

DEPARTMENT OF ENVIRONMENTAL QUALITY
Environmental Assessment

Permitting and Compliance Division
Water Protection Bureau

Name of Project: Western Sugar Cooperative

Type of Project: sugar beet processing factory

Location of Project: T 15N, R 26E, Section 10

City/Town: Billings

County: Yellowstone

Description of Project:

The Western Sugar Cooperative (WSC) beet processing facility produces refined sugar from locally produced sugar beets. WSC applied for a renewed Montana Pollutant Discharge Elimination System (MPDES) permit for the discharge of process wastewater associated with sugar beet processing. The existing permit was issued in 1998 and expired in 2003. The Department administratively extended the MPDES permit in 2003.

The present facility has been in operation since 1906. The first MPDES permit was issued to WSC in 1974.

Process wastewater is produced from beet washing, juice purification, cooling water and ash ponds, and lime sludge. The permittee applied for three outfalls for the process wastewater. Outfall 001 and 002 are direct surface water discharges. Outfall 004 discharges from various factory site unlined wastewater ponds that infiltrate to ground water.

Agency Action and Applicable Regulations: The proposed action is to issue an individual MPDES permit that has effluent limits and effluent monitoring requirements. The permit is issued under the authority of the Montana Water Quality Act 75-5-101 *et seq.*, the Montana Pollutant Discharge Elimination System Standards and Permits Administrative Rules of Montana (ARM) 17.30.1201-1209 and ARM 17.30.1301-1387, and Montana Numeric Water Quality Standards in the Department Circular DEQ-7 (February 2008).

Summary of Issues: The purpose of this action is to regulate the discharges of pollutants to state waters from the regulated facility. Issuance of an individual permit will require the applicant to implement, monitor, and management practices to prevent pollution and degradation of groundwater.

Affected Environment & Impacts of the Proposed Project:

Y = Impacts may occur (explain under Potential Impacts).

N = Not present or No Impact will likely occur.

IMPACTS ON THE PHYSICAL ENVIRONMENT

RESOURCE	[Y/N] POTENTIAL IMPACTS AND MITIGATION MEASURES
1. GEOLOGY AND SOIL QUALITY, STABILITY AND MOISTURE: Are soils present which are fragile, erosive, susceptible to compaction, or unstable? Are there unusual or unstable geologic features? Are there special reclamation considerations?	[N] This facility has been located at this site for over 100 years. No changes are anticipated based on the proposed permit.
2. WATER QUALITY, QUANTITY AND DISTRIBUTION: Are important surface or groundwater resources present? Is there potential for violation of ambient water quality standards, drinking water maximum contaminant levels, or degradation of water quality?	<p>[Y] Discharges from WSC have created conditions which produce undesirable aquatic life in the Yegen Drain. Discharged wastewater is high strength organic waste that receives an average of 3 days under aeration for treatment before its discharged. The wastewater continues to degrade in the Yegen Drain and creates a hospitable living environment for “sewage fungus” (not a true fungal community). Sewage fungus is dominated by filamentous bacteria <i>Sphaerotilus natans</i> (New Zealand Institute of Chemistry), as well as fungi and protozoa, and is often associated with organic discharges (Scotland EPA). It usually forms feathery, cotton-wool-like growths on solid surfaces, including submerged vegetation, in streams and rivers that have high concentrations of dissolved organic compounds (US EPA). For further information, including specific references, please see the Fact Sheet.</p> <p>The ground water mixing zones approved in past MPDES and Montana Ground Water Pollution Control System (MGWPCS) permits have not adequately assessed the ambient ground water and protected its current and anticipated beneficial uses. A shorter source specific ground water mixing zone is proposed in the permit. Compliance points are used to assess ground water compliance of discharges from the lime ponds.</p> <p>An site specific EA was completed in 1992 for a MGWPCS permit renewal issued to WSC. The EA stated that WSC responded “to the information that pollutants are migrating off the permitted property boundary with an aggressive plant modification and data collection system to eliminate the source of pollution” to ground water. The lime ponds are identified as the largest contributor of pollutants to the ground water.</p>
3. AIR QUALITY: Will pollutants or particulate be produced? Is the project influenced by air quality regulations or zones (Class I airshed)?	[N] The permittee maintains an air quality permit issued by the Department, which has limits, monitoring, and reporting conditions.
4. VEGETATION COVER, QUANTITY AND QUALITY: Will vegetative communities be significantly impacted? Are any rare plants or cover types present?	[N] The WSC factory has been located at this site since 1906. No impacts to vegetation is anticipated.
5. TERRESTRIAL, AVIAN AND AQUATIC LIFE AND HABITATS: Is there substantial use of the area by important wildlife, birds or fish?	[N] The WSC factory has been located at this site since 1906. No impacts to life and/or habitats are anticipated.
6. UNIQUE, ENDANGERED, FRAGILE OR LIMITED ENVIRONMENTAL RESOURCES: Are any federally listed threatened or endangered species or identified habitat present? Any wetlands? Species of special concern?	[N] The WSC factory has been located at this site since 1906. No impacts to life and/or habitats are anticipated.

