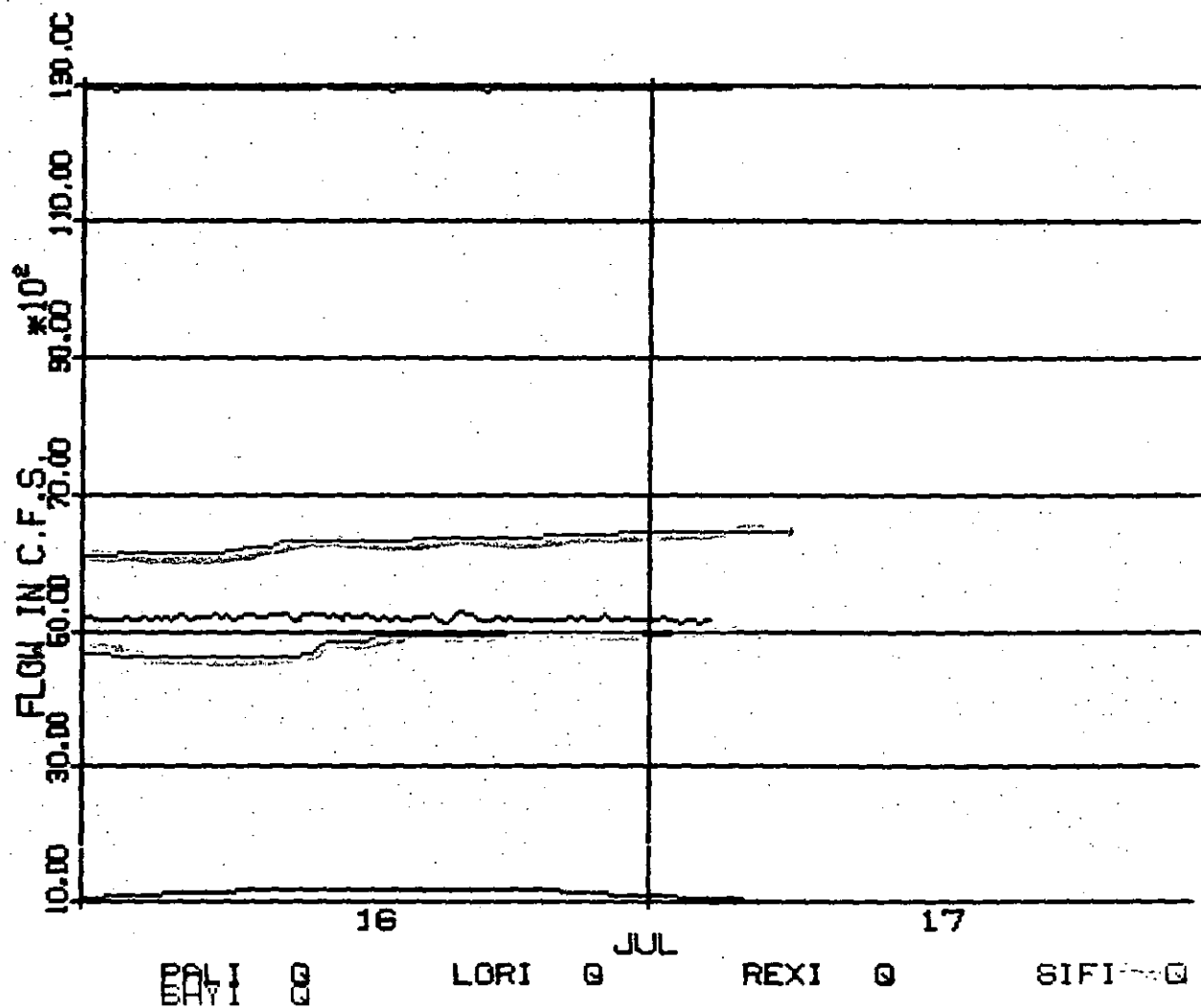
ACTUAL PEAK DEMAND SUPPLEMENTARY INFORMATION

CUSTOMER NAME - CITY OF IDAHO FALLS
POWER BILL ID - 5152307
MAILING DATE - 8/ 2/93

DEL.POINT	READING	K	LOSS FACT.	DEL.KW	MO DA HR
SUGRMILL1	399.000✓	50.00	1.000	19950	7 8 11
SUGRMILL2	449.000✓	50.00	1.000	22450	7 8 11
UPPER PNT	730.000✓	10.00	1.000	7300	7 16 23
CITY PNT	758.000✓	10.00	1.000	7580	7 8 14
OLDLWRPLT	166.000✓	10.00	1.000	1660	7 8 16
LWR PLANT	693.000✓	10.00	1.000	6930	7 9 18
WESTSDE	280.000✓	100.00	0.996	27891	7 13 14
WESTSDE/R	107.000✓	100.00	0.996	-10658	7 7 3
SGRML W	0.000✓	100.00	0.996		7 19 14
SGRML W/R	330.000✓	100.00	0.996	-32871	7 20 8
GEM/UTAH	908.000✓	25.00	0.996	22611	7 27 15
GEM/UT/RV	240.000✓	-25.00	0.996	-5977	7 7 10

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U.S. DEPARTMENT OF ENERGY
BONNEVILLE POWER ADMINISTRATION
WHOLESALE POWER BILL

P.O. Box 3621

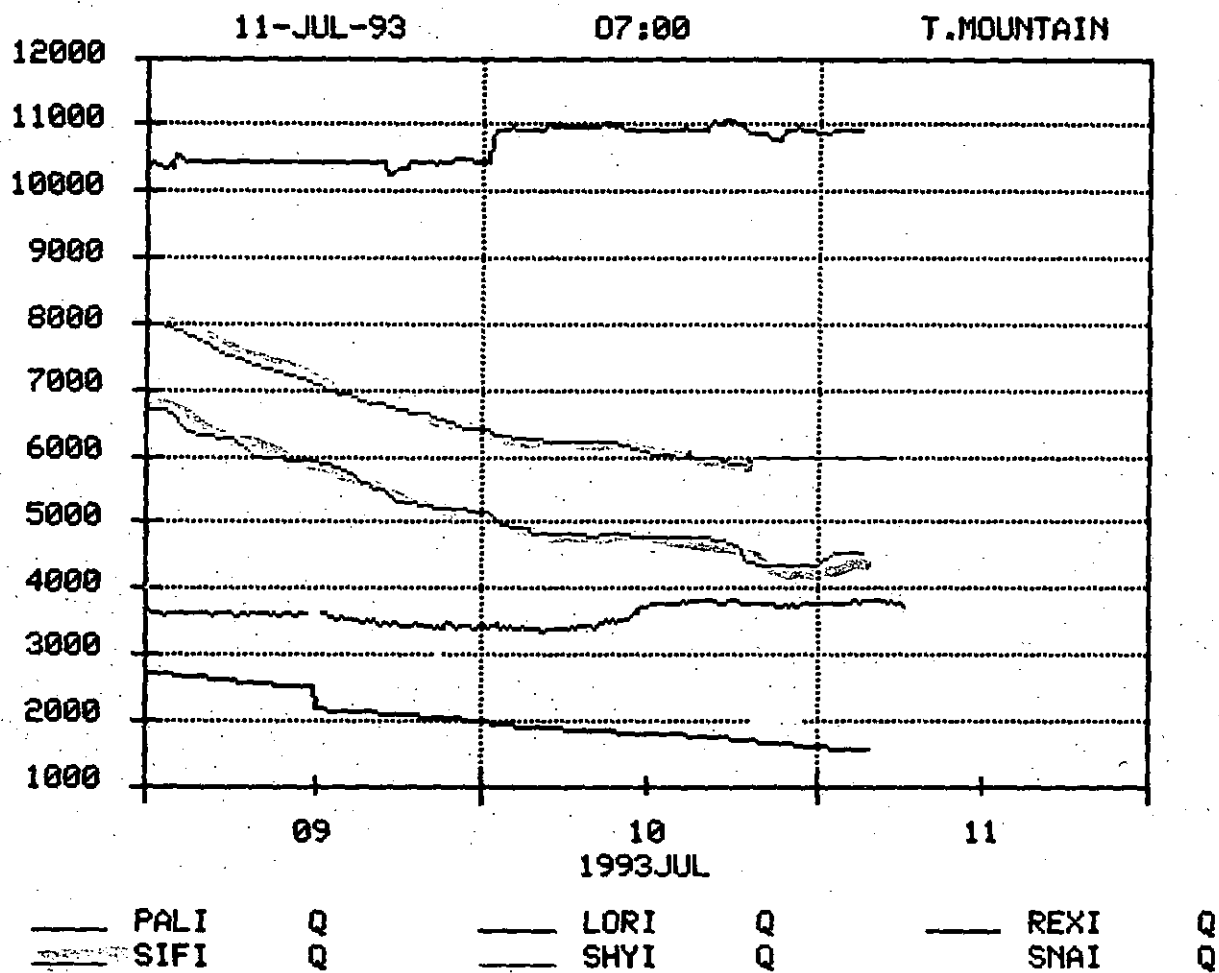
Portland, OR 97203-3621

ACTUAL PEAK DEMAND SUPPLEMENTARY INFORMATION

CUSTOMER NAME - CITY OF IDAHO FALLS
POWER BILL ID - 5152307
MAILING DATE - 8/ 2/93

DEL.POINT	READING	K	LOSS FACT.	DEL.KW	MO DA HR
SUGRMILL1	399.000 ✓	50.00	1.000	19950	7 8 11
SUGRMILL2	449.000 ✓	50.00	1.000	22450	7 8 11
UPPER PNT	730.000 ✓	10.00	1.000	7300	7 16 23
CITY PNT	758.000 ✓	10.00	1.000	7580	7 8 14
GLDLWRPLT	166.000 ✓	10.00	1.000	1660	7 8 16
LWR PLANT	693.000 ✓	10.00	1.000	6930	7 9 18
WESTSDE	280.000 ✓	100.00	0.996	27891	7 13 14
WESTSDE/R	107.000 ✓	-100.00	0.996	-10658	7 7 3
SGRML W	0.000 ✓	100.00	0.996		7 19 14
SGRML W/R	330.000 ✓	-100.00	0.996	-32871	7 20 8
GEM/UTAH	908.000 ✓	25.00	0.996	22611	7 27 15
GEM/UT/RV	240.000 ✓	-25.00	0.996	-5977	7 7 10

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DEC 04 1997



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DEC 04 1997

U.S. DEPARTMENT OF ENERGY
BONNEVILLE POWER ADMINISTRATION
WHOLESALE POWER BILL

Box 3621

Portland, OR 97208-3621

ACTUAL PEAK DEMAND SUPPLEMENTARY INFORMATION

CUSTOMER NAME - CITY OF IDAHO FALLS
POWER BILL ID - 5152306
MAILING DATE - 7/ 2/93

DEL.POINT	READING	K	LOSS FACT.	DEL.KW	MD DA HR
SUGRMILL1	475.000 ✓	50.00	1.000	23750	6 5 10
SUGRMILL2	535.000 ✓	50.00	1.000	26750	6 5 10
UPPER PNT	719.000 ✓	10.00	1.000	7190	6 18 6
CITY PNT	738.000 ✓	10.00	1.000	7380	6 26 13
OLDLWRPLT	314.000 ✓	10.00	1.000	3140	6 26 14
LWR PLANT	687.000 ✓	10.00	1.000	6870	6 28 17
WESTSDE	291.000 ✓	100.00	0.996	28937	6 15 14
WESTSDE/R	42.000 ✓	100.00	0.996	-4184	6 1 3
SGRML W	0.000 ✓	100.00	0.996		
SGRML W/R	319.000 ✓	100.00	0.996	-31776	6 5 14
GEM/UTAH	914.000 ✓	25.00	0.996	22761	6 27 17
GEM/UT/RV	238.000 ✓	-25.00	0.996	-5927	6 27 7

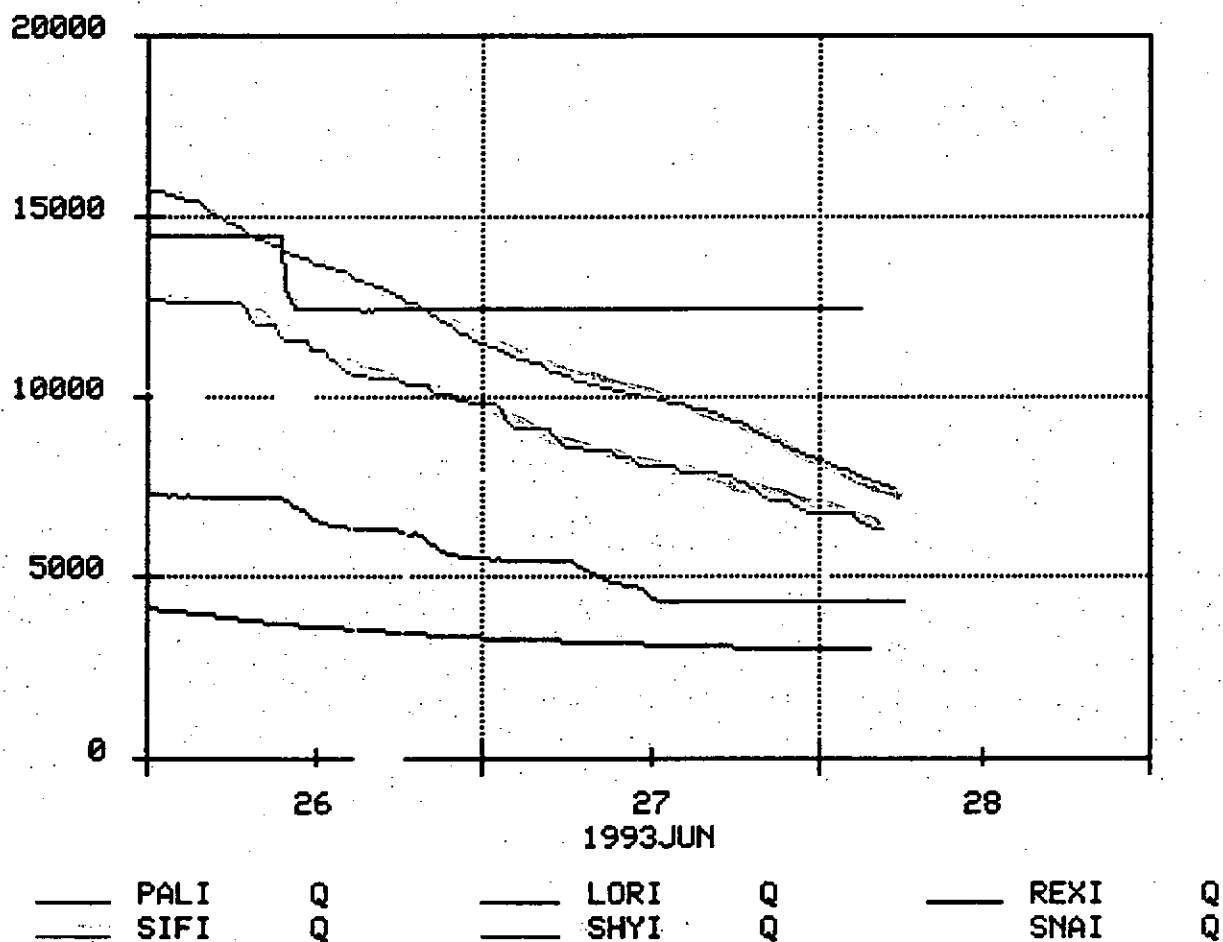
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J.LINGER

06:30

28-JUN-93



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DEC 04 1997



VOEST-ALPINE AG
Maschinenbau
MACHINERY DEPARTMENT

IDAHO FALLS
HYDROELECTRIC PROJECT
S.O. 5644/10714

Part Page
III / A 1

A. MAIN DATA OF TURBINE

1. General

- type	KAPLAN BULBTURBINE
- manufacturer	VOEST-ALPINE
- number of units	3
- rated discharge	6000 cfs
- rated output	8300 kW
- rated speed	94,73 RPM
- runaway speed	240 RPM
- max.speed rise	45 %
- direction of rotation in view of water flow direction	clockwise
- turbine starting time	2,2 s
- starting time of water ways	3,1 s
- rated nethead	18 ft
- max.nethead	20,1 ft
- min.nethead	13,3 ft
- max.pressure rise	10 %
- cross section intake	44,75ftx28,52ft (1276,27ft ²)
- cross section outlet	31,58ftx22ft (694,76ft ²)
- flywheel effect turbine	7,775.10 ⁵ lb ft
- flywheel effect generator	3,57.10 ⁶ lb ft

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U.S. DEPARTMENT OF ENERGY
BONNEVILLE POWER ADMINISTRATION
WHOLESALE POWER BILL

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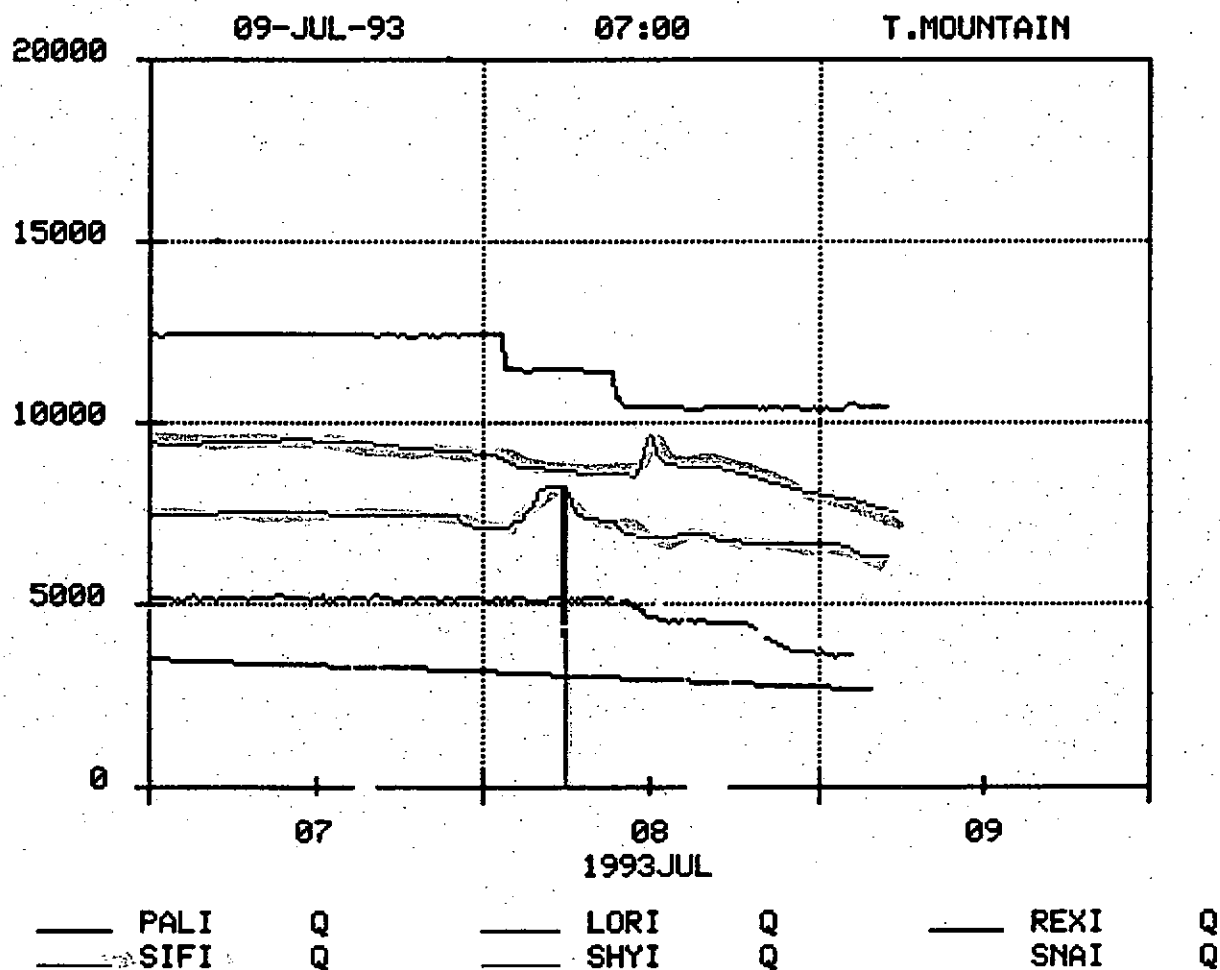
ACTUAL PEAK DEMAND SUPPLEMENTARY INFORMATION

CUSTOMER NAME - CITY OF IDAHO FALLS
POWER BILL ID - 5152307
MAILING DATE - 8/ 2/93

DEL.POINT	READING	K	LOSS FACT.	DEL.KW	MO	DA	HR
SUGRMILL1	399.000 ✓	50.00	1.000	19950	7	8	11
SUGRMILL2	449.000 ✓	50.00	1.000	22450	7	8	11
UPPER PNT	730.000 ✓	10.00	1.000	7300	7	16	23
CITY PNT	758.000 ✓	10.00	1.000	7580	7	8	14
GLDLWRPLT	166.000 ✓	10.00	1.000	1660	7	8	16
LWR PLANT	693.000 ✓	10.00	1.000	6930	7	9	18
WESTSDE	280.000 ✓	100.00	0.996	27891	7	13	14
WESTSDE/R	107.000 ✓	100.00	0.996	-10658	7	7	3
SGRML W	0.000 ✓	100.00	0.996		7	19	14
SGRML W/R	330.000 ✓	100.00	0.996	-32871	7	20	8
GEM/UTAH	908.000 ✓	25.00	0.996	22611	7	27	15
GEM/UT/RV	240.000 ✓	-25.00	0.996	-5977	7	7	10

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DEC 04 1997

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JUN 23 1994

Department of Water Resources

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BOISE OFFICE

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WILLIAM S. HOLDEN
(1907-1988)

June 21, 1994

Mr. Jim Johnson
IDAHO DEPARTMENT OF WATER
RESOURCES
1301 North Orchard Street
Statehouse Mail
Boise, Idaho 83720

RE: Permit Nos. 01-07013/07014/07015/07023/07024/07025

Dear Mr. Johnson:

After receipt of the proposed licenses which you sent, we asked the city's electrical department to review them as you know. There were a number of questions and concerns that arose.

First, as the engineers began to compare the proposed licenses with the actual use of water through the turbines and their capacities, it became apparent that there were significant discrepancies. The engineers then went to the proof of beneficial use forms and the field exam reports and concluded that those documents don't contain the total plant capacities or actual amounts used, but rather appear only to address the extra amounts used under the two extra permits for each plant. For whatever reason, the amounts previously appropriated appear not to have been considered in preparation of the proof of beneficial use or the field exams, presumably because such rights were not at issue in connection with the licensing of the above numbered permits.

Also, at the lower plant, the exams and reports didn't even take into consideration the existence of the old machines which are still used as well as the newer bulb turbine.

The engineers are trying to prepare documentation which will provide an understandable record of both water diversion and power production by all generators at each

MICROFILMED

DEC 04 1997

Mr. Jim Johnson

June 21, 1994

Page 2

plant since the installation of the three bulb turbines. As soon as that information is available, we will provide it to you.

Then, you may wish to visit with the city engineers yourself. You would of course even be welcome to come and personally tour the facilities at your convenience.

We will probably be in touch again soon. Thank you for your continued consideration in this matter.

Very truly yours,



Kent W. Foster

G:\WPDATA\SANDRA\00JOHN01.LTR:sjw

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DEC 04 1997



State of Idaho
DEPARTMENT OF WATER RESOURCES

1301 North Orchard Street, Statehouse Mail, Boise, Idaho 83720-9000
Phone: (208) 327-7900 FAX: (208) 327-7866

CECIL D. ANDRUS
GOVERNOR

R. KEITH HIGGINSON
DIRECTOR

June 14, 1994

CITY OF IDAHO FALLS
C/O G S HARRISON
PO BOX 220
IDAHO FALLS ID 83402

RE: Permit Nos. 01-07013, 01-07014, 01-07015, 01-07023,
01-07024 and 01-07025,

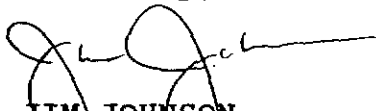
Dear Water Right Holder:

On March 3, 1994 we sent you copies of proposed licenses for Water Right Nos. 01-07014, 01-07015 and 01-07024; Amendment forms for Water Right Nos. 01-07013 and 01-07023 and a Relinquishment form for Water Right No. 01-07025.

On March 31, 1994 we received your letter of March 29, 1994 stating that your city engineers were reviewing the paperwork, and asking that we hold the matter in abeyance until they had time to complete their review.

We would appreciate knowing what progress you have made to date, and when we can expect to receive the Amendment forms back so that we can continue processing those rights. If you have any questions please call me at (208) 327-7947.

Sincerely,



JIM JOHNSON
Water Rights Supervisor

JJ:dc

Enclosure

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DEC 04 1997

LAW OFFICES
HOLDEN, KIDWELL, HAHN & CRAPO

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(1907-1988)

March 29, 1994

Mr. Jim Johnson
IDAHO DEPARTMENT OF WATER
RESOURCES
1301 North Orchard Street
Statehouse Mail
Boise, Idaho 83720

RECEIVED

MAR 31 1994

Department of Water Resources

RE: The City of Idaho Falls Bulb Turbine Licenses

Dear Jim:

We have recently received your letter and the attached proposed licenses. We have sent a full set to the city engineers for review and have been advised that it will take some time before they are able to complete that. Would you please hold this matter in abeyance until we are able to get back to you. Thank you for your continued assistance.

Yours very truly,



Kent W. Foster

G:\WPDATA\KWF\0518\00IDWR01.LTR

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DEC 04 1997



State of Idaho

DEPARTMENT OF WATER RESOURCES

1301 North Orchard Street, Statehouse Mail, Boise, Idaho 83720-9000

Phone: (208) 327-7900 FAX: (208) 327-7866

CECIL D. ANDRUS
GOVERNOR

R. KEITH HIGGINSON
DIRECTOR

March 3, 1994

RE: Permit Nos. 01-07013/07014/07015/07023/07024/07025

Kent Foster
Holden, Kidwell, Hahn & Crapo
P.O. Box 50130
Idaho Falls, ID 83405

Dear Mr. Foster:

After an extensive review of the above referenced permits, we are ready to finalize the licensing process.

Enclosed are copies of the proposed licenses for Permit Nos. 01-07014, 01-07015 and 01-07024. Permit Nos. 01-07013 and 01-07023 require amendments due to changes in the point of diversion locations; the amendments have also been enclosed for signature.

A relinquishment form has been enclosed for Permit No. 01-07025. Since the capacity of 5800 cfs is covered by the two previous decreed and claimed rights and the license to be issued on Permit 01-07014, there is no additional water to be appropriated under the second permit.

Below is a compilation of rights covering the three plants, including the rights to now be licensed. The turbine capacities are stated in the Turbine Evaluation & Energy Generation report prepared by CH2M HILL. These capacities are confirmed by power production records and have been used as the capacities upon which the licenses are based.

Upper Plant -

01-02047	-	500 cfs
01-02049	-	1080 cfs (see enclosed Stipulation)
01-04003	-	580 cfs
01-07013*	-	2600 cfs
01-07023*	-	<u>940 cfs</u>
		5700 cfs

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DEC 04 1997

Kent Foster
March 3, 1994
Page 2

Central Plant -	
01-00040 -	140 cfs
01-00041 -	48 cfs
01-02014 -	485 cfs (see enclosed Stipulation)
01-04002 -	388 cfs 485
01-00360 -	394 cfs 388
01-00361 -	485 cfs 394 RM
01-07015* -	2600 cfs
01-07024* -	<u>1160 cfs</u>
	5700 cfs
Lower Plant -	
01-00281 -	1500 cfs
01-04001 -	1240 cfs
01-07014* -	3060 cfs
01-07025 -	<u>not needed</u>
	5800 cfs

If you concur with this information, please sign the relinquishment form and the two amendments. These documents can then be returned to us along with the amendment fees so that licenses can be issued. If you have any questions, feel free to give me a call at 327-7947.

Sincerely,



JIM JOHNSON
Water Rights Supervisor

Enclosures

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DEC 04 1987

MEMORANDUM

TO: Files 01-07013/07014/07015/07023/07024/07025

FROM: Sharla

DATE: February 3, 1994

RE: Plant Capacities and Licensing Rates of Diversion

Rights 01-07014/07015/07024/07025 were sent to Norm for license signature in June of 1993. They were returned by Norm with questions concerning plant capacities and flow rates to be licensed. After extensive review, the following summation is given.

In documentation contained in Right 01-07014, Skip Jones made some math and flow computations based on a formula provided by Internation Engineer for determining flow (Kilowatts = flow x head/14, thus $Q = KW \times 14/18$). Skip's calculation was based on plant records of kWh's and kW's from 1985 to 1987. While it appeared that November of 1985 had the highest kW output, comparison of the corresponding column (kWh) for that month with other similar kWh data, it appears that the 9,760 kW should be 6760 kW. Therefore, the data from March of 1986 was appropriately used to determine maximum generation.

The measuring device requirement under these rights was changed to require information &/or flow data to reflect the rate of flow beneficially used. While the data supplied with the exams is not as technically complete as would be preferred, the plant generating records are sufficient for calculation using the method stated above. Further compliance with the condition does not appear to need addressing.

In a listing of water rights covering these three bulb turbine plants which is contained in 01-07014, there were several errors in amount of cfs under some rights. Further investigation of adjudication claims and previous licenses revealed a Stipulation prepared in 1980 which set out the amounts to be recognized under 01-02014/02049 if ever included in a future adjudication. The ongoing SRBA will have to recognize these reduced amounts and the

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DEC 04 1997

reductions were considered when evaluating the flow needing to yet be licensed. The listing of rights covering the plants are as follows:

Upper Plant -

01-02047	-	500 cfs
01-02049	-	1080 cfs
01-04003	-	580 cfs
01-07013*	-	2600 cfs
01-07023*	-	<u>940 cfs</u>
		5700 cfs

Central Plant -

01-00040	-	140 cfs
01-00041	-	48 cfs
01-02014	-	485 cfs
01-04002	-	388 cfs 485
01-00360	-	394 cfs 388
01-00361	-	485 cfs 394 <i>RM</i>
01-07015*	-	2600 cfs
01-07024*	-	<u>1160 cfs</u>
		5700 cfs

Lower Plant -

01-00281	-	1500 cfs
01-04001	-	1240 cfs
01-07014*	-	3060 cfs
01-07025	-	<u>not needed</u>
		5800 cfs

The turbine capacities are stated in the Turbine Evaluation & Energy Generation report prepared by CH2M HILL. These capacities are very close to the capacities determined when using the calculation described at the beginning of this memo. Therefore, the turbine capacities found in the report have been used as the capacities upon which the licenses are based.

*to be licensed

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DEC 04 1987

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JUL 02 1993

Department of Water Resources

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HOLDEN, KIDWELL, HAHN & CRAPO

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(1907-1988)

June 30, 1993

Jim Johnson, Water Right Supervisor
IDAHO DEPARTMENT OF WATER RESOURCES
1301 North Orchard Street
Statehouse Mail
Boise, Idaho 83720

RE: City of Idaho Falls Bulb Turbine Project

Dear Jim:

I believe we spoke briefly by telephone a few weeks ago about six permits for the City of Idaho Falls bulb turbine power plants. This letter is intended just as a follow-up since I have been asked to follow the matter until the licenses have been issued.

You will probably recall that there are three bulb turbine plants; we call them the "Upper Plant", the "Central Plant" and the "Lower Plant". They were completed and came on line in about 1980 or 1981. There are two permits for the Upper Plant (01-07013 and 01-07023), two for the Central Plant (01-07015 and 01-07024), and two for the Lower Plant (01-07014 and 01-07025). It appears the Proof of Beneficial Use was submitted in 1983 for all six permits, and the field exam was done in 1988.

As I recall, when we visited by telephone, we mentioned to you that each of the plants is a replacement of a former smaller plant at each site. The city started producing electricity at its first plant in about 1900, and over the years there have been a number of increases at each site until the culmination of the bulb turbine project of the late 70s and early 80s.

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DEC 04 1997

Jim Johnson, Water Right Supervisor
June 30, 1993
Page 2

If we can provide information or be of service in any manner to help finish the licensing process on these six permits, we hope you will feel free to call upon us. We will look forward to hearing from you as soon as it is convenient.

Yours very truly,



Kent W. Foster

#0518.00/srs

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DEC 04 1997

DATE: 05/27/93
PAGE: 1

Stage: LICENSE

Remarks: ① Use of water under this license shall not cause fluctuation in the flows of the Snake River which impairs the ability of prior right holders to divert their water.

② The diversion and use of water under this license is subject to review by the Director after the date of expiration of license

IDAHO DEPARTMENT OF WATER RESOURCES
WATER RIGHT PROFILE REPORT
(REGIONAL)

Remarks: 2842 issued by the Federal Energy Regulatory Commission. Upon appropriate findings relative to the interest of the public, the Director may cancel all or any part of the use authorized herein and may revise, delete or add conditions under which the right may be exercised.

③ This license is subject to revocation pursuant to Section 42-350, Idaho Code.

④ This power facility is known locally as the Three City Bulb Turbine Plants.

