OPERATION REPORT

FEDERAL ENERGY REGULATORY COMMISSION
OFFICE OF ENERGY PROJECTS
DIVISION OF DAM SAFETY AND INSPECTIONS
CHICAGO REGIONAL OFFICE

***

For the period September 30, 2004 to August 25, 2005

Licensee Ameren UE Project No. 2277

Project Name Taum Sauk NATDAM Nos. MO30040 and MO30041

Location East Fork, Black River Reynolds Missouri
(Water or reservation) (County) (State)

License issued August 26, 1965 Expires June 30, 2010 Type Major
Effective July 1, 1960
Date of last amendment March 3, 1977, Amended License Article No. 7 and added Article No. 35

Inspected by Teodor Strat Date August 25, 2005

Parts of Project Inspected All visible portions of water-retaining structures

Weather 75 degrees F., clear and dry.

Accompanied by Mr. Rick Cooper and Steve Burnett, representing the licensee

Summary

The impoundment and control structures appear to be in satisfactory condition with no deficiencies affecting dam or public safety. The licensee continues an effective program of inspection and maintenance. Security measures were discussed and appropriate actions taken. The licensee is in compliance with the license requirements.

Submitted: December 15, 2005

By: Teodor Strat,
Teodor Strat, P.E

PERTINENT DATASHEET

---------- FEDERAL ENERGY REGULATORY COMMISSION----------
OFFICE OF ENERGY PROJECTS
DIVISION OF DAM SAFETY
CHICAGO REGION

General Data

Dam Number:	02277-01-01	Hazard Potential Classification:	High
Dam Name:	TAUM SAUK PS UPPER	Completion Date:	1963
Project Name:	TAUM SAUK P/S	River:	E FK BLACK
Development:	TAUM SAUK	Drainage Area (sq. mi.):	0
Lake Name:	UPPER RESERVOIR		
Licensee:	UNION ELECTRIC CO		
		Downstream City:	LESTERVILLE
County, State:	REYNOLDS, MO	Distance (mi.):	6
USGS Quad Map:	JOHNSON SHUT-INS 7.5'		
Latitude:	37.5333	Last inspection date:	8/25/2005
Longitude:	-90.8167		

Hydrologic Data

PMF (cfs):	
IDF (cfs):	
100-YR Flood (cfs):	
Flood of Record (cfs):	NA
Date Flood of Record:	NA
Minimum Flow Required:	

Reservoir Data

Surface Area (acres):	
Normal:	200
Pool Elevation (feet, msl)	
Maximum:	1,596.00
Normal:	1,589.00
Minimum:	1,505.00
Reservoir Storage (acre-feet)	
Maximum:	4,350
Normal:	2,560

Project Works

Type of Dam:	
Type 1:	ROCKFILL
Dam Height (feet):	84
Dam Crest Elevation (feet, msl):	1597 (1599)
Length of Dam (feet):	6562
Flashboards installed:	No
Uncontrolled Spillway Length (feet):	Not Applicable
Number of Spillway Gates:	0
Number of Penstocks:	1
Number of Tunnels:	3
Number of Canals:	0
Number of Locks:	0
Number of Powerhouses:	1
Number of Generating Units:	2
Authorized Generation Capacity (kW):	408,000 (per license)

Safety Requirements

Consultants Safety Inspection Report Required:	Yes
Latest Report Submitted:	8/26/2003
Emergency Action Plan (EAP) Status:	Satisfactory
Latest EAP/EAP Modification:	1/3/2005
Boat Restraining Barrier Required:	No

Contains Critical Energy Infrastructure Information
Do Not Release

PERTINENT DATASHEET

---------- FEDERAL ENERGY REGULATORY COMMISSION----------
OFFICE OF ENERGY PROJECTS
DIVISION OF DAM SAFETY
CHICAGO REGION

General Data

Dam Number:	02277-02-01	Hazard Potential Classification:	High
Dam Name:	TAUM SAUK PS LOWER	Completion Date:	1963
Project Name:	TAUM SAUK P/S	River:	E FK BLACK
Development:	Taum Sauk - Lower Reservoir	Drainage Area (sq. mi.):	88
Lake Name:	Lower Reservoir		
Licensee:	UNION ELECTRIC CO		
		Downstream City:	LESTERVILLE
County, State:	REYNOLDS, MO	Distance (mi.):	3
USGS Quad Map:			
Latitude:	37.4833	Last inspection date:	8/25/2005
Longitude:	-90.8333		

Hydrologic Data

PMF (cfs):	115000
IDF (cfs):	
100-YR Flood (cfs):	
Flood of Record (cfs):	36000
Date Flood of Record:	11/1/1986
Minimum Flow Required:	No

Reservoir Data

Surface Area (acres):
Normal: 500 estimated
Pool Elevation (feet, msl)
Maximum: 743
Normal:737
Minimum:
Reservoir Storage (acre-feet)
Maximum:
Normal:

Project Works

Type of Dam:
Type 1: GRAVITY

Dam Height (feet):	55
Dam Crest Elevation (feet, msl):	765
Length of Dam (feet):	390
Flashboards installed:	No

Uncontrolled Spillway Length (feet): 373.3
Uncontrolled Spillway Crest (feet, msl):750

Number of Spillway Gates:	1
Type of Spillway Gates:	1 - Other
Gate Category:	2 - Nonperformance of a single gate has no downstream consequences.
Number of Penstocks:	0
Number of Tunnels:	0
Number of Canals:	0
Number of Locks:	0
Number of Powerhouses:	0

