

PROPOSED CERTIFICATION LETTER TO BE ISSUED
IF APPROVED AFTER PUBLIC NOTICE AND REVIEW BY DEPARTMENT SECRETARY
(ARSD 74:51:01:63) AND, IF REQUIRED, HEARING UNDER ARSD ch.74:50:02

, 2009

Cheryl Johnson
City of Spearfish
625 Fifth Street
Spearfish, SD 57783

RE: 401 Certification for city of Spearfish's Hydroelectric Project (FERC Project No. 12775)

Dear Ms. Johnson:

The South Dakota Department of Environment and Natural Resources (DENR) has received a request for Section 401 Water Quality Certification from the city of Spearfish. The request was submitted in support of the Federal Energy Regulatory Commission Licensing of the Spearfish Hydroelectric Project. The certification is required pursuant to Section 401 of the federal Clean Water Act and the Administrative Rules of South Dakota (ARSD) 74:51:01:63, et. seq..

The South Dakota Department of Environment and Natural Resources (DENR) has completed its review of the request for water quality certification for a Federal Energy Regulatory Commission (FERC) license for the city of Spearfish's Hydroelectric Project, Project No. 12775, in Lawrence County, South Dakota. Discharges from this Project influence the water quality and beneficial uses of portions of Spearfish Creek. Conditions imposed in this certification address water quality effects the Project will have on Spearfish Creek. Section 401 of the federal Clean Water Act requires this review before a federal permit or license is granted.

This letter will serve as certification by the State of South Dakota pursuant to the provisions of Section 401 of the federal Clean Water Act. If the city of Spearfish complies with the terms and conditions set forth in this 401 certification, there is reasonable assurance the operation of the hydroelectric power plant will comply with the applicable requirements of Sections 301, 302, 306, and 307 of the federal Clean Water Act and the South Dakota Surface Water Quality Standards.

The Spearfish Hydroelectric Project is an existing project located on Spearfish Creek in Lawrence County, South Dakota. The project was constructed by Homestake Mining Company in the early 1900s and is currently owned and operated by the city of Spearfish. Up to 120 cubic feet of water per second (cfs) is diverted from Spearfish Creek at an area known as Maurice located in the NW ¼, SE ¼, Section 8, T5N, R2E. The water travels approximately 4.5 miles through an aqueduct to a

forebay dam where water is then conveyed under pressure to a hydroelectric powerhouse located in the NE ¼, SE ¼ Section 15, T6N, R2E, in the city of Spearfish where electricity is generated. The reach of Spearfish Creek where flows have historically been bypassed by this aqueduct is referred to here as the “upstream reach.” The water is released back into Spearfish Creek at the powerhouse. Spearfish Creek at the powerhouse to its confluence with the Redwater River (“downstream reach”) has the following beneficial uses: domestic water supply waters, coldwater permanent fish life propagation waters; immersion recreation waters, limited-contact recreation waters; fish and wildlife propagation, recreation, and stock watering waters; and irrigation waters.

Current operation of the diversion dam at Maurice is to divert all flow up to 120 cfs in Spearfish Creek into the aqueduct to feed the hydroelectric plant. Flows in Spearfish Creek in excess of 120 cfs remain in Spearfish Creek. The city of Spearfish is proposing to modify the existing operation of the hydroelectric project by releasing at Maurice three cfs during the irrigation season and six cfs during the non-irrigation season, with a provision for suspending releases under low flow conditions, to be defined by DENR. Spearfish Creek from Maurice to the Spearfish City intake dam (upstream reach) has the following beneficial uses: coldwater permanent fish life propagation waters; limited-contact recreation waters; fish and wildlife propagation, recreation, and stock watering waters; and irrigation waters. There is a natural loss zone below the Spearfish City intake which diminishes flow by 20-25 cfs according to the United States Geologic Survey. DENR is proposing to define the low flow conditions at Maurice as 40 cfs or less based on readings during each business day of stream flow as measured at the USGS gaging station 06431500 at Spearfish during the months of May through September. Therefore, the three cfs releases at Maurice will be suspended if Spearfish Creek falls below 40 cfs to protect downstream water quality standards and beneficial uses of Spearfish Creek that flow through and downstream of the city of Spearfish (downstream reach).

DENR reviewed flow data from United States Geologic Survey (USGS) gaging stations located on Spearfish Creek to determine the low flow condition when by-pass releases should be discontinued. The conclusion reached by the analysis concluded that the by-pass flow of 3 cfs should be discontinued when flows drop to 40 cfs in Spearfish Creek measured at the USGS station in Spearfish during the months of May through September. See the attached report *City of Spearfish FERC Application – Proposed Bypass Flow Release Provision for Suspension of Bypass Release under Low Flow Conditions*. DENR also determined that there was no low flow suspension necessary for the 6 cfs bypass flow from October 1 through April 30.