Dates:	App. Received:	11/09/1977	Priority Date:	11/09/1977
	Proof Due Date:	04/01/1983	Proof Made Date:	02/18/1983
	Exam Made Date:	01/12/1988	Exam Sent to S.O.:	03/16/1988
	Licensed Date:			

Misc: Water District Number: 01 Field Exam Fee:

Audit: 05/27/93 CHAPMAN

LICENSE REVIEW CHECKLIST

Permit # 01-7014

Date 5-26-93

Brenda Chapman

	<u>Yes</u>	<u>No</u>	
NAME	<u> </u>	<u>✓</u>	Address Change?
PRIORITY DATE	<u> </u>	<u>✓</u>	Advance?
	<u> </u>	<u>✓</u>	Memo to Advance
	<u> </u>	<u>✓</u>	Order to Reinstatement Needed?
TOTAL CFS	<u>-NA-</u>		Incorrect Fee for rate recommended?
	<u>-NA-</u>		Measurement Done
	<u> </u>	<u>✓</u>	Pumping Theoretical $(8.8) \times () \times (.7)$
			$(+ [2.31 \times])$
	<u> </u>	<u>✓</u>	System Capacity <u>5100</u>
			Allowable Amount: <u>5100 CFS</u>
TOTAL VOLUME			Rate/ac <u> </u> AFA Irr. Season <u> </u>
			Standard Irr. Season <u> </u>
			Season Recommended <u> </u>
	<u> </u>	<u>✓</u>	Disagree with Examiner's Calculations?
	<u> </u>	<u>✓</u>	Flow limit: <u>5100</u> x <u>365</u> x <u>1.9835</u> = <u>3692285</u>
SOURCE	<u> </u>	<u>✓</u>	Changes? Clarification of <u>Originally</u>
	<u> </u>	<u>✓</u>	<u>Intended</u> source
	<u> </u>	<u>✓</u>	Notice of Intent to Void.
P/D	<u> </u>	<u>✓</u>	Amendment Needed?
	<u> </u>	<u>✓</u>	Overlap Analysis a Consideration?
P/U	<u> </u>	<u>✓</u>	Amendment Needed?
	<u> </u>	<u>✓</u>	Overlap Analysis for 5+ Acres Needed?
USES	<u> </u>	<u>✓</u>	Change(s) in Nature of Use? <u> </u>
	<u> </u>	<u>✓</u>	Amendment Needed?
REMARKS	<u> </u>	<u>✓</u>	Multiple P/Ds in 1/4 1/4? <u> </u>
	<u>✓</u>	<u> </u>	Non-Irr. Uses <u>POWER</u>
	<u> </u>	<u>✓</u>	Special Overlap Condition <u> </u>
	<u>✓</u>	<u> </u>	Other <u>Special Remarks</u>
CONDITIONS	<u>Changed</u>		Measuring Devices <u> </u>
R23	<u>RD4</u>		W/Master Control <u> </u>
O8A	<u> </u>	<u>✓</u>	Standard/Irr/Overlap <u> </u>
O17	<u> </u>	<u>✓</u>	Water Quality <u> </u>
O27	<u> </u>		Dates/Misc <u> </u>
COMMENTS:			Water Dist <u> </u>
			App Rec'd <u> </u>
			Exam Made <u> </u>

LICENSE ✓ AMEND SPECIAL PARAGRAPH

④

LAW OFFICES
HOLDEN, KIDWELL, HAHN & CRAPO

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MAY 20 1993

Department of Water Resources

BOISE OFFICE

WM. LYMAN BELNAP, P.A.
RANDALL B. REED
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RONALD D. CHRISTIAN

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WILLIAM D. FALER
STEPHEN E. MARTIN
CHARLES A. HOMER
GARY L. MEIKLE
GAYLE A. SORENSON, P.A.
DONALD L. HARRIS
MARIE T. TYLER
JOHN G. SIMMONS, P.A.
ROBERT M. FOLLETT
KUMEN L. TAYLOR
JAMES K. SLAVENS

WEST ONE BANK
P.O. BOX 50130
330 SHOUP AVENUE
IDAHO FALLS, IDAHO 83405

TELEPHONE (208) 523-0820
TELEFAX (208) 523-9518

KEY FINANCIAL CENTER
702 W. IDAHO SUITE 810
BOISE, IDAHO 83702

TELEPHONE (208) 343-0820
TELEFAX (208) 343-8078

May 18, 1993

ARTHUR W. HOLDEN
(1877-1967)
ROBERT B. HOLDEN
(1911-1971)
TERRY L. CRAPO
(1939-1982)
WILLIAM S. HOLDEN
(1907-1988)

Idaho Department of Water Resources
1301 North Orchard Street
Statehouse Mail
Boise, Idaho 83720

Idaho Department of Water Resources
900 North Skyline Drive
Idaho Falls, Idaho 83402-1718

Gentlemen:

In a recent review of some of the City of Idaho Falls' water rights, we discovered that a number of the potential licenses for water rights used for power production at the Three City Bulb Turbine Plants have never been issued. The following is a list of such rights: 01-7013, 01-7014, 01-7015, 01-7023, 01-7024 and 01-7025.

It appears that for each of these rights the proof of beneficial use was filed in 1983 and the field exams completed in 1988. We wonder if you would check these items to determine what the cause of the delay in issuing the licenses might be and advise us. If there is something the city needs to be doing in this regard, we would appreciate learning of that as well. Thank you for your kind attention to this matter.

Yours very truly,



Kent W. Foster

#0518.00/srs

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MAR 16 1990 *ms* *PJ2*

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION Department of Water Resources

City of Idaho Falls

Project No. 2952-0247
Idaho

ORDER GRANTING EXTENSION OF TIME
(Issued March 12, 1990)

The licensee for the Gem State Project has requested an extension of time to comply with ordering paragraph B of the Commission's Order Approving Riparian Habitat Mitigation Plan with Modification issued September 29, 1988. The reasons advanced by the licensee in support of the requested extension of time are reasonable and justify the extension.

The Director orders:

(A) The deadline for filing the first annual riparian habitat mitigation monitoring report according to ordering paragraph B is extended to December 31, 1990.

(B) This order is issued under authority delegated to the Director and is final unless appealed to the Commission under Rule 1902 within 30 days from the date of its issuance.

J. M. Robinson
J. Mark Robinson
Director, Division of Project
Compliance and Administration

DC-A-5

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01- 7053/7066 (Shelley/Hall's 2810)
01- 7025/7034/7023/7057/7014/7013 (Hall's 2810)
01- 2047/2049 (2812)
01- 4001/4005/01-0300/0301
(Do 601-21)

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

City of Idaho Falls

Project No. 2842-012
Idaho

ORDER APPROVING REVISED EXHIBIT K DRAWINGS

(Issued October 19, 1989)

On October 3, 1988, the City of Idaho Falls, licensee for the Upper Power Plant Project, FERC Project No. 2842, filed revised Exhibit K drawings in response to a letter dated April 19, 1988 from the Director, Division of Project Compliance and Administration.

The Exhibit K drawings have been revised to more accurately reflect the project boundary under all operating conditions and conform to the Commission's Rules and Regulations.

Director orders:

(A) The following revised Exhibit K drawings are approved and made a part of the license:

Exhibit	FERC No.	Drawing Title
K-1	2842-77	Project Boundary-Sheet 1 of 9
K-1	2842-78	Project Boundary-Sheet 2 of 9
K-1	2842-79	Project Boundary-Sheet 3 of 9
K-1	2842-80	Project Boundary-Sheet 4 of 9
K-1	2842-81	Project Boundary-Sheet 5 of 9
K-1	2842-82	Project Boundary-Sheet 6 of 9
K-1	2842-83	Project Boundary-Sheet 7 of 9
K-1	2842-84	Project Boundary-Sheet 8 of 9
K-1	2842-85	Project Boundary-Sheet 9 of 9

(B) Exhibit K drawing numbers 2842-3 and 2842-4 are superseded and removed from the license.

(C) Within 90 days of the date of issuance of this order, the licensee shall file an original of the approved Exhibit K drawings reproduced on silver or gelatin 35mm microfilm mounted on Type D (3 1/4" x 7 3/8") aperture cards for each drawing. In addition, the licensee shall file two Diazo-type duplicate aperture cards. The original set and one duplicate set of aperture cards should be filed with the Secretary of the Commission. The remaining duplicate set of aperture cards should be filed with the Commission's Portland Regional Office. The FERC drawing numbers (2842-77 through 2842-85) shall be shown in the margin below the title block of the microfilmed drawing and also in the upper-right corner of each aperture card. The top

DC-A-8

*See
attachment*

-2-

lines of the aperture cards shall show the FERC Exhibit (i.e., K-1, K-2), Project Number, Drawing Title, and date of this order.

(D) This order is issued under authority delegated to the Director and is final unless appealed to the Commission under Rule 1902 within 30 days from the date of this order. Failure to file a petition appealing this order to the Commission shall constitute acceptance of this order.

J. Mark Robinson
J. Mark Robinson
Director, Division of Project
Compliance and Administration

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OCT 26 1989

Department of Water Resources

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POWER RIGHTS FOR CITY OF IDAHO FALLS
DIVERTING FROM SNAKE RIVER

✓ 0107066
✓ 0107025
✓ 0107024
✓ 0107023
✓ 0107015
✓ 0107014
✓ 0107013
✓ 0107018
✓ 0102047
✓ 0102049
0104001
0104003
0100360
0100361

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MAY 09 1989

01-7013-1013
01-7018/7023-01-7025
01-2047/2049

01-7011

Department of Water Resources
UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

47 FERC 61,115

Before Commissioners: Martha O. Heshe, Chairman;
Charles G. Stalon, Charles A. Trabandt,
Elizabeth Anne Moler and Jerry J. Langdon.

City of Idaho Falls, Idaho) Project Nos. 2842-013 and
-017

ORDER DISMISSING REQUESTS FOR REHEARING AND APPROVING
AMENDMENT OF LICENSE AND REVISED EXHIBIT R

(Issued April 27, 1989)

By order issued June 24, 1988, the Director, Division of Project Compliance and Administration (Director), denied the request of the City of Idaho Falls, Idaho (licensee), filed March 22, 1988, to amend its license by deleting a requirement to install shore-to-shore buoy lines from the licensee's Exhibit R (recreation use plan) drawings for Project No. 2842. 1/ Based on recommendations and a site inspection by personnel of the Commission's Portland, Oregon Regional Office (PRO), the Director rejected the licensee's proposal to install warning signs in lieu of the required buoy lines. 2/ The Director noted that the PRO's

- 1/ See Order Approving in Part and Modifying in Part a Revised Exhibit R, 43 FERC ¶ 62,366 (1988). The Director's order also revised the Exhibit R to require: (1) seasonal installation of the buoy lines between May 1 and September 30 each year, beginning in 1989; and (2) permanent installation of (a) warning signs at four locations upstream from the buoy lines to warn boaters of the project's three dam locations and (b) warning horns at the spillway gates to alert persons downstream from the project of sudden water releases.
- 2/ The license for Project No. 2842 was issued on February 8, 1979. See 6 FERC ¶ 61,120 (1979). Article 42 of the license (id. at p. 61,219) required the licensee to file for Commission approval a revised Exhibit R within one year from the date of issuance of the license. The licensee's Exhibit R, as filed on May 30, 1980, and approved November 16, 1981 (17 FERC ¶ 62,240 (1981)), included buoy lines in the project drawings.

Project Nos. 2842-013
and 2842-017

-2-

site inspection revealed that recreational boaters were coming dangerously close to the project's diversion structures. 3/

On July 25, 1988, the licensee timely filed an appeal of the Director's order, challenging the buoy-line requirement. On July 26, 1988, the Bonneville County, Idaho Sheriff's Department (Department) filed a request for intervention in the proceeding and a late appeal of the Director's order. By order issued October 7, 1988, the Commission granted the Department's intervention request and denied the appeals. 4/ The Commission found that the project's ungated spillways posed a hazard for recreationists and that the buoy lines would provide a needed additional measure of safety that warning signs alone could not provide. 5/

- 3/ Project No. 2842 is located on the Snake River in Bonneville County, Idaho, and consists of three run-of-river hydroelectric developments designated Upper Plant, City Plant, and Lower Plant. Upper Plant includes two combination concrete and earthfill dams, one 600 feet long and 23 feet high and the other 470 feet long and 33 feet high, and a reservoir with 800 gross acre-feet of capacity and 100 acres of surface area. City Plant includes a concrete dam and diversion structure 1,970 feet long and 30 feet high and a reservoir with 400 gross acre-feet of capacity and 50 acres of surface area. Lower Plant includes a concrete dam 930 feet long and 16 feet high and a reservoir with 800 acre-feet of capacity and 100 acres of surface area.

- 4/ See 45 FERC ¶ 61,042 (1988). Based on the Department's contentions that the buoy lines might hinder its rescue operations in the Snake River near the project, the Commission also required the licensee to file, by November 7, 1988, and after consultation with the Department, either a request to change the location of the buoy lines, with appropriately revised Exhibit R drawings, or a letter stating that no change in the buoy-line locations is needed. Id. at p. 61,139, note 21. After two extensions of time (see notices extending deadline, issued November 15, and December 27, 1988 (unpublished)), the licensee filed its supplemental Exhibit R drawings on January 23, 1989.
- 5/ 45 FERC ¶ 61,042, supra, at p. 61,136-140. The Commission (id. at pp. 61,136-37) also based its decision on Section 12.42 of the Commission's regulations (18 C.F.R. § 12.42 (1988)), which states that,

(continued...)

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MCCOY

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LOWER PLANT

Department of Water Resources.

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES

BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

1. Owner: CITY OF IDAHO FALLS

Current Address: P.O. BOX 220 IDAHO FALLS, IDAHO

2. Accompanied by: DEE LEWIS

Address: P.O. BOX 220 IDAHO FALLS, IDAHO 83402

Relationship to Permit Holder: EMPLOYEE

3. Source: SNAKE RIVER tributary to COLUMBIA RIVER

Permit No. 01-7014

Phone No. 529-1430
83402

EXAM. DATE: 12 JAN '88

Phone No. 529-1430

B. OVERLAP REVIEW

1. Other water rights with same place of use: 01-7025

☐ Copies Attached

2. Other water rights with same point of diversion: 01-7025

☐ Copies Attached

☒ Copies of Field Exam's Attached

C. SYSTEM DESCRIPTION

1. **Diversion System Diagram:** Indicate all major components and distances between components. Indicate weir size/ditch size/pipe i.d. as applicable. ☐ Alternative diagram attached

SEE ATTACHED SHEET TITLED LOWER POWER PLANT DIVERSION DAM
DEMOLITION # LDC-08-201 RI THIS DRAWING SHOWS THE GENERAL
LAYOUT. COMPLETE PLANS ARE AVAILABLE AT THE CITY OF IDAHO
FALLS ELECTRIC DEPARTMENT.

Scale: 1" = NA

2. ☒ Copy of U.S.G.S. Quadrangle Attached
Showing location(s) of point(s) of diversion and
place(s) of use (required).

☒ Photo of Diversion and System Attached
(required for all but single household domestic groundwater, and stockwater.

☒ Aerial Photo Attached
(required for irrigation of 10 acres or more).

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System Description (continued)

3. Narrative: Description (As operating at time of measurement. Indicate pressure, number of sprinklers, etc.)

AT THIS LOCATION A DAM IS PLACED DIAGONALLY ACROSS THE RIVER. THIS FORCES THE WATER TO A SHORT POWER CANAL ON THE EAST SIDE WHERE THE POWERHOUSE IS LOCATED. THE DAM IS DESIGNED TO BE OVERTOPPED IN HIGH FLOW WITH A SPILLWAY AREA NEAR THE POWERHOUSE. THE RESULTING LAKE IS REGULATED TO PRODUCE POWER & MAINTAIN THE INTEGRITY OF THE RIVER.

☐ See Remarks on page 4 for continuation

- 4.

Well or Diversion Identification No.*	TURBINE Motor Make	MM HP	TURBINE Motor Serial No.	Pump Make	Pump Serial No. or Discharge Size
LOWER PLANT	VOEST-ALPINE	8.3		—	—

*Code to correspond with No. on map and aerial photo

5. Point(s) of Diversion:

Ident. No.	Gov't. Lot	1/4	1/4	1/4	Sec.	Twp.	Rge.	County	Method of Determination/Remarks
			SW	SW	25	2N	37E	BONNEVILLE	USGS QUAD MAP.

6. Place(s) of Use:

Indicate Method of Determination

Twp.	Rge.	Sec.	NE 1/4				NW 1/4				SW 1/4				SE 1/4				Totals
			NE 1/4	NW 1/4	SW 1/4	SE 1/4	NE 1/4	NW 1/4	SW 1/4	SE 1/4	NE 1/4	NW 1/4	SW 1/4	SE 1/4	NE 1/4	NW 1/4	SW 1/4	SE 1/4	
2N	37E	25											P						'NA'

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Do not use this space

Do not use this space

D. FLOW MEASUREMENTS

☐ Additional Data Sheets Attached

1.

Measurement Equipment	Type	Make	Model No.	Serial No.	Size	Calib. Date
VOEST ALPINE TURBINE	KAPLAN	—	—	MB9-059 / 1	8.3MW	1980
	-BULB					

2. Measurements:

FLOW ON THIS DATE WAS DETERMINED BY POWER GENERATION USING
THE FORMULA $\frac{\text{FLOW} \times \text{HEAD}}{7.47} = \text{KILLOWATTS}$ ON THIS DATE: POWER
OUTPUT WAS 3500 KW HEAD = 18 FEET $\therefore$ FLOW = 2722 CFS

E. FLOW CALCULATIONS

☐ Additional Computation Sheets Attached

1. Measured Method:

ON THIS DATE THE SHELLEY GAGE ~~WAS~~ WAS ICED UP GIVING AN
INCORRECT READING OF 12000 CFS. THE BLACKFOOT GAGE WAS
OPEN. AND READ 2168 CFS. LOSS OF 500 CFS TO GROUND.

2. Alternate Method for Checking Purposes:

WATER FROM SHELLEY TO BLACKFOOT ARE COMMONLY
OBSERVED. THIS INDICATES A REASONABLE
CORRELATION.

F. PUMP EFFICIENCY DATA (Optional) 'NA'

Discharge Pressure: _____ psi x 2.31 = _____ ft (1); Dynamic pumping level: _____ ft (2)

Total Head: (1) + (2) = _____ (3) ; Flow rate: _____ cfs (4)

Water HP: (3) x (4) $\div$ 8.8 = _____ (5)

Meter Input KW: 3.6 x _____ KH x _____ CTR or _____ MULT x _____ PTR x _____ N/ _____ T = _____ (6)

Meter Input HP: (6) x 1.34 = _____ (7)

Panel Input KW: _____ Ave PF x _____ Ave Volts x _____ Ave Amps x .001732 = _____ (6)

Panel Input HP: (6) x 1.34 = _____ (7) Efficiency: (5)/(7) x 100 = _____ %

G. VOLUME CALCULATIONS 'NA'

1. Volume Calculations for Irrigation:

$V_{I.R.} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) =$ _____

$V_{D.R.} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation Season}) \times 1.9835 =$ _____

$V = \text{Smaller of } V_{I.R.} \text{ and } V_{D.R.} =$ _____

2. Volume Calculations for Other Uses:

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H. REMARKS AND OVERLAP REVIEW ANALYSIS

ON THE DATE OF THIS FIELD EXAM ONLY MINOR FLOWS ESCAPED THRU THE SPILLWAY. INCLUDED IS MONTHLY POWER PRODUCTION CHART FOR 1985-1987. THE LOWER PLANT IS CAPABLE OF PRODUCING 11+ MEGAWATTS, COMBINING THE NEW TURBINE WITH THE TWO OLD UNITS IN THE OLD PLANT.

EXISTING DECREEES WILL PROVIDE 3,500 KW OF POWER GENERATION LEAVING APPROX 9 KW BY NEW PERMITS.

PRODUCTION HAS EXCEEDED 3,500 KW IN 36 DAT OF LAST 36 mo. THEREFORE CITY HAS DEMONSTRATED BENEFICIAL USE OF NEW PERMITS AT THIS LOCATION

I. RECOMMENDATIONS

1. Recommended Amounts

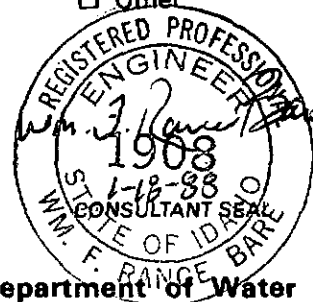
Beneficial Use	Period of Use		Rate of Diversion Q (cfs)	Annual Volume V (afa)
	From	To		
POWER GENERATION	JAN 1	DEC 31	AVAILABLE FLOW UP TO 5100 CFS	
Totals:				

2. Recommended Amendments

- ☐ Change P.D. as reflected above ☐ Add P.D. as reflected above ☐ None
☐ Change P.U. as reflected above ☐ Add P.U. as reflected above ☐ Other

J. AUTHENTICATION

Field Examiner's Name DARYL KOFOED
Signature Daryl Kofoed P.E.
Certification Date 18 Jan. 88
Field Report Preparation Date 12 JAN '88



EXAM. NO.
87-115

- K. Licensing recommendation shall be prepared by an Idaho Department of Water Resources employee on a computer printout attached hereto.

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For Office Use Only
Fee Received _____
Date _____
Receipt # _____
Receipt by _____
Reviewed by _____
Sent to region _____

STATE OF IDAHO

DEPARTMENT OF WATER RESOURCES

PROOF OF BENEFICIAL USE

The Idaho Department of Water Resources will consider this form as a statement that the permit holder(s) has completed all development that will occur under this permit and that water has been applied according to the provisions of the permit for the beneficial use(s) described below. This form must be accompanied by a license examination fee or a completed field examination report prepared by a certified water right examiner who has been appointed by the department.

Permit No. 01-7014

Name(s) of Permit Holder: CITY OF IDAHO FALLS, IDAHO

Post Office Address: PO BOX 220

IDAHO FALLS, IDAHO 83402 Telephone No. 208-529-1430

Source of Water: SNAKE RIVER

Extent of Use:

Domestic N/A (number of households) Stockwater N/A (number and type of stock)
Irrigation N/A (acres) Other/Remark POWER GENERATION

Total rate and/or volume for which proof is submitted 5100 cfs N/A acre-feet

Show the date water was first diverted and beneficially used under this permit: 4-30-'82

Measuring Device: Required? ☐ Yes ☐ No Fee enclosed \$ _____
Installed? ☐ Yes ☐ No (See License Examination Fee Schedule)

Flow Measurement Port: Required? ☐ Yes ☐ No
Installed? ☐ Yes ☐ No

Person to contact to accompany the Department representative during the field examination:

FIELD EXAM BY PRIVATE CONSULTANT

(Name)

(Telephone Number)

ELLSWORTH ENGINEERING, INC.

P.O. BOX 1822 IDAHO FALLS IDAHO 83403 (208) 523-1662

(Address)

The above information is my true statement of the extent to which the above numbered permit has been developed and I relinquish any undeveloped portion of the permit to the state of Idaho.

1-18-88

Date

[Signature] Chief Engineer
Signature of Permit Holder (and title, if appropriate)

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Math + Flow Comp.

(11.8) = Constant

Q = CFS

P = Kilowatts

H = head

e = efficiency

Lower Plant - 6036 kw generated average in 1986

Highest month in 1985, 1986, + 1987 is March 1986
with 6960 kw

Q = 6960 kw (11.8) This leaves 2 unknowns (Q + e)
18' head (e) + Formula won't work

The City of Idaho Falls Electric Dept. uses a Formula
provided by International Engineering, the Design Engineers.

$$\text{Kilowatts} = \frac{\text{Flow} \times \text{Head}}{14.}$$

Then $6960 \text{ kw} = \frac{Q \times 18'}{14}$ head behind dam stays close
to 18' most of time

$$Q = \frac{6960 \text{ kw} \times 14}{18'}$$

Q = 5413 cfs (This implies 84% efficiency using just
Formula)

Permit 01-7014 is for 5100 cfs - allow this amt.

HWJ (Eastern
Hydro (SFP) Jone

Rule 5,1,1. - Need additional data showing design Parameters and efficiency and head at peak kw production

5,1,4. - Identify other water rights utilized at same Place of use.

5,1,6. - Measuring device condition. By agreement with Water Master Ron Carlson a river gauge was put upstream of Power Plant by the City instead of a flow measurement gauge at Facility.

5,1,15. - Need additional data to establish capacity

5,2,1. - Report submitted & signed by individual who is not certified examiner at this time. Appears ok

5,2,2. Field reports will be returned for additional data

6,1,4. Need additional data to support theoretical data

Idaho Code 42-2036

Need evidence of Power Purchase Contract that dictate number of years contract runs. UNTIL year 2029-50yr from 1999.

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3671 III SW
(UCON)

413

3571 11 SE
(IDAHO FALLS NORTH)

DUBOIS 48 MI.
ROBERTS 15 MI.
R 37

2'30''

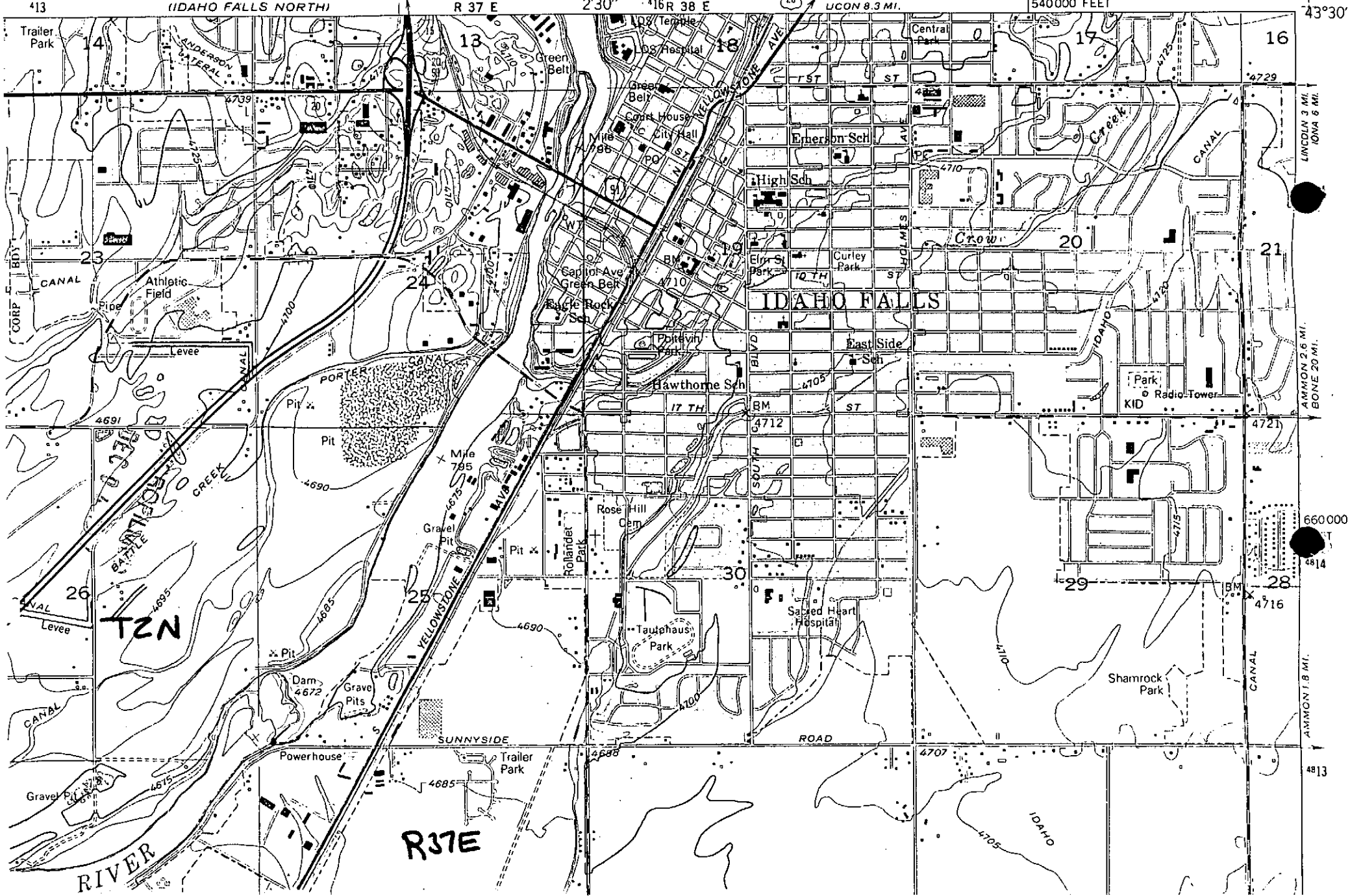
416R 38 F

26

RIGBY 14 MI.
UCON 8.3 MI.

1540000 FEET

112°00'

 $-43^{\circ}30'$ 

UPPER POWER PLANT

1. License L.6799 (new number 01-2047) for 500 cfs, with a priority of October 28, 1927.
2. License No. L.18271 (new number 01-2049) for 1500 cfs, with a priority of February 14, 1936.
3. Constitutional or claimed right (no number) ⁰¹⁻⁴⁰⁰³, for 160 cfs, with a priority of May 3, 1930.
4. Permit number 01-7013, issued March 5, 1979, for 2600 cfs with a priority of November 9, 1977.
5. Permit No. 01-7023 issued March 16, 1979, for 1240 cfs, with a priority of February 15, 1979.

Total: 6000 cfs

CITY OR CENTRAL PLANT

1. Decreed right No. 193 (new number 01-0040) for 140 cfs, with a priority of April 20, 1900.
2. Decreed Right No. 258 (new number 01-0041) for 48 cfs, with a priority of October 22, 1904.
3. License No. L.3304 (new number 01-2014) for 600 cfs, with a priority of December 3, 1907.
4. Constitutional or claimed right (no number) ⁰¹⁻⁴⁰⁰², for 225 cfs, with a priority of February 5, 1915.
5. Constitutional or claimed right (no number) ⁰¹⁻⁰⁰³⁶⁰, for 412 cfs, with a priority of July 18, 1919.
6. Constitutional or claimed right (no number) ⁰¹⁻⁰⁰³⁶¹, for 515 cfs, with a priority of October 5, 1923.
7. Permit No. 01-7014, issued March 5, 1979, for ⁵¹⁰⁰2600 cfs, with a priority of November 9, 1977.
8. Permit No. 01-7024, issued March 16, 1979, for 460 cfs, with a priority of February 15, 1979.

Total: 6000 cfs

LOWER PLANT

1. Decreed right No. 01-0281 for 1500 cfs, with a priority of December 29, 1905.
2. Constitutional or claimed right (no number) ⁰¹⁻⁴⁰⁰¹, for 1240 cfs, with a priority of October 5, 1940.
- ~~3. Permit No. 01-7015, issued March 5, 1979, for 5100 cfs, with a priority of November 9, 1977.~~
4. Permit No. 01-7025, issued March 16, 1979, for 900 cfs, with a priority of February 15, 1979.

Total: 8740 cfs

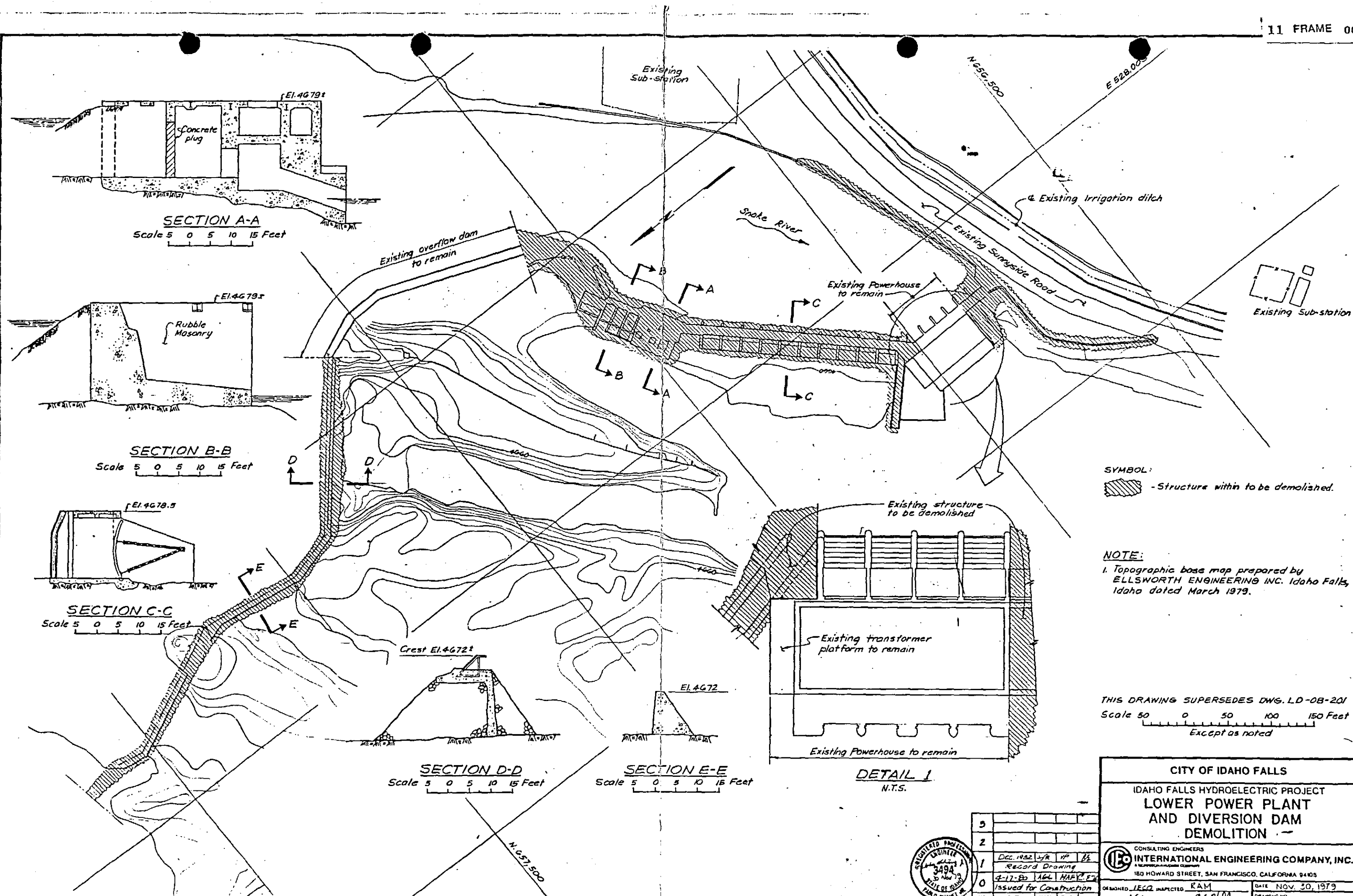
Where a permit has been developed as separate distribution systems from more than one point of diversion, the separate areas irrigated from each point of diversion shall be shown on the proof maps as described hereinbefore and the legal subdivisions embracing the irrigated areas for each such respective point of diversion together with the total irrigated area shall be described.