Safety Requirements

Consultants Safety Inspection Report Required: Yes
Latest Report Submitted: 8/26/2003

Emergency Action Plan (EAP) Status: Satisfactory
Latest EAP/EAP Modification: 1/3/2005

Boat Restraining Barrier Required: Yes

	Month	Day
Date In :	04	01
Date Out: :	11	15

Contains Critical Energy Infrastructure Information
Do Not Release

PERTINENT DATASHEET

---------- FEDERAL ENERGY REGULATORY COMMISSION----------
OFFICE OF ENERGY PROJECTS
DIVISION OF DAM SAFETY
CHICAGO REGION

General Data

Dam Number:	02277-03-01	Hazard Potential Classification:	Low
Dam Name:	GRAVEL TRAP DAM	Completion Date:	1963
Project Name:	TAUM SAUK P/S	River:	E FK BLACK
Development:	Gravel Trap	Drainage Area (sq. mi.):	65
Lake Name:			
Licensee:	UNION ELECTRIC CO		
		Downstream City:	LESTERVILLE
County, State:	REYNOLDS, MO	Distance (mi.):	7
USGS Quad Map:	JOHNSON SHUT-INS		
Latitude:	37.4833	Last inspection date:	9/30/2004
Longitude:	-90.8333		

Hydrologic Data

PMF (cfs):	85000
IDF (cfs):	Not Evaluated
100-YR Flood (cfs):	No Data
Flood of Record (cfs):	No Data
Date Flood of Record:	Not Available
Minimum Flow Required:	

Reservoir Data

Surface Area (acres):	
Normal:	4
Pool Elevation (feet, msl)	
Maximum:	748.00
Normal:	748.00
Minimum:	748.00
Reservoir Storage (acre-feet)	
Maximum:	20
Normal:	20

Project Works

Type of Dam:
Type 1: OTHER

Dam Height (feet):	8
Dam Crest Elevation (feet, msl):	748
Length of Dam (feet):	400
Flashboards installed:	No
Uncontrolled Spillway Length (feet):	
Uncontrolled Spillway Crest (feet, msl):	
Number of Spillway Gates:	0
Number of Penstocks:	0
Number of Tunnels:	0
Number of Canals:	0
Number of Locks:	0
Number of Powerhouses:	0

Safety Requirements

Consultants Safety Inspection Report Required:	No
Emergency Action Plan (EAP) Status:	Satisfactory
Latest EAP/EAP Modification:	1/3/2005
Boat Restraining Barrier Required:	No

Contains Critical Energy Infrastructure Information
Do Not Release

A. DOWNSTREAM HAZARD POTENTIAL

The hazard potential rating for the Upper Dam was established following the 1989 operation inspection and review of the 1988 revisions to the EAP. A dam failure analysis was performed for the EAP, which qualitatively assessed the impacts of a breach in both the Upper and Lower Dams. The analysis did not determine the incremental rise in the downstream water surface elevation or the quantitative impacts on structures. The EAP only discusses a normal condition failure event since the Upper Dam is a pumped-storage reservoir. The Johnson Shut-Ins State Park and campgrounds are at risk from a failure of the west side of the Upper Dam. There are no developments in the projected floodway from a failure of the north or east sides. The flood wave from a failure of the Upper Dam would eventually flow into the lower reservoir via the Black River and place the recreational users of the lower reservoir at risk.

The present hazard potential rating for the Lower Dam was established following the 1999 operation inspection. After reviewing available data on the most recent (1986) significant flooding compared to the qualitative analysis for the EAP, we concluded that about 25 structures would be flooded due to the failure of the dam, with the first structure being flooded within 15 minutes from the time of failure.

A failure of the Lower Dam during normal flow conditions might create a high risk for loss of life and significant property damage due to the proximity of the village of Lesterville and county highways.

Both the upper and lower dams are classified as having high hazard potential. The licensee maintains emergency action plans for both dams. No change in development in the vicinity of the project was reported or observed during this inspection. The current **High** hazard potential rating is appropriate. However, since there is no recent dam break analysis at the project we will ask the licensee in the follow-up letter to conduct one (see Section F, below).

B. PROJECT SAFETY AND MAINTENANCE

This report includes 42 photographs and an exhibit annotated to show the position and orientation of the camera for each photograph. Exhibit 1 is a plan view of the project.

1. Dams, Dikes and Appurtenant Structures

This is a pumped-storage project, with an upper and a lower reservoir. The lower reservoir, operated as a run-of-river reservoir with outflow maintained approximately equal to natural inflow, provides storage for water to be pumped to the upper reservoir at night or during periods of low power demand. The water volume used to generate electricity is cycled between the lower and upper reservoir, so the water elevations of the lower and upper reservoirs fluctuate depending on the pumping/generating modes of operation and time of day. The project structures include a concrete faced rockfill dam (dike), that encircles and forms the upper reservoir; a concrete gravity dam impounding the lower reservoir; a reversible turbine powerhouse; a gravel trap dam located upstream of the outlet canal in the lower reservoir, and a small dike that impounds the seepage collection pond at the toe of the upper reservoir. The turbine/generator sets are designed to operate in reverse to pump water to the upper reservoir at night. During the daylight peak-demand hours, the turbine/generator sets operate in normal gravity-feed mode to generate electricity.

Upper Reservoir (Photographs 4 through 13):

Upper Dam- The upper reservoir is created by a kidney shaped ring dike (Upper Dam) at the top of a planed-off mountaintop. The rockfill Upper Dam has a maximum section approximately 94 feet high and is topped by a concrete parapet wall approximately 10 feet high (Photographs 4 through 10).