IMPACTS ON THE PHYSICAL ENVIRONMENT

7. HISTORICAL AND ARCHAEOLOGICAL SITES: Are any historical, archaeological or paleontological resources present?	[N] The WSC factory has been located at this site since 1906. No impacts to historical/archaeological sites are anticipated.
8. AESTHETICS: Is the project on a prominent topographic feature? Will it be visible from populated or scenic areas? Will there be excessive noise or light?	[N] The WSC factory has been located at this site since 1906. . No impacts based on aesthetics are anticipated.
9. DEMANDS ON ENVIRONMENTAL RESOURCES OF LAND, WATER, AIR OR ENERGY: Will the project use resources that are limited in the area? Are there other activities nearby that will affect the project? Will new or upgraded powerline or other energy source be needed)	[N] The WSC factory has been located at this site since 1906. No further environmental impacts or demands are anticipated.
10. IMPACTS ON OTHER ENVIRONMENTAL RESOURCES: Are there other activities nearby that will affect the project?	[N] No significant impacts have been identified during EA preparation.

IMPACTS ON THE HUMAN ENVIRONMENT

RESOURCE	[Y/N] POTENTIAL IMPACTS AND MITIGATION MEASURES
11. HUMAN HEALTH AND SAFETY: Will this project add to health and safety risks in the area?	[N] No significant impacts have been identified during EA preparation. The permit contains effluent limits that protect water quality and the receiving water beneficial uses, including human health.
12. INDUSTRIAL, COMMERCIAL AND AGRICULTURAL ACTIVITIES AND PRODUCTION: Will the project add to or alter these activities?	[N] No significant impacts have been identified during EA preparation.
13. QUANTITY AND DISTRIBUTION OF EMPLOYMENT: Will the project create, move or eliminate jobs? If so, estimated number.	[N] No significant impacts have been identified during EA preparation.
14. LOCAL AND STATE TAX BASE AND TAX REVENUES: Will the project create or eliminate tax revenue?	[N] No significant impacts have been identified during EA preparation.
15. DEMAND FOR GOVERNMENT SERVICES: Will substantial traffic be added to existing roads? Will other services (fire protection, police, schools, etc.) be needed?	[N] No significant impacts have been identified during EA preparation.
16. LOCALLY ADOPTED ENVIRONMENTAL PLANS AND GOALS: Are there State, County, City, USFS, BLM, Tribal, etc. zoning or management plans in effect?	[N] No significant impacts have been identified during EA preparation.
17. ACCESS TO AND QUALITY OF RECREATIONAL AND WILDERNESS ACTIVITIES: Are wilderness or recreational areas nearby or accessed through this tract? Is there recreational potential within the tract?	[N] No significant impacts have been identified during EA preparation.
18. DENSITY AND DISTRIBUTION OF POPULATION AND HOUSING: Will the project add to the population and require additional housing?	[N] No significant impacts have been identified during EA preparation.