- 5,1,10. The field examiner does not need to show total volume of water for municipal and fire protection uses on the field report unless the project works provide for storage of water.
- 5,1,11. The total number of holding/rearing ponds and the dimensions and volume of the ponds shall be shown on the field report for fish rearing or fish propagation use. The annual volume shall be calculated based on the changes of water per hour.
- 5,1,12. Information shall be submitted concerning the beneficial use that has been made of the water unless the purpose of use is for irrigation. For example, for stockwater use, the number and type of stock watered shall be provided. Similar indications of the extent of beneficial use shall be provided for all other non-irrigation uses.
- 5,1,13. Information on the period during each year that the water is used shall be described for each use.
- 5,1,14. For permits having more than one use, the diversion rate measured for each use shall be described.
- 5,1,15. The amount (rate and/or volume) of water shall be limited by the smaller of the permitted amount, the amount upon which the license examination fee is paid, the capacity of the diversion works or the amount beneficially used, including any statutory limitation of the duty of water.
- 5,1,16. Suggested amendments shall be noted on the field report when the place of use, point of diversion, period or nature of use is different from the approved permit or from previously approved amendments.
- 5,1,17. An aerial photo must accompany field reports involving ten (10) or more irrigated acres unless waived by the director. If existing photos are not available, the director will accept a USGS Quadrangle map at the largest scale available.

5,2. FIELD REPORT ACCEPTABILITY

- 5,2,1. All field reports shall be prepared by or under the supervision of certified water right examiners. The report must be properly endorsed with an engineer or geologist seal and signature. Field reports received from certified water right examiners will be accepted if the report includes all the information required to complete the report and provides the information

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PER PLANT

Month	1985		1986		1987	
	kWh	kW	kWh	kW	kWh	kW
Jan	3,198,000	6,850	4,640,000	6,470	3,637,000	6,940
Feb	3,152,000	5,040	4,216,000	7,200	3,371,000	6,080
Mar	4,646,000	6,860	4,587,000	7,090	3,243,000	7,060
Apr	4,572,000	7,050	4,679,000	6,950	4,114,000	7,140
May	4,794,000	6,730	5,019,000	6,760	3,933,000	7,180
Jun	4,511,000	7,120	4,501,000	6,760	4,770,000	7,220
Jul	4,671,000	6,990	4,891,000	7,020	5,088,000	7,120
Aug	4,425,000	5,240	5,034,000	6,940	4,290,000	6,540
Sep	2,647,000	6,800	4,791,000	7,180	3,875,000	6,150
Oct	3,653,000	5,650	4,910,000	7,050	3,018,000	4,770
Nov	3,886,000	6,160	4,440,000	6,980	2,597,000	4,160
Dec	4,238,000	6,530	5,010,000	7,200	2,632,000	3,950
TOTAL	48,393,000		56,718,000		44,568,000	

1988

CITY PLANT

Month	1985		1986		1987	
	kWh	kW	kWh	kW	kWh	kW
Jan	4,020,000	6,540	4,302,000	6,250	4,367,000	7,210
Feb	3,554,000	6,450	4,186,000	7,120	3,250,000	5,950
Mar	4,411,000	7,020	4,279,000	6,990	2,907,000	6,570
Apr	4,270,000	6,880	3,912,000	6,630	3,690,000	7,260
May	3,887,000	6,680	3,467,000	5,880	4,880,000	7,010
Jun	4,026,000	7,490	4,072,000	6,560	4,636,000	7,150
Jul	4,209,000	6,620	4,997,000	7,170	4,891,000	6,960
Aug	3,072,000	4,860	3,201,000	6,940	3,908,000	6,230
Sep	3,213,000	5,960	0	0	3,373,000	5,570
Oct	3,297,000	5,630	0	0	2,682,000	4,230
Nov	3,433,000	5,620	0	0	2,224,000	3,610
Dec	3,609,000	5,990	2,275,000	7,220	2,278,000	3,620
TOTAL	45,001,000		34,691,000		43,086,000	

1988
kWh kW

LOWER PLANT

Month	1985		1986		1987	
	kWh	kW	kWh	kW	kWh	kW
Jan	4,353,000	6,670	4,599,000	6,570	4,343,000	6,840
Feb	4,090,000	6,690	4,134,000	6,890	2,923,000	6,040
Mar	4,076,000	6,440	3,967,000	6,960	2,788,000	3,800
Apr	4,214,000	6,900	3,381,000	5,770	4,008,000	6,950
May	3,582,000	5,820	3,372,000	4,920	3,881,000	6,680
Jun	3,959,000	6,320*	3,214,000	5,230	4,356,000	6,880
Jul	2,490,000	6,930	4,081,000	3,256	4,489,000	6,090
Aug	4,639,000	5,380	4,480,000	6,340	3,778,000	5770
Sep	3,544,000	6,650	4,086,000	6,650	3,458,000	5,520
Oct	3,406,000	5,590	4,489,000	6,770	2,707,000	4,270
Nov	3,725,000	6,760	3,791,000	6,170	2,390,000	3,860
Dec	4,003,000	6,340	4,727,000	6,910	2,340,000	3,650
TOTAL	46,081,000		48,321,000		41,461,000	

1988
kWh kW

*Estimate, demand meter not stamping properly.

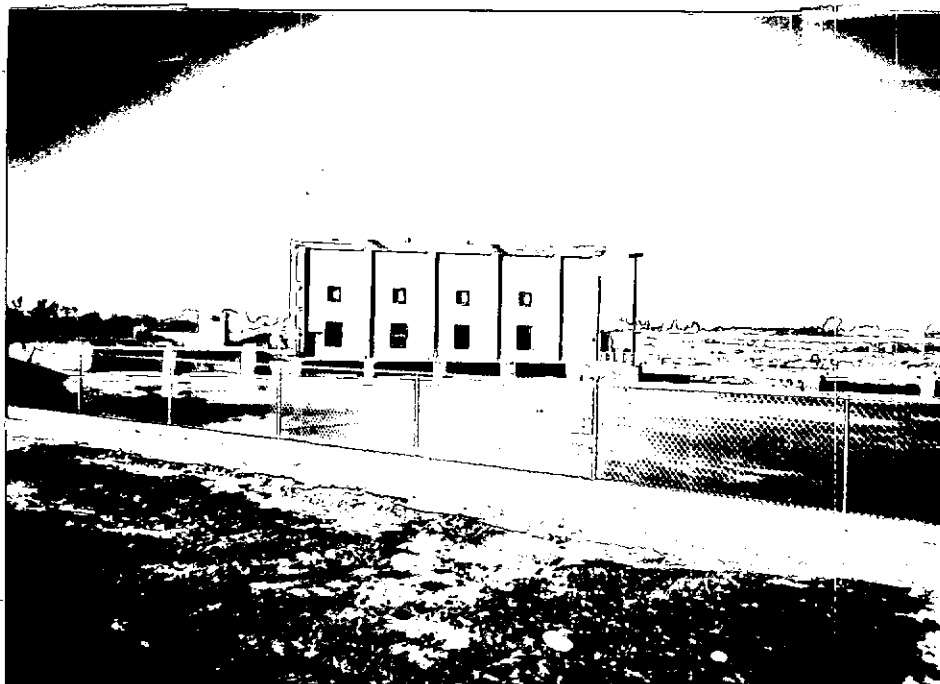
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OLD LOWER PLANT

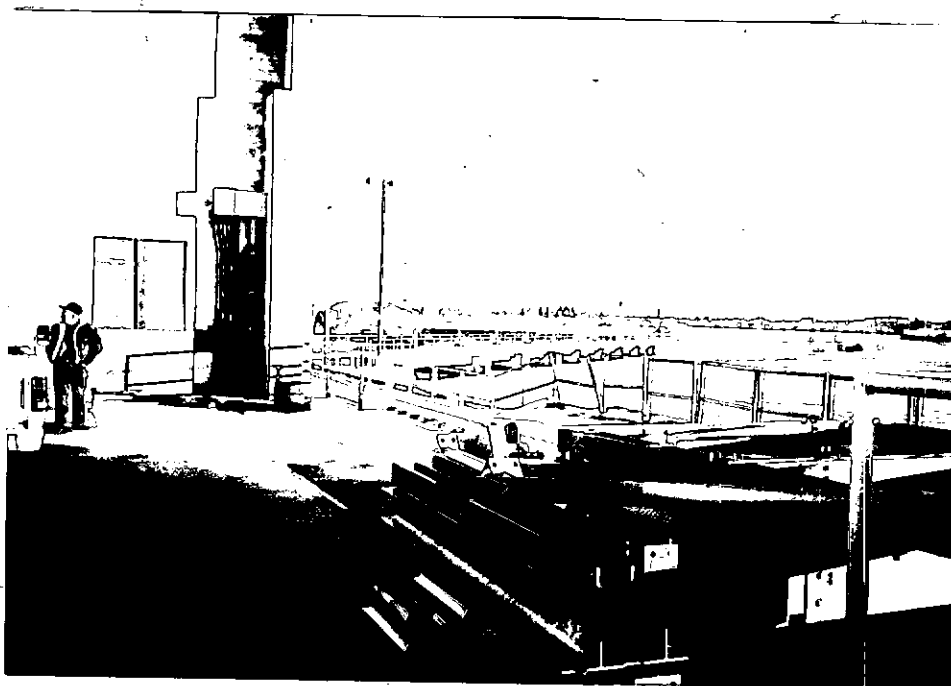
	<u>1985</u>		<u>1986</u>		<u>1987</u>		<u>1988</u>	
	<u>kWh</u>	<u>kW</u>	<u>kWh</u>	<u>kW</u>	<u>kWh</u>	<u>kW</u>	<u>kWh</u>	<u>kW</u>
Jan	796,800	1,632			607,000	1,720		
Feb	580,800	1,584			342,000	810		
Mar	710,400	3,360	1,214,400	3,160	145,000	3,270		
Apr	2,092,800	4,120	1,929,600	3,016	311,000	2,560		
May	2,208,000	3,552	1,824,000	2,592	600,000	2,950		
Jun	1,032,000	3,304	1,646,400	2,632	313,000	3,080		
Jul	936,000	3,376	1,564,800	6,350	0	0		
Aug	0	0	52,800	864	0	0		
Sep	0	0	110,400	1,680	0	0		
Oct	0	0	392,000	1,630	0	0		
Nov	0	0	692,000	1,610	0	0		
Dec	0	0	780,000	1,650	0	0		
	<u>8,626,800</u>		<u>10,206,400</u>		<u>2,318,000</u>			

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LOWER PLANT



#01-7014



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Mark

BULB TURBINE HYDROELECTRIC PLANTS
TURBINE EVALUATION
AND
ENERGY GENERATION

Prepared for
CITY OF IDAHO FALLS

DRAFT

Prepared by
CH2M HILL
Boise, Idaho

March 1986

1989 - Final

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SUMMARY

This report describes the performance of the City's three bulb turbine hydroelectric plants completed in 1982. The manufacturer of the bulb turbines, Voest-Alpine, tested the plants and issued the results in the document titled Report on Index Test, revised December 1983. Relationships were derived from those tests and compared with operating records. The relationships between river discharge and headwater elevation, tailwater elevation, head losses, and power were derived for each plant. These were then converted to discharge versus generator output (MW) curves and plotted on Figure 1. The curves should be useful tools for the operators in adjusting plant output to river discharge. The curves are maximum potential output under ideal conditions and will be reduced by ice, trash, or other problems.

The long-term average energy generation from each plant was calculated using the above-described curves and a flow-duration curve developed by the U.S. Geologic Survey for the Shelley gage and adjusted by CH2M HILL for intervening canal diversions. The predicted average annual energy generation is as follows:

Upper Plant	49,410,000 kWh
City Plant	45,460,000 kWh
Lower Plant	<u>48,970,000 kWh</u>
 TOTAL	 143,840,000 kWh

170,000,000 - by IFCO

The above averages should be reduced for downtime and less-than-optimum operation due to ice, trash, maintenance, repair, etc. Each day of downtime in one plant will reduce generation by about 130,000 kWh under average conditions.

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ENERGY CALCULATION

GENERAL

FLOW

Energy calculations are based upon integration of the flow-duration curve. CH2M HILL used the flow-duration curve calculated by the U.S. Geological Survey for the 1960 through 1985 water years. This curve was calculated from daily flow measurements at the Shelley gage. The energy was adjusted for canal diversions between the Shelley gage and the plants. The period before 1960 was deleted because filling of Palisades Reservoir in the late 1950s caused unnatural variations in the river discharge.

The curve is shown in Figure 2 and compared with the curve used in the FERC license application.

Monthly average flows were used in the energy calculations done during preparation of the license application. Since the turbines are forced to react to frequent changes in river flow, the daily flows used in this study provide a more accurate estimate of the energy production.

HEAD

The head available to impart energy to the turbine is the net head (NH) and depends on three elements: headwater elevation (HW), tailwater elevation (TW), and head loss (HL) through the plant.

$$NH = HW - TW - HL$$

Headwater at each plant is controlled by the weir and consequently is relatively easy to predict. Conversely, tailwater elevation and plant losses depend on very complicated relationships that are difficult to accurately predict. Figure 3 shows the relationship between net head and river flow at each plant.

Headwater elevation was taken as slightly below the weir elevation for flows up to the plant capacity. Above plant capacity, the headwater elevation is a function of spill and the overflow weir characteristics. This function was derived for each plant.

Head losses were computed from results of the Voest-Alpine (VA) index tests and an expression was derived to relate head loss to turbine discharge.

Tailwater values were plotted from the VA tests and measurements taken by the City in January 1986. However, since all the measurements were taken at relatively low river flow, the derived equations should be verified at flows above 6,000 cfs. Since tailwater is the most difficult element to estimate, additional measurements will be very valuable.

PLANT OUTPUT

The net head versus discharge shown in Figure 3 was plotted over the Voest-Alpine Guaranteed Hill Diagram shown in their Report on Index Test for each plant. Turbine efficiencies were picked off the Hill Diagram. Generator efficiencies were also taken from the VA report. Plant output was calculated by the following expression and plotted in Figure 1:

$$KW = QT \times NH \times TE \times GE / 11.8$$

$$QT = \frac{KW \cdot 11.8}{NH \cdot TE \cdot GE}$$

KW = Generator output in kilowatts
QT = Turbine discharge in cfs
NH = Net head in feet
TE = Turbine efficiency
GE = Generator efficiency

ENERGY GENERATION

Average energy generation in megawatt hours (MWh) was calculated for each plant by intergration of the flow-duration curve (Figure 2) with the plant output (Figure 1). This average generation was then distributed monthly in proportion to monthly river discharge up to plant capacity. Table 1 shows the predicted monthly energy from each plant and the total expected energy in an average year of full generation. Outages or reduced generation have not been accounted for. Thus, the MWh shown in Table 1 are maximum and should be reduced based on the City's judgment. A single-day outage at one plant would reduce the total by about 130 MWh.

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CITY PLANT

HEAD

CITY PLANT

Headwater elevation is controlled by the weir at Elevation 4694.8. Headwater elevation used in this study is 4694.5, up to the turbine capacity of 5,700 cfs. Above 5,700 cfs, water will spill over the weir, and headwater is a function of flow and weir characteristics. The relationship between flow and headwater elevation is shown below:

$$HW = 4694.5 + (QS/7020)^{.667}$$

HW = Headwater elevation (ft)
QS = Spill over the weir (cfs)
QR = River discharge (cfs)
QT = Turbine discharge (cfs)
QS = QR - QT (cfs)

City Plant tailwater is controlled by the weir at the Lower Plant and the river channel between the City and lower plants. The lower plant weir elevation is 4674.5. The derived relationship between river discharge and tailwater elevation is as follows:

$$TW = 4675.50 + QR/3500$$

TW = Tailwater elevation (ft)
QR = River discharge (cfs)

Head losses through the plant were derived from the VA test report as follows:

$$HL = (QT/6508)^2$$

HL = Head loss through plant (ft)
QT = Turbine discharge (cfs)

Net head is the difference between headwater and tailwater minus losses.

$$NH = HW - TW - HL$$

NH = Net head (ft)

Net head is plotted against river discharge in Figure 3.

EFFICIENCY

Turbine efficiencies were derived from the net head versus discharge relationship noted above and the Guaranteed Hill

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Diagram shown in the VA test report. The head versus discharge curve is plotted on the Hill Diagram, and turbine efficiencies are picked off at the points of intersection with the constant efficiency contours on the Hill Diagram. This line is different from the VA line because VA adjusted their output to the design head of 18 feet, whereas the CH2M HILL line is in terms of actual head at the plant. Figure 4 shows the plant characteristics plotted over the Hill Diagram.

Generator efficiency is nearly constant over the operating range. The VA tests show an average generator efficiency of 96.6 percent.

DISCHARGE

The river discharge (QR) is shown in Figure 2 as the flow-duration curve, as previously described. Turbine discharge (QT) is limited by the "full gate opening" shown on the Hill Diagram. Spill (QS) is the difference between QR and QT. *See Appendix*

ENERGY CALCULATION

Integration of the flow-duration curve with the plant characteristics provides the potential energy at the site if flow at the site were the same as at the Shelley gage and no bypass around the plant occurred at flows below the plant capacity. However, the City is required to bypass 850 cfs during March through November. In the period of April through July, river flows in an average year are high enough to supply the full plant capacity plus the 850 cfs spill. However, during August through November the bypass will reduce plant output. Furthermore, the Shelley gage records do not include flows diverted to the Snake River Valley Canal or the Woodville Canal. Thus, more water is available at the plant, which will increase potential generation. Therefore, the energy output was adjusted to account for bypass and canal diversions as follows:

Base energy from Shelley gage records	47,640 MWh
Adjustment for canal diversions	<u>+1,350 MWh</u>
Gross potential at plant	48,990 MWh
Reduction due to 850 cfs bypass	<u>-3,530 MWh</u>
Net annual energy production (generator terminals)	45,460 MWh

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UPPER PLANT

HEAD

A upper plant

Headwater elevation is controlled by the weir at Elevation 4734.0. Headwater elevation used in this study is 4733.7, up to the turbine capacity of 5,700 cfs. Above 5,700 cfs, water will spill over the weir, and headwater is a function of flow and weir characteristics. The relationship between flow and headwater elevation is shown below:

$$HW = 4733.7 + (QS/1900)^{.667}$$

Tailwater is controlled by the tailrace channel and the river channel below it. The derived relationship between river discharge and tailwater elevation is as follows:

$$TW = 4712 + QT/1500 + (QS/1700)^{.667}$$

Head losses through the plant were derived from the VA test report as follows:

$$HL = (QT/6325)^2$$

Net head is the difference between headwater and tailwater minus losses.

$$NH = HW - TW - HL$$

Net head is plotted against river discharge in Figure 3.

EFFICIENCY

Turbine efficiencies were derived from the net head-discharge relationship noted above and the Guaranteed Hill Diagram shown in the VA test report. The head versus discharge curve is plotted on the Hill Diagram, and turbine efficiencies are picked off at the points of intersection with the constant efficiency contours on the Hill Diagram. This line is different from the VA line because VA adjusted their output to the design head of 18 feet, whereas the CH2M HILL line is in terms of actual head at the plant. Figure 4 shows the plant characteristics plotted over the Hill Diagram.

However, the energy calculations using these efficiencies yielded more energy than expected and more than was produced in 1985. Consequently, the efficiencies from the Hill Diagram were compared with those shown in the VA Report on Index Test. The test efficiencies are lower than those derived from the hill curve. Therefore, it appears as though the turbine efficiency and output are below the guaranteed level in the flow range below 4,000 cfs. However, the curves are

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very close at the actual design point where head is 18.0 feet. The difference in turbine efficiency would appear to decrease average annual generation by about 3,000 MWh per year. A comparison of efficiencies is shown on Figure 5.

Generator efficiency is nearly constant over the operating range. The VA tests show an average generator efficiency of 96.5 percent.

DISCHARGE

The river discharge is shown in Figure 2 as the flow-duration curve, as previously described. Three discharges were calculated from the flow-duration curve and turbine characteristics (QR, QS, and QT).

ENERGY CALCULATION

Integration of the flow-duration curve with the plant characteristics provides the potential energy at the site if flow at the site were the same as at the Shelley gage and no bypass around the plant occurred at flows below the plant capacity. However, the City is required to bypass 100 cfs. Since the 100-cfs bypass is required year-round, the flow-duration curve was reduced by 100 cfs to reflect flows actually available for generation. In addition, the Shelley gage records do not include flows diverted to the Snake River Valley Canal or the Woodville Canal. Thus, more water is available at the plant, which will increase potential generation.

Results of the energy calculations are as follows:

Base energy from flow-duration curve decreased by 100 cfs for bypass	48,060 MWh
Adjustment for canal diversions	<u>+1,350 MWh</u>
Net annual energy production (generator terminals)	49,410 MWh

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LOWER PLANT

HEAD

5800

Lower Plant

5800

Headwater elevation is controlled by the weir at Elevation 4674.5. Headwater elevation used in this study is 4674.5 up to the turbine capacity of ~~6700~~. Above ~~6700~~ cfs, water will spill over the weir, and headwater is a function of spill and weir characteristics. The relationship between flow and headwater elevation is shown below:

$$HW = 4674.5 + (QS/2424)^{.667}$$

Tailwater is controlled by the Woodville Canal diversion weir and the river channel between the weir and lower plant. The Woodville Canal weir elevation is 4654.0. The derived relationship between river discharge and tailwater elevation is as follows:

$$TW = 4654.6 + QR/3226$$

Head losses through the plant were derived from the VA test report as follows:

$$HL = (QT/6535)^2$$

Net head is the difference between headwater and tailwater minus losses.

$$NH = HW - TW - HL$$

Net head is plotted against river discharge in Figure 3.

EFFICIENCY

Turbine efficiencies were derived from the net head versus discharge relationship shown above and the Guaranteed Hill Diagram shown in the VA test report. The head versus discharge curve is plotted on the Hill Diagram, and turbine efficiencies are picked off at the points of intersection with the constant efficiency contours on the Hill Diagram. This line is different from the VA line because VA adjusted their output to the design head of 18 feet, whereas the CH2M HILL line is in terms of actual head at the plant. Figure 4 shows the plant characteristics plotted over the Hill Diagram.

However, the energy calculations using these efficiencies yielded more energy than expected and more than was produced in 1985. Consequently, the efficiencies from the Hill Diagram were compared with those shown in the VA Report on Index Test. The test efficiencies are lower than those derived from the Hill Diagram. Therefore, it appears as though the

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turbine efficiency and output are below the guaranteed level in the flow range below 4,000 cfs. The difference in turbine efficiency would appear to decrease average annual generation by about 3,400 MWh per year. A comparison of efficiencies is shown in Figure 5. However, the curves are very close at the actual design point where head is 18.0 feet.

Generator efficiency is nearly constant over the operating range. The VA tests show an average generator efficiency of 96.6 percent.

DISCHARGE

The river discharge is shown in Figure 2 as the flow-duration curve, as previously described. Three discharges were calculated from the flow-duration curve and turbine characteristics (QR, QT, and QS).

ENERGY CALCULATION

Integration of the flow-duration curve with the plant characteristics provides the potential energy at the site if flow at the site were the same as at the Shelley gage and no bypass around the plant occurred at flows below the plant capacity. However, the Shelley gage records do not include flows diverted to the Snake River Valley Canal or the Woodville Canal. Thus, more water is available at the plant, which will increase potential generation. Therefore, the energy output was adjusted to account for diversions as follows:

Base energy from Shelley gage records	47,620 MWh
Adjustment for canal diversions	<u>+1,350 MWh</u>
Net energy production (generator terminals)	48,970 MWh

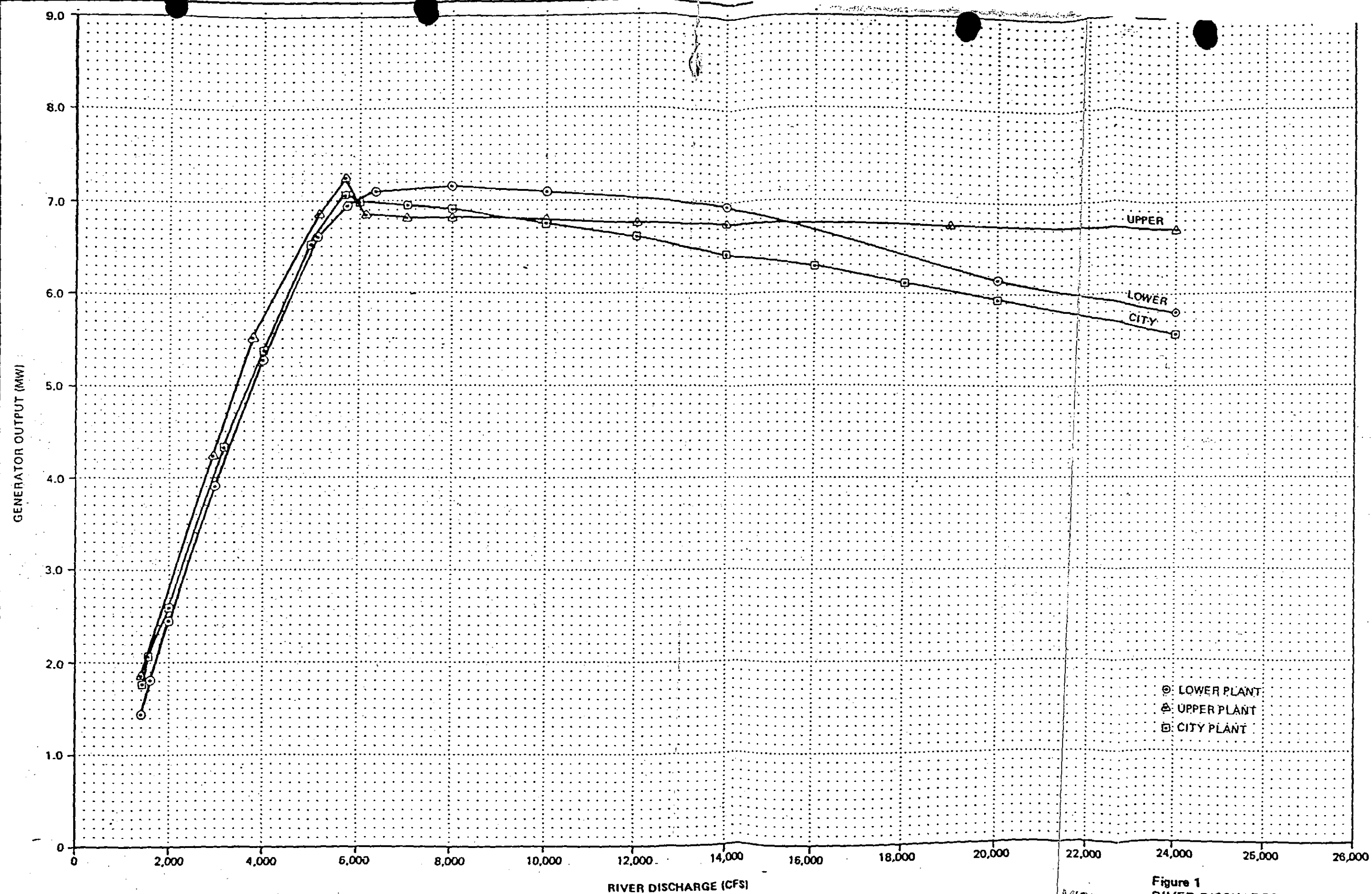
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TABLE 1
IDAHO FALLS BULB TURBINE PLANTS
AVERAGE ANNUAL ENERGY GENERATION
(Mega Watt Hours)

MONTH	UPPER PLANT	CITY PLANT	LOWER PLANT	TOTAL
OCTOBER	3,437	3,162	3,406	10,005
NOVEMBER	3,328	3,062	3,298	9,688
DECEMBER	3,786	3,483	3,752	11,021
JANUARY	3,678	3,384	3,645	10,707
FEBRUARY	3,786	3,483	3,752	11,021
MARCH	4,283	3,941	4,245	12,469
APRIL	4,673	4,299	4,631	13,603
MAY	4,543	4,180	4,502	13,225
JUNE	4,586	4,219	4,545	13,350
JULY	4,695	4,319	4,653	13,667
AUGUST	4,730	4,351	4,687	13,768
SEPTEMBER	3,887	3,576	3,852	11,315
TOTAL	49,412	45,459	48,968	143,839

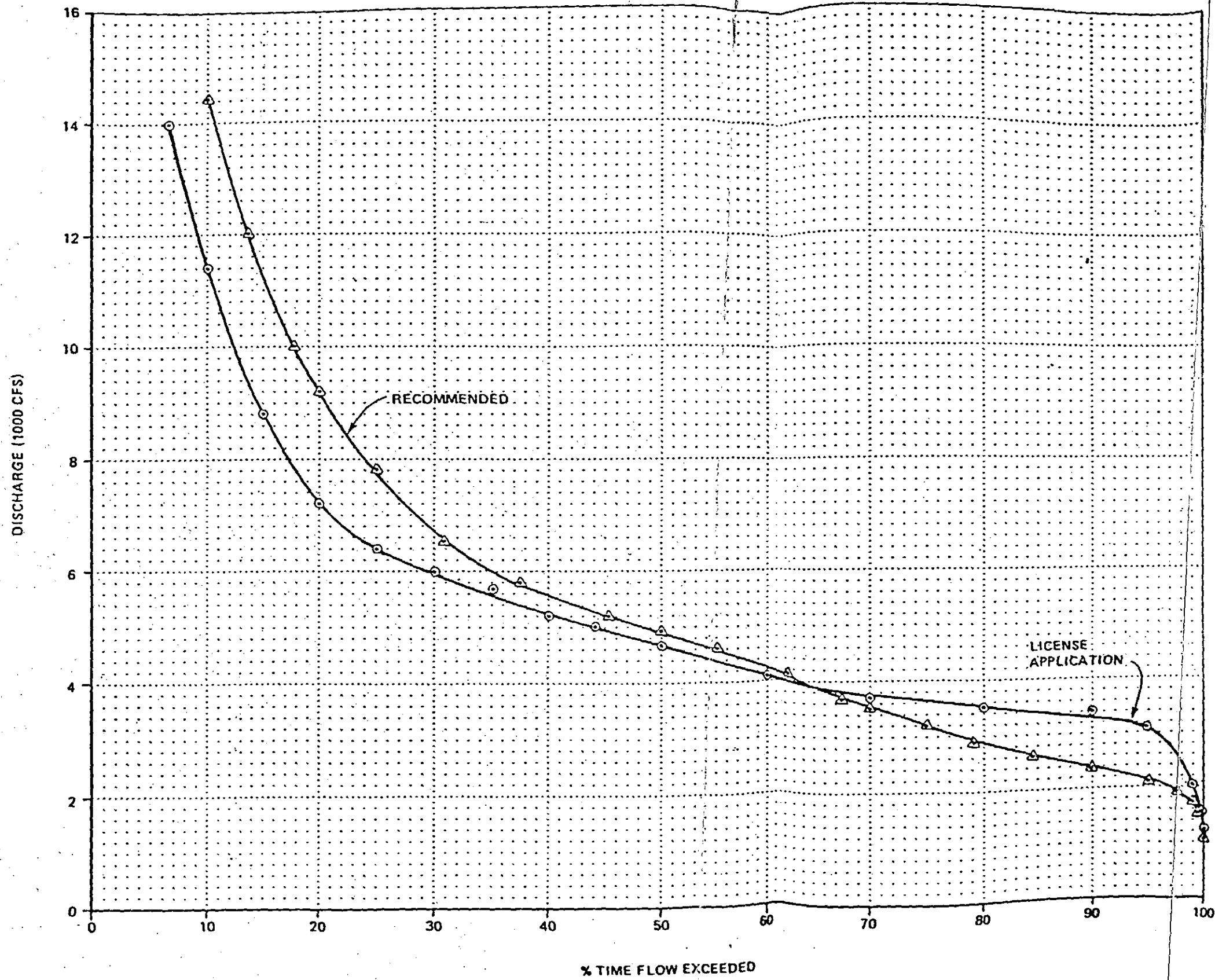
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B12261.00