The upper dam underwent maintenance work during the 2004 construction season. Specifically, the upstream face of the upper dam was lined with geomembrane. The purpose of this work was to minimize the leakage through the rockfill dam. Since this work was completed, a dramatic decrease in the amount of leakage from the upper reservoir, when compared with the same period in 2004, was noted. This clearly indicates that the placement of the geomembrane last year significantly lowered the leakage losses through the embankment (see figures 2 and 3 below). The rockfill section appears stable and in good condition. No unusual settlement or displacements were noted in the crest or parapet wall (Photographs 7 through 10). Pattern cracking is present in the parapet wall, as noted in our previous inspections. The cracking has not changed appreciably since our previous inspection (Photograph 9). Leakage through the embankment is being adequately monitored and is reported to the FERC biannually (Photograph 11).

A concrete lined access tunnel is located on the northeast side of the Upper Dam, which allows access to the floor of the reservoir when it is dewatered. The access tunnel was inspected and found to be in good condition (Photographs 12 and 13). Except for the crack in the crown of the tunnel, no significant cracks or leakage were noted in the lining.

Collection Pond Dike- Drainage ditches surrounding the toe of the dike direct all leakage into a collection pond (Photographs 14 and 15. See also photograph 11). A small dike retains water in the collection pond, from where it is pumped back into the upper reservoir. When the leakage rate exceeds the pump-back capacity, water spills from the collection pond and eventually flows into the lower reservoir; however, this has not happened since the upper dam was lined with geomembrane.

Lower Reservoir (Photographs 16 through 27):

Concrete Dam- The lower reservoir gravity dam is about 60 feet high and 390 feet long founded on rock with rock abutments at each end (Photographs 18 - 21). Both abutments were in good condition at the time of our inspection with no signs of instability or excessive seepage. The concrete appeared to be in good condition with no evidence of significant cracking, spalling, deterioration, or displacements. Minor leakage was noted along horizontal joints in the monoliths but the discharge was very small (Photographs 18 and 19).

The minimum flow valve was open about 5% at the time of our inspection. No other flow was occurring over the dam. The plunge pool below the toe of the dam appeared to be in good condition (Photograph 19).

Minor additions were made to the dam recently. A steel deck, stoplog rack, and lifting beam were added for storage and placement of stoplogs at the sluice gate bay (Photographs 22 through 24). This work was completed during the summer of 2003. In addition, the licensee replaced the cables on the boat barrier with stainless steel cables.

The inspection gallery had not changed since our previous inspections and appeared stable and relatively dry (Photographs 25 through 27). Only isolated seepage, cracks and efflorescence were noted in the gallery. The gutter was free of debris and draining freely.

Gravel Trap Dam: The gravel trap dam is a low head low hazard steel sheet-pile and rock crib structure designed to trap gravel in the river before it washes into the lower reservoir (Photographs 28 and 29). At the time of our inspection the dam was in good condition. No separation of interlocks or leakage of fill was observed; however, significant vegetation was observed at the crest of the dam. The licensee will be asked in the follow-up letter to control the vegetation growth on this structure.

Pump/Powerhouse (Photographs 30 through 42):

The area surrounding the powerhouse is shown in photographs 30 through 34. We noted that there was runoff exiting the slope above the penstock portal. Since the quantity of

seepage is small, and the licensee is monitoring the seepage, we recommend continued monitoring.

We inspected each level of the pump house/powerhouse and observed no significant cracking, concrete deterioration or other structural distress (Photographs 35 through 41). The auxiliary unit, housed at the ground level away from the powerhouse, is shown in photograph 42.

The headwall, where the steel penstocks enter the powerhouse, appeared in good condition with no significant cracking, and with efflorescence and very minor leakage from the joint around the opening.

2. Spillway Gates and Standby Power

The lower dam contains a 8-foot by 10-foot slide gate and a 16 inch diameter steel sluice pipe with a valve used to regulate run-of-river and minimum flows. Both gates can be operated remotely from the plant via microwave station, or manually. The large slide gate can pass up to 2,500 cfs. The gate motor, rising stem, gear box and manual crank appeared in good condition. Backup power for the main sluice gate is a manual hand crank. The 16-inch diameter pipe is equipped with an electronic cutoff that stays 5% open to pass minimum flows. Debris is cleaned from the gates, on an as-needed basis, by an outside contractor. Neither gate is needed to pass the flood flows, as the dam is designed as an overflow structure. Gate valves in the powerhouse are used to isolate the pumps/generators from the penstock tunnel and upper reservoir. Steel bulkheads for the draft tubes, now stored on the upstream rack, were in good condition.

3. Power Plants

There have been no modifications to the generating equipment. The turbine nameplate ratings are 295,000 HP with a flow of 2,650 cfs under a 790 feet head. The generators are each rated at 204,000 KW, but we learned that power generation can be as much as 220,000 KW with an 80% gate opening. The optimum RPM of the units is 200. During an emergency the gates can be closed in less than 2 minutes to avoid water hammer.

The power plant equipment is well-maintained and clean. At the time of our inspection both units were off. The units operate in generating mode between the hours of 12:00 and 17:00, and in pumping mode either between 22:00 and 05:00 or between 23:00 and 06:00, depending upon the day of the week and/or the time of the year.

The licensee owns over 11,000 miles of transmission lines in several states including Missouri, with voltages varying between 69 KV and 345 KV. The inspection, operation, and maintenance of the transmission lines is performed by another division of Ameren. We learned that the transmission lines are inspected at least annually by fixed wing airplane or by helicopter. In addition, in cases of emergency or repeated rupture/malfunction of a particular line, inspection is performed by licensee's personnel.

