FACT SHEET

July 31, 2003

NPDES Permit Number: ID0026654

Public Notice Start Date: **August 1, 2003**
Public Notice Expiration Date: **September 2, 2003**

Technical Contact: Sharon Wilson, 206-553-0325
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The U.S. Environmental Protection Agency (EPA)
Proposes to Issue a Wastewater Discharge Permit to:

Magic Valley Produce, Inc.
P.O. Box 730
Paul, Idaho 83347

and

the State of Idaho Proposes to Certify the Permit

EPA Proposes NPDES Permit Issuance

EPA proposes to issue an National Pollutant Discharge Elimination System (NPDES) permit to the Magic Valley Produce, Inc. The draft permit sets conditions on the discharge of pollutants from Magic Valley Produce to the Main Drain in Paul, which discharges to the Snake River. In order to ensure protection of water quality and human health, the permit places limits on the types and amounts of pollutants that can be discharged.

This Fact Sheet includes:

- information on public comment, public hearing, and appeal procedures
- a description of the current discharge
- a listing of proposed effluent limitations and other conditions
- a map and description of the discharge location
- background information supporting the conditions in the draft permit

The State of Idaho Proposes Certification

The Idaho Department of Environmental Quality (IDEQ) proposes to certify the NPDES permit for the Magic Valley Produce under provisions of Section 401 of the Clean Water Act.

Public Comments on the Draft Permit

Persons wishing to comment on the draft permit or to request a public hearing must do so, in writing, by the expiration date of the public notice. A request for a public hearing must state the nature of the issues to be raised as they relate to the permit, as well as the requester's name, address, and telephone number. All comments and requests for public hearing must be submitted to EPA as described in the Public Comments section of the attached public notice.

If no significant comments are received during the public comment period, the proposed conditions in the draft permit will be included in the final permit and will become effective upon issuance of the permit.

Any significant comments will be considered before EPA Region 10's Director of the Office of Water makes a final decision regarding permit issuance. EPA will address significant comments when it issues the permit. In such a case, the permit will become effective 33 days after the issuance date, unless a request for an appeal is filed with the Environmental Appeals Board within 30 days.

Public Comment on the State Preliminary 401 Certification

The Idaho Department of Environmental Quality (IDEQ) provides the public with the opportunity to review and comment on preliminary 401 certification decisions. Any person may request in writing that IDEQ provide that person notice of IDEQ's preliminary 401 certification decision, including, where appropriate, the draft certification. Persons wishing to comment on the preliminary 401 certification should submit written comments by the public notice expiration date to the Idaho Department of Environmental Quality (IDEQ), Twin Falls Regional Office, 601 Pole Line Road, Suite 2, Twin Falls, ID 83301-3035.

Documents are Available for Review

The draft NPDES permit and related documents can be reviewed or obtained by visiting or contacting EPA's Regional Office in Seattle between 8:30 a.m. and 4:00 p.m., Monday through Friday (see address below).

United States Environmental Protection Agency
Region 10
1200 Sixth Avenue, OW-130
Seattle, Washington 98101
(206) 553-0523 or
1-800-424-4372 x0523 (within Alaska, Idaho, Oregon, and Washington)

The fact sheet and draft permit are also available at:

EPA Idaho Operations Office
1435 North Orchard Street
Boise, Idaho 83706
(208) 378-5746

Idaho Department of Environmental Quality
Twin Falls Regional Office

601 Pole Line Road, Suite 2
Twin Falls, Idaho 83301-3035
(208) 736-2190

Burley Public Library
1300 Miller Avenue
Burley, Idaho 83318
(208) 878-7708

The draft permit and fact sheet can also be found by visiting the Region 10 website at http://www.epa.gov/r10earth.htm.

For technical questions regarding the permit or fact sheet, contact Sharon Wilson at the phone number or e-mail address at the top of this fact sheet. Those with impaired hearing or speech may contact a TDD operator at 1-800-833-6384 (ask to be connected to Sharon Wilson at the above phone number). Additional services can be made available to a person with disabilities by contacting Sharon Wilson.