Figure 1
RIVER DISCHARGE VS. OUTPUT
IDAHO FALLS BULB TURBINE EVALUATION
CITY OF IDAHO FALLS, IDAHO
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- △ DAILY O SHELLEY GAGE 1960 - 1985
- 1975 DEVELOPMENT MONTHLY 1978 - 1972

Figure 2
DAILY FLOW DURATION
SHELLEY GAGE (USGS)
IDAHO FALLS BULB TURBINE EVALUATION
CITY OF IDAHO FALLS, IDAHO

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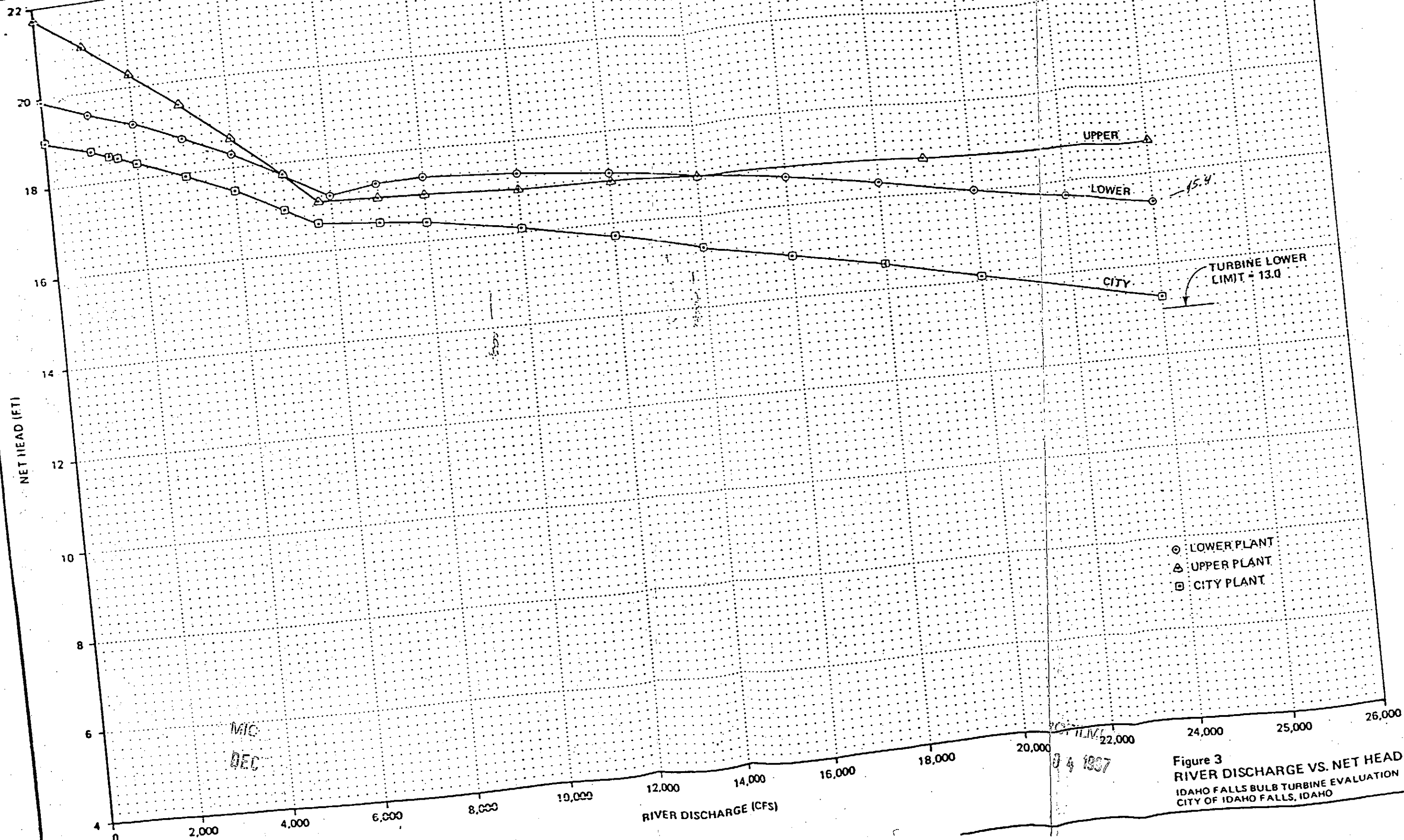


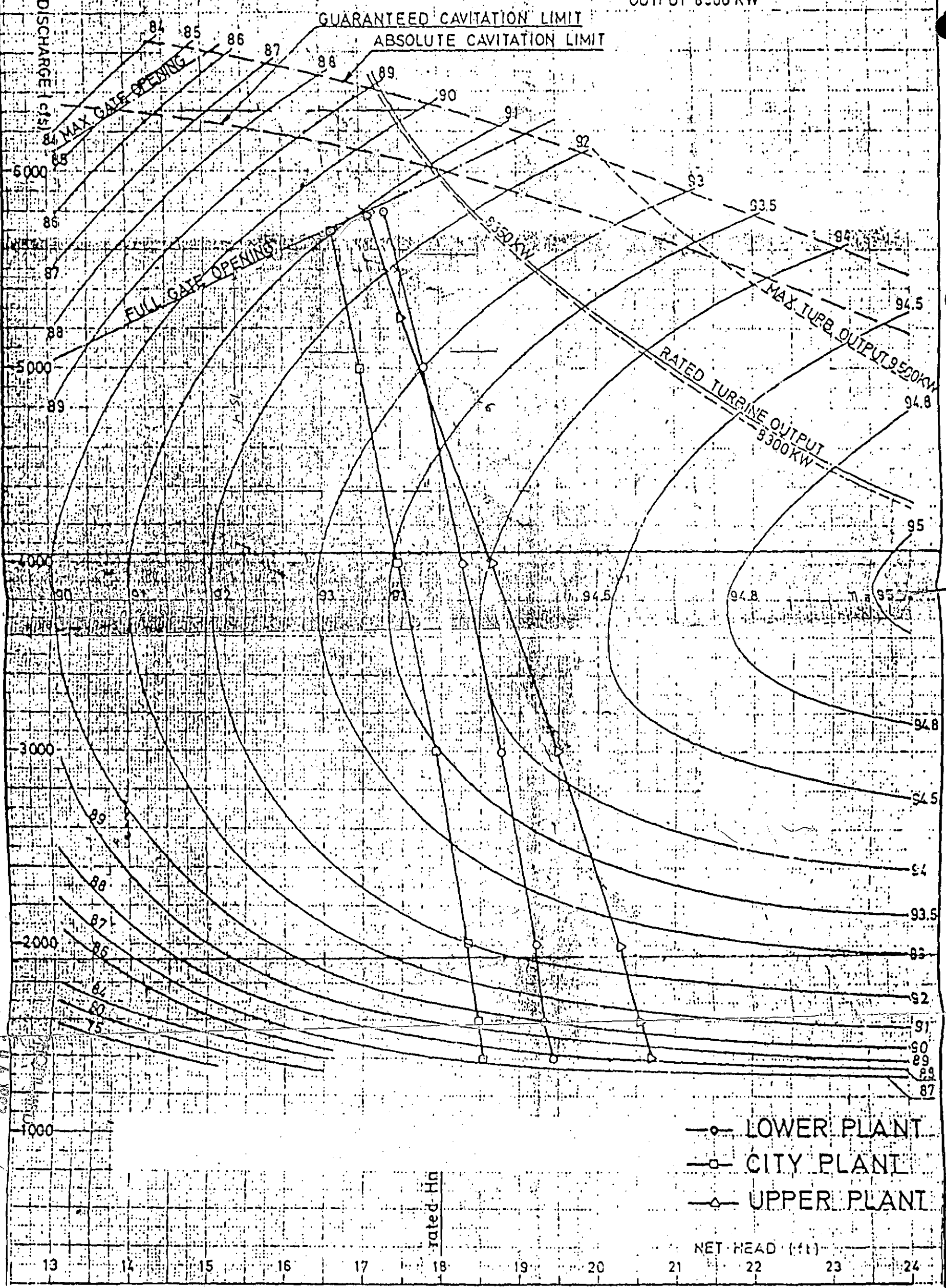
Figure 3
RIVER DISCHARGE VS. NET HEAD
IDAHO FALLS BULB TURBINE EVALUATION
CITY OF IDAHO FALLS, IDAHO

RUNNER DIAMETER (4.85 m) 190 15/16 inch
SYNCHRONOUS SPEED 94.73 rpm
CENTERLINE RUNNER
UPPER PLANT 4696.3 ft
CITY PLANT 4657.2 ft
LOWER PLANT 4636.7 ft

TOLERANCE OF MEASUREMENT IEC

THE CAVITATION LIMITS ARE BASED ON THE FOLLOWING NORMAL RESERVOIR ELEVATIONS:
UPPER PLANT 4734.0 ft
CITY PLANT 4694.25 ft
LOWER PLANT 4674.0 ft

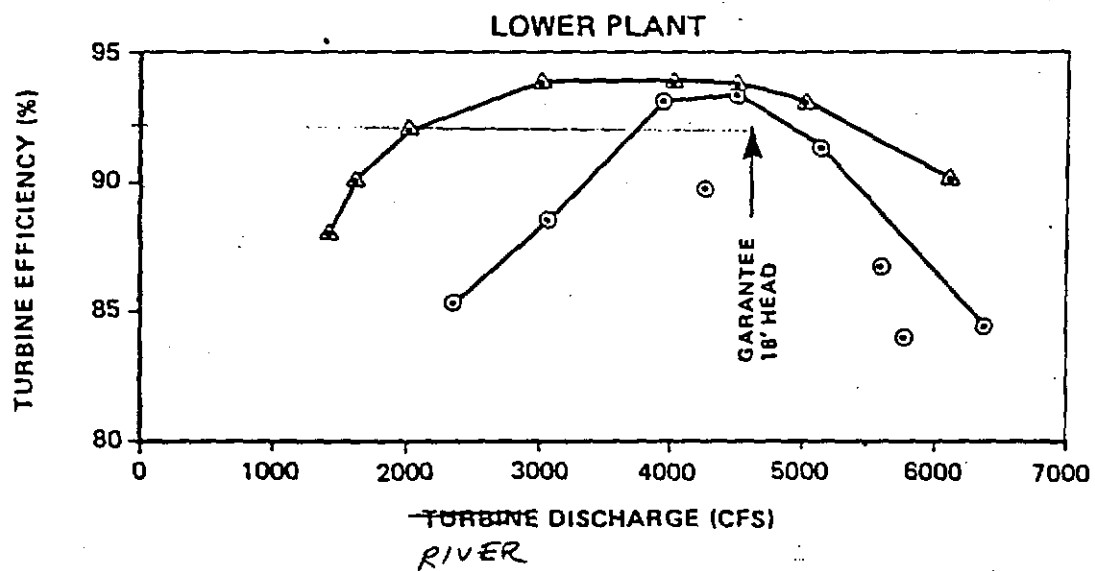
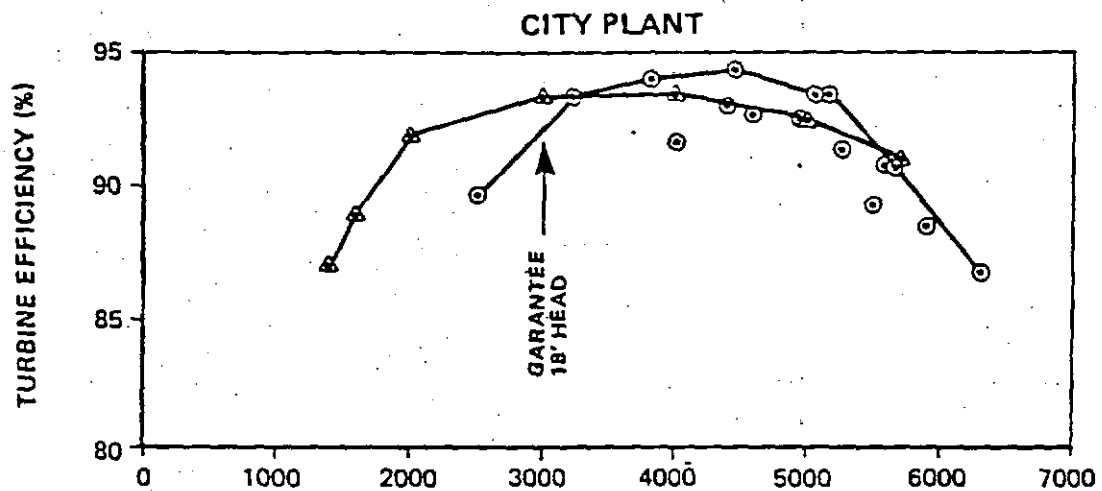
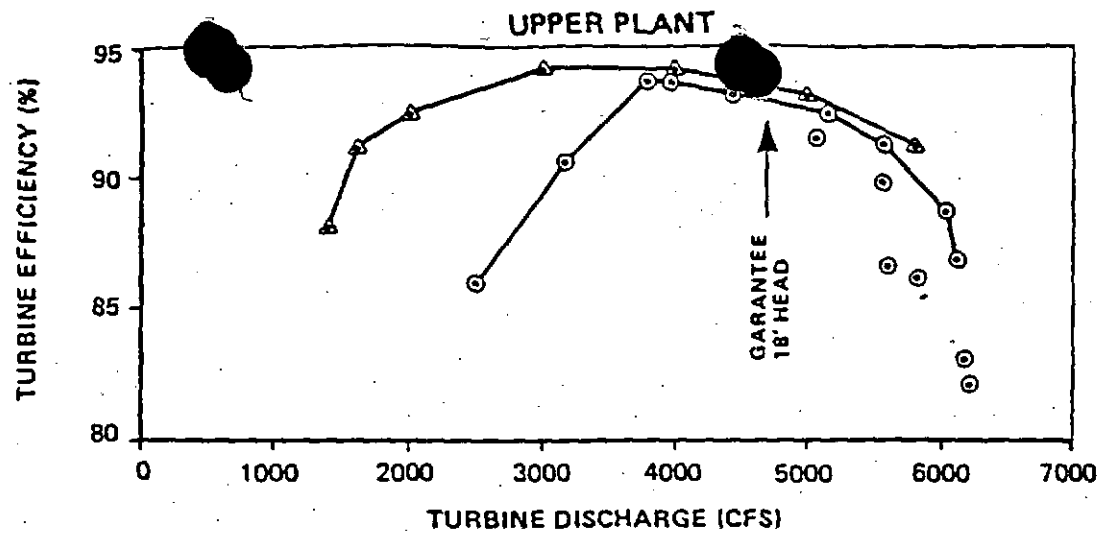
FULL GATE OPENING = NOMINAL OPENING
FOR NET HEAD 16.0 ft AND RATED TURBINE OUTPUT 8300 KW



SOURCE: Hill diagram from Voest Alpine Index Test Report, Dec. 1983.

Figure 4
OPERATING CONDITIONS
IDAHO FALLS BULB TURBINE EVALUATION





 FROM INDEX TEST
 FROM GUARANTEED HILL DIAGRAM

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Figure 5
EFFICIENCY COMPARISON

IDAHO FALLS BULB TURBINE EVALUATION
CITY OF IDAHO FALLS, IDAHO

Contract No. DE-HS79-82BP90917
Draft: March 19, 1982

POWER PURCHASE AGREEMENT

executed by the

UNITED STATES OF AMERICA

DEPARTMENT OF ENERGY

acting by and through the

BONNEVILLE POWER ADMINISTRATION

and

CITY OF IDAHO FALLS, IDAHO

(Hydroelectric sites located in the vicinity
of the City of Idaho Falls)

*Term: Term of FERC
decree - p. 6
(year 2029 - 50 yr
from 1979)*

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Power Purchase
Agreement

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This AGREEMENT, executed April 1, 1982, by the UNITED STATES OF AMERICA (Government), Department of Energy, acting by and through the BONNEVILLE POWER ADMINISTRATION (Bonneville), and the CITY OF IDAHO FALLS (City), a municipal corporation of the State of Idaho,

W I T N E S S E T H :

WHEREAS, the City is organized under the laws of the State of Idaho and is authorized by law to construct, acquire, own and operate works, plants, systems and facilities for the generation or transmission of electric power and energy and to enter into contracts for the disposition of electric power and energy produced thereby; and

WHEREAS, the City and Bonneville have executed a power sales contract (Contract No. 14-03-37022 which as the same may be amended or replaced is hereinafter called "Power Sales Contract"); and Bonneville, pursuant to the provisions of the Pacific Northwest Electric Power Planning and Conservation Act of 1980 (PL 96-501) (Regional Act), has offered to the City a new 20-year power sales contract (Contract No. DE-MS79-81BP90447 hereinafter referred to as "Regional Act Contract") whereby Bonneville would accept an obligation to

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serve the City's net requirements during such period, and the City expects to execute such new contract; and

WHEREAS, the City is constructing three hydroelectric generating plants in its service area to meet its future load growth and has offered to sell to Bonneville the generation produced by such plants; and Bonneville, in a letter to the City dated September 26, 1981, agreed to negotiate the provisions of a long-term purchase of the generation produced at the City plants under provisions of the Regional Act; and

WHEREAS, the City has had discussions with the Utah Power and Light Company (Utah) regarding the potential for a summer-winter exchange of the plants' capability; and Bonneville intends to participate in further discussions with the City and Utah to determine whether a seasonal exchange might be beneficial to the Federal Columbia River Power System (Federal System); and

WHEREAS, Bonneville and Utah have agreed that the Point of Delivery listed in this agreement shall be a Point of Interconnection under Contract No. 14-03-79109, as amended or replaced, between Bonneville and Utah, thereby reducing Bonneville's transfer requirement on Utah's system; and

WHEREAS, Bonneville pursuant to the Regional Act expects to file a ruling request with the Secretary of the Treasury which would permit the purchase by Bonneville of the Project Generation for the full term of this agreement without adversely affecting the exemption from taxation on the Bonds; however, Bonneville and the City desire to make provisions herein in the event the ruling is not obtained or the ruling request is denied; and

WHEREAS Bonneville is authorized pursuant to law to dispose of electric power and energy generated at various Federal hydroelectric projects in the Pacific Northwest or acquired from other resources; to construct and operate

transmission facilities; to provide transmission and other services; and to enter into agreements to carry out such authority;

NOW, THEREFORE, the parties hereto mutually agree as follows:

1. Definition and Explanation of Terms.

(a) "Annual Budget" means the budget prepared annually by the City which is an estimate of the debt service and operating costs of the Project and an estimate of the margin payment by month for the designated year.

(b) "Billing Statement" means the written statement containing an itemized list of actual variable costs and margin payment for a calendar month which is transmitted monthly to Bonneville for payment.

(c) "Bonds" means any bond or other evidence of indebtedness which has been issued prior to the effective date of this agreement in connection with the Project pursuant to the Bond Ordinance (1) to finance or refinance the City's costs associated with planning, designing, financing and constructing the Project pursuant to the Bond Ordinance, and (2) for any other purpose authorized by the Bond Ordinance.

(d) "Bond Ordinance" means Ordinances No. 1671 and No. 1672 adopted by the City, as the same may be amended or supplemented, to authorize the Bonds.

(e) "Bond Trustee" means the party appointed pursuant to section 7.01 of the Bond Ordinance; said Bond Trustee is the Idaho First National Bank as acknowledged by the Trustee's Acceptance letter of February 3, 1981, to the City.

(f) "Contract Year" (1) means the period commencing at 2400 hours on February 16, 1982, and ending at 2400 hours on the following September 30; and (2) thereafter means the 12-month period commencing each year at 2400 hours on September 30, except that the last Contract Year shall end on the date of termination of this agreement.

(g) "Date of Commercial Operation" means, for each plant in the Project, that date following a period of testing when the City and Bonneville, based on Prudent Utility Practice, determine that such plant is available for operation at its maximum capability (commercially operable).

(h) "Operating Year" means the 12-month period commencing at 2400 hours on June 30 and ending at 2400 hours on the following June 30.

(i) "Project" means the generating plants and related property as described in Exhibit B. Exhibit B may be revised from time to time by mutual agreement of the City and Bonneville, but in any event shall be compatible with the description of the Project in the Bond Ordinance.

(j) "Project Generation" means the gross amount of power and energy produced at the Project during the term hereof.

(k) "Prudent Utility Practice" at a particular time means any of the practices, methods and acts which, in the exercise of reasonable judgment in light of the facts known at the time the decision was made (including but not limited to the practices, methods and acts engaged in or approved by a significant portion of the electrical utility industry), would have been expected to accomplish the desired result at the lowest reasonable cost consistent with reliability, safety, expedition and the requirements of governmental agencies having jurisdiction. In evaluating whether any matter conforms to Prudent Utility Practice, the parties shall take into account

- (1) the fact that the City is a municipal corporation under the laws of the State of Idaho with the statutory duties and responsibilities thereof; and
- (2) the objectives to integrate the Project with the generating resources of the Federal System, to achieve optimum utilization of such resources, and to achieve efficient and economical operation of such system.

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(1) "Regional Act" means the Pacific Northwest Electric Power Planning and Conservation Act of 1980 (P.L. 96-501).

(m) "Workday" means, for the purpose of scheduling, a day which the parties hereto jointly observe as a regular workday.

2. Term of Agreement. This agreement shall be effective at 2400 hours on February 16, 1982, and shall continue for the duration of the Federal Energy Regulatory Commission (FERC) license for Project No. 2842, except as provided in section 7 of this agreement. If the City files for renewal of the FERC license for Project No. 2842 during the term of this agreement, and such renewal is granted, the City shall offer to sell to Bonneville the electric generation produced at the Project during the renewal period prior to offering to sell such generation to another entity. The parties shall use best efforts to reach an agreement which has terms and conditions no less favorable than those the City may offer to any other entity. All liabilities accrued hereunder are preserved until satisfied.

3. Exhibits. Exhibits A through E are incorporated herein as a part of this agreement. The City shall be the "Contractor" as the term is used in Exhibit A.

4. Sale and Purchase of Project Generation.

(a) The City hereby agrees to sell and Bonneville hereby agrees to purchase the right to use the Project Generation, as well as the actual Project Generation, during the term hereof subject to the provisions of section 7. Payment shall be made pursuant to section 6.

(b) Bonneville shall take no action with respect to this agreement, including: (1) transfer or assignment of its rights hereunder or any interest herein, or (2) disposition of any power and energy received hereunder, in a manner which, in the opinion of bond counsel of the City, would adversely

affect the exemption from Federal or State income taxation of the interest on the Bonds to the holders thereof.

(c) The City shall make the Project Generation available to Bonneville at the point of delivery and at the approximate voltage described in Exhibit B. Such electric power and energy shall be in the form of three-phase current, alternating at a frequency of approximately 60 hertz. Amounts so delivered at such point during each month shall be determined from measurements made by Project meters installed to record such deliveries at the place and in the circuits specified in Exhibit B.

(d) The City shall submit to Bonneville by January 1 of each year the following information:

(1) a schedule of normal maintenance outages for the Project for the ensuing four Operating Years; and

(2) any other operation and maintenance information determined by the parties to be pertinent to the effective integration of such resource into the Federal System.

(e) The City shall provide to Bonneville by 1200 hours on each Workday the following information:

(1) an estimate of the hourly amounts of electric power and energy to be produced at the Project during the following day or days; and

(2) the actual hourly amounts of electric power and energy produced at the Project during the previous day or days.

(f) The City shall report to Bonneville as soon as possible any generation or transmission outages, scheduled or emergency, at the Project and shall use best efforts to return such equipment to service as soon as possible.

(g) To the extent possible, the City and Bonneville shall schedule maintenance outages at the Project in such a manner as to minimize adverse impacts on the Federal System.

(h) To the extent possible, the City, at Bonneville's request, will adjust its generation levels to optimize the operation of the Federal System including operational changes required pursuant to section 10 hereof. If Bonneville requires the City to reduce generation at the Project resulting in spilled water, the margin payment shall be determined as agreed by the parties before such reduction in generation.

5. Purchase Price.

(a) Bonneville shall pay the City during the term hereof: (1) fixed costs as described in subsection (b) below; (2) the variable costs associated with the Project and approved by Bonneville; and (3) a margin payment equal to the product of the actual metered kilowatthour production from the Project effective with the Date of Commercial Operation of each of the plants and 2.25 mills/kilowatthour.

(b) The fixed costs referred to in subsection (a)(1) above are the monthly net payment required pursuant to section 5.06 of the Bond Ordinance and specified in the annual statement of the debt service payments prepared by the Bond Trustee excluding any payment to the capital improvement fund which would be required for improvements to the City's electric system; such payment shall be reduced annually in the amount of any interest earnings on the Reserve Account and Renewal and Replacement Funds. Any excess construction fund balance, as determined by the Engineer's Certificate referred to in section 5.03(H) of the Bond Ordinance, shall be applied (A) to purchase bonds for cancellation pursuant to section 5.11 of the Bond Ordinance; (B) to

deposit in the Debt Service Account in the Bond Fund; or (C) to any combined use pursuant to (A) and (B) above. If the City purchases bonds for cancellation, it shall use its best efforts to purchase bonds so that debt service is level over the life of the Project.

(c) The variable costs referred to in subsection (a)(2) above include, but are not limited to, operation and maintenance costs, taxes, insurance, land use and license fees, repairs, replacements, betterments, capital additions, administrative and general costs, and approved overhead allocations.

(d) The parties agree that the maximum amount of the total margin payment, referred to in subsection (a)(3) above, that may be transferred to the City's General Fund pursuant to the General Contract Provisions attached to the Regional Act Contract is \$225,000 in any Contract Year with the balance applied within the City's Electric Department.

(e) The payments provided for in subsection (b) above shall be adjusted to reflect reductions in Bonneville's obligations with respect to any plant in the Project pursuant to section 7(b) and 7(c). For each plant that fails to become commercially operable by January 1, 1983, Bonneville's obligation shall be reduced by one-third of the monthly debt service payment commencing on January 1, 1983, and the City shall reimburse Bonneville in the amount of one-third of the debt service payments which Bonneville made during the period April 1, 1982 through December 31, 1982 but only from revenues permitted to be transferred pursuant to section 5.06(B) of the Bond Ordinance. The amount reimbursed shall be paid in equal monthly installments over a 12-month period commencing on January 1, 1983. For each plant for which Bonneville ceases to have payment obligations pursuant to sections 7(b)(2) and 7(c), Bonneville's obligation in subsection (b) above shall be reduced by one-third of the debt

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service payment referred to in subsection (b) above commencing 180 days following the initial date of such plant's inoperability.

(f) If a plant in the Project becomes inoperable as described in section 7(b) or 7(c), the variable costs associated with the Project shall be adjusted to delete all costs associated with the inoperable plant. Bonneville shall not be obligated to pay any variable costs associated with the plant that becomes inoperable effective at the time Bonneville's payments under subsection (b) are reduced.

(g) Exhibit C contains a typical purchase price calculation to demonstrate the calculation method. Actual payments shall be calculated pursuant to subsections (a) through (f) above.

6. Payment.

(a) Payment to the City under section 5(b).

(1) Payment to the City for debt service shall be made by Bonneville based upon the annual statement of the debt service payments prepared and forwarded to the City by the Bond Trustee, which is adjusted for interest earnings and included in the Annual Budget. If during the term hereof, it becomes necessary to either (1) increase the Renewal and Replacement Reserve Fund pursuant to section 5.09 (c) of the Bond Ordinance; or (2) replenish such fund if the monies in such fund are used pursuant to section 5.09 (A) of the Bond Ordinance, Bonneville shall be responsible for making such payments as required in the annual statement prepared by the Bond Trustee; provided, however, that Bonneville shall not be responsible for any such payments effective with the effective date of any withdrawal notice given by the City pursuant to section 7(a).

(2) Bonneville shall make the payment under section 5(b) to the City for receipt by the City no later than the 10th of each month and for

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transfer by the City to the Bond Trustee by the 15th of such month. Any interest earnings which accrue on such monies shall be credited to Bonneville in that month's Billing Statement and shall be a reduction to the variable costs paid by Bonneville during such month.

(3) Adjustments to the net payment pursuant to section 5(b) shall be determined by the Bond Trustee annually, and that adjustment shall be reflected in a subsequent month's Billing Statement except in the event that this agreement is terminated pursuant to section 7, in which case Bonneville shall be paid such adjustment within 30 days.

(b) Variable Cost and Margin Payment.

(1) Payment to the City for variable costs incurred during each calendar month during the term hereof shall be based on a monthly Billing Statement submitted to Bonneville by the City by the 25th of the following month.

(2) The Billing Statement shall reflect the variable costs and the margin calculation as described in section 5.

(3) The Billing Statement shall reflect:

(A) the estimated variable cost for the next month as reflected in the Annual Budget;

(B) the previous month's actual costs, the year-to-date actual costs, and their comparison to the budgeted amounts; and

(C) the calculated margin payment for each plant for the previous month.

(4) If the year-to-date actual costs deviate from the budgeted amounts for such period by more than five percent of the total annual budgeted variable costs for the year, the City shall submit an amended

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budget for the remainder of the contract year and an explanation of the deviations.

(5) Within 30 days of receipt of the Billing Statement, Bonneville shall remit to the City the amount reflected in such Billing Statement, incorporating any adjustments agreed upon by the parties during the course of analysis.

(c) Commencement of Payment.

(1) Beginning on April 1, 1982, Bonneville shall commence payments under section 5(b).

(2) Bonneville shall commence variable cost payments upon receipt of the Billing Statement for March 1982, and margin payments upon commercial operation of each plant and the receipt of the monthly Billing Statement.

7. Termination of the Agreement.

(a) Prior to July 1 of each Contract Year, the City may deliver to Bonneville a notice of withdrawal of the total Project Generation effective no earlier than three years from such July 1 of the year in which such notice is given; provided, however, that such withdrawal shall not be made prior to July 1988; and provided, further, that the City's right to withdraw the Project Generation shall expire if notice is not received by Bonneville by July 1, 1998. The City may only withdraw the Project Generation, as provided above, for use in serving the City's loads which Bonneville would otherwise be obligated to serve pursuant to the Power Sales Contract or Regional Act Contract, whichever is applicable, and the Project shall then be included in the firm resource exhibit of the Regional Act Contract as of the effective date of the withdrawal. In the event that a notice of withdrawal is received by Bonneville, the parties shall attempt renegotiation of the agreement. If

no new agreement is negotiated prior to the effective date of the withdrawal, the withdrawal shall be accomplished as planned.

(b) Subject to the provisions of this subsection and of subsection (d) below, Bonneville shall be relieved of its obligation to make any payments pursuant to sections 5 and 6 hereof which are allocable to any plant in the Project which is, or becomes, inoperable during the term hereof due to any of the conditions described in subsections (b)(1) and (b)(2) below. Bonneville shall resume its obligation to make such payments which are allocable to such plants when such plants again become operable; provided, however, that a plant shall not be deemed operable unless: (A) it is available for operation at least 90 percent of the time, exclusive of Bonneville approved scheduled maintenance, during each of the six months (Conditional Period) following the most recent period when Bonneville was relieved of its obligation to make such payments (Inoperable Period); and (B) it is capable, at least 90 percent of the time, exclusive of Bonneville approved scheduled maintenance, during each of the six months of the Conditional Period, of producing the output which would be normal under existing river flow conditions for equipment of that type.

If Bonneville resumes payments applicable to such a plant during a Conditional Period, and such plant fails to meet the criteria of the preceding sentence, Bonneville shall again cease making such payments, the Inoperable Period shall be deemed not to have ended and the City shall refund any payments made by Bonneville during such Conditional Period which are allocable to such plant; such refund shall be in 12 equal monthly installments commencing 12 months from the date when the Inoperable Period was reinstated. The conditions under which a plant is deemed to be inoperable for the purposes of this subsection are:

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(1) it fails to achieve a Date of Commercial Operation before January 1, 1983; or

(2) it is shut down for six months or more by a public official having such authority, or any permit or license necessary for its operation has been suspended for six months or more by an official having such jurisdiction, or the plant has accumulated during any consecutive 12 month period at least 4380 hours when it is not capable of operating.

(c) Subject to the provisions of subsection (d) below, if Bonneville determines that any or all of the plants have facilities which are so seriously damaged, impaired, or worn out that such plants cannot be cost-effectively returned to service, or if the costs of proposed capital additions, betterments, replacements or repairs required to achieve or maintain cost-effective operation exceed 20 percent of the then depreciated value of the Project, Bonneville may, at its option, after six months notice to the City, terminate this agreement with respect to those plants which are not cost-effective, and any payments made by Bonneville thereafter shall be reduced by any debt service payments or other costs which are allocable to such plant. Bonneville's determination hereunder that a plant is not cost-effective shall not be subject to arbitration.