4. Reservoirs

The live storage of the upper reservoir is about 2,600 acre feet and this volume is used for generation and retained in the lower reservoir in-between pumping cycles. The 2,600 acre feet are pumped back to the upper reservoir at night. Hence, the reservoir level of the lower reservoir fluctuates significantly depending on the time of day and power demands. The licensee began a program to stem leakage from the upper reservoir in 2002. The remaining work, installation of the geomembrane liner, was completed in fall 2004.

Although the lower reservoir level fluctuates, the flow being passed downstream is being maintained at run-of-river by use of the minimum flow pipe and sluice gate at the lower dam. The lower dam was free of significant debris and no water was passing over the spillway. The slopes of the lower reservoir appeared stable.

The licensee stated that it takes about 14 hours to fill (elevation 1597+.0 feet MSL) the upper reservoir using one pump and about 8 hours using two pumps. In generation mode, the units can generate for 6 hours at full capacity before the upper reservoir is depleted down to elevation 1525.0 feet MSL, elevation at which the generation is stopped.

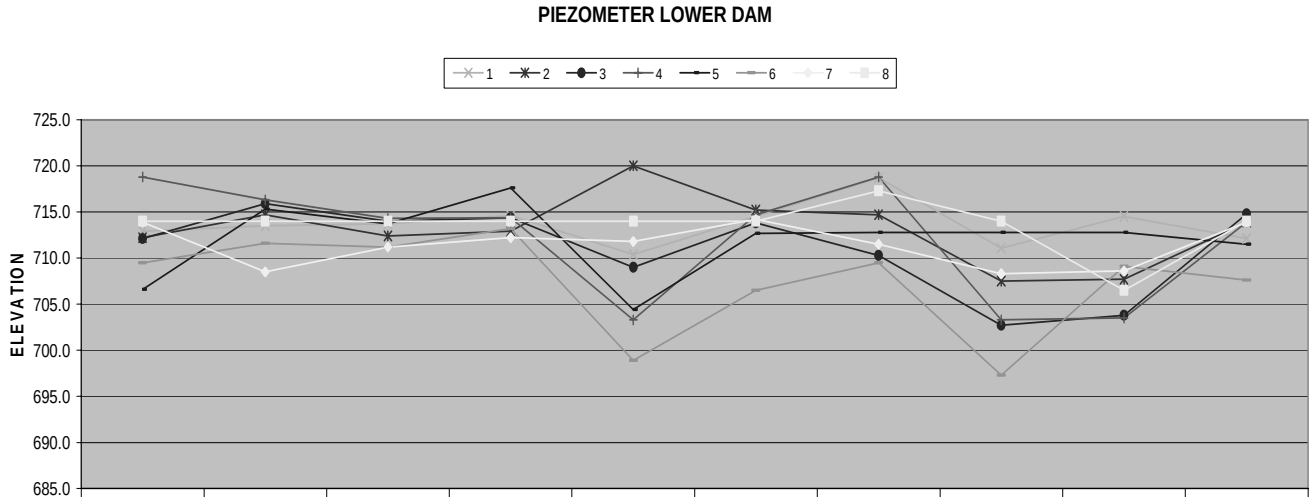
5. Instrumentation

In accordance with Article 34 of the license, the licensee monitors the leakage from the upper reservoir and sends us a report on weekly observations every six months. The latest report was filed July 5, 2005. A dramatic decrease in the amount of leakage from the upper reservoir, when compared with the same period in 2004, was noted. This clearly indicates that the placement of the geomembrane last year significantly lowered the leakage losses through the embankment (see figures 2 and 3, below).

Settlement monuments are surveyed every five years in conjunction with the consultant's safety inspection. There were no significant settlements reported in the recent consultant's safety inspection.

Elongation of the 10-foot high parapet wall around the rim of the reservoir was monitored in earlier Part 12D reports by measuring and summing joint gaps in the parapet wall between each of the 111 panels. The movements were found to fall within normal tolerances due to temperature variation by the 1988 Part 12D report. Elongation readings are no longer taken.

The licensee also maintains eight piezometers in the gallery of the lower dam and monitors them twice a year. During this inspection, we reviewed piezometer readings for the past several years and found uplift pressures to fall within normal ranges (see Figure 1, below).



	2000	2000	2001	2001	2002	2003	2003	2004	2004	2005
	706.0	705.0	705.0	705.0	705.0	705.0	705.0	706.0	707.0	706.5
	748.5	738.6	744.2	737.4	743.0	738.0	737.7	741.8	738.5	741.1
1	712.9	713.5	713.7	714.6	710.4	714.5	718.7	711.1	714.5	712.1
2	712.2	714.7	712.4	712.9	720.0	715.2	714.7	707.5	707.7	713.9
3	712.1	715.9	714.0	714.4	709.0	713.8	710.3	702.7	703.8	714.8
4	718.8	716.3	714.3	714.4	703.3	714.7	718.8	703.3	703.5	713.9
5	706.6	715.3	713.7	717.6	704.4	712.7	712.8	712.8	712.8	711.5
6	709.5	711.6	711.2	713.2	698.9	706.5	709.5	697.3	709.1	707.6
7	713.9	708.5	711.2	712.2	711.8	714.2	711.5	708.3	708.6	713.9
8	714.0	714.0	714.0	714.0	714.0	714.0	717.3	714.0	706.5	714.0

Figure 1 – Piezometer readings at the lower dam.