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LIST OF ACRONYMS

AML	Average monthly limit
BMP	Best Management Practices
BOD_5	biochemical oxygen demand (a measure of the organic matter)
BPJ	Best Professional Judgement
CFR	Code of Federal Regulations
cfs	cubic feet per second
CV	coefficient of variation
CWA	Clean Water Act
DDT	dichlorodiphenyltrichloroethane
DMR	Discharge Monitoring Report
EPA	U.S. Environmental Protection Agency
ESA	Endangered Species Act
gpd	gallons per day
IDAPA	Idaho Administrative Procedures Act
IDEQ	Idaho Department of Environmental Quality
MDL	maximum daily limit
mg/l	milligrams per liter
ml	milliliter
MVP	Magic Valley Produce
N	nitrogen
NH_3	ammonia
NOAA	National Oceanic and Atmospheric Administration
NPDES	National Pollutant Discharge Elimination System
pH	a measure of the acidity or alkalinity of a solution
QAP	Quality Assurance Plan

su	Standard Unit *(for measuring pH; 7=neutral; <7=acid; >7= alkaline)*
TKN	total Kjeldahl nitrogen
TMDL	Total Maximum Daily Load
TP	total phosphorus
TSD	*Technical Support Document for Water Quality-Based Toxics Control*
TSS	Total Suspended Solids
WLA	wasteload allocation
WQBEL	water quality based effluent limit
WQLS	water quality limited segment

I. FACILITY INFORMATION

A. Applicant

Name: **Magic Valley Produce, Inc**.

NPDES Permit No.: **ID-002665-4**

Mailing Address: **P.O. Box 730**
Paul, Idaho 83347

Facility Location: **322 North Main Street** (see Appendix A)
Paul, Idaho

Facility Contacts: **Peter C. Delis, President**
Dean Gibson, Comptroller
(208) 438-8059

B. Business Activity

Magic Valley Produce (MVP) washes, sorts, sizes, and packages whole raw potatoes on a year-round basis at this facility. The pollutants of concern are total suspended solids (TSS), total phosphorus (TP), E.coli, and pH.

C. Facility Background

EPA first received a permit application from Magic Valley Potato Shippers on December 2, 1987, for a discharge to begin in June 1988. The outfall described in the 1987 application was to the Main Drain (Drain) two miles east of Paul. Because of low priority assigned to the discharge, EPA Region 10 did not issue a permit at that time.

In May 2002, the Idaho Department of Environmental Quality (IDEQ) received a complaint about the MVP discharge, to which it responded by sampling the outfall from MVP and the water in the Main Drain above and below the outfall. Analysis showed levels of total suspended solids (TSS) and Total Phosphorus (TP) in the MVP discharge at 6600 mg/l and 19.6 mg/l, respectively.

EPA received a second application, this one from MVP, on July 24, 2002. MVP currently discharges wastewater produced from washing potatoes. The wastewater (also called effluent) is usually discharged eight hours per day at an average flow rate of 20 gallons per minute; occasionally, the effluent is discharged for ten hours in a day. The effluent is discharged to the Main Drain on the north side of the town of Paul, on the east side of North Main Street (600 West).

The Main Drain is an irrigation canal that also carries agricultural return flows to the Snake River approximately eight miles downstream of the MVP outfall and has a year round flow. Therefore, it is assumed that the MVP discharge can reach the Snake River and could impact its water quality as well as that of the water in the Drain itself.

II. RECEIVING WATER

A. Location of Discharge

The permittee discharges from Outfall 001, located at latitude: N 42˚ 36' 38" and longitude: W 113˚ 47' 01", to the Main Drain, a man-made canal operated by the Minidoka Irrigation District (District). From the point of discharge, the Main Drain flows west and south about eight miles to discharge into the Snake River at approximately River Mile 646.5 (in the *Heyburn/Burley Bridge to Milner-Gooding Canal* segment of the Lake Walcott subbasin). During the irrigation season, the effluent mixes with a flow of unknown quantity in the Main Drain; the flow is augmented by additional irrigation return flows in the eight miles downstream of MVP's discharge. In addition, in the same stretch, twenty private pumps and two Minidoka Irrigation District pumps remove an unknown quantity of water from the canal for irrigation and livestock watering. As a result, flows measured by the Minidoka Irrigation District at a monitoring station about a mile upstream of the Main Drain's discharge into the Snake River are influenced by numerous additions and withdrawals downstream of the MVP discharge.