If Bonneville's obligation to make payments allocable to all three plants ceases due to any of the provisions above, Bonneville may, at its option, terminate this agreement by providing six months notice to the City.

(d) Commencing on July 1, 1998, if the City has not exercised its right to give notice of withdrawal of the Project Generation, Bonneville shall no longer have the right to terminate its obligation to purchase the Project Generation from any plant in the Project which is operable on such date and subsequently becomes inoperable. Bonneville's right to terminate the

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agreement after such date shall be restricted to the situation where, in Bonneville's opinion, it is neither cost-effective to operate the Project nor to make it operable, in which case the City shall either (1) terminate and salvage the Project and Bonneville shall continue to make payments pursuant to section 5(b); or (2) assume all responsibility for the Project and may operate it for its own benefit. Notice of termination of the agreement by Bonneville shall be given to the City in writing as soon as reasonably practicable upon determination that the agreement should be terminated. The City shall respond within 90 days as to its choice of options (1) or (2) above and the parties shall then meet to determine the procedures for implementing the City's choice of options.

(e) In the event that Bonneville adopts a program for billing credits which is applicable to resources such as the Project, the City shall have six months from the announcement of adoption of such program to give Bonneville notice that it desires to terminate this agreement and apply for billing credits. If the City so requests, the Project shall be considered for billing credits under such program, and if the Project qualifies, this agreement shall be terminated on the effective date of the ensuing billing credit agreement; provided, however, that such effective date shall be no earlier than six months following the City's request for billing credits. If the City does not request to be considered for billing credits within the six-month period following Bonneville's announcement of adoption of a billing credit program, the City shall not be eligible to apply for billing credits for the Project as defined herein during the term of the FERC license for such Project as such license may be extended.

(f) If Bonneville adopts a formal resource acquisition policy which is published in the Federal Register within two years from the effective date

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hereof, the provisions of which are substantially different from this agreement, the parties hereto shall consider a renegotiation of this agreement to encompass the provisions of such new policy. The provisions of this agreement shall not be affected by such policy unless the parties agree to an amendment of this agreement.

(g) If the Secretary of the Treasury does not issue a ruling stating that the interest earnings on the Bonds will not be adversely affected by the purchase of the Project Generation by Bonneville hereunder, then the total energy purchased by Bonneville under this agreement shall not exceed the number of kilowatthours permitted to be purchased by Bonneville under Treasury Regulations section 1.103-7 (b)(5) as now or hereafter is in effect and applicable to the Bonds, presently determined pursuant to the following formula:

$$N \times H \times B \times 0.25$$

Where:

N = Nameplate rating of units; 27,000 kw

H = Hours in a year; 8760 hours

B = The number of years between the year in which production from the project is first acquired and the year of the latest maturity of any obligation of the issue; 31 years

8. Federal Base System Replacement. If this agreement is not terminated pursuant to section 7, the amount of power which will be credited to the City as a minimum contractual entitlement to firm power during a period of insufficiency pursuant to either section 22 of the General Contract Provisions to the Power Sales Contract prior to execution of the Regional Act Contract, or section 5(e) of the Regional Act (5(e)Entitlement) after execution of the

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Regional Act Contract, whichever is applicable, may be reduced by an amount not to exceed ten percent, and such reduction shall be used by Bonneville as a replacement for Federal Base System resources. The parties agree that the 5(e) Entitlement, before any reduction for Federal base system replacements, shall be 16 average megawatts with a peak of 27 megawatts until the Project has operated at least four years, after which Bonneville may give written notice in accordance with said Regional Act Contract, section 7(e), that the 5(e) Entitlement, before any reduction for Federal base system replacements, shall be revised as agreed upon between the parties. This method of updating the 5(e) Entitlement may be repeated no more frequently than once in any Operating Year. Should Bonneville establish a policy for determination of the amount of a resource purchased by Bonneville which may be used as a replacement for Federal Base System resources, this section will be revised such that the City is treated no less favorably hereunder as under such replacement policy.

9. Annual Budget.

(a) For the period commencing at 2400 hours on February 28, 1982 and ending at 2400 hours on September 30, 1982, the City has submitted to Bonneville three copies of its Annual Budget for the Project. Such Annual Budget has been reviewed and approved by Bonneville. A copy of such Annual Budget is attached hereto as Exhibit E.

(b) By August 1 of 1982 and each subsequent year, the City shall submit to Bonneville three copies of its Annual Budget for the Project. The Annual Budget shall include the schedule of debt service payments required for the year by the Bond Trustee, the City's estimate of the operation and maintenance and other variable costs applicable to the Project for the year, a statement of any administrative and general costs allocated to the Project by the City.

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and the supporting rationale, and the City's estimate of the margin payments as illustrated in Exhibit C. The estimated costs of the Project included in the Annual Budget shall be shown by month. Within 45 days of receipt of each subsequent year's Annual Budget, Bonneville will assess and approve the Annual Budget or shall notify the City of its disapproval of part or all of the Annual Budget. In the event of disapproval, Bonneville and the City shall attempt to resolve the disagreement, but in any case other than determination of the debt service payments, Bonneville's approval or disapproval shall be binding unless referred to arbitration. Bonneville shall make payment on any items not in dispute and shall make debt service payments as calculated by the City and on the schedule provided by the City pending arbitration. The procedure for referring an issue to arbitration shall be as provided in section 10 of Exhibit D.

(c) The variable costs contained in the current monthly Billing Statement shall correspond to line items included in the Annual Budget or amendment thereto.

(d) The Annual Budget shall include a statement explaining any significant changes from the previous year's estimates in the costs or the financing plans, and other information pertinent to the costs of the Project.

10. Environmental Provisions. The City shall comply with all legal requirements of each Governmental agency having jurisdiction over the Project during the term of this agreement for protecting the environment during the construction, expansion or operation hereunder of the Project. Upon Bonneville's request, the City shall provide Bonneville with a copy of all relevant environmental documents including plans for environmental mitigation, applications for environmental permits, permit modifications or variances, and any environmental reports or monitoring data required by environmental

agencies. In the event that environmental mitigation plans are required, the City shall submit documentation of acceptance of such plans by environmental agencies having jurisdiction and, within a reasonable time, evidence of compliance with all environmental requirements.

The City shall not undertake changes in operating parameters which may adversely affect the environment or in any way prevent Bonneville from discharging its responsibilities under the Regional Act, NEPA, and other applicable law without prior consultation and approval of Bonneville. Subject to limitations established by FERC or other regulatory agencies, the City shall operate the Project in a manner consistent with the fish and wildlife program adopted by the Pacific Northwest Electric Power and Conservation Planning Council pursuant to the Regional Act or, in the absence of such program, in such a manner as to aid Bonneville in accomplishing the fish and wildlife obligations under section 4(h) of the Regional Act.

11. Electric Disturbances.

(a) For the purposes of this section an electric disturbance is any sudden, unexpected, changed, or abnormal electric condition occurring in or on an electric system which causes damage.

(b) Each party shall design, construct, operate, maintain, and use its electric system in conformance with accepted electric utility practices:

(1) to minimize electric disturbances such as, but not limited to, the abnormal flow of power which may interfere with the electric system of the other party or any electric system connected with such other party's electric system; and

(2) to minimize the effect on its electric system and on its customers of electric disturbances originating on its own or another electric system.

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(c) If both parties to this agreement are parties to the Western Interconnected Electric System agreement, their relationship with respect to system damages shall be governed by that agreement.

(d) During such time as a party to this agreement is not a party to the Agreement Limiting Liability Among Western Interconnected Systems, its relations with the other party with respect to system damages shall be governed by the following sentence, notwithstanding the fact that the other party may be a party to said Agreement Limiting Liability Among Western Interconnected Systems. A party to this agreement shall not be liable to the other party for damage to the other party's system or facilities caused by an electric disturbance on the first party's system, whether or not such electric disturbance is the result of negligence by the first party, if the other party has failed to fulfill its obligations under subsection (b)(2) above.

(e) If one of the parties to this agreement is not a party to the Agreement Limiting Liability Among Western Interconnected Systems, each party to this agreement shall hold harmless and indemnify the other party, its officers and employees, from any claims for loss, injury, or damage suffered by those to whom the first party delivers power not for resale, which loss, injury, or damage is caused by an electric disturbance on the other party's system, whether or not such electric disturbance results from the negligence of such other party, if such first party has failed to fulfill its obligations under subsection (b)(2) above, and such failure contributed to the loss, injury, or damage.

(f) Nothing in this section shall be construed to create any duty to, any standard of care with reference to, or any liability to any persons not a party to this contract.

12. Severability. If any provision of this agreement is finally adjudicated by a court of competent jurisdiction to be invalid or unenforceable, the remainder of this agreement shall be unaffected by such adjudication and all of the remaining provisions of this agreement shall remain in full force and effect as though such provision or any part thereof so adjudicated had not been included herein.

13. Relationship to Other Instruments. It is agreed that this agreement is made, and referrals to or any review or other action by Bonneville hereunder shall be subject to the terms and provisions of the Bond Ordinance and all pertinent licenses, permits, and regulatory approvals.

14. Notices. Any notice, demand, approval, proposal, protest, consent, direction, or request provided for in this agreement shall be effective from the date received by the party to whom it is provided. Notices to Bonneville shall be transmitted to Bonneville Power Administration, District Manager, Idaho Falls District Office, 531 Lomax Street, P.O. Box 2558, Idaho Falls, Idaho 83401. Notices to the City shall be mailed to Manager, City of Idaho Falls, P.O. Box 220, Idaho Falls, Idaho 83402. Any party may change such designation, at any time and from time to time, by giving notice to the other party as provided above.

IN WITNESS WHEREOF, the parties hereto have executed this contract in

several counterparts.

UNITED STATES OF AMERICA
Department of Energy

ACTING

By

William K. ...
Bonneville Power Administrator

CITY OF IDAHO FALLS

By

Title

ATTEST:

By

Title

(WP-PCI-0428C)

Approved as to form:

A. L. Smith

Attorney for City of Idaho Falls, Idaho

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several counterparts.

UNITED STATES OF AMERICA
Department of Energy

By /s/ Marvin Klinger
ACTING Bonneville Power Administrator

CITY OF IDAHO FALLS

By /s/ Thomas Campbell
Title Mayor

ATTEST:

By /s/ Velma Chandler
Title City Clerk

(WP-PCI-0428C)

Approved as to form:

/s/ A. L. Smith
Attorney for the City of Idaho Falls, Idaho

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Exhibit A, Page 1 of 3
Contract No. DE-MS79-82BP90917
City of Idaho Falls
Idaho Falls Hydroelectric Project
Effective at 2400 hours on
the effective date of this
Agreement

PROVISIONS REQUIRED BY STATUTE OR EXECUTIVE ORDER

1. Contract Work Hours and Safety Standards.

This contract, to the extent that it is of a character specified in the Contract Work Hours and Safety Standards Act (40 U.S.C. 327-333), is subject to the following provisions and to all other applicable provisions and exceptions of such Act and the regulations of the Secretary of Labor thereunder.

(a) Overtime requirements. No Contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers, mechanics, apprentices, trainees, watchmen, and guards shall require or permit any laborer, mechanic, apprentice, trainee, watchman, or guard in any workweek in which he is employed on such work to work in excess of eight hours in any calendar day or in excess of 40 work hours in such workweek on work subject to the provisions of the Contract Work Hours and Safety Standards Act unless such laborer, mechanic, apprentice, trainee, watchman, or guard receives compensation at a rate not less than one and one-half times his basic rate of pay for all such hours worked in excess of eight hours in any calendar day or in excess of 40 hours in such workweek, whichever is the greater number of overtime hours.

(b) Violation; liability for unpaid wages; liquidation of damages. In the event of any violation of the provisions of subsection (a), the Contractor and any subcontractor responsible therefore shall be liable to any affected employee for his unpaid wages. In addition, such Contractor and subcontractor shall be liable to the United States for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer, mechanic, apprentice, trainee, watchman, or guard employed in violation of the provisions of subsection (a) in the sum of \$10 for each calendar day on which such employee was required or permitted to be employed on such work in excess of eight hours or in excess of his standard workweek of 40 hours without payment of the overtime wages required by subsection (a).

(c) Withholding for unpaid wages and liquidated damages. The Administrator may withhold from the Government Prime Contractor, from any moneys payable on account of work performed by the Contractor or subcontractor, such sums as may administratively be determined to be necessary to satisfy any liabilities of such Contractor or subcontractor for unpaid wages and liquidated damages as provided in the provisions of subsection (b) above.

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Exhibit A, Page 2 of 3
Contract No. DE-MS79-82BP90917
City of Idaho Falls
Idaho Falls Hydroelectric Project
Effective at 2400 hours on
the effective date of this
Agreement

(d) Subcontracts. The Contractor shall insert subsections (a) through (d) of this section in all subcontracts, and shall require their inclusion in all subcontracts of any tier.

(e) Records. The Contractor shall maintain payroll records containing the information specified in 29 CFR 516.2(a). Such records shall be preserved for three years from the completion of the contract.

2. Convict Labor. In connection with the performance of work under this contract, the Contractor agrees not to employ any person undergoing sentence of imprisonment except as provided by Public Law 89-176, September 10, 1965, (18 U.S.C. 4082(c)(2)) and Executive Order 11755, December 29, 1973.

3. Equal Employment Opportunity. (The following clause is applicable unless this contract is exempt under the rules, regulations, and relevant orders of the Secretary of Labor (41 CFR, ch. 60).

During the performance of this contract, the Contractor agrees as follows:

(a) The Contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin. The Contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to race, color, religion, sex, or national origin. Such action shall include, but not be limited to, the following: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided by the Administrator setting forth the provisions of this Equal Opportunity Clause.

(b) The Contractor will, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, or national origin.

(c) The Contractor will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, a notice, to be provided by the Administrator, advising the labor union or workers' representative of the contractor's commitments under this Equal Opportunity clause, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

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Exhibit A, Page 3 of 3
Contract No. DE-MS79-82BP90917
City of Idaho Falls
Idaho Falls Hydroelectric Project
Effective at 2400 hours on
the effective date of this
Agreement

(d) The Contractor will comply with all provisions of Executive Order No. 11246 of September 24, 1965, and by the rules, regulations, and relevant orders of the Secretary of Labor.

(e) The Contractor will furnish all information and reports required by Executive Order No. 11246 of September 24, 1965, and by the rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his books, records, and accounts by the contracting agency and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.

(f) In the event of the Contractor's noncompliance with the Equal Opportunity clause of this contract or with any of the said rules, regulations, or orders, this contract may be cancelled, terminated, or suspended, in whole or in part, and the Contractor may be declared ineligible for further Government contracts in accordance with procedures authorized in Executive Order No. 11246 of September 24, 1965, and such other sanctions may be imposed and remedies invoked as provided in Executive Order No. 11246 of September 24, 1965, or by rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law.

(g) The Contractor will include the provisions of paragraphs (a) through (g) in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issues pursuant to section 204 of Executive Order No. 11246 of September 24, 1965, so that such provisions will be binding upon each subcontractor or vendor. The Contractor will take such actions with respect to any subcontract or purchase order as the contracting agency may direct as a means of enforcing such provisions, including sanctions for noncompliance; provided, however, that in the event the Contractor becomes involved in or is threatened with, litigation with a subcontractor or vendor as a result of such direction by the contracting agency, the Contractor may request the United States to enter into such litigation to protect the interests of the United States.

4. Interest of Member of Congress. No member of or delegate of Congress, or resident commissioner shall be admitted to any share or part of this contract or to any benefit that may arise therefrom, but this provisions shall not be construed to extend to this contract if made with a corporation for its general benefit.

MICROFILMED

DEC 04 1967

Exhibit B, Page 1 of 2
Contract No. DE-MS79-82BP90917
City of Idaho Falls
Idaho Falls Hydroelectric Project
Effective at 2400 hours on the
effective date of this contract.

DESCRIPTION OF THE PROJECT AND POINT OF DELIVERY

Description of the Project. The Project consists of three hydroelectric generating plants located on the Snake River in or near the City of Idaho Falls. The northern plant is referred to as the "Upper Plant"; the southern plant is referred to as the "Lower Plant" and the plant located in the City is referred to as the "City Plant". Facilities at the Project are described in the FERC license issued February 8, 1979 for Project No. 2842 and include the following:

- (a) Upper Plant at River Mile 805: (1) Dam No. 1, a 600-foot long and 23-foot high concrete and earthfill structure across the east channel of the river containing a 30-inch square sluice gate and two 150-foot by 10-foot pelican gates with a spillway crest elevation of 4,734.7 (USGS datum); (2) Dam No. 2, a 470-foot long and 33-foot high concrete and earthfill structure across the west channel of the river about 1,800 feet downstream of Dam No. 1, containing a 40-foot by 11-foot pelican gate with a spillway crest elevation of 4,734.7 (USGS datum) and a 140-foot by 38-foot powerhouse containing an 8,000 kW horizontal bulb-turbine generator; (3) a 2-mile long, 800 acre-foot gross capacity reservoir with a normal surface area of 100 acres; and (4) the generator leads, step-up transformers and about 400 feet of cable extending from the powerhouse to the step-up transformer to the City's distribution system.
- (b) City Plant at River Mile 800: (1) a 1970-foot long variable height concrete dam containing a 40-foot by 5-foot pelican gate with a spillway crest elevation of 4,694.7 (USGS datum); (2) a 40-foot by 5-foot pelican gate adjacent to the powerhouse; (3) a 1-mile long, 400 acre-foot gross capacity reservoir with normal surface area of 50 acres; (4) a 50-foot by 115-foot control building-maintenance shop adjacent to the powerhouse; (5) a 140-foot by 38-foot concrete powerhouse containing an 8,000 kW horizontal bulb turbine-generator; and (6) the generator leads, step-up transformer and about 65 feet of cable extending to the step-up transformer.
- (c) Lower Plant at River Mile 798: (1) a 930-foot long concrete dam with a crest elevation of 4,674.5 (USGS datum) across the west channel of the river; (2) a spillway with a crest elevation of 4,674.0 (USGS datum) containing eight 20-foot by 14-foot radial gates and a 40-foot by 5-foot pelican gate, an 85-foot by 80-foot powerhouse containing two 1,500 kW conventional vertical shaft generating units, and a 140-foot by 38-foot concrete powerhouse containing an 8,000 kW horizontal bulb turbine-generator, which collectively constitute the structure across the east channel; (3) a 2-mile long 800 acre-foot

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Exhibit B, Page 2 of 2
Contract No. DE-MS79-82BP90917
City of Idaho Falls
Idaho Falls Hydroelectric Project
Effective at 2400 hours on the
effective date of this contract.

gross capacity reservoir with a normal surface area of 100 acres; and
(4) the generator leads, step-up transformer and about 600 feet of
cable extending to the Rack Substation. For purposes of determining
Project Generation, the Lower Plant includes any and all generating
units which existed prior to installation of the new bulb-turbine
generators.

SUGARMILL POINT OF DELIVERY

Location: the point in the City's Sugarmill Substation where the 44 kV
facilities of the City and the Utah Power & Light Company are connected;

Voltage: 44 kV;

Metering: at the bus bar at the individual generating sites, in the 4.16 and
2.4 kV circuits over which such electric power and energy flows.

(WP-PCI-0428C)

UNRECORDED
DEC 04 1997

Exhibit C, Page 1 of 1
Contract No. DE-MS79-82BP90917
City of Idaho Falls
Idaho Falls Hydroelectric Project
Effective at 2400 hours on the
effective date of this contract.

TYPICAL PURCHASE PRICE CALCULATION 1/

The Purchase Price shall be calculated pursuant to section 5 of this agreement as follows:

(a) Fixed Cost Payment

Estimate is subject to adjustment for interest earnings and Annual Budget approval..... \$4,300,000

(b) Variable Cost Payments

Estimate based on the Annual Budget, subject to revision as agreed by the parties based on actual expenditures 2/..... 480,000

(c) Margin Payment

2.25 mills/kWh x estimated production of 175,000,000 kWh..... 393,750

Total Annual Cost \$5,173,750

Average price/kWh = $\frac{\$5,173,750}{175,000,000 \text{ kWh}}$ = 29.56 mills

1/ Based on initial estimates for a typical 12-month period. This calculation is intended to demonstrate the method. Actual payments will be based on items specified in the Annual Budget and on actual costs for the items specified.

2/ Any adjustments shall be made by an addition or subtraction in the next year's Annual Budget if it is not practical to prepare an amended Annual Budget for the current year.

(WP-PCI-0428C)

RECORDED
DEC 04 1997

Exhibit D, Page 1 of 8
Contract No. DE-MS79-82BP90917
City of Idaho Falls
Idaho Falls Hydroelectric Project
Effective at 2400 hours on
the effective date of this
Agreement

OVERSIGHT AND APPROVAL AUTHORITIES OF BONNEVILLE

Bonneville shall have the authority, pursuant to section 6(i) of Public Law 96-501, to exercise effective oversight, inspection, audit and review of all aspects of construction and operation of the Project. Such oversight shall include the subject areas below.

1. Definitions. The definitions of terms used in this exhibit are the same as in the agreement (referred to herein as "the Agreement" or "this Agreement") of which this exhibit is a part.

2. Information and Reporting Requirements.

(a) The City has made available to Bonneville the following information and shall make available any revisions thereto as may be required from time to time:

(1) Design and construction data (for each plant, if different):

The names and addresses of major contractors and consultants.

The original and current Project Schedule.

Copies of original Project specifications, drawings, and contracts including:

(A) site layout drawings;

(B) major equipment specifications and supply/installation contracts; and

(C) major construction contracts.

A current organization and staffing chart showing key City and contractor personnel to be assigned to the Project. This shall include those key persons a portion of whose time is allocated to the Project.

(2) Financial Data:

The original and current Construction Budget of the Project.

The debt service schedule including dates, period, and method.

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Exhibit D, Page 2 of 8
Contract No. DE-MS79-82BP90917
City of Idaho Falls
Idaho Falls Hydroelectric Project
Effective at 2400 hours on
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A Copy of Official Statement, Bond Ordinance, Indenture, and any other financing documents.

Current Statement of Investment & Earnings from Bond proceeds.

- (b) The City shall provide to Bonneville during the construction phase of the Project, a monthly report on cost and schedule status of the Project, which describes and justifies any significant deviations from the current Construction Budget and Schedule. Such cost report shall show the cumulative amounts budgeted, committed, and expended. These monthly reports shall be submitted to Bonneville by the 25th day of the following month. Deviations exceeding five percent between actual and budgeted cumulative expenditures on a line item basis shall be considered significant.

3. Finance.

- (a) Duties of the City. If the parties mutually agree, the City, in good faith and in accordance with Prudent Utility Practice, shall use its best efforts to arrange for the refinancing or refunding of Project debt outstanding with the concurrence of Bonneville, and, to the extent provided by section 6(a) below, to finance the costs of any capital additions, betterments, renewals, repairs, replacements, or modifications to the Project, provided, that in each such case Bonds may then be legally issued and sold; and to develop a schedule of debt service which is acceptable to Bonneville. All obligations required of Bonneville by this Agreement pursuant to the Regional Act shall be secured solely by Bonneville's revenues received from the sale of electric power and other services. In the sale of any bonds or other obligations to pay the costs of the Project which Bonneville is obligated to pay, the City shall include in all offerings and promotional material for the sale of such bonds or other obligations the following statement: "Such obligations are not, nor shall they be construed to be, general obligations of the United States, nor are such obligations intended to be or are they secured by the full faith and credit of the United States."
- (b) Bonneville Approval Authority. The City shall provide to Bonneville the opportunity to approve the following items prior to the City taking any action:

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DEC 04 1987

Exhibit D, Page 3 of 8
Contract No. DE-MS79-82BP90917
City of Idaho Falls
Idaho Falls Hydroelectric Project
Effective at 2400 hours on
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- (1) the terms and conditions in all resolutions, indentures, and evidence of indebtedness through which the City will acquire funds, during the term of this Agreement, to pay the costs of the Project;
- (2) terms and conditions of agreements with bond counsel, financial advisors, underwriters, or other parties as may be employed, during the term of this Agreement, to facilitate or perform Project financing;

4. Design and Construction.

- (a) Duties of the City. The City, in good faith and in accordance with Prudent Utility Practice, has:
 - (1) arranged for the permits, licenses, and approvals that are required for the construction of the Project; and
 - (2) completed, or arranged for the completion of, all appropriate planning and engineering studies and has arranged for the construction of the Project to attain the Date of Commercial Operation of the plants in the Project as near as possible to January 22, 1982; April 22, 1982; and July 21, 1982; respectively.
- (b) Bonneville Approval Authority. The City shall provide to Bonneville the opportunity to disapprove the following prior to the City taking any action regarding such items:
 - (1) selection of, or changes in, major items of equipment which are to be an integral part of the Project;
 - (2) any actions initiated by the City which will impact the date on which the project is scheduled to be available to Bonneville; and
 - (3) hiring of consultants or the selection of a replacement for the Architect/Engineer to perform design or management for the Project, the costs of which are charged to the cost of the Project.

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Exhibit D, Page 4 of 8
Contract No. DE-MS79-82BP90917
City of Idaho Falls
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In the event the City transfers a cumulative amount greater than \$1,000,000 from any contingency or reserve account in the Construction Budget to any other account, the following provision shall apply: The City shall provide to Bonneville the opportunity to disapprove: (1) any changes to the Construction Budget and any changes to the total budgeted construction cost of the Project pursuant to section 5 below; (2) any single use of the allowance for contingencies or the reserve account within the Construction Budget which exceeds the greater of \$10,000 or ten percent of such allowance for contingencies; or (3) proposed major contract awards or contract modifications where "major" is defined as exceeding one percent of the Project construction cost or \$200,000, whichever is less.

(c) Site Visitation. From time to time upon reasonable notice, Bonneville or its designee, at Bonneville's expense, may visit the project site for the purpose of inspecting such facilities to determine compliance with any of the provisions herein. The visiting Bonneville representative or designee shall have no direct authority regarding administration or management of the Project.

5. Construction Budget. By August 1 preceeding each Contract Year in which a major capital addition is planned, the City shall submit to Bonneville an updated Construction Budget for the Project, to become effective on the first day of the next Contract Year, including a Project Schedule, together with the Financial Plan on which such budget is based, describing the items of construction and cash amounts to be expended therefor from the succeeding July 1 to the estimated date of completion of the Project. The City shall submit amended Construction Budgets to Bonneville to reflect changes in construction schedules, or costs. Construction Budgets to be effective at the start of each Contract Year and amended Construction Budgets for a current Contract Year shall become effective upon the earlier of (A) approval by Bonneville; or (B) 30 days and 15 days after receipt, respectively, except for any item disapproved by Bonneville.

6. Operation, Maintenance, and Capital Additions

(a) Duties of the City.

(1) The City, in good faith and in accordance with Prudent Utility Practice and the requirements of Government agencies having jurisdiction, shall use its best efforts to arrange for the operation, maintenance, and any necessary capital additions for the Project, including any approvals or permits that may be necessary prior to such actions;

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DEC 04 1987

Exhibit D, Page 5 of 8
Contract No. DE-MS79-82BP90917
City of Idaho Falls
Idaho Falls Hydroelectric Project
Effective at 2400 hours on
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- (2) Whenever the aggregate costs of (A) proposed betterments or capital additions either necessary to achieve design capability, to improve operating reliability or to reduce unit power costs or required by governmental agencies and (B) proposed replacements or repairs, exceed \$25,000 per plant or such higher amount as determined by Bonneville ("Betterments and Repairs") for the Project for any Contract Year as estimated by the City, the City shall submit to Bonneville its plan, including but not limited to a financing plan and budget of expenditures for each such proposal; provided, that if such estimated aggregate cost of any such proposal exceeds 20 percent of the then depreciated value of the Project, Bonneville may terminate the Agreement in accordance with section 7 of the Agreement. If the City and Bonneville cannot agree upon such estimated costs, then upon written notice from Bonneville to the City, Bonneville shall refer such estimated costs for resolution pursuant to section 10 below. If Bonneville does not terminate the Agreement within 90 days from the date such estimated costs have been so agreed upon or determined, the City shall proceed with its plan and budget of expenditures for such proposal. Each such plan and budget, or updated or amended budget, relating thereto shall be submitted to Bonneville and shall become effective at the time and in the manner provided in section 5.
- (3) If, in any Contract Year, the amounts for costs of construction in the applicable Annual Budget for a proposed betterment, capital addition, replacement or repair (less the amount of applicable reserves, if any, as provided in the Bond Ordinance plus the proceeds of insurance, if any, available by reason of loss or damage to the Project) exceed the greater of
- (A) ten percent of the applicable Annual Budget not including such reserves and insurance proceeds; or
 - (B) \$1,000,000

the City at the request of Bonneville shall use its best efforts to issue and sell Bonds to pay such costs in accordance with section 3 hereof.

Notwithstanding any other provision of this Agreement, unbudgeted expenditures may be made by the City under either of the circumstances in this paragraph when obtaining the required approval

RECEIVED

DEC 04 1987

Exhibit D, Page 6 of 8
Contract No. DE-MS79-82BP90917
City of Idaho Falls
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in a timely manner is impracticable. Such expenditures shall be added to the Annual Budget as incurred: (a) in an emergency; or (b) in order to protect the safety of persons or property. As soon as possible after any such expenditures, and prior to expenditure of any other funds not contemplated in the effective Annual Budget, the City shall submit to Bonneville an amended Annual Budget reflecting such additions to Bonneville for approval.

(b) Bonneville Approval Authority.

- (1) The City shall operate the Project as requested by Bonneville pursuant to Section 4 of this Agreement.
- (2) Bonneville or its designee shall have the right to visit the Project sites and review the operation and maintenance of the Project with the City from time to time during the term of this agreement. A report shall be provided as soon as reasonably practicable regarding the findings of such review and the City and Bonneville shall mutually resolve any items which are identified as needing change.

7. Accounting. The City shall keep up-to-date books and records showing all financial transactions and other arrangements made in carrying out the terms of this Agreement, including any contract with a consultant or contractor of the City providing for reimbursement of costs or expenses. Such books and records shall contain information supporting the allocation of the City's indirect costs associated with the Project. Such books and records shall be retained by the City for five years and shall be made available for inspection and audit by Bonneville at all reasonable times.

All accounts shall be kept so as to permit conversion to the system of accounts prescribed for electric utilities by the Federal Energy Regulatory Commission, or any successor agency.

8. Auditing. A copy of each annual independent audit performed in accordance with Idaho law shall be transmitted to Bonneville within 14 days of publication. Further, to ensure that necessary policies, procedures, and internal controls are observed in carrying out the terms of this contract and to ensure adequate financial accountability, Bonneville, upon reasonable notice, may conduct such audits, examinations, or inspections of the City's records and operations as it deems appropriate.

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Exhibit D, Page 7 of 8
Contract No. DE-MS79-82BP90917
City of Idaho Falls
Idaho Falls Hydroelectric Project
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9. Notice of Approval or Disapproval. Proposals or documents submitted to Bonneville for approval shall be deemed approved by Bonneville upon the earlier of (a) written approval; or (b) 15 days, except as otherwise provided herein, after receipt by Bonneville as required herein, unless Bonneville delivers notice to the City within such period, stating that it disapproves of a designated proposal or document. Any notice of disapproval shall segregate the items so that the exact items of difference are identified; items not specifically disapproved shall be deemed approved. Such notice of disapproval shall describe in what particular the item is not consistent with Prudent Utility Practice or is otherwise not acceptable and shall recommend an alternative that would be acceptable. Bonneville and the City shall use their best efforts to resolve the disagreement in a manner acceptable to both. If a disapproval is not resolved within a period of time which is reasonable in light of the nature of the proposal, either party may submit a disapproved proposal or document for determination pursuant to section 10 below, and such party shall simultaneously provide to the other party written notice of such submission plus a copy of all documents submitted.
10. Resolution of Disagreements.
- (a) The parties shall use their best efforts to reach agreement on all disputed items resulting from Bonneville's exercise of its oversight and approval authority as provided in this Exhibit D. If the parties cannot reach timely mutual agreement on such matters, Bonneville shall make an interim determination of such matter, and the matter may be referred by either party to arbitration as provided in subsection (b) below.
 - (b) The party calling for arbitration shall serve notice in writing upon the other party, setting forth in detail the question or questions to be arbitrated and the arbitrator appointed by such party. The other party shall, within ten days after the receipt of such notice, appoint a second arbitrator, and the two so appointed shall choose and appoint a third. In case such other party fails to appoint an arbitrator within said ten days, or in case the two so appointed fail for ten days to agree upon and appoint a third, the party calling for the arbitration, upon five days' written notice delivered to the other party, shall apply to the person who at the time shall be the presiding judge of the United States Court of Appeals for the Ninth Circuit for appointment to the second and third arbitrator, as the case may be.