The licensee recently took soundings in the tailrace area near the gravel trap dam. This area is periodically dredged to prevent from forming of a sediment dam at the outlet of the tailrace channel. No significant problems were noted. The area below the Lower Dam was sounded last fall. The results will be included in the next P12. An instrumentation inspection was conducted in 1998. The instrumentation program was satisfactory; however, we requested that some modifications be made pertaining to the recording and data reduction methods. This has been implemented by the licensee.

No unusual instrumentation readings were reported. The licensee is continuing to monitor flow from the tunnel's annular space. We requested that they also monitor flow exiting the slope above the tunnel. Other than those items discussed above, the licensee's instrumentation program was acceptable.

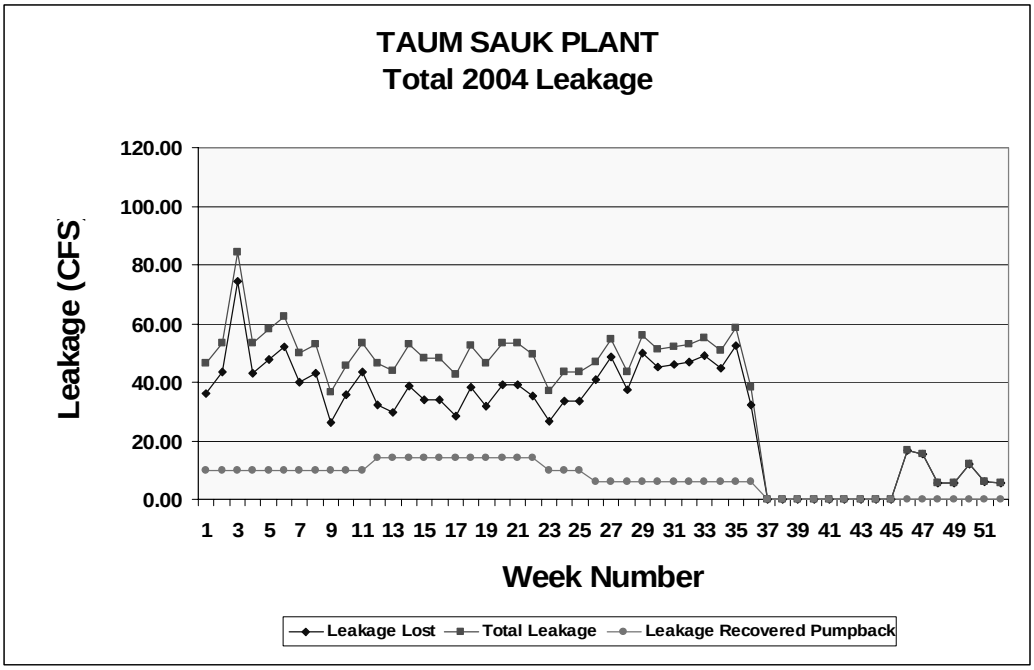


Figure 2 - Total leakage 2004.

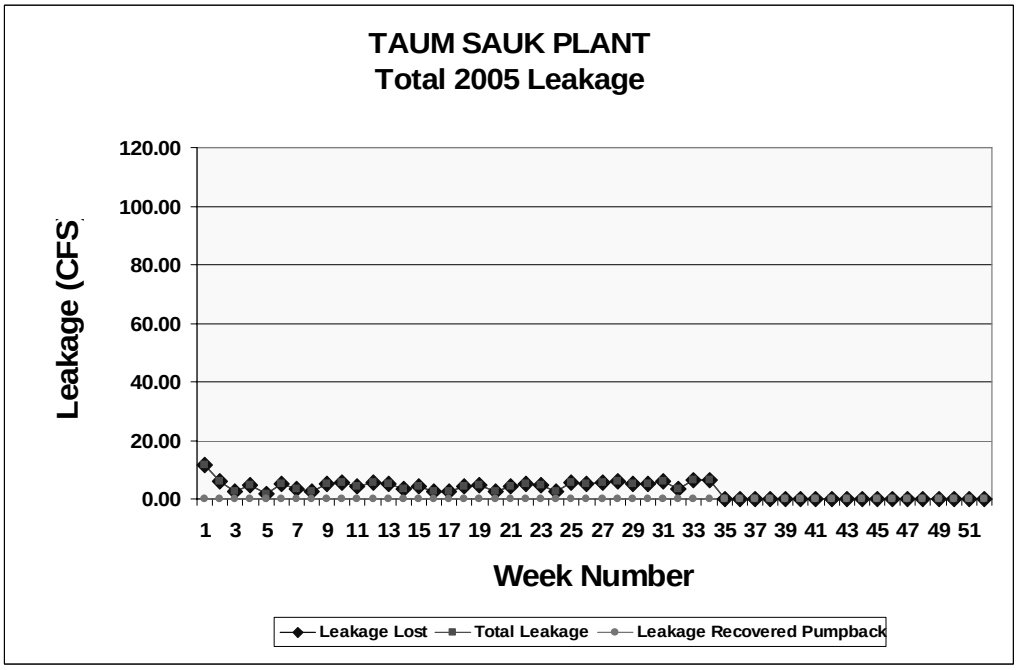


Figure 3 - Total leakage 2005.

6. Licensee's Inspection Program

There have been no changes to the licensee's inspection program during this reporting period. The project is not manned 24 hours a day, but is monitored remotely 24/365 by operators at Bagnell Dam (Osage Project No. 459), which is continuously manned. The Plant Superintendent visits the structures at least once a week. On-site personnel drive the area at least twice a day and security personnel patrol the area daily from 9:00 to 19:00. An independent consultant performs an inspection every 5-years. Although the licensee will lose two employees this year, the inspection program will not be affected. The licensee's inspection program is satisfactory

7. Emergency Action Plan

An update to the Emergency Action Plan, dated December 31, 2004 was filed on January 3, 2005. An update of the notification flow chart showing the changes in the emergency contact information was submitted by letter dated August 24, 2005.