IMPACTS ON THE HUMAN ENVIRONMENT	
RESOURCE	[Y/N] POTENTIAL IMPACTS AND MITIGATION MEASURES
19. SOCIAL STRUCTURES AND MORES: Is some disruption of native or traditional lifestyles or communities possible?	[N] No significant impacts have been identified during EA preparation.
20. CULTURAL UNIQUENESS AND DIVERSITY: Will the action cause a shift in some unique quality of the area?	[N] No significant impacts have been identified during EA preparation.
21. OTHER APPROPRIATE SOCIAL AND ECONOMIC CIRCUMSTANCES:	[N] No significant impacts have been identified during EA preparation.
22(a). PRIVATE PROPERTY IMPACTS: Are we regulating the use of private property under a regulatory statute adopted pursuant to the police power of the state? (Property management, grants of financial assistance, and the exercise of the power of eminent domain are not within this category.) If not, no further analysis is required.	[N] No significant impacts have been identified during EA preparation.
22(b). PRIVATE PROPERTY IMPACTS: Is the agency proposing to deny the application or condition the approval in a way that restricts the use of the regulated person's private property? If not, no further analysis is required.	[N/A] see 22 a.
22(c). PRIVATE PROPERTY IMPACTS: If the answer to 21(b) is affirmative, does the agency have legal discretion to impose or not impose the proposed restriction or discretion as to how the restriction will be imposed? If not, no further analysis is required. If so, the agency must determine if there are alternatives that would reduce, minimize or eliminate the restriction on the use of private property, and analyze such alternatives. The agency must disclose the potential costs of identified restrictions.	[N/A] see 22 a.

23. Description of and Impacts of other Alternatives Considered:

A. No Action: Under the 'No Action' alternative the Department would not reissue an individual ground water discharge permit under the Montana Ground Water Pollution Control System administrative rules.

B. Approval with modification: The Department has not identified any necessary modifications to grant approval.

24. Summary of Magnitude and Significance of Potential Impacts: Impacts were assessed with the assumption that the permittee will comply with the terms and conditions of the permit. Violations of the permit could lead to significant adverse impacts to state waters. In preparing permit effluent limits, the Department has taken steps to ensure that beneficial uses of the receiving water are preserved and exceedance of water quality standards will not occur, which includes that the discharge will remain "nonsignificant",

as required by ARM 17.30.subchapter 7 “Nondegradation of Water Quality”. The Department provides assistance to applicants in understanding and implementing the requirements of the permit and conducts periodic inspections of permitted facilities, where potential problems with design or management practices might be identified. If violations of the permit do occur, the Department will take appropriate action under the water quality act (Section 75-5-617, MCA). Enforcement sanctions for violations of the permit include injunctions, civil and administrative penalties, and cleanup orders.

25. Cumulative Effects: The issuance of this individual MPDES discharge permit would not have cumulative effects because the permit limits are based on state standards. The permit prohibits pollution and degradation of state waters.
26. Preferred Action Alternative and Rationale: The preferred action is to issue the individual MGWPCS discharge permit. This action is preferred because the permit provides a regulatory mechanism for protecting ground water quality by applying effluent limits and monitoring requirements to the discharged wastewater.

Recommendation for Further Environmental Analysis:

EIS More Detailed EA No Further Analysis

Rationale for Recommendation:

27. Public Involvement: A 30-day public comment period will be from June 29 through July 29, 2009. A public hearing is not scheduled.
28. Persons and agencies consulted in the preparation of this analysis:
State Historic Preservation Office
Montana Natural Heritage Program

EA Checklist Prepared By:

Rebecca Ridenour

June 17, 2009

Approved By:

Jenny Chambers, Chief
Water Protection Bureau

Date