INFORMAL

DEC 04 1987

Exhibit D, Page 8 of 8
Contract No. DE-MS79-828P90917
City of Idaho Falls
Idaho Falls Hydroelectric Project
Effective at 2400 hours on
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The determination of the question or questions submitted for arbitration shall be made by a majority of the arbitrators and shall be binding on the parties. Each party shall pay for the services and expenses of the arbitrator appointed by or for it, for its own attorney fees, and for compensation for its witnesses. All other costs incurred in connection with the arbitration shall be shared equally by the parties thereto.

11. Insurance. The City shall maintain in force, for the benefit of the Project, as a Project expense, such insurance as will satisfy the requirements of the Bond Ordinance and any other applicable statutes, and such other insurance as the City may provide with the concurrence or at the request of Bonneville. Any proceeds of such insurance received by the City for loss or damage to the Project shall be applied to the extent necessary, to the costs of repairs of such Project and any excess shall go into the Project working capital to offset amounts otherwise required to be paid by Bonneville pursuant to the current Billing Statement.
12. Training. The City shall carry out a familiarization and training program to maintain adequate staff for the Project and the expenses thereof shall be part of the direct or indirect costs of construction or costs of operation as appropriate.

(WP-PCI-0428C)

ENCLOSURE

DEC 04 1987

Debt Service

Per Attached - Interest	1,457,134
Debt Service - Principal (1/2 - 260,000)	130,000
Funding of Reserve Account	
Supplement 1981 A, Page 9, Sec. 302	22,319
Subtotal Debt Service	<u>1,609,453</u>

Production Margin, Per Attached

116,606

GRAND TOTAL

2,154,859

* Will be billed when actually incurred.

** Amortization begins Oct., 1982.

*** BPA disputes the allowability, allocability, or reasonableness of certain forth in the letter dated March 30, 1982, from BPA to the City. BPA and the C costs. If the disagreement cannot be resolved within 60 days after the date o shall be binding unless referred to arbitration pursuant to section 10 of Exhi WP-PCI-0428C)

ENCLOSURE

DEC 04 1987

C11

Estimated Consts for Op

Fiscal Budget Octol

Administration & General

	Budget	Oct. 81	Jan
	Total	thru	Feb
		Dec. 81	

Labor	\$	42,200
Other Divisions		4,800
Expenses	*	41,000
Subtotal A & G	***	<u>88,000</u>

Operation & Maintenance

Labor		142,000
Material	*	100,000
Equipment		5,400
Subtotal O & M	***	<u>247,400</u>

Accounting

Trustee	*	40,000
Auditor	*	24,000
Controller		29,400
Subtotal Accounting	***	<u>93,400</u>

Capital Other Than Plant

Amortization	***	-
Total		<u>428,800</u>

RECORDED

DEC 8 4 1987

ELLSWORTH ENGINEERING, INC.

P.O. Box 1822 • 140 N. Corner Ave.
Idaho Falls, Idaho 83401
(208) 523-1662

January 19, 1988

Harold Jones
State of Idaho
Department of Water Resources
Idaho Falls, Idaho 83401

Re: Proof of Beneficial Use on Water Rights Permits Nos. 01-7014, 01-7025,
01-7015, 01-7024, 01-7023, 01-7013

Dear Mr. Jones:

Enclosed herewith please find proof of Beneficial Use Form 217, Beneficial Use Field Report Form 219, photographs of the diversion, power use summary for the years 1985 through 1987, copy of the U.S.G.S. quadrangle map, plan layout of the diversion, aerial photograph, and examination notice.

Thank you for your consideration. Please advise if you require any additional information.

Sincerely,

ELLSWORTH ENGINEERING, INC.



Daryl Kofoed, P.E.

cc: Steve Harrison

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DEC 04 1997

**ELLSWORTH
ENGINEERING, INC.**

P.O. Box 1822 • 140 N. Corner Ave.
Idaho Falls, Idaho 83401
(208) 523-1662

RECEIVED
MAR 18 1987

Department of Water Resources
Eastern District Office

March 17, 1987

Mr. Ronald Carlson, Manager
Idaho Department of Water Resources
150 Shoup Avenue, Suite 15
Idaho Falls, Idaho 83401

Re: City of Idaho Falls

Dear Mr. Carlson:

The City of Idaho Falls has recently retained Ellsworth Engineering, Inc. to conduct the field examinations for determining the extent of beneficial use on the following permits: 01-7013; 01-7014; 01-7015; 01-7023; 01-7024; and 01-7025. Enclosed are the information sheets for each of the permits which indicate that the City has elected to secure their own examiners. Please note that all information sheets were signed March 16, 1987 which date is prior to the sixty days allowed for in your letter of transmittal dated January 26, 1987.

These examinations will be conducted by Rance Bare, Certification Number 87-115 of our office.

If there should be any questions, please call.

Yours truly,

ELLSWORTH ENGINEERING, INC.

Rance
Rance Bare, P.E.

cc: City Electric Division

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DEC 04 1997



STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
EASTERN REGION

John V. Evans
Governor

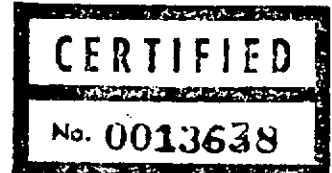
150 Shoup — Suite 15
Idaho Falls, Idaho 83402
(208) 525-7161

A. Kenneth Dunn
Director

01-7014
CITY OF IDAHO FALLS
C/O G. S. HARRISON
P.O. BOX 220
IDAHO FALLS, ID 83401

January 26, 1987

EXAMINATION FEE NOTICE



Dear Permit Holder:

Department records show that proof of beneficial use has been submitted for the above-referenced permit, but that a field examination has not yet been conducted to determine the extent of beneficial use of the water for licensing purposes.

House Bill 671 (effective April 4, 1986) enacted by the 1986 Idaho Legislature requires the payment of a fee before this Department can conduct the field examination needed to issue a license confirming use of water under the permit. This letter is notification that the license examination fee is due within sixty (60) days of the date of this letter. The examination fee information sheet (enclosed) must be returned with the fee.

As an alternative to submitting the fee, the Department will accept a field examination report completed by a certified water right examiner from the private sector. If you choose to have the examination done by a certified water right examiner, you need not submit the license examination fee to the Department, but you must within sixty (60) days of the date of this letter return to the Department, the examination fee information sheet showing appropriate information together with a statement from the certified examiner to verify that you have retained a certified examiner to conduct the field examination. If you choose this alternative, a completed field examination report must be submitted within one year of the date of this letter. You cannot later change your decision to use this alternative and submit the fee needed for the Department to conduct the field examination, but you may change to another certified examiner.

Certified water right examiners are licensed engineers, geologists, or land surveyors certified by the Department to conduct water right examinations. The procedure for certifying examiners results from the recently enacted HB 671 and is being developed at this time. A listing of certified water right examiners will be available from this Department when examiners have been certified.

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DEC 04 1997

If your permitted use, in fact, has already been examined by the Department and you have not asked to have the examination repeated, the fee requirement is not applicable to your permit. If you believe this is the case, please contact the Department.

The license examination fee is to be based on the amount of water you indicate you have developed, as listed in item 6 on the examination fee information sheet. The amount of water on which the examination fee is based can be less than the permitted amount, if less water has been diverted and beneficially used. The licensed amount of water, however, will not exceed the amount you claim on the examination fee information sheet. The enclosed license examination fee schedule shows a listing of applicable fees.

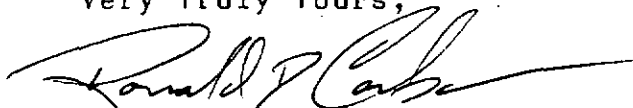
FAILURE TO SUBMIT WITHIN THE SIXTY (60) DAY PERIOD THE FEE OR THE STATEMENT THAT A CERTIFIED EXAMINER HAS BEEN RETAINED TO MAKE THE FIELD EXAMINATION WILL BE CAUSE TO ADVANCE THE PRIORITY OF THE PERMIT ONE DAY FOR EACH DAY THAT THE FEE SUBMITTAL IS LATE.

FAILURE TO SUBMIT THE FEE OR THE COMPLETED FIELD EXAMINATION REPORT WITHIN A YEAR WILL BE CAUSE TO CONSIDER THE PROOF OF BENEFICIAL USE TO BE INCOMPLETE AND TO LAPSE THE PERMIT.

The attached examination fee information sheet and the fee may be submitted to the following Department office:

Eastern Region
Idaho Dept. of Water Resources
150 Shoup Ave., Suite 15
Idaho Falls, Idaho 83401
Phone: 525-7161

Very Truly Yours,



Ronald D. Carlson
Eastern Regional Manager

Enclosures

MICROFILMED
DEC 04 1997



STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
EASTERN REGION

John V. Evans
Governor

150 Shoup
Idaho Falls, Idaho 83401
(208) 525-7161

A. Kenneth Dunn
Director

March 23, 1983

City of Idaho Falls
c/o G.S. Harrison
P.O. Box 220
Idaho Falls, ID 83401

RE: Permits Nos. 01-7014, 01-7023, 01-7024, 01-7025, 01-7013, 01-7015

Dear Sir:

We acknowledge receipt of your statement submitted as proof of beneficial use for the above referenced permit.

Before a license can be issued, a field examination must be made by a representative of this Department.

_____ A field examination of your system has been scheduled for _____.

If this time and date is not convenient for you, please contact this office as soon as possible.

 X A field examiner will contact you to arrange to examine your system.

If you have any questions regarding the field examination, please contact this office.

Sincerely,

KEITH C. WILSON
Sr. Resource Agent

KCW:cw

MICROFILMED

DEC 04 1997

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HERE



IDAHO DEPARTMENT OF WATER RESOURCES
STATEHOUSE
BOISE, IDAHO 83720

RECEIVED

FEB 18 1983

Department of Water Resources

DEPARTMENT OF WATER RESOURCES

The Idaho Department of Water Resources will consider this card as a statement that the permit holder(s) has completed development to the extent shown below of Permit No. 01-7014.

Name(s) of Permit Holder: CITY OF IDAHO FALLS c/o G.S. HARRISON

Post Office Address: P. O. BOX 220, IDAHO FALLS, ID.

83402 - 0220 Tel. No. 529 - 1430

Source of Water:

Extent of Use: ☐ Domestic (number of households)
☐ Stockwater (number and type of stock)
☐ Irrigation (acres)
☒ Other POWER PRODUCTION

Measuring Device: Required? ☒ Yes ☐ No Installed? ☒ Yes ☐ No

Access Port: Required? ☐ Yes ☐ No Installed? ☐ Yes ☐ No

The above information is a true statement of the extent to which the above numbered permit has been developed.

2/16/83

Date

Thomas Campbell Mayor
Signature of Permit Holder



ELECTRIC DIVISION

CITY OF IDAHO FALLS

P.O. BOX 220
IDAHO FALLS, IDAHO 83402-0220

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MAR 4 1983

DEPARTMENT OF WATER RESOURCES

(208) 529-1430

March 3, 1983

Ms. Rita Fleck
Secretary/Records Manager
Idaho Department of Water Resources
Statehouse
Boise, Idaho 83720

Re: City of Idaho Falls, Hydroelectric Project.

Dear Ms. Fleck:

Enclosed are the statement of Beneficial use postcards signed by the Mayor of Idaho Falls for the following Permit Nos.

Permit No. 01-7013
Permit No. 01-7014
Permit No. 01-7015
Permit No. 01-7023
Permit No. 01-7024
Permit No. 01-7025

Sincerely,

ELECTRIC LIGHT DIVISION

A handwritten signature in cursive script, reading "G.S. Harrison".

G.S. HARRISON
MANAGER

GSH-83-33/sp

Enclosures as stated

RECEIVED



State of Idaho

DEPARTMENT OF WATER RESOURCES

STATE OFFICE, 450 W. State Street, Boise, Idaho

JOHN V. EVANS

Governor

A. KENNETH DUNN

Director

Mailing address:

Statehouse

Boise, Idaho 83720

(208) 334-4440

February 28, 1983

City of Idaho Falls

P. O. Box 220

Idaho Falls, ID 83402-0220

Attention: G. S. Harrison or Larry E. Felton

Gentlemen:

Re: Permit Nos. 01-7013, 01-7014, 01-7015, 01-7023, 01-7024, and 01-7025

Pursuant to your request to waive the measuring device requirement on the above-referenced permits, enclosed is a copy of the Order changing the condition.

Also enclosed are the Statement of Beneficial Use postcards received for the above-referenced permit. Please have an authorized agent for the City of Idaho Falls sign the postcard and indicate his title. Return the postcards to the Department before April 1, 1983 to keep the permits in good standing.

If you have any questions concerning these permits, please feel free to contact this office.

Sincerely,

RITA I. FLECK

Secretary/Records Manager

Enclosures

FROM Keith Wilson

DATE 14 Feb 83

TO Jim Johnson

SUBJECT Idaho Falls Power Permits

Permits 01-7013 / 7014 / 7015 / 7023 / 7024 / 7025

Enclosed is the index test procedure and an example of the test conducted for their (Idaho Falls) power permits they wish to have the measuring device requirement removed from the permits in ^{lieu} of the index test which will give "power vs flow" curves. Hopefully this will assist the department make their decision.

P.S. Also reference Corps of Engr. 1 May 63 pub. "Turbine Testing by Gibson & Index Methods"  SIGNATURE

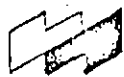
5.5.1 Evaluation of the Results

EXAMPLE

Fix Data	Prototype - Throat Diameter	DA	m	6.3
	Model - Throat Diameter	DM	m	0.34
	Inlet Measuring Section - Area	Fe	mm ²	656894.00
	Outlet Measuring Section - Area	Fa	mm ²	306296.00
	Length of the Lever	L	mm	1145.92
Measuring Data	Barometric Head	Bo	mWC	9.95928
	Prototyp Net Head	Ha	mWC	8.1000
	Measuring Point Number			1.000
	Wicket Gate Opening	g _o	mm	54.000
	Water Temperature	tw	°C	19.100
	Manometric Head on the Model	H _{mano}	mWC	6.190
	Weight = Force on the Lever	G	kp	24.168
	Speed	nM	rpm	1530.500
	Pressure difference on the Venturitube	hQ	mmHg	334.200
Results	Suction Head	Hs	mWC	- 9.270
	Jäger-Number = $\frac{1}{\sqrt{h_2}} \cdot (h_2 / \gamma H_2O)^{0.5}$	Jä		17.83370
	Calibration Factor of the Venturitube	C		33.98200
	Model - Discharge	QM	lit/s	621.69293
	Model Net Head	H _{eff}	mWC	8.03331
	Model Speed referred to the Prototype	n	rpm	1536.80537
	Discharge on the Prototype	QA	m ³ /s	214.26238
	Referred Discharge for DA = 1m and HA = 1m	Q11	m ³ /s	1.89680
	Prototype Output	PA	kW	15632.07773
	Referred Output for DA = 1m and HA = 1m	P11	kW	17.00129
	Model Efficiency	η	(%)	91.88228
	Cavitation Number	σ	-	2.36722

Example for Measuring Point Number 1: Record Sheet PM 2 - 01

Info for the Model



5.5.2 Sample Computation of a Measuring Point

Efficiency, model -, prototype - and unit values are computed by means of the following formulas:

(measuring point No. 1 - sheet PM2-01)

Model discharge: Q_M

water temperature $t_w = 19^\circ \rightarrow \nu = 1.02591 \cdot 10^{-6} \text{ m}^2/\text{s}$
 $\gamma_{H2O} = 0.9984 \text{ kp/lit}$

$$J_d = \frac{1}{\nu} \cdot (h_d / \gamma_{H2O})^{0.5} = \frac{1}{1.02591} \cdot \sqrt{\frac{334.2}{0.9984}} = 17.93$$

$C = 33.98$ (see diagr D - 1.000 - 105.3 in the ASTRO Test Report)

$$Q_M = C \cdot (h_d / \gamma_{H2O})^{0.5} = 33.98 \cdot \sqrt{\frac{334.2}{0.9984}} = \underline{621.69 \text{ lit/s}}$$

Effective model head: H_{eff}

$$H_{dyn} = \left(\frac{Q_M}{1000} \right)^2 \cdot \frac{1}{2g} \cdot \left(\frac{1}{F_e^2} - \frac{1}{F_d^2} \right) = \left(\frac{621.69}{1000} \right)^2 \cdot \frac{1}{19.62} \cdot \left(\frac{1}{0.306295^2} - \frac{1}{0.655894^2} \right)$$

$$H_{dyn} = 0.1643 \text{ m} \quad H_{STAT} = H_{MANO} \cdot \frac{1000}{\gamma_{H2O}}$$

$$H_{eff} = H_{STAT} + H_{dyn} = \frac{8.19 \cdot 1000}{998.4} + 0.1643 = \underline{8.039 \text{ m}}$$

Model speed referred to the prototype: n

$$n = n_M (H_A / H_M)^{0.5} = 1580.8 \cdot (8.1 / 8.0388)^{0.5} = \underline{1586.8}$$

Prototype - and unit discharge: Q_A, Q_{11}

$$Q_A = Q_M \cdot \left(\frac{D_A}{D_M} \right)^2 \cdot \sqrt{\frac{H_A}{H_M}} = 0.6217 \cdot \left(\frac{6.3}{0.34} \right)^2 \cdot \sqrt{\frac{8.1}{8.0388}} = \underline{214.26 \text{ m}^3/\text{s}}$$

$$Q_{11} = \frac{Q_A}{D_A^2 \cdot \sqrt{H_A}} = \frac{214.26}{6.3^2 \cdot \sqrt{8.1}} = \underline{1.8968}$$

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MaschinenbauEfficiency: η

$$\eta = 100 \cdot \frac{G \cdot L \cdot \pi \cdot \rho_M}{30 \cdot Q_M \cdot H_{\text{eff}} \cdot g} = 12 \cdot \frac{24.168 \cdot 1580.8}{0.6217 \cdot 8.039 \cdot 998.4} = \underline{91.88 \%}$$

Model -, prototype - and unit output: P_M, P_A, P_{11}

$$P_M = Q_M \cdot H_{\text{eff}} \cdot g \cdot \eta \cdot 9.80665 \cdot 10^{-3} = \underline{44.959697 \text{ kW}}$$

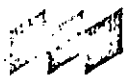
$$P_A = P_M \cdot \left(\frac{\delta_A}{\delta_M} \right) \cdot \left(\frac{D_A}{D_M} \right)^2 \cdot \left(\frac{H_A}{H_M} \right)^{\frac{3}{2}} = 44.959697 \cdot \frac{1000}{998.4} \cdot \left(\frac{6.3}{0.34} \right)^2 \cdot \left(\frac{8.1}{8.039} \right)^{\frac{3}{2}} = \underline{15638 \text{ kW}}$$

$$P_{11} = \frac{P_A}{D^2 \cdot H^{1.5}} = \frac{15638}{6.3^2 \cdot 8.1^{1.5}} = \underline{17.09 \text{ kW}}$$

Cavitation number: σ

$$\sigma = \frac{1}{H_{\text{eff}}} (B_0 - p_d - H_s) = \frac{9.959 - 0.18 \cdot 9.25}{8.039} = \underline{2.367}$$

Nomenclature not included in the evaluation of results: g (kp/lit) specific weight of water ν (m²/s) kinematic viscosity of water H_{STAT} (m WC) static test head p_d (m WC) vapour pressure of water



11.2 Prototype Mill Diagram

11.2.1 Sample Computation for Efficiency Step-Up

According to the specification for efficiency step-up the HUTTON-formula was used for each point:

$$\frac{1 - E_P}{1 - E_M} = 0.3 + 0.7 \cdot \left(\frac{D_M}{D_P}\right)^{0.2} \cdot \left(\frac{H_M}{H_P}\right)^{0.1}$$

$$H_M/H_P = 1.38$$

E efficiency (-)

D runner diameter (m)

Subscripts: M model

P prototype

$$1 - E_P = (1 - E_M) \cdot \left(0.3 + 0.7 \cdot \left(\frac{D_M}{D_P}\right)^{0.2} \cdot \left(\frac{H_M}{H_P}\right)^{0.1}\right)$$

$$E_P = 1 - (1 - E_M) \cdot \left(0.3 + 0.7 \cdot \left(D_M/D_P\right)^{0.2} \cdot \left(H_M/H_P\right)^{0.1}\right)$$

Sample computation for operating point at full gate opening:

$$H = 18 \text{ ft}$$

$$D_P = 485 \text{ m} = 15.91 \text{ ft}$$

$$P = 8300 \text{ kW}$$

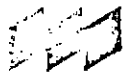
$$n_P = 9473 \text{ rpm}$$

$$Q_P = 5977 \text{ cfs}$$

$$Q_{11} = 0.5521 \frac{5977}{15.91^2 \cdot \sqrt{18}} = 3.07$$

$$n_{11} = 0.5521 \frac{94.73 \cdot 15.91}{\sqrt{18}} = 196.13$$

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IDAHO FALLS HYDROELECTRIC PROJECT
S.O. 5644/10714

TLM 2
Page 27

From model hill diagram MB 9-908.4514:

$$E_M = 88.0 \%$$

$$D_P = 4.85 \text{ m}$$

$$D_M = 0.34 \text{ m}$$

$$E_P = 1 - (1 - 0.88) \cdot (0.3 + 0.7 \cdot \left(\frac{0.34}{4.85}\right)^{0.2} \cdot 1.38^{0.1})$$

$$E_P = 91.30 \%$$

=====

MB 9-908.4514

11.2.2 Prototype Hill Diagram

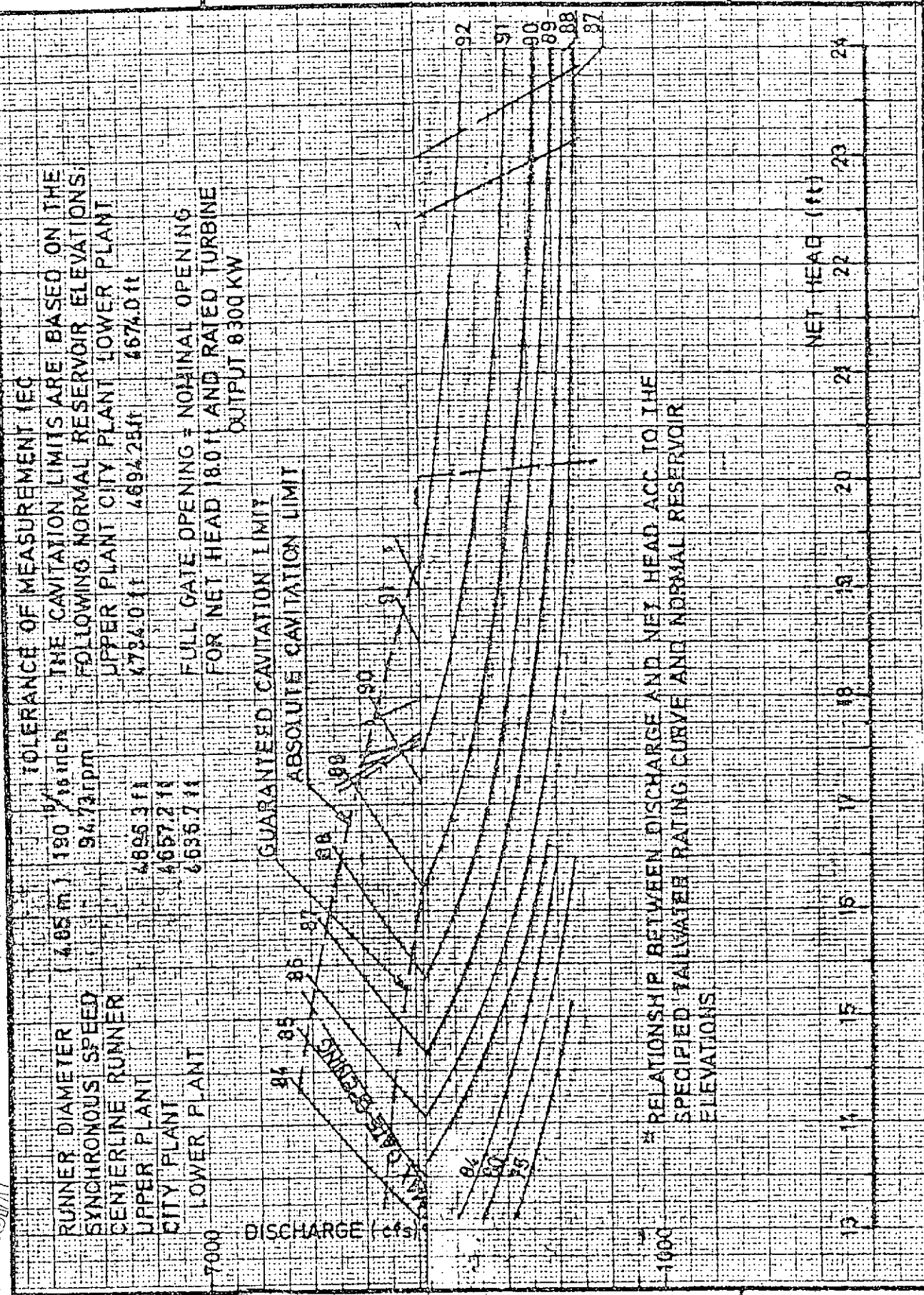
Scaling up the model hill diagram with the aforementioned HUTTON formula point by point the guaranteed prototype hill diagram for IDAHO FALLS Hydroelectric Project was plotted (MB 9-908.4575).

MB 9-908.4575



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TLM 2



VOEST-ALPINE AG, Postfach

meaningless
(folded map)

MB 9-908.4575

A P P E N D I X

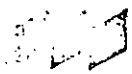
13. Cavitation Observation for Idaho Falls HEP

The layout of the bulb turbine for Idaho Falls HEP is based on the cavitation tests carried out with the model for MELK power station.

On the sheets MB 9-908.4576/1+3 prototype efficiency η_p and prototype discharge Q_p versus cavitation number σ and cavitation pictures for σ referred to the shaft centerline and σ referred to the upper blade tip are plotted for three points near to the guaranteed cavitation limit.

These three points are:

H (ft.)	Q (cfs.)
22	5525
17.9	6090
14	6345



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Fürnberg Linz

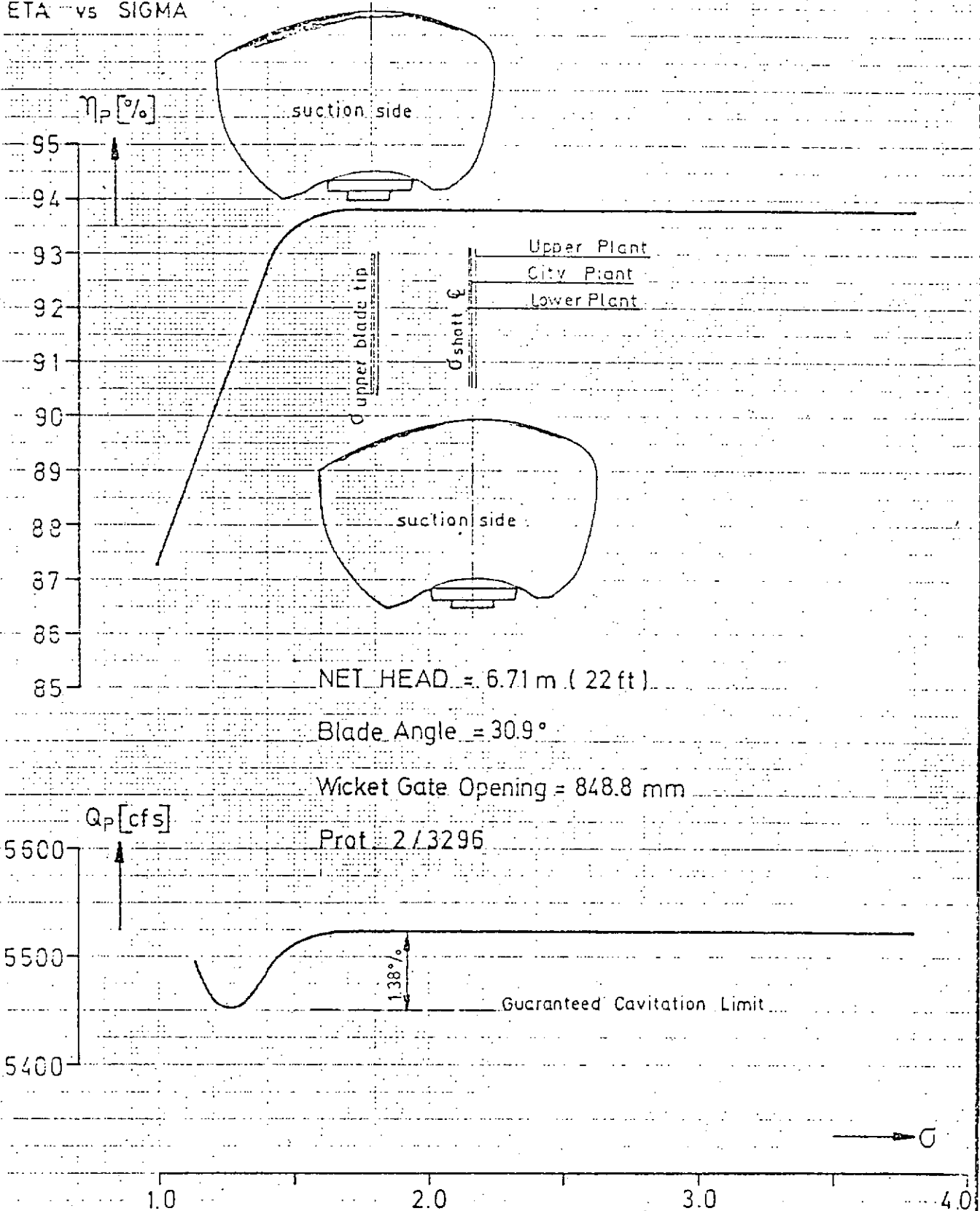
IDAHO FALLS HYDROELECTRIC PROJECT

S.O. 5644 / 10714

TLM 2

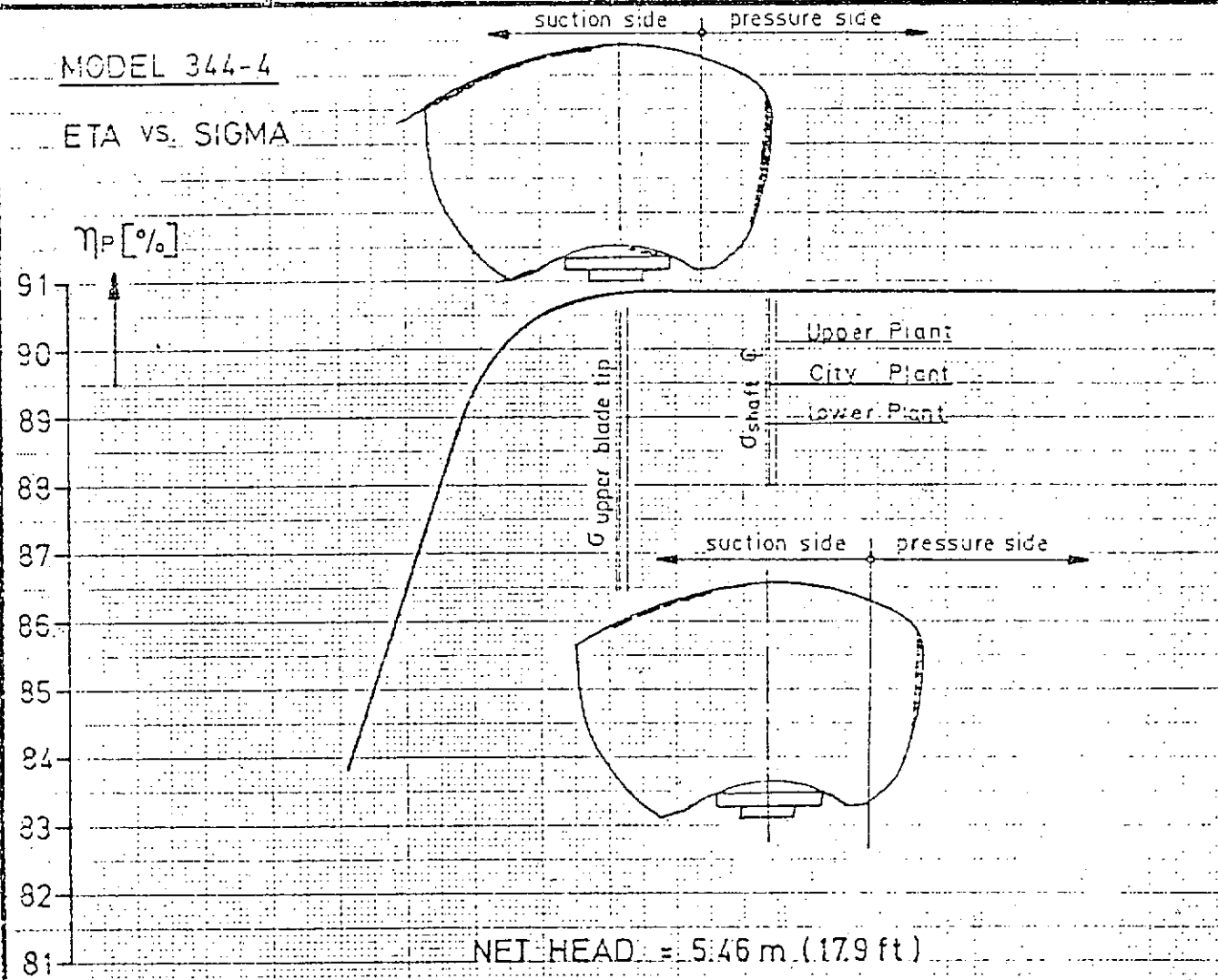
MODEL 344 - 4

ETA vs SIGMA



MODEL 344-4

ETA vs. SIGMA

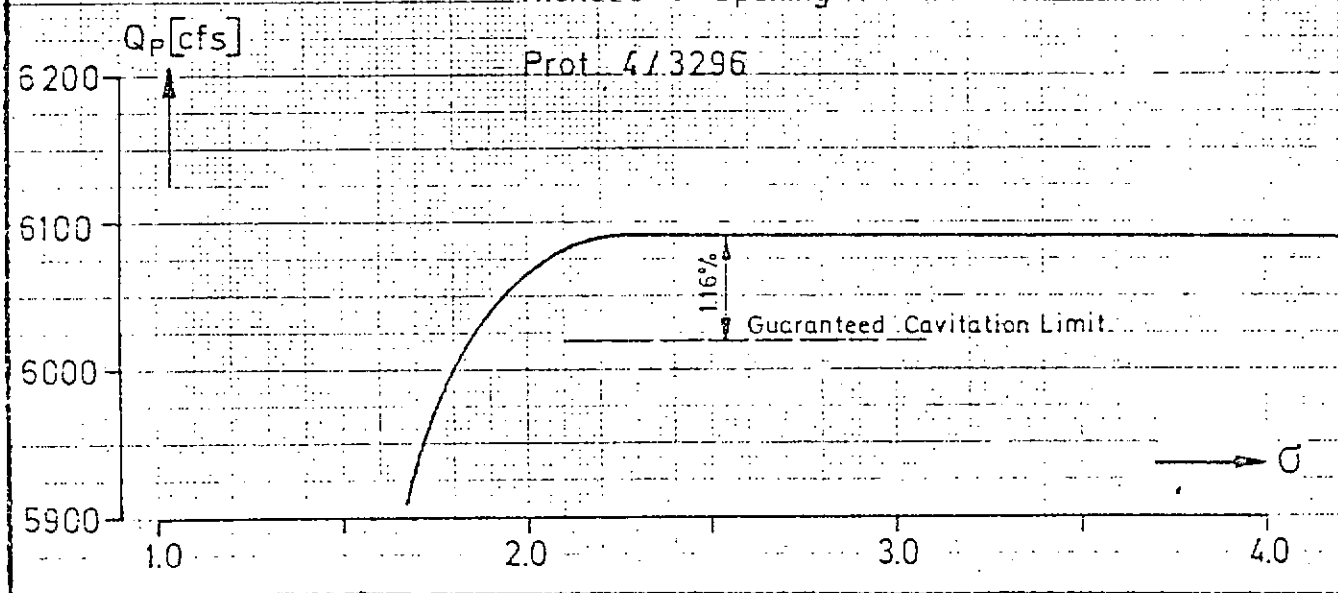


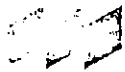
NET HEAD = 5.46 m. (17.9 ft)