The latest notification list was available in the plant superintendent's office. A copy is also kept in the control room of the licensee's Osage Project (FERC No. 459) which is manned 24 hours a day. Operators are trained in EAP procedures once a year, and a training log is kept in the Osage control room. The plant superintendent lives on site and each year checks for new development downstream. During our interview, the licensee demonstrated knowledge of actions required by the EAP, and his responsibilities in carrying out the plan. The flood inundation maps appeared adequate, with flood wave arrival times and structures that could potentially be impacted identified; however, the EAP is based on estimates done in 1988 that did not use state of the art computer modeling. The licensee will be asked in the follow-up letter to update the dam break analysis that is the basis for the EAP and to resubmit it together with the revised EAP by December 31, 2006.

Following the inspection, the Reynolds County, Missouri Emergency Management Agency (EMA – 648.2494, Ext 10) had been contacted to review the coordination/cooperation between the licensee and the EMA. We spoke with Ms. Renee Horn, Acting Emergency Management Director. Ms. Horn reported no communication flaws and had no suggestions for improvement at this project. Ms. Horn stated the licensee is doing a good job of maintaining, updating, and coordinating the Emergency Action Plan.

8. Status of Part 12D Reports

The licensee filed the eighth Consultant Safety Inspection Report (CSIR), dated August 2003, with the Regional Engineer on August 26, 2003. His plan and schedule to address each of the actions recommended by the consultant was filed with the report. We reviewed the report and the licensee's plan and schedule to address the consultant's recommendations and found that the report met the requirements of our regulations. By letter dated November 19, 2004, we informed the licensee of our findings, and made several recommendations of our own to be addressed either immediately or in the next Consultant's Safety Inspection Report, due November 1, 2008. By letter dated December 20, 2004, the licensee provided revisions to the instrumentation data and also a plan and schedule for addressing the recommendations contained in our November 19, 2004 letter. We accepted the licensee's plan and schedule by letter dated April 6, 2005.

9. Status of Previous Operation Inspection

Our previous operation inspection was conducted on September 30, 2004. The report was filed on December 23, 2004. We found that the licensee continued an effective program of inspection and maintenance of the dam. The structures appeared to be in satisfactory condition with no deficiencies affecting dam safety. We requested no remedial action as a result of that inspection.

10. Records

Operating data, copies of instrumentation data and plans of the project structures are kept in the superintendent's office in the powerhouse. Both hardcopy printouts and electronic backup files are maintained. Copies of electronic records are maintained at the licensee's Osage Plant and at the Taum Sauk Plant. Completed maintenance is recorded on work orders and the licensee is in the process of creating an electronic database tracking system. The licensee's maintenance of records meets the requirements of Section 12.12 of the Commission's regulations.

C. ENVIRONMENTAL REQUIREMENTS

The last Environmental and Public Use Inspection was completed on June 17, 2003. In our follow-up letter we found that the licensee was in compliance and that public safety items were in conformance with the public safety plan. We requested no remedial action as a result of the inspection. The report summarizes all of the environmental requirements of the license articles.

The licensee appeared to be in compliance with minimum flow requirements and Run-of-River operation for the lower.

D. PUBLIC SAFETY

The lower reservoir boat barrier was in-place at the time of our inspection and appeared to be in good condition. The licensee maintains fences to restrict public access to the project and has posted large warning signs on the lower reservoir dam, facing upstream and downstream. The signs are illuminated at night. The licensee has posted many signs in the recreation area on the lower reservoir, warning of possible rising waters and swift currents due to plant operations. Other signage and lighting was functional as shown on the latest update of the Public Safety Plan that was submitted by letter dated October 25, 2005.

No accidents or deaths occurred during this reporting period.

E. PROJECT COMPLIANCE

1. Unauthorized Project Modification or Uses. None during the reporting period.

2. License Compliance. Based on review of all available information and our field inspection, the licensee has been in compliance with license requirements during this reporting period.

F. FINDINGS AND FOLLOW-UP ACTIONS

At the time of our inspection we found no dam safety deficiencies that would require immediate remediation.

Project security was discussed during the current Operation Inspection and any follow-up was provided as needed. The vulnerability assessment for this project, as well as the plan and schedule for any recommendations, was also reviewed during this inspection and appears to be adequate. We made, however, the following recommendations:

1. Excessive vegetation was noted on the crest of the gravel trap dam. The licensee was asked to include vegetation control on this structure in their regular annual maintenance program of the project.

2. The Public Safety Plan, dated October 2005, submitted by letter dated October 25, 2005, was reviewed and found acceptable.

3. The Emergency Action Plan (EAP) at the project was found to be outdated. The EAP is based on estimates done in 1988 that did not use state-of-the-art computer modeling. In addition, it is very likely that downstream development changed since the time the inundation maps were developed. Therefore the licensee was asked to submit by February 28, 2006 a plan and schedule for updating the dam break analysis, inundation maps, etc, contained in the EAP to conform with Chapter 6 of the Commission's Engineering Guidelines.

42 photographs and 1 Exhibit, follow

Taum Sauk Hydroelectric Project, No. 2277
August 25, 2005 Operation Inspection

Photograph 1 - View downstream of the upper dam.

Photograph 2 - View downstream of the lower dam.