According to the District, the flow in the Drain at the monitoring station ranges from less than 4 cubic feet per second (cfs) to 59 cfs, with an average of 30 cfs during the April through October irrigation season and in the 20 to 25 cfs range during the rest of the year. (It should be noted that the range during the non-irrigation season is based on estimates by Minidoka Irrigation District employees rather than on actual flow measurements.)

B. Water Quality Standards

A State's water quality standards are composed of use classifications, numeric and/or narrative water quality criteria, and an anti-degradation policy. The State designates the beneficial uses for which each water body is protected. The State further designates the numeric and/or narrative water quality criteria necessary to protect the beneficial uses for which its water bodies are protected. A third component of the water quality standard is the State's anti-degradation policy, which aims to maintain existing in-stream uses and the level of water quality necessary to protect them.

MVP discharges to the Main Drain, a constructed irrigation canal, whose purpose is agricultural water supply. IDAPA §58.01.02.101.02 of the Idaho's Water Quality Standards and Wastewater Treatment Requirements specifies that man-made waterways are to be protected for the use for which they were developed. IDAPA §58.01.02.003.58 defines *man-made waterways* as "canals, flumes, ditches, and similar features constructed, for the purpose of water conveyance." Therefore, the Main Drain, a man-made waterway, must be protected for agricultural water supply. IDAPA §58.01.02.252.02 specifies the use of *Water Quality Criteria 1972 ("Blue Book"), Section V. Agricultural Uses of Water* when developing specific criteria to protect waters designated as agricultural water supplies.

Idaho water quality standards for the segment of the Snake River into which the Main Drain flows were considered in developing applicable effluent limitations for the MVP discharge. Idaho water quality standards (IDAPA 58.01.02.150.11) specify the following beneficial uses for the Snake River in the segment from *Heyburn/Burley Bridge to Milner-Gooding Canal*, which receives the discharge from the Main Drain: warm water biota and primary contact recreation.

Idaho water quality standards (IDAPA 58.01.02.100) specify that all surface waters of the state are to be protected for agricultural water supply (see above), industrial water supply, wildlife habitat and aesthetics. Idaho water quality standards (IDAPA 58.01.02.252.03, 253.01 and 253.02) specify that water quality criteria for industrial water supplies, wildlife habitats and aesthetics will generally be satisfied by the general water quality criteria set forth in IDAPA 58.01.02.200.

Section III of this fact sheet shows in more detail how the Idaho water quality standards were considered in developing limits and conditions proposed in the draft permit.

C. Water Quality Limited Segment

In accordance with section 303(d) of the Clean Water Act, the state of Idaho must identify state waters not achieving water quality standards in spite of application of technology-based controls

in the NPDES permits for point sources. Such waterbodies are known as water quality limited segments (WQLSs). A water quality limited segment is any water body or definable portion of a water body where it is known that water quality does not meet applicable water quality standards and/or is not expected to meet applicable water quality standards. The *Heyburn/Burley Bridge to Milner-Gooding Canal* segment of the Snake River has been listed as a WQLS for nutrients, sediment, oil and grease, low dissolved oxygen, and flow alteration.

Once a water body is identified as a WQLS, the State of Idaho is required under Section 303(d) of the Clean Water Act and Idaho Code 39-3601 *et seq.* to develop a total maximum daily load (TMDL) for the pollutant of concern. A TMDL is a mechanism for determining the assimilative capacity of a water body and allocating that capacity among point and non-point pollutant sources, taking into account natural background levels and a margin of safety. The assimilative capacity is the loading of a pollutant that a water body can assimilate without causing or contributing to a violation of water quality standards. The assimilative capacity depends on the river flow and the state water quality standards. The allocations for point sources are referred to as "waste load allocations" (WLAs) and are implemented through limits in NPDES permits.

Sediment and total phosphorus TMDLs for the Lake Walcott Subbasin (IDEQ, 1999) were adopted by the State of Idaho in 1999. A phosphorus TMDL was approved by EPA on June 28, 2001. The phosphorus TMDL included WLAs for several industrial facilities but did not include one for MVP. (see Section 3.6.3 of *The Lake Walcott Subbasin Assessment and Total Maximum Daily Load*).