Blade Angle = 33.25°

Wicket Gate Opening = 884.4 mm

Prot. 4/3296





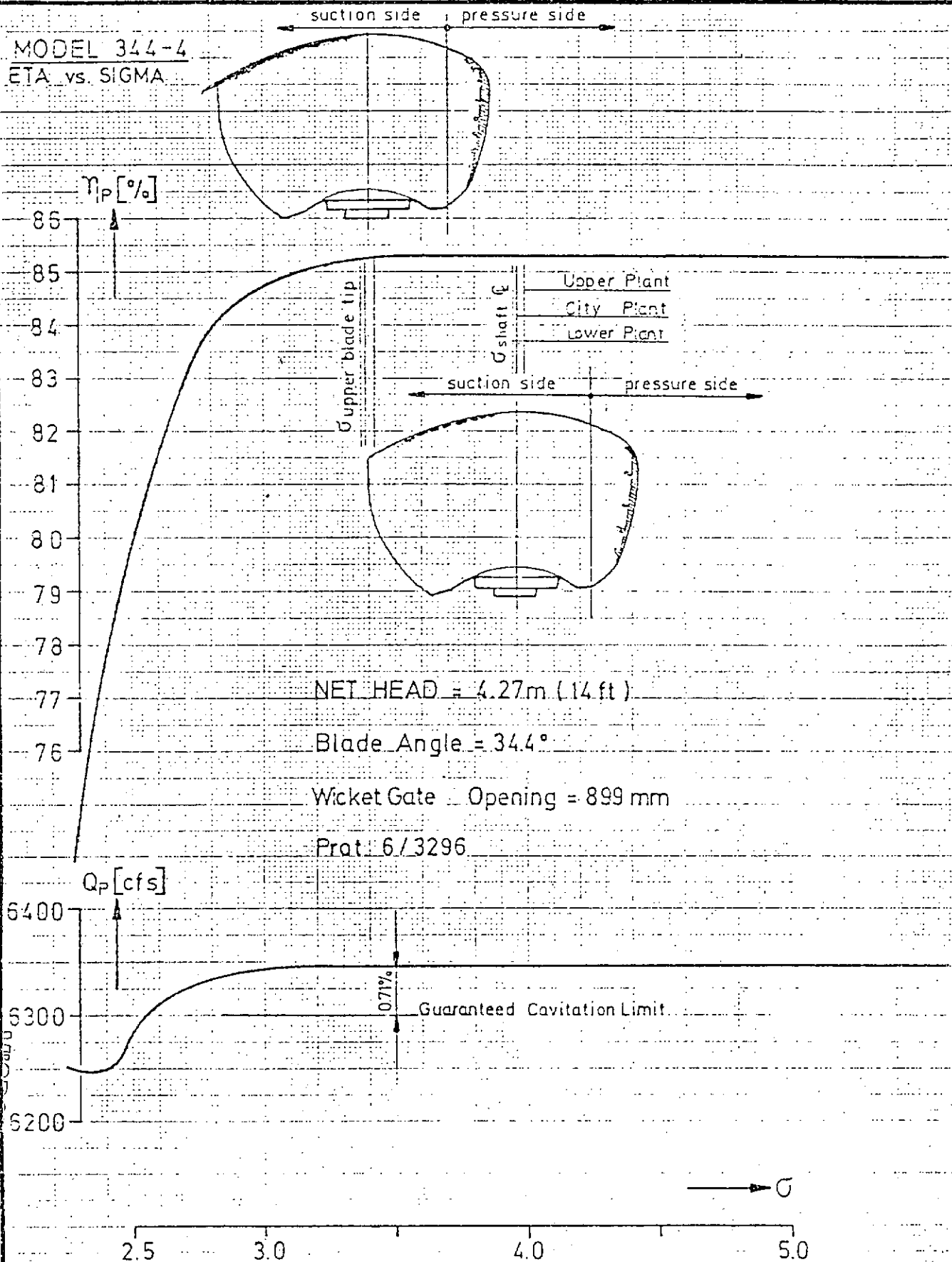
VOEST-ALPINE AG
Finalbereich Linz

IDAHO FALLS HYDROELECTRIC PROJECT

S.O. 5644/10714

TLM 2

MODEL 344-4
ETA vs. SIGMA



J. H. R. Chappell
International Engineering Co., Inc.

Att.: Mr. Pablo Chavez

180 Howard Street

SAN FRANCISCO, CA 94105/USA

TLM1/Scha/sa/2409.

August 20, 82

Idaho Falls
S.O. 5644/10714

Your telexes xnh204 dated August 6th, 1982 and xnh210 dated August 11th, 1982.

Enclosed please find the requested index test procedure MBS-350.0070E for your information.

The governor is designed regarding isolated load operation as stipulated in Specification Section 15981, 1-3 with the speed no load parameter settings. The dampening selection for speed no load respectively isolated load operation will be optimized between both operating modes.

However, if selection of individual dampening for isolated load operation is requested, five different dampening settings can be chosen by remote selector switch. This can be installed and we have to charge you with arising cost.

Index tests will be performed as required on all three units.

Very truly yours,

VOEST-ALPINE AG

I.V.

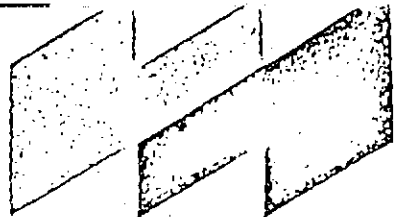
I.A.

Enzenhofer
Enzenhofer

Haslinger
Haslinger

Encls:
as cited above

8009-210
DUE DATE



VOEST-ALPINE

FINISHED PRODUCTS DIVISION LINZ
HYDRO TURBINES

INDEX TEST PROCEDURE
FOR KAPLAN BULB TURBINE

FOR
IDAHO FALLS

Prepared by: Ing. Schatz Johannes
Linz, August 1982

MB9-350.0070 E

Page 1 - 8

VOEST-ALPINE AG, Postfach 2, A-4010 Linz, Austria

GENERAL

The tests will be carried out in accordance with IEC-Code Publication 41.

1. Observation Stations and Test Equipment

1.1 Static Pressure Head Turbine Inlet H stat 1:

✓ The H stat 1 is measured at the turbine inlet section after the trash rack in the chamber of the stop logs.

1.2 Static Pressure Head Turbine Outlet H stat 2:

The H stat 2 is measured at the turbine outlet section in the chamber of the tailwater stop logs. *ND*

1.3 Headwater Level:

✓ The free water level is measured after the trash rack using a plate gauge.

1.4 Tailwater Level:

✓ The free water level is measured using a plate gauge.

1.5 Turbine Output Pt:

✓ The measurement of the turbine output Pt is done indirectly by determining the generator output Pg using an accurate wattmeter and taking into consideration the guaranteed generator efficiency. *OK*

1.6 Servomotor Stroke Wicket Gate SM :

The servomotor stroke SM is measured directly on the piston rod of the servomotor using a measuring tape.

1.7 Runner Blade Angle ϕ :

The runner blade angle is read directly on the runner blade position indicator mounted on the oil head.

1.8 Turbine Discharge Qt:

The measurement of Q_t is done indirectly by determining the differential pressure D with a differential pressure transmitter.

The differential pressure is picked-up between the taps fixed on the bulb case and the tap fixed in the generator bulb.

2. Measuring Procedure

Measurement is effected in manual mode.

Five different runner blade positions are set, whereby for each blade position the Kaplan curve is determined with 6 to 8 different wicket gate positions. For each wicket gate position measurements are taken for 10 minutes, whereby readings of the different values are effected at intervals of 30 sec. each.

The respective average value is used for calculating the discharge and efficiency and the result is entered in a diagram.

3. Notations

SM	(inch)	Wicket Gate-Servomotor Stroke
ϕ	(degrees)	Runner Blade Position
H stat 1	(ft)	Static Pressure Head Turbine Inlet
H stat 2	(ft)	Static Pressure Head Turbine Outlet
v1	(ft/s)	Water Discharge Velocity in Turbine Inlet Section
v2	(ft/s)	Water Discharge Velocity in Turbine Outlet Section
hv1	(ft)	Velocity Head in Turbine Inlet Section
hv2	(ft)	Velocity Head in Turbine Outlet Section
HW	(ft)	Headwater Level
TW	(ft)	Tailwater Level
Hn	(ft)	Net Head
E1	(ft)	Total Energy Potential Turbine Inlet
E2	(ft)	Total Energy Potential Turbine Outlet
g	(ft/s ²)	Gravitation Constant
γ	(lb/ft ³)	Specific Weight - Water
D	(ft)	Winter-Kennedy Differential Pressure
k	(-)	WR - Calibrating Factor

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IS PROHIBITEDREPRODUCTION
OF THIS DOCUMENT
IS PROHIBITED



n (-) ~~nk~~ - Exponent

Qt (cfs) Turbine Discharge

Pd (kW) Hydraulic Power

Pt (kW) Turbine Output

Pg (kW) Generator Output

eta g (%) Generator Efficiency
(guaranteed)

eta t (%) Turbine Efficiency

Ptr (kW) Reference Turbine Output

Qtr (cfs) Reference Turbine Discharge

Hr (ft) Reference Net Head

(K) maschinenbau

VOEST-ALPINE

19-1500

4. General Computation

4.1 Net Head:

$$H_n = E_1 - E_2 \quad (\text{ft})$$

$$E_1 = H_{\text{stat } 1} + h_{v1} \quad (\text{ft})$$

$$E_2 = H_{\text{stat } 2} + h_{v2} \quad (\text{ft})$$

$$h_{v1} = \frac{v_1^2}{2g} \quad (\text{ft})$$

$$h_{v2} = \frac{v_2^2}{2g} \quad (\text{ft})$$

$$v_1 = \frac{Q_t}{A_e}$$

$$v_2 = \frac{Q_t}{A_a} \quad (\text{ft/s})$$

4.2 Turbine Discharge:

$$Q_t = k \cdot D^n \quad (\text{cfs})$$

$$n = 0,5$$

$$k = \frac{Q_t}{\sqrt{D}}$$

For determining k the first test run is carried out approx. peak efficiency for the pertaining net head.

Q is calculated with the efficiency taken from the hill diagram acc.

$$Q = \frac{P_t}{H_n \cdot \eta_t \cdot \gamma \cdot k} \quad \text{Use diff. symbol} \quad k = \frac{1356}{1000,000}$$

As net head H_n is depending on discharge Q several iteration steps have to be performed using in the first step an estimated discharge close to the expected one.

4.3 Hydraulic Power:

(power ~~picked up~~ ^{available to} by the turbine)

$$P_d = Q_t \cdot H_n \cdot \gamma \cdot \frac{1356}{1000} \quad (\text{KW})$$

4.4 Turbine Output:

(mechanical power available at the turbine shaft)

$$P_t = \frac{P_g}{\eta_{tg}} \quad (\text{KW})$$

VOEST-ALPIN
Maschinenbau4.5 Turbine Efficiency:

$$\eta_t = \frac{P_t}{P_d} \cdot 100 \quad (\%)$$

4.6 Reference Turbine Output and Reference Turbine Discharge at Constant Net Head:

$$P_{tr} = P_t \cdot \left[\frac{H_r}{H_n} \right]^{3/2} \quad (\text{KW})$$

$$Q_{tr} = Q_t \cdot \left[\frac{H_r}{H_n} \right]^{1/2} \quad (\text{cfs})$$

4.7 Calculation of the Value for Probable Inaccuracy f_z 4.7.1 Discharge

Measurement of Winter-Kennedy differential pressure by means of differential pressure transmitter.

$$f_Q = \pm 1.0 \%$$

4.7.2 Net Head

Measurement of free water level by means of plate gauge.

$$f_h = \pm 0.8 \%$$

4.7.3 Turbine Output

Measurement of generator output by means of watt-hour-meter.

$$f_p = \pm 0.8 \%$$

(K) HALLS/CHERO

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EF-3555

4.7.4 Efficiency

The probable inaccuracy f_η of the turbine efficiency determination is computed from the estimated individual inaccuracies by

$$f = \pm \sqrt{f_Q^2 + f_H^2 + f_P^2}$$

$$f = \pm \sqrt{1.0^2 + 0.8^2 + 0.8^2} =$$

$$f = \pm 1.51 \%$$

=====



CITY OF IDAHO FALLS

P.O. BOX 220
IDAHO FALLS, IDAHO 83402-0220

ELECTRIC DIVISION

(208) 529-1430

February 16, 1983

RECEIVED

FEB 18 1983

Department of Water Resources

Ms. Rita Fleck
Secretary/Records Manager
Idaho Department of Water Resources
Statehouse
Boise, Idaho 83720

Re: Flow Measuring Device Requirement for City of Idaho Falls
Hydroelectric Project.

Dear Ms. Fleck:

Enclosed as requested are completed "Statement of Beneficial Use" cards you sent the City of Idaho Falls January 31, 1983, regarding Water Permit Numbers 01-7013, 01-7014, 01-7015, 01-7023, 01-7014, and 01-7025. These permits allow the City non-consumptive use of up to 6,000 cfs for power production purposes at the City's three recently completed hydroelectric projects.

One of your Department's conditions of approval is that the City install a permanent flow measuring device at each point of use. Since this is a nonconsumptive use permit, the City of Idaho Falls respectfully requests that the Idaho Department of Water Resources waive this requirement because the City can accurately determine flow from power production records. Each of the three plants has been index tested which is a standard method of determining the efficiency at which they utilize the water. The test results establish a flow versus power curve for each project. The City proposes to use these curves to determine flow on an hour by hour basis in lieu of other types of flow measuring devices. The particulars of index testing and the above request has been discussed with Keith Wilson of the Department of Water Resources, Idaho Falls Office. He should be communicating his opinion of our request for waiver with your office in the near future.

Please inform us of the Department's decision regarding this matter. If we can be of any further assistance, please let us know.

Sincerely,

ELECTRIC LIGHT DIVISION

Larry E. Felton

LARRY E. FELTON
ELECTRICAL ENGINEER

LEF-83-008/sp
00511

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES

STATEHOUSE
BOISE, IDAHO 83720
(208) 334-4440
CERTIFIED MAIL

138143

CITY OF IDAHO FALLS
C/O G. S. HARRISON
P.O. BOX 220
IDAHO FALLS, ID 83401

PROOF DUE NOTICE

JANUARY 31, 1983

DEAR PERMIT HOLDER:

ONE OF THE CONDITIONS OF APPROVAL OF YOUR WATER PERMIT NO. 01-7014 WAS THAT PROOF OF THE EXTENT OF YOUR BENEFICIAL USE MUST BE SUBMITTED TO THIS OFFICE ON OR BEFORE APRIL 01, 1983. (SEE LAST PAGE OF YOUR APPROVED PERMIT OR YOUR LAST APPROVED EXTENSION REQUEST). ENCLOSED IS A POSTCARD WHICH MAY BE USED TO SUBMIT THE REQUIRED PROOF.

IF YOU HAVE NOT FULLY COMPLETED YOUR PROJECT, AND YOU OR A PREVIOUS OWNER OF THIS PERMIT HAVE NOT RECEIVED A PRIOR EXTENSION OF TIME, YOU MAY REQUEST AN EXTENSION OF TIME IF THE DELAY IS FOR REASONABLE CAUSE AS PROVIDED IN SECTION 42-204, IDAHO CODE. IF YOU HAVE BEEN PREVENTED FROM PROCEEDING BY A GOVERNMENTAL AGENCY OR BY LITIGATION, MORE THAN ONE EXTENSION OF TIME CAN BE GRANTED. AN EXTENSION OF TIME REQUEST FORM IS ENCLOSED FOR YOUR CONVENIENCE.

EITHER THE BENEFICIAL USE POSTCARD OR A REQUEST FOR AN EXTENSION OF TIME MUST BE RECEIVED BY THIS DEPARTMENT ON OR BEFORE THE ABOVE DESCRIBED PROOF DUE DATE. IF NEITHER IS RECEIVED, THE DEPARTMENT WILL SEND YOU A LAPSE NOTICE. WITHIN SIXTY (60) DAYS OF THE MAILING OF THE LAPSE NOTICE, THE PERMIT WILL NO LONGER BE OF ANY FORCE NOR EFFECT.

SINCERELY,

RITA FLECK
SECRETARY/RECORDS MANAGER

ENCLOSURES

RECEIVED

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

MAR 26 1979

Department of Water Resources

Raft River Rural Electric
Cooperative, Inc.

)

Project No. 2789

ORDER ISSUING PRELIMINARY PERMIT
(Issued March 19, 1979)

On March 3, 1977, the Raft River Rural Electric Cooperative, Inc., of Cassia County, Idaho, filed an application for a 36-month preliminary permit for the proposed Eagle Rock Project No. 2789, to be located on the Snake River, a navigable waterway of the United States, in Power County, Idaho. 1/

JURISDICTION:

In addition to affecting a navigable waterway, the proposed project would affect lands of the United States under the jurisdiction of the Bureau of Land Management.

DESCRIPTION:

The proposed project would have a total installed capacity of 50 MW and would consist of a dam, located about 6 miles downstream of the American Falls Dam 2/, a reservoir at elevation 4,246 feet (mean sea level datum), and a powerhouse integral with the dam, containing 4 (or 5) generating units.

PUBLIC NOTICE AND AGENCY COMMENTS:

Public notice of the filing of the application was given with August 15, 1977, as the last date for filing protests or petitions to intervene. None was received.

1/ This proceeding was commenced before the Federal Power Commission. By joint regulation of October 1, 1977 (10 CFR 1000.1), it was transferred to the Federal Energy Regulatory Commission. The term "Commission" when used in the context of action prior to October 1, 1977, refers to the FPC; when used otherwise, the reference is to the FERC. Authority to act on this matter is delegated to the Director, Office of Electric Power Regulation, under Section 3.5(g) of the Commission's regulations, 18 CFR 3.5(g) (as amended, August 14, 1978).

2/ Power generating facilities at the American Falls Dam are licensed as FERC Project No. 2736.

MICROFILMED

By letters dated January 20, 1978, the Secretary of the Commission requested Federal, State, and local agencies to comment on the application. None of the responding agencies opposed the issuance of a preliminary permit. However, a number of substantive comments were submitted, as discussed below.

Cultural Resources

The Idaho State Historical Society (Historical Society) stated that the permit should have no impact on properties eligible for inclusion in the National Register of Historic Places. It stated further that any study under the permit needs to take notice of sites which may be eligible for registration. Article 7 of the permit provides for the Historical Society's concern.

Fish and Wildlife

The State of Idaho's Department of Fish and Game (Fish and Game) requested that the preliminary permit, if granted, contain conditions that would protect aquatic and wildlife habitat from any adverse effects that might result from exploratory work. Articles 1 and 7 provide for Fish and Game's request.

Permits

The Department of the Army, Corps of Engineers (Corps) stated that the project would not be in conflict with any of the Corps' existing or proposed projects. It also stated that a Corps permit would be needed for any discharge of dredged material into the waters of the United States and wetlands of the project area.

Recreation

The Idaho Department of Parks and Recreation (Parks and Recreation) and the Department of the Interior (Interior) expressed concern about the impact of the proposed project on the Massacre Rock State Park, located approximately 1 mile downstream of the proposed project site, and the fish and wildlife resources of the project area. Interior and Parks and Recreation have recommended that the Permittee, as a condition of the permit, be required to prepare, in consultation with the Federal, State, and local agencies, Exhibits R, S, and W for an application for license. Articles 7, 9, and 10 of the permit provide for their recommendations.

Effects of this Preliminary Permit:

Some of the concerns which have been raised address the potential effects of constructing the proposed project, not the effects of issuing a preliminary permit. The effects of the project itself will be the subject of studies under the permit. Special Articles 7, 8, 9, and 10 require Permittee to study the possible effects of the proposed project on fish and wildlife, land and land use, water quality and use, and recreational resources, and to consult with appropriate agencies in conducting the necessary studies. Should the Permittee find the project to be feasible and file an application for a license, all interested persons and agencies will be given notice and have opportunity to review the application and present their concerns about the effects of the project.

The purpose of any preliminary permit is to maintain priority of application for a license during the term of the permit. A permit does not authorize any construction, but it enables the Permittee to maintain its priority while conducting investigations and securing data necessary to determine the feasibility of the proposed project and to prepare an acceptable application for a license. In view of the limited field activities for the investigations required by this preliminary permit, its issuance does not constitute a major Federal action significantly affecting the quality of the human environment.

It is ordered that:

- (A) A preliminary permit is issued to the Raft River Rural Electric Cooperative, Inc., of Cassia County, Idaho, for the Eagle Rock Project No. 2789, to be located on the Snake River in Power County, Idaho, for a period of 36 months, effective the first day of the month in which this permit is issued. The permit is subject to the terms and conditions of the Act, which is incorporated by reference as part of this permit and subject to the rules and regulations the Commission issues or prescribes under the provisions of the Act.

- (B) This permit is also subject to the terms and conditions set forth in Form P-1 (revised October 1975) entitled "Terms and Conditions of Preliminary Permit" designated as Articles 1 through 6 attached to this permit, and subject to the following special conditions set forth as additional articles:

Article 7. Permittee, in the interest of protecting and developing the natural resources and other environmental values of the project area, shall consult with the appropriate Federal, State, and local agencies in their fields of responsibility and expertise, shall conduct its project investigations in a manner which protects the environmental integrity of the area, and shall fully explore all feasible alternatives to the project and alternative project designs, taking into account impacts on natural resources and other environmental values. These resources and values include, but are not limited to: forests, land management and treatment, fish, wildlife, recreation and public use, flood regulation, water and air quality (including water supply, groundwater studies, waste treatment and disposal), public health and safety, archaeological, historical and cultural sites, threatened or endangered flora and fauna, and scenic and aesthetic values. The Permittee shall initiate and conduct at its own expense such studies as may be necessary to determine the impact of the construction and operation of the proposed project on these natural resources and values and measures needed to protect and develop them or to provide for their mitigation or replacement, including alternative designs and operational measures, and shall utilize the results of these studies in the preparation of Exhibits H, R, S, V, and W to accompany any application for a license to construct and operate the project. In connection with studies pertaining to archeological and historic and cultural sites, the Permittee shall consult with the Idaho State Historic Preservation Officer and the Heritage Conservation and Recreation Service of the U. S. Department of the Interior.

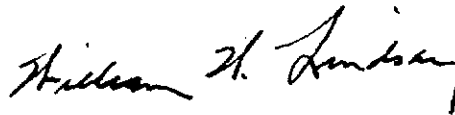
Article 8. The Permittee shall submit in triplicate at the close of each six-month period, from the effective date of this permit, to the Director, Office of Electric Power Regulation, with a copy to the FERC Regional Engineer, San Francisco, California, or to such other officer as the Commission may designate, and a copy, if requested, to any agency consulted, accurate statements of the progress of all investigations, consultations, and studies accomplished during the permit period and of work contemplated under this permit for the ensuing period.

Article 9. The Permittee shall, for the purpose of assuring the cooperation required by the terms of the permit, designate a liaison officer to act for the Permittee in keeping appropriate Federal, State, and local agencies specified in this permit currently informed as to the progress of investigations throughout the term of the permit, and the liaison officer shall communicate with those agencies within 60 days from the date of issuance of this permit.

Article 10. Permittee, by the end of the first year of this permit, shall: (1) have consulted with the U. S. Fish and Wildlife Service of the Department of the Interior, and the State of Idaho Department of Fish and Game, and arranged for the preparation of a study of any effects which the proposed project would have on fish and wildlife resources, and of facilities or measures needed to conserve or develop those resources; and (2) file with the Commission, with copies to agencies consulted, an outline of the proposed study, including a cost estimate and letters from each of the above agencies indicating the extent of consultation. The Commission reserves the right to require modification of the proposed study. During the remaining two years of the permit, Permittee shall fund or otherwise provide for such study. A copy of the report on the study shall be filed as part of the Exhibit S of any subsequent application for license.

- (C) This order shall become final 15 days from the date of its issuance unless a petition appealing it to the Commission is filed under Section 1.7(d) of the Commission's regulations, 18 CFR 1.7(d) (as amended, August 14, 1978). Failure of the Licensee to file such a petition shall constitute acceptance of this order.

(S E A L)



William W. Lindsay
Director, Office of Electric
Power Regulation

FEDERAL POWER COMMISSION

TERMS AND CONDITIONS OF
PRELIMINARY PERMIT

Article 1. The Permittee shall make such engineering and other investigations, secure such data, and perform such acts as are necessary to determine the feasibility of the proposed project and, if said project is found to be feasible, to prepare an application for license for the project that will be in conformance with current rules and regulations of the Commission. In carrying out the requirements of this permit the Permittee shall:

A. Install as soon as practicable, and thereafter maintain, such stream gages and stream-gaging stations as the District Engineer of the United States Geological Survey having charge of stream-gaging operations in the region shall designate as necessary and best adapted for the purpose of determining the stage and flow of the stream or streams affected by the proposed project, and shall provide for the required reading of such gages and for the adequate rating of such stations. The number, design, location, and time of installation of gages and stations, the rating of such stations, and the determination of the flow of the affected stream or streams, shall be made under the supervision of, or in cooperation with, the District Engineer of the United States Geological Survey having charge of stream-gaging in the region of said project; and the Permittee shall advance to said Geological Survey the amount of funds estimated to be necessary for such supervision, or cooperation for such periods as may be mutually agreed upon. The Permittee shall, to the satisfaction of the Commission, keep accurate and sufficient records of the stage and flow of the affected stream or streams, and shall make such records available to the Commission at such times as the Commission may prescribe.

B. Sink such test pits or make such borings or other foundation explorations, and make such detailed geologic studies and tests on foundations and fill materials, as are necessary to support preliminary engineering designs and cost estimates.

C. Begin the required investigations within 60 days after acceptance of the permit, and thereafter prosecute said investigations in such manner and at such rate as in the judgment of the Commission will ensure their completion within the period of the permit.

D. Furnish with any application for license subsequently filed with the Commission copies of engineering and geologic reports, results of tests and analyses, and any other information secured in connection with the investigations, examinations and surveys conducted under this permit.

E. Exercise appropriate measures at all times during field studies to prevent irreparable damage to the environment of the proposed project. All test sites shall be restored as closely as possible to their original condition, and to the satisfaction of the Commission's authorized representative, or, where Federal lands are affected, to the satisfaction of the agency administering such lands.

Article 2. A license will be issued for the proposed project only if in the judgment of the Commission said project will be best adapted to a comprehensive plan for the improvement or development of a waterway or waterways for the use or benefit of interstate or foreign commerce, for the improvement and utilization of water power development, and for other beneficial public uses, including recreational purposes. In reaching a decision on the desirability of issuing a license, the Commission will consider, among other things:

A. Whether the maps, plans, and specifications are such:

(1) That full, practicable utilization will be made of the water, storage possibilities, and head at the site to be developed;

(2) That the structures will be safe and constructed in accordance with good engineering practice; and

(3) That all unnecessary energy losses, whether in hydraulic works or in mechanical or electrical equipment, will be avoided.

B. Whether in relation to existing or probable future projects upon the same or adjacent streams, the potential for the fullest practicable utilization of the available water, storage possibilities, and head will be maintained.

C. Whether said project will be in general accord with the most beneficial utilization of the water for navigation, water power, irrigation, or other public uses, and for aiding flood control, reclamation, and similar developments.

D. Whether proper provision is made for present or future electrical interconnection with other projects or systems in order to take advantage of diversity of streamflow and of power demands.

E. Whether the use to which the power will be devoted is, in general, in accord with the public interest.

F. Whether the applicant is financially able to carry out the development.

G. Whether the construction, maintenance, and operation of the proposed project works will interfere or be inconsistent with the purpose for which any reservation, as defined in the Federal Power Act, was created or acquired.

Article 3. The priority granted under the permit shall be lost if the Permittee fails to fulfill the requirements of the permit, if the permit is canceled by order of the Commission, or if the Permittee fails, on or before the expiration date of the permit, to file with the Commission or its designated agent an application for license for the proposed project in conformity with the Commission's rules and regulations then in effect.

Article 4. The Permittee shall keep accurate records of all expenditures made for the purposes authorized by the permit, together with all vouchers and other supporting data relating to such expenditures, which records and related materials shall be retained by the Permittee.

Article 5. The permit confers no authority upon the Permittee to undertake construction of the proposed project, or any part thereof, or to occupy or use lands or other property of the United States for the purposes of construction, unless specific permission is given by the Commission for such occupancy or use; and neither the granting of such authority nor the performance of construction work, whether with or without such authority, shall be deemed to have created any equities or to have established any rights with respect to issuance of a license for the proposed project, beyond what would have been created or established had such authority not been given or such work not been performed.

Article 6. The permit is not transferable and may be canceled by order of the Commission upon failure of the Permittee to begin in good faith, or to prosecute diligently, the investigations, examinations, and surveys contemplated under the permit, or to comply with any other conditions therein, or for any other good cause shown after notice and opportunity for hearing.



State of Idaho

DEPARTMENT OF WATER RESOURCES

STATE OFFICE, 373 W. Franklin Street, Boise, Idaho

JOHN V. EVANS
Governor

C. STEPHEN ALLRED
Director

Mailing address:
Statehouse
Boise, Idaho 83720
(208) 384-2215

March 5, 1979

Re: Permit No.'s 01-7013, 01-7014, & 01-7015

City of Idaho Falls
c/o G. S. Harrison
P.O. Box 220
Idaho Falls, Idaho 83401

Dear Mr. Harrison:

Enclosed are copies of your approved Applications for Permit. We direct your attention to the conditions of approval as listed on the fourth pages.

Be sure to note the special conditions requiring you to install and maintain measuring devices at your points of diversion prior to submitting proof of beneficial use of water. We have enclosed a letter describing the different types of measuring devices accepted by this office.