Taum Sauk Hydroelectric Project, No. 2277
August 25, 2005 Operation Inspection

Photograph 3 - View downstream of the powerhouse.

Photograph 4 - The upstream reservoir.

Taum Sauk Hydroelectric Project, No. 2277
August 25, 2005 Operation Inspection

Photograph 5 - The rockfill upper dam.

Photograph 6 - The 10-foot parapet wall that crowns the embankment.

Taum Sauk Hydroelectric Project, No. 2277
August 25, 2005 Operation Inspection

Photograph 7 - Same as the above, different view.

Photograph 8 - Same as the above.

Taum Sauk Hydroelectric Project, No. 2277
August 25, 2005 Operation Inspection

Photograph 9 - Sealed cracks in the parapet wall.

Photograph 10 - Repairs of deteriorated concrete made over the years.

Taum Sauk Hydroelectric Project, No. 2277
August 25, 2005 Operation Inspection

Photograph 11 – Drainage ditches surrounding the toe of the upper dam.

Photograph 12 - Crack along the apex of the concrete lined access tunnel.

Taum Sauk Hydroelectric Project, No. 2277
August 25, 2005 Operation Inspection

Photograph 13 - Bulkhead gate at the access tunnel.

Photograph 14 - The collection pond.

Taum Sauk Hydroelectric Project, No. 2277
August 25, 2005 Operation Inspection

Photograph 15 – The pumping station.

Photograph 16 - General view of the lower dam.

Taum Sauk Hydroelectric Project, No. 2277
August 25, 2005 Operation Inspection

Photograph 17 - The lower reservoir – note the boat restraining barrier.

Photograph 18 - The crest of the lower dam.

Taum Sauk Hydroelectric Project, No. 2277
August 25, 2005 Operation Inspection

Photograph 19 - The downstream face of the lower dam.

Photograph 20 - The left abutment of the concrete dam.

Taum Sauk Hydroelectric Project, No. 2277
August 25, 2005 Operation Inspection

Photograph 21 - Sluiceway outlet at the left side of the dam.

Photograph 22 – The operator's deck, lower gates, and microwave tower.

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Photograph 23 - Close-up view of the left upstream abutment.

Photograph 24 – The access deck.

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Photograph 25 - Inspection gallery in the lower dam.

Photograph 26 - Same as the above.

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Photograph 27 - The concrete appears in very good condition.

Photograph 28 – The gravel trap dam.

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Photograph 29 - Same as the above – note excessive vegetation.

Photograph 30 - The powerhouse area.

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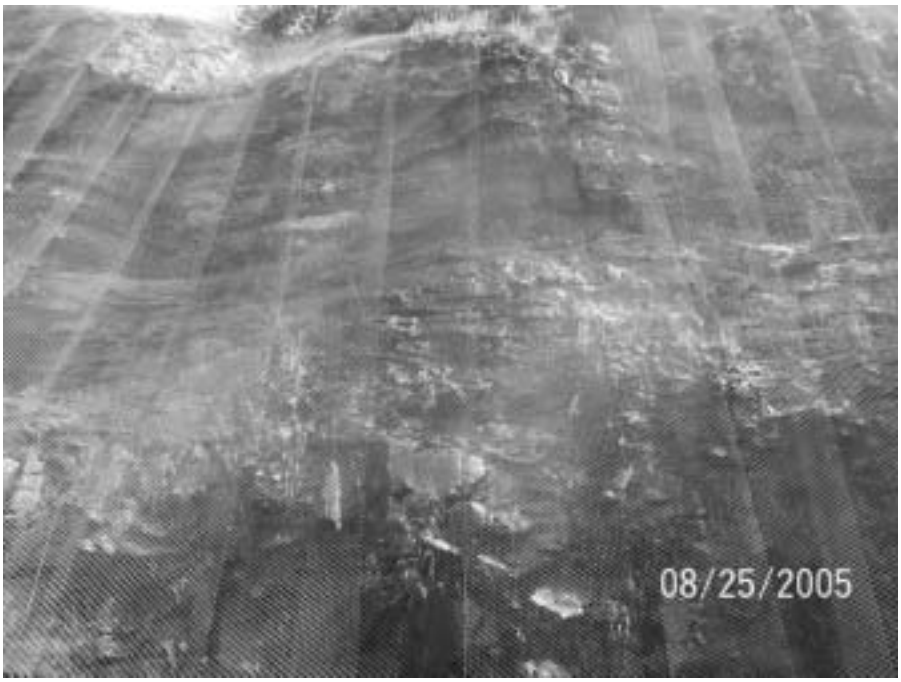
Photograph 31 - Same as the above.



Photograph 32 – Same as the above.

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Photograph 33 – The pump/generating units.

Photograph 34 - The penstock portal area.

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Photograph 35 - The generator shaft.

Photograph 36 – The penstock.

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Photograph 37 – Crack around unit housing.

Photograph 38 – The area around the penstock and head wall.