In reviewing the city of Spearfish’s application for 401 Water Quality Certification, DENR considered the following:

1. The current beneficial uses of Spearfish Creek and corresponding water quality standards in ARSD 74:51:03:10 were first developed and adopted based on the conditions in Spearfish Creek in 1967. The latest changes to these designated beneficial uses occurred in March 2009 when the segment of Spearfish Creek from the Spearfish City intake to Maurice was upgraded to a coldwater permanent fishery. These beneficial uses and corresponding water quality standards were developed and adopted based on the historic, current, and consistent operation of the hydroelectric power plant. The proposed change

to the operation of bypassing 3 cfs during the irrigation season and 6 cfs during non-irrigation season is not expected to cause impairments of the creek's beneficial uses or violation of the South Dakota Surface Water Quality Standards if the 3 cfs bypass is terminated when flows in Spearfish Creek as measured at Spearfish (USGS gauging station 06431500 at Spearfish) reach or drop below 40 cfs. If the project is not operated as proposed and the bypasses are not terminated at and below 40 cfs at Spearfish (USGS gauging station 06431500 at Spearfish), Section 401 Water Quality Certification cannot be issued by DENR.

2. The bypasses at Maurice proposed in the city of Spearfish 401 Certification request will enhance the aquatic and riparian habitats of the currently bypassed upstream reach while protecting the existing habitats and beneficial uses in the reach downstream of the power plant except during critical low flow conditions.
3. DENR has determined the critical low flow condition is 40 cfs or less as measured at Spearfish (USGS gauging station 06431500 at Spearfish) during the 3 cfs bypass from May 1 through September 30. No critical low flow condition is defined for October 1 through April 30 for the purpose of discontinuing the 6 cfs bypass release. DENR based its review on standard methods for analyzing water resources and found that if the proposed bypass is terminated when the flows at the Spearfish gage reach 40 cfs, the result is a reasoned approach to address the water quality concerns and allow for satisfaction of all downstream beneficial uses. The primary benefactor of the termination of the bypass water is the downstream fishery and recreation uses.

Pursuant to Administrative Rules of South Dakota (ARSD) 74:51:01:65, DENR grants Section 401 Water Quality Certification for the Hydroelectric Project, FERC Project No. 12775, with the following conditions:

1. The Hydroelectric Project, FERC Project No. 12775 must be operated as proposed in the 401 Water Quality Certification request from the city of Spearfish dated September 11, 2008, with a maximum of 3 cfs bypass during the irrigation season of May 1 through September 30 terminated at the low flow recommended by DENR Water Rights Program of 40 cfs as measured at Spearfish (USGS gauging station 06431500 at Spearfish), and a maximum of 6 cfs bypass from October 1 through April 30.
2. Based on historical records, any by-pass at Maurice must be suspended during low flow conditions or it may result in an impairment of fishery and recreational uses in the downstream reach during the period from May 1 to September 30.
3. The maximum flow release at Maurice into the bypassed reach of Spearfish Creek may be temporarily modified, if required for maintenance, equipment malfunction, or other operating emergency beyond the control of the city of Spearfish. The city shall document such occurrences and maintain documentation and records as set forth in Condition 6.
4. The city of Spearfish and/or its representative will be responsible for monitoring the flows in Spearfish Creek at the USGS gaging station at Spearfish (USGS 06431500). The flow must be checked each city business day.

5. When the flow in Spearfish Creek measured at the Spearfish gage (USGS 06431500) from May 1 through September 30 reaches 40 cfs or less, the 3 cfs bypass release at Maurice must be discontinued until such time as the flow returns to 43 cfs or more measured at the Spearfish gage.
6. The city of Spearfish will maintain the Spearfish Creek flow records and documentation of when the bypass is discontinued and re-started for the period of May 1 through September 30 of each year in Spearfish City Hall and make them available to the public upon request and DENR during normal business hours. Each record must be maintained for at least three years.
7. The city of Spearfish will compile the flow records and documentation of when the bypass is discontinued and re-started for the period of May 1 through September 30 each year and submit a report with this information to DENR, Surface Water Quality Program, by January 1 of the following year.

These conditions will become part of any license issued by the Federal Energy Regulatory Commission. This certification does not authorize the above referenced activity. The activity may occur only by authorization of the Federal Energy Regulatory Commission. If you have questions pertaining to this certification, please contact Patrick Snyder, at (605) 773-3351. Thank you for helping us comply with the requirements of the federal Clean Water Act.

Sincerely,

Steven M. Pirner, P.E.
Secretary