Sincerely,

DAVID R. TUTHILL, JR.
Supervisor, Water Allocations Section

DRT:lr

Enc: 5

cc: Fremont-Madison Irrigation District

MICROFILMED

RECOMMENDEDCONDITIONS OF APPROVAL

1. For licensing purposes a scientific measurement of the diversion rate of the system as it is normally operated shall be provided by either properly installing an approved type of measuring device or by having a professional engineer certify the rate of diversion to the Department prior to submitting proof of beneficial use of water.
- ✓ 2. A measuring device of a type approved by this Department shall be permanently installed and maintained as part of the diverting works.
(TO BE USED WITH THE WATERMASTER CONDITION ONLY)
3. Measuring devices of a type approved by this Department shall be permanently installed and maintained at the point of diversion and the point of effluent discharge.
4. The rate of diversion of water for irrigation under this permit and all other water rights on the same land shall not exceed 0.02 cubic feet per second for each acre of land.
5. The issuance of this permit in no way grants any right-of-way or easement across the land of another.
- ✓ 6. Use of water under this permit is subject to control by the watermaster of State Water District No. 01, Snake River.
7. The maximum rate of diversion shall not exceed _____ cubic feet per second.
8. The permit shall not be assigned or sold without first securing the written approval of the Department of Water Resources.
9. This permit cannot be assigned, mortgaged, or conveyed without complying with Section 42-208, Idaho Code.
10. Return water shall be treated to insure that the effluent meets (interstate) (intrastate) stream water quality standards.
11. Settling ponds shall be installed which are capable of reducing the silt load in the return water to such a level that the quality of the waters of _____ Creek will not be impaired for other beneficial users.
12. Use of water under this permit is supplemental to all existing water rights with the same purpose and place of use.
13. The proposed well shall not be drilled within _____ feet of another well.
14. The permit holder must obtain adequate supplemental water for the irrigation season that natural flow is not available.
15. Water shall not be diverted under this permit unless the flow of the Snake River at the U. S. Geological Survey stream gaging station at Murphy exceeds 3,300 c.f.s. and at Weiser exceed 4,750 c.f.s.
16. That should the use of the water on this permit reduce the quality of water available to prior water rights and make it unusable to satisfy the prior appropriations, then the diversion under this permit must cease.
17. There is not sufficient water available in the _____ River and tributaries that is not appropriated by prior water rights.
- ✓ 18. OTHER use of water under this permit is subject to future upstream agricultural development.

FREMONT-MADISON IRRIGATION DISTRICT

ST. ANTHONY, IDAHO 83443

January 31, 1979

RECEIVED

FEB 1 1979

Department of Water Resources
Eastern District Office

Mr. Ronald Carlson
Department of Water Resources
1515 Lincoln Road
Idaho Falls Idaho 83401

Dear Mr. Carlson:

The Fremont-Madison Irrigation District hereby withdraws its protest against the applications of the City of Idaho Falls, Nos. 017013, 017014, and 017015, and future applications it may deem necessary to file pertaining to the same purposes set forth in the above numbered applications, providing that the Department of Water Resources, in granting any such permits, make such permits subject to upstream agricultural development.

Also, that the granting of such permits does not in any way abrogate or change in any manner that certain Contract between the United States of America, Fremont-Madison Irrigation District, City of Idaho Falls, and the Utah Power & Light Company dated September 28, 1935.

Yours very truly,

FREMONT-MADISON IRRIGATION DISTRICT

J. Max Mortensen

By:

J. Max Mortensen
Chairman

S

cc - Mr. Kent Foster
Mr. Art Smith

MAIL ROOM

November 21, 1978

Ms. Mary Smith
Attorney at Law
30 S. Second Street
Rexburg, Idaho 83440

Dear Ms. Smith:

Re: Applications No. 01-7013, 01-7014, 01-7015

As you will recall, this office is still holding the three power applications filed by the City of Idaho Falls. These applications were made nearly a year ago, and to date Fremont-Madison and the City have apparently been unable to reach an agreement that will resolve the Fremont-Madison protests.

It appears from the correspondence we have received that if these filings are subordinated to future upstream irrigation development, the protests would be resolved. I believe there is a good chance that in his final review the Director will make these rights subordinate to future water development for agriculture. Perhaps a hearing can be avoided and the final action on these applications can be expediated if Fremont-Madison would write a letter. *expedited*

Respectfully submitted,

ERNEST M. CARLSEN
Water Resource Analyst

EMC:dh

MICROFILMED



STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
EASTERN REGION

John V. Evans
Governor

1515 Lincoln Road
Idaho Falls, Idaho 83401
(208) 523-7186

C. Stephen Allred
Director

June 22, 1978

RE: Applications for Permits Nos. 01-7013, 01-7014 and 01-7015
CITY OF IDAHO FALLS

Fremont-Madison Irrigation District
c/o Mary Smith, Attorney
30 S. Second West
Rexburg, Idaho 83440

Dear Ms. Smith:

The Department has been attempting since the first of the year to hear Fremont-Madison's protest against the granting of the City's applications Nos. 01-7013, 01-7014 and 01-7015.

As you will recall a conference or hearing was scheduled for February 8, 1978 but was continued at the request of the attorneys involved. On April 28th we were informed that an agreement had been prepared and was being reviewed by the City of Idaho Falls. To date our office has not received a copy of any agreement and therefore we are wondering how to proceed in this matter. At this point we can only assume that no agreement has been reached and will proceed with the scheduling of a conference and/or hearing. Unless we hear from you in the near future we will proceed with the scheduling of this matter for hearing during the month of July.

Very truly yours,

RONALD D. CARLSON
Supervisor,
Eastern Region

RDC:bp

MICROFILMED



STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
EASTERN REGION

John V. Evans
Governor

C. Stephen Allred
Director

1515 Lincoln Road
Idaho Falls, Idaho 83401
(208) 523-7186

June 22, 1978

RE: Applications for Permits Nos. 01-7013, 01-7014 and 01-7015.

City of Idaho Falls
c/o G. S. Harrison
P. O. Box 220
Idaho Falls, Idaho 83401

Dear Mr. Harrison:

The Department has been attempting since the first of the year to hear Fremont-Madison's protest against the granting of the City's applications Nos. 01-7013, 01-7014 and 01-7015.

As you will recall a conference or hearing was scheduled for February 8, 1978 but was continued at the request of the attorneys involved. On April 28th we were informed that an agreement had been prepared and was being reviewed by the City of Idaho Falls. To date our office has not received a copy of any agreement and therefore we are wondering how to proceed in this matter. At this point we can only assume that no agreement has been reached and will proceed with the scheduling of a conference and/or hearing. Unless we hear from you in the near future we will proceed with the scheduling of this matter for hearing during the month of July.

Very truly yours,


RONALD D. CARLSON
Supervisor,
Eastern Region

RDC:bp

MICROFILMED

FROM

Ernie

DATE

May 8, 1978

TO

City of Idaho Falls Applications 01-7013, 14 and 15.

SUBJECT

Ms. Mary Smith telephoned April 28, 1978, and indicated they have prepared an agreement and it is being reviewed the the City of Idaho Falls.

SIGNATURE

MICROFILMED



STATE OF IDAHO

DEPARTMENT OF WATER RESOURCES EASTERN REGION

John V. Evans
Governor

C. Stephen Allred
Director

1515 Lincoln Road
Idaho Falls, Idaho 83401
(208) 523-7186

April 6, 1978

RE: Applications for Permits No. 01-7013, 01-7014 and 01-7015
CITY OF IDAHO FALLS

Mr. Max Mortenson, Chairman
Board of Directors
Fremont Madison Irrigation District
Box 5
St. Anthony, Idaho 83445

Dear Mr. Mortenson:

At the request of the attorneys for the city and Fremont Madison Irrigation District, the Department of Water Resources has twice cancelled a conference and/or hearing on the above referenced applications for permits. The cancellations were granted to allow time for establishing an agreement between the City of Idaho Falls and the Irrigation District. We have yet to receive a copy of the agreement in question or be advised as to the status of the negotiations.

Please advise us of the progress that has been made or if the Department should consider rescheduling this matter for conference and/or hearing.

Respectfully submitted,

ERNEST M. CARLSEN
Water Resource Agent

EMC:cw

MICROFILMED

BEFORE THE DEPARTMENT OF WATER RESOURCES
OF THE
STATE OF IDAHO

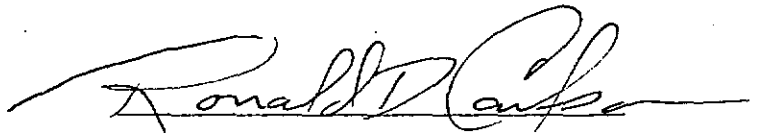
In the Matter of Protest Against Approval
of Applications for Permits No. 01-7013,
01-7014, and 01-7015 in the Name of the
CITY OF IDAHO FALLS

NOTICE OF CANCELLATION

Notice is hereby given that the Department of Water Resources has cancelled the conference and/or hearing concerning the above referenced applications at the request of the attorneys.

The Department will reschedule the conference and/or hearing in the near future at which time all interest parties will again be notified.

Dated this 6th day of February, 1978.



RONALD D. CARLSON
Supervisor, Eastern Region

SENT TO: City of Idaho Falls
Ms. Mary Smith
Fremont Madison

MICROFILMED

DEPARTMENT OF WATER RESOURCES

EASTERN DISTRICT OFFICE

1515 LINCOLN ROAD

IDAHO FALLS, IDAHO 83401

Name and Address of Sender

Indicate type of mail:

☐ REGISTERED ☐ C.O.D. ☒ CERTIFIED

After stamp here if issued as certificate of mailing or for additional copies of this bill. POSTMARK AND DATE OF RECEIPT

NUMBER OF ARTICLE	NAME OF ADDRESSEE, STREET AND POST OFFICE ADDRESS	POSTAGE	FEE	R.R. FEE	POST. UNIT. FEE	ACTUAL VALUE	HANDLING CHARGE	REMARKS
1	City of Idaho Falls, P.O. Box 330, Idaho Falls	13	100					01-9043
2	Mrs. Mary Smith 308 2nd St. Kelowna							2014
3	Miss Elsie B. Burt 5 St. Bartley							2015
4	Charles Christensen, P.O. Box 308 Kelowna							22-2118
5	Robert W. Jensen, P.O. Box 1212 Kelowna							"
6	Walter J. Jensen, P.O. Box 1212 Kelowna							"
7	Thomas E. Jensen, P.O. Box 1212 Kelowna							"
8	W. J. McDonald, 201 1st St. Kelowna							"
9	John J. McDonald, P.O. Box 1212 Kelowna							"
10	W. J. McDonald, P.O. Box 1212 Kelowna							"
11	Thomas E. Jensen, P.O. Box 1212 Kelowna							"
12	William J. Jensen, P.O. Box 1212 Kelowna							"
13	May McCall, P.O. Box 1212 Kelowna							"
14	Robert W. Jensen, P.O. Box 1212 Kelowna							"
15	W. J. Jensen, P.O. Box 1212 Kelowna							"
16	W. J. Jensen, P.O. Box 1212 Kelowna							"
17	W. J. Jensen, P.O. Box 1212 Kelowna							"
18	W. J. Jensen, P.O. Box 1212 Kelowna							"
19	W. J. Jensen, P.O. Box 1212 Kelowna							"
20	W. J. Jensen, P.O. Box 1212 Kelowna							"

TOTAL NO. OF PIECES LISTED BY SENDER: 19 TOTAL NO. OF PIECES RECD AT P.O.: 19 POSTMASTER PER (Name of receiving employee):

PS Form 3877, Dec. 1973

APPLICATION FOR REGISTERED, REGISTERED C.O.D. AND CERTIFIED MAIL

(Declaration of value is required on international registered mail)

U. S. GOVERNMENT PRINTING OFFICE: 1974-0-333-728

FORM MUST BE MADE OUT IN INK OR BALL POINT PEN

January 30, 1978

C
P
Mr. Tom Reinecker
Regional Supervisor
Department of Fish & Game
1515 Lincoln Road
Idaho Falls, Idaho 83401

Dear Tom:

This is to confirm the use of the conference room for conference and/or hearing to be held by this office on Wednesday, February 8, 1978, at 9:00 a.m.

Y
Very truly yours,

RONALD D. CARLSON
Supervisor,
Eastern Region

RDC:CW

MICROFILMED

BEFORE THE DEPARTMENT OF WATER RESOURCES
OF THE
STATE OF IDAHO

In the Matter of Protest Against Approval
of Applications for Permits No. 01-7013,
01-7014, and 01-7015 in the Name of CITY
OF IDAHO FALLS

NOTICE OF COMBINED
CONFERENCE AND/OR HEARING

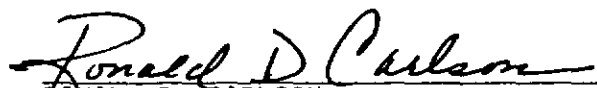
On November 9, 1977, the City of Idaho Falls filed with the Department of Water Resources applications to appropriate the public waters of the State of Idaho. On December 5, 1977, the Department received protest against approval of said applications from Fremont Madison Irrigation District.

The Department has set the matter of protests for conference and/or hearing for Wednesday, February 8, 1978, at 9:00 a.m., in the conference room at the Department of Water Resources, Idaho Falls, Idaho. Any hearing will be held in accordance with the Rules and Regulations of the Idaho Code and adopted Rules of Practice and Procedure of the Department of Water Resources. Opportunity shall be afforded all parties to respond and present evidence and argument on all issues involved. Because of the similarity of the issues involved the conference and/or hearing shall be combined with application for permit No. 01-7013, 01-7014 and 01-7015.

Any party may request in writing five (5) days before any hearing that the oral proceedings thereof be taken in the form of stenographic notes. Any party may have such stenographic notes of the oral proceedings, or part thereof, transcribed at his own expense. A taped record of the proceedings will be maintained for the appeal period.

Failure to appear at the time and place set for hearing by the applicant or protestants may allow the Department without prejudice to dismiss the protest or the or the application. Any and all cost incurred by reason of such non-appearance may be assessed against such non-appearing parties.

Dated this 30th day of January, 1978.


RONALD D. CARLSON
Supervisor, Eastern Region

RECEIVED
JAN 31 1978
IDAHO DEPT. OF WATER RESOURCES



STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
EASTERN REGION

John V. Evans
Governor

December 5, 1977

1515 Lincoln Road
Idaho Falls, Idaho 83401
(208) 523-7186

C. Stephen Allred
Director

RE: Application for Permit No. 01-7013 City of Idaho Falls
01-7014
01-7015

City of Idaho Falls
c/o G. S. Harrison
P.O. Box 220
Idaho Falls, ID 83401

Dear Mr. Harrison:

Enclosed is a copy of a protest filed against the issuance of a permit pursuant to your Application No. ⁰¹⁻⁷⁰¹³~~01-7014~~. The Department suggests you contact the protestant directly in an effort to determine the nature of the protest and to attempt to resolve the protest.

If you do not advise us within twenty (20) days that the protest has been resolved, the matter will be scheduled for conference and/or hearing. At such a conference and/or hearing, the following are the principle items the Department can consider in either approving or denying the application for permit (Section 42-203, Idaho Code):

1. Will the proposed use reduce the quantity of water under existing water rights?
2. Is the proposed water supply insufficient for the purposes intended?
3. Is the application made in good faith or for delay or speculative purposes?
4. Has the applicant sufficient financial resources with which to complete the project?

If this office can be of further assistance, please contact us.

Sincerely,

RONALD D. CARLSON
Supervisor
Eastern Region

RDC:CD

Enc

MICROFILMED



STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
EASTERN REGION

John V. Evans
Governor

December 5, 1977

1515 Lincoln Road
Idaho Falls, Idaho 83401
(208) 523-7186

C. Stephen Allred
Director

RE: Application for Permit No. 01-7013 CITY OF IDAHO FALLS
01-7014
01-7015

Fremont-Madison Irrigation District
R. Willis Walker, Chairman of the Board of Directors
Box 5
St. Anthony, Idaho 83445

Dear Mr. Walker:

Your protest against the approval of the above referenced application has been received and a copy has been sent to the applicant. The Department suggests you contact the applicant directly in an effort to determine what is proposed by the application and to attempt to resolve the protest.

If you do not advise us within twenty (20) days that the protest has been resolved, the matter will be scheduled for conference and/or hearing. At such a conference and/or hearing, the following are the principle items the Department can consider in either approving or denying an application for permit (Section 42-203, Idaho Code):

1. Will the proposed use reduce the quantity of water under existing water rights?
2. Is the proposed water supply insufficient for the purpose intended?
3. Is the application made in good faith or for delay or speculative purposes?
4. Has the applicant sufficient financial resources with which to complete the project?

If this office can be of further assistance, please contact us.

Sincerely,

RONALD D. CARLSON
Supervisor,
Eastern Region

RDC:CW

cc: IDWR - State Office
Mary Smith, Attorney

RECEIVED



Department of Energy
Bonneville Power Administration
Idaho Falls District Office
P.O. Box 2558
Idaho Falls, Idaho 83401

RECEIVED

NOV 28 1977

Department of Water Resources
Eastern District Office

In reply refer to: OWI

November 23, 1977

Mr. Ronald D. Carlson, Supervisor
Eastern Division
State of Idaho Department of Water Resources
1515 Lincoln Road
Idaho Falls, Idaho 83401

Dear Mr. Carlson:

Subject: City of Idaho Falls, Application No. 01-7013
City of Idaho Falls, Application No. 01-7014
City of Idaho Falls, Application No. 01-7015

Thank you for the opportunity to comment on the City of Idaho Falls applications for additional water rights associated with its proposed project to install 7.2 MW bulb turbines at each of its three hydro generation sites on the Snake River in the vicinity of the City of Idaho Falls.

In view of the critical electric energy supply situation facing the Pacific Northwest, the additional electrical generation to be developed by these projects is needed by the City of Idaho Falls as well as the region. It should be noted that Bonneville Power Administration has given notice to all its Preference Customers, including the City of Idaho Falls, that after July 1, 1983, it will no longer be able to serve these utilities' load growth requirements, and thereafter these utilities must be responsible for making other arrangements to meet their increasing loads.

The City of Idaho Falls is to be commended for taking appropriate action to meet its utility responsibility to its citizens. Redevelopment of low head hydro generation at existing sites appears to be one of the most environmentally acceptable methods of developing additional resources.

Additionally, the participation of the Department of Energy in this project will enhance the state of the art for future similar developments elsewhere in the United States.

MICROFILMED

OWI

November 23, 1977

Page 2

Letter to Mr. Ronald D. Carlson, State of Idaho Department of Water
Resources

Although I understand that there is considerable demand and competition for water rights on the upper Snake River, I would foresee no objection to the City of Idaho Falls application for additional water rights of a non-consumptive nature.

Sincerely yours,

A handwritten signature in dark ink, appearing to read "M. C. Derksema", with a long horizontal flourish extending to the right.

Martin C. Derksema
District Manager

MICROFILMED
1980



STATE OF IDAHO

DEPARTMENT OF LANDS

STATEHOUSE, BOISE, IDAHO 83720

GORDON C. TROMBLEY
DIRECTOR

21 November 1977

Mr. Ronald D. Carlson
Department of Water Resources
Eastern Region
1515 Lincoln Road
Idaho Falls, ID 83401

Dear Ron:

Thank you very much for furnishing copies of the diversion applications from the City of Idaho Falls. The new type turbines which the City plans to install will be of great interest to other agencies around the nation and within Idaho as well.

We have no objections to the proposed, additional allotment of water to the City, however, we have advised the City that an easement will be required for the replacement of power houses and diversion structures.

Very truly yours,

DIVISION OF EARTH RESOURCES

William A. Scribner
WILLIAM A. SCRIBNER, Chief
Bureau of Navigable Waters

WAS:ph

cc: Eastern Idaho Area

STATE BOARD OF LAND COMMISSIONERS

JOHN V. EVANS
GOVERNOR AND PRESIDENT
PETE T. CENARRUSA
SECRETARY OF STATE
WAYNE L. KIDWELL
ATTORNEY GENERAL
JOE R. WILLIAMS
STATE AUDITOR
ROY TRUBY
SUPT OF PUBLIC INSTRUCTION

RECEIVED

NOV 23 1977

Department of Water Resources
Eastern District Office

WRIGHT MED

RECEIVED

NOV 23 1977

Department of Water Resources
Eastern District Office

21 November 1977

Mr. S. Eddie Pedersen
Mayor, City of Idaho Falls
P.O. Box 220
Idaho Falls, ID 83401

RE: 01-7013
01-7014
01-7015

Dear Mr. Pedersen:

Recently the Department of Lands received copies of applications for increasing the water allocation to the City of Idaho Falls for the production of electric power. We are aware of the long time which the City has utilized the sites described in the above-numbered applications. We are also aware of the new type of turbines which you plan to install in cooperation with ERDA to demonstrate low-head generation of electric power. You are to be commended for your foresight.

In spite of the long occupancy of the river by the diversion structures described in the applications, it is our understanding that at least two of these and the complimentary power houses are to be totally replaced. Because of this replacement process, an easement from the State of Idaho will be required for the continued occupancy and use of the riverbed. The easement application fee is \$5.00 for each easement and \$150.00 for each location. The attached information sheet describes the type of information which will be required, so that an easement may be prepared.

If you have questions concerning this requirement, please contact our Area Office in Idaho Falls. Mr. Lou Benedick will assist you in preparation of an appropriate application.

Very truly yours,

DIVISION OF EARTH RESOURCES

WILLIAM A. SCRIBNER, Chief
Bureau of Navigable Waters

WAS:ph
Attachment
cc: Eastern Area
Dept. of Water Resources

MICROFILMED



STATE OF IDAHO

DEPARTMENT OF FISH AND GAME

REGION 6
1515 LINCOLN ROAD
IDAHO FALLS, IDAHO 83401

RECEIVED
NOV 17 1977

Department of Water Resources
Eastern District Office

November 16, 1977

Mr. Ronald D. Carlson, Supervisor
Eastern Region
State of Idaho
Department of Water Resources
1515 Lincoln Road
Idaho Falls, Idaho 83401

Dear Ron:

Re: 01-7014, City of Idaho Falls

Personnel from our Department have reviewed the above-referenced application for a permit to appropriate water from the Snake River in Bonneville County. The location of the point of diversion is SW $\frac{1}{4}$ of SW $\frac{1}{4}$ of Section 25 Township 2N Range 37E BM. We have no objections to this work.

Thank you for the opportunity to review and comment on this project.

Sincerely,

DEPARTMENT OF FISH AND GAME
Joseph C. Greenley, Director

Tom Reinecker

Tom Reinecker
Regional Supervisor
Region 6

cc: Bureau of Program Coordination
Bureau of Fisheries
Paul Jeppson

CHANGE ORDER

CITY OF IDAHO FALLS, IDAHO
GENERAL SERVICESBox 220
Idaho Falls, Idaho 83401RECEIVED
NOV 16 1977

296

Department of Water Resources
Eastern District Office

CHANGE ORDER

Idaho Department Water Resource
Statehouse
Boise, ID 83720Purchase Order No. 13017 (11-2-77)Requisition No. 13641 ElectricDate November 9, 1977

QUANTITY	DESCRIPTION	UNIT PRICE	AMOUNT
	CHANGE ORDER		
	Filing Fees		
	Addition to Purchase Order:		40.00

Original - white
Purchasing - yellow
Controller - pink
Requestor - goldenrodBy Ed Stanger
Director

November 14, 1977

RE: Application for Permit No. 01-7013 CITY OF IDAHO FALLS
01-7014
01-7015

Federal Energy Regulatory Commission
Bureau of Power
555 Battery Street
Room 415
San Francisco, CA 94111

Gentlemen:

We are enclosing copies of three applications that may be of interest to your agency. Please review the applications and if you have any comments, submit them to our Department as soon as possible. The last date of protest is December 5, 1977, and we are required to take final action shortly thereafter.

If we may be of further assistance, please feel free to contact us.

Very truly yours,

RONALD D. CARLSON
Supervisor
Eastern Region

RDC:CD

Enclosures

November 14, 1977

RE: Application for Permit No. 01-7013 CITY OF IDAHO FALLS
01-7014
01-7015

Mr. Martin C. Derksence
District Manager
Bonneville Power Administration
Box 2558
Idaho Falls, Idaho 83401

Dear Mr. Derksence:

We are enclosing a copy of three applications that may be of interest to your agency. Please review the applications and if you have any comments, submit them to our Department as soon as possible. The last date of protest is December 5, 1977, and we are required to take final action shortly thereafter.

If we may be of further assistance, please feel free to contact us.

Very truly yours,

RONALD D. CARLSON
Supervisor
Eastern Region

RDC:CD

Enclosures

MICROFILMED

November 14, 1977

RE: Application for Permit No. 01-7013 CITY OF IDAHO FALLS
01-7014
01-7015

Department of Lands
Statehouse,
Boise, ID 83720

Gentlemen:

We are enclosing a copy of applications that may be of interest to your agency. Please review the applications and if you have any comments, submit them to our Department as soon as possible. The last date of protest is December 5, 1977, and we are required to take final action shortly thereafter.

If we may be of further assistance, please feel free to contact us.

Very truly yours,

RONALD D. CARLSON
Supervisor
Eastern Region

RDC:CD

Enclosures

RECEIVED

November 14, 1977

RE: Application for Permit No. 01-7013 CITY OF IDAHO FALLS
01-7014
01-7015

District Engineer
Walla Walla Corps of Engineers
Bldg. 602, City-County Airport
Walla Walla, WA 99362

Dear Sir:

We are enclosing copies of three applications that may be of interest to your agency. Please review the applications and if you have any comments, submit them to our Department as soon as possible. The last date of protest is December 5, 1977, and we are required to take final action shortly thereafter.

If we may be of further assistance, please feel free to contact us.

Very truly yours,

RONALD D. CARLSON
Supervisor
Eastern Region

RDC:CD

Enclosures

MICROFILMED

November 14, 1977

RE: Application for Permit No.: 01-7013 CITY OF IDAHO FALLS
01-7014
01-7015

Mr. Tom Reinecker
Regional Supervisor
Department of Fish & Game
1515 Lincoln Rd.
Idaho Falls, ID 83401

Dear Tom:

We are enclosing copies of three applications that may be of interest to your agency. Please review the applications and if you have any comments, submit them to our Department as soon as possible. The last date of protest is December 5, 1977, and we are required to take final action shortly thereafter.

If we may be of further assistance, please feel free to contact us.

Very truly yours,

RONALD D. CARLSON
Supervisor
Eastern Region

RDC:CD

Enclosures

NOV 15 1977
IDAHO FALLS

November 10, 1977

RE: Application for Permit No. 01-7013 City of Idaho Falls
01-7014
01-7015
21-7143 Mrs. Earl Weatherston

Mr. Art Larson, Watermaster
Water District No. 01
P.O. Box 1099
Idaho Falls, ID 83401

Dear Art:

We are enclosing a copy of four applications that may be of interest to your water district. Please review the applications and if you have any comments, submit them to our Department as soon as possible. The last date of protest is December 5, 1977, and we are required to take final action shortly thereafter.

If we may be of further assistance, please feel free to contact us.

Very truly yours,

RONALD D. CARLSON
Supervisor
Eastern Region

RDC:CD

Enclosures

RECEIVED
NOV 14 1977

November 10, 1977

RE: Claim to a Water Right No. 01-4001, 01-4002 & 01-4003
Application for Permit No. 01-7013, 01-7014 & 01-7015
CITY OF IDAHO FALLS

Post Register
P.O. Box 1800
Idaho Falls, Idaho 83401

Gentlemen:

Enclosed you will find a legal notice which we wish to have published once a week for two consecutive weekly issues of your newspaper. We have inserted the publication dates allowing time for you to submit us a galley proof for review before publication.

After sending us a galley proof, proceed with the publication on the dates we have inserted, assuming the notice is correct. If we have any corrections, we will notify you before the first publication. If you cannot publish the notice on the proposed dates, please contact us immediately.

An affidavit of publication must be submitted to the Department along with the publication bill.

Very truly yours,

RONALD D. CARLSON
Supervisor,
Eastern Region

Bill submitted 11-30-77 by Cal

RDC:CW

Enc: Legal Notice (6)

MICROFILMED

NOTICE OF APPLICATION FOR WATER PERMIT

Notice is hereby given that the City of Idaho Falls,
Idaho Falls, Idaho

has on 11-09-77 submitted Application No. 01-7014
for a permit to appropriate 5100 cubic feet per second XXXXXXXXXXXXXXXXXXXX
of water from the Snake River tributary to Columbia River
by means of a dam
within the SW $\frac{1}{4}$ SW $\frac{1}{4}$, Sec. 25, T. 2N, R. 37E, B.M., Bonneville County;

to be used from Jan. 1 to Dec. 31
for power generation

within the SW $\frac{1}{4}$ SW $\frac{1}{4}$, Sec. 25, T. 2N, R. 37E, B.M.

If issued, this permit will be subject to all prior water rights. Protests
against the granting of the permit must be filed with the Idaho Department of
Water Resources, 1515 Lincoln Road, Idaho Falls, Idaho, 83401 on or before _____
December 5, 1977

C. STEPHEN ALLRED
XXXXXXXXXXXXXXXXXXXX
R. KEITH HIGGINSON

Director

Published in the Post Register, Idaho Falls, Idaho
on November 17 and November 24, 1977

11-10-77
C. Allen
M. J. M.

MAIL CERTIFIED INVOICE TO:

CONTROLLERS OFFICE
P. O. BOX 220
IDAHO FALLS, IDAHO

City of Idaho Falls, Idaho

PURCHASE ORDER

No. 13017

S
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V
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O
R

CITY OF IDAHO FALLS

IDAHO FALLS, IDAHO

Idaho Department Water Resource
Statehouse
Boise, ID 83720

RECEIVED

NOV 9 1977

Department of Water Resources
Eastern District Office

398404

☐ CONFIRMING ☒ NON CONFIRMING

REQ. NO. 13641 Electric

DATE November 2, 1977

☐ FREIGHT F.O.B. IDAHO FALLS

☐ FREIGHT BILLING MUST
ACCOMPANY INVOICE.

DELIVERY DATE

QUANTITY		DESCRIPTION	ACCOUNT	UNIT PRICE	AMOUNT
RECEIVED	ORDERED				
		Filing fees for applications for water right permits as follows:	005 510 401.79.48		
		Upper Power Plant-2600CFS			1225 ⁰⁰ 1205.00
		City Power Plant-2600CFS			1225 ⁰⁰ 1205.00
		Lower Power Plant-5100CFS			1475.00
					3885.00
					3925 ⁰⁰ J. S. Davis

IDAHO STATE TAX EXEMPTION CERTIFICATE

NO. 0024045S-10-2-1

CITY OF IDAHO FALLS

BY: *[Signature]*
PURCHASING AGENT

1. MAIL INVOICE AT TIME OF SHIPMENT. INVOICES RECEIVED AFTER 25TH OF MONTH WILL BE INCLUDED IN FOLLOWING MONTHS BUSINESS.
2. MAIL A SEPARATE INVOICE FOR EACH SHIPMENT AGAINST THIS PURCHASE ORDER IF PARTIAL SHIPMENTS ARE MADE.
3. ALL PACKAGES, INVOICES AND BILLS OF LADING MUST SHOW THE ABOVE PURCHASE ORDER NUMBER.
4. PLEASE ACKNOWLEDGE RECEIPT OF THIS PURCHASE ORDER BY RETURN MAIL; AND IF NOT ACCEPTED AS WRITTEN, ADVISE AT ONCE, WITH EXPLANATION; ALSO GIVE SHIPPING DATE.
5. BE SURE TO ENCLOSE DELIVERY OR PACKING LIST WITH EACH SHIPMENT.
6. MAIL BILL OF LADING AT TIME OF SHIPMENT SHOWING THE ABOVE ORDER NUMBER AND COMPLETE ROUTING.

ORIGINAL

MICROFILMED

DEPARTMENT OF WATER RESOURCES
- STAFF ANALYSIS -

Item Initial Date

Application No. Idaho Falls

☒ Source
☒ Point of Diversion
☒ County
☒ Quantity of Water and Period of Use
☒ Description of Diverting Works
☒ Time required for B/U of water
☒ Place of Use or Acres Irrigated
☒ Map
☒ Signature
☒ Fee

(1) EMC 11-09-77

In form to receipt YES

(2) " "

Send Copies to:

Idaho State Health Department
Idaho Fish and Game Department
Bureau of Land Management

(3) " "

WART LARSON

Request Special Use Permit from U.S.F.S.
Request Easement from B.L.M.
Request Information from Applicant
Request Dam Safety Information

(4) " "

In form for advertising YES

(5) " "

Platted on Map No. Idaho Falls South Quad

(6) " "

Located within Water District No. 01

(7) " "

Critical groundwater area: yes no ☒

(8) " "

Groundwater levels:

Declining, ☒ Stable, Increase

(comment)

(9) " "

Other rights on the same place of use See 8c

(10) " "

on Application
Comments: Licensed & claimed right w/
Application total 7600 cfs.

(11) aw 11-30-77

Affidavit of Publication received (date) Nov. 30-77

(12) aw 12-05-77

Final date for protests Dec 5-1977

Protests received: yes no

(13) EMC 2/02/79

All requested information received from agencies or applicant: yes ☒ no

(14) EMC 2/02/79

Action recommended:

☒ Approve Deny

11/09/77 Proposed Priority

Reason for Reduction

Measuring device required

☒ See attached sheet for other conditions of approval

No special conditions for approval

(15) District Eastern

By Ernest Carlson Date 2/02/79

Copy mt

RECEIVED
MAR 05 1979

Department of Water Resources