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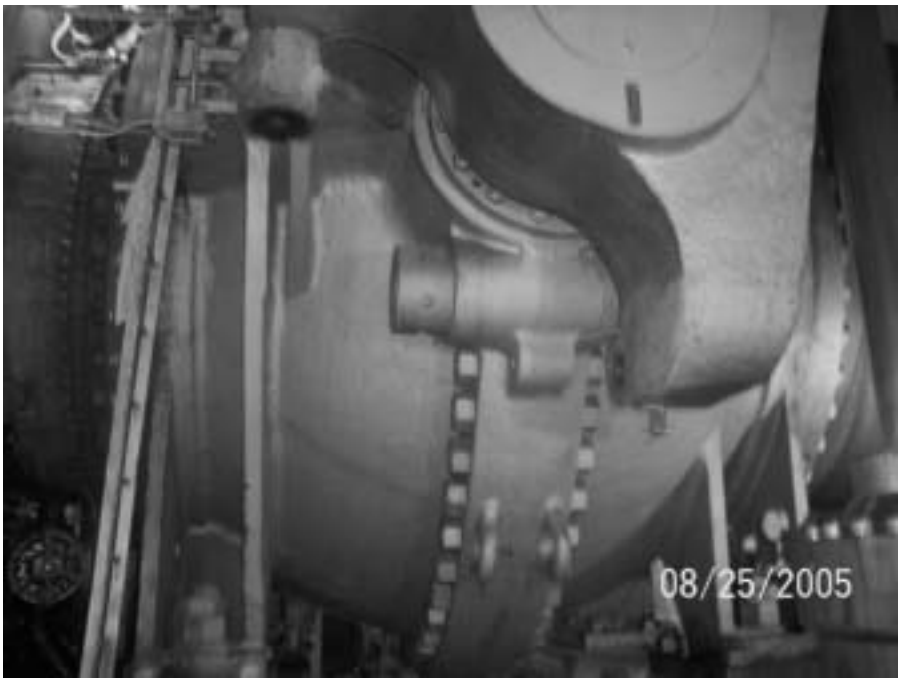
Photograph 39 – Unit head valve.



Photograph 40 – Same as the above.

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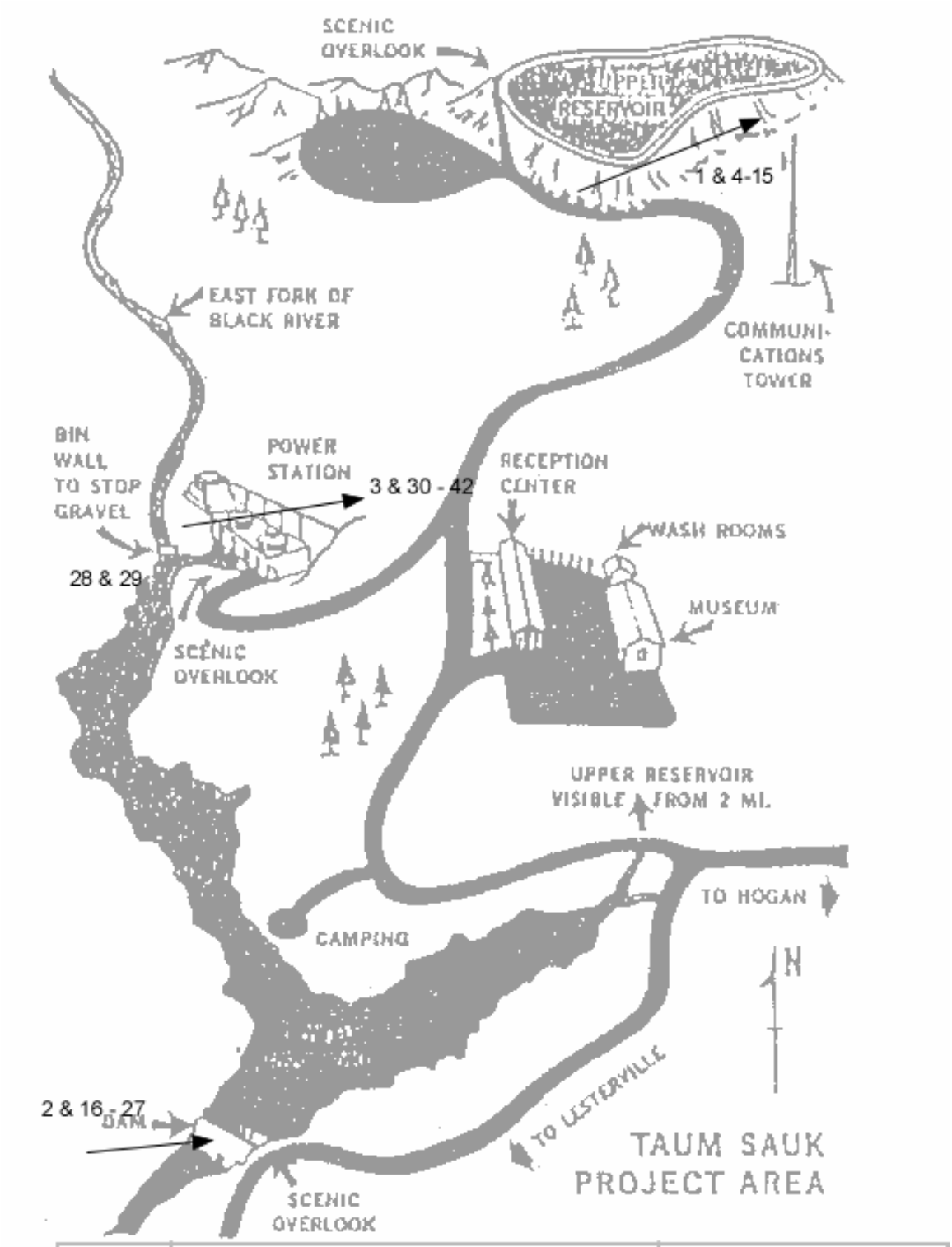
Photograph 41 - The sump pump collection pit.

Photograph 42 - The auxiliary unit.



DATE: 082505	TITLE: Taum Sauk - Project Area Operation Inspection	EXHIBIT 1 PROJECT No. 2277 CRO-D2SI-FERC