The Subbasin Assessment also raised concern with possible elevated temperatures in the *Heyburn/Burley Bridge to Milner-Gooding Canal* segment of the Snake River. It acknowledged that there were potential issues related to the current temperature water quality criteria. At this time, IDEQ is conducting a temperature study. Therefore, no temperature TMDL has been prepared at this time.

III. EFFLUENT LIMITATIONS

EPA followed the CWA, state and federal regulations, and EPA's 1991 *Technical Support Document for Water Quality-Based Toxics Control* (TSD) to develop the effluent limits in the draft permit. In general, the CWA requires that the effluent limit for a particular pollutant be the more stringent of either the technology-based limit or water quality-based limit. Appendix B provides discussion on the legal basis for the development of technology-based and water quality-based effluent limits.

EPA sets technology-based limits based on the effluent quality that is achievable using readily available technology. EPA evaluates the technology-based limits to determine whether they are adequate to ensure that water quality standards are met in the receiving water. If the limits are not adequate, EPA must develop more stringent water quality-based limits. Water quality-based limits are designed to prevent exceedances of the Idaho water quality standards in the receiving waters. The proposed permit includes technology-based limits for TSS and water-quality-based limits for pH. Appendix B describes in detail how the effluent limits were developed.

The phosphorus TMDL for the Lake Walcott Subbasin did not include a WLA for MVP; in addition, there is insufficient data to determine whether MVP is a significant source of phosphorus to the Snake River. Therefore, effluent limits for phosphorus are not proposed in the draft permit at this time. Monitoring for phosphorus is included to gather data for the next permit cycle.

Table 1 summarizes the effluent limitations and monitoring requirements that are proposed in the draft permit.

Table 1: Proposed Effluent Limitations

Parameter	Units	Effluent Limitations	
		Average Monthly	Maximum Daily
pH	su	within the range of 6.5 - 9.5	
Total Suspended Solids (TSS)	mg/l	22	44
	lb/day	5.3[1]	10.6[1]

1. Mass loading (lbs/day) = Concentration (mg/l) x flow (MGD) x 8.34 lbs/gallon

In addition to the requirements listed above, the following limitations shall also apply:

1. The permit authorizes the discharge of only those pollutants resulting from facility processes, waste streams, and operations that have clearly been identified in the permit application process.

2. There shall be no discharge of hazardous materials in concentrations found to be of public health significance or to impair designated beneficial uses (IDAPA 58.01.02.200.01).

3. There shall be no discharge of toxic substances in concentrations that impair designated beneficial uses. (IDAPA 58.01.02.200.02).

4. There shall be no discharge of deleterious materials in concentrations that impair designated beneficial uses (IDAPA 58.01.02.200.03).

5. There shall be no discharge of floating, suspended, or submerged matter of any kind in concentrations causing nuisance or objectionable conditions or that may impair designated beneficial uses (IDAPA 58.01.02.200.05).

6. There shall be no discharge of excess nutrients that can cause visible slime growths or other nuisance aquatic growths impairing designated beneficial uses (IDAPA 58.01.02.200.06).

7. There shall be no discharge of oxygen-demanding materials in concentrations that would result in an anaerobic water condition (IDAPA 58.01.02.200.07).

8. There shall be no discharge of sediment in quantities which impair designated beneficial uses (IDAPA 58.01.02.200.08).

IV. MONITORING REQUIREMENTS

Section 308 of the Clean Water Act and the federal regulation 40 CFR 122.44(i) require that monitoring requirements be included in permits to determine compliance with effluent limitations. Section 308 also authorizes additional effluent monitoring to gather information for possible future effluent limitations or to evaluate effluent impacts on receiving water quality.

A. Basis for Effluent Monitoring

The draft permit requires monitoring of the effluent for TSS and pH to determine compliance with the limits. The draft permit includes a requirement for effluent monitoring for total phosphorus to gather data to evaluate the possible impact of the MVP discharge on the elevated phosphorus levels in the Snake River. In addition, the permit includes requirements to monitor BOD_5, ammonia, total Kjeldahl nitrogen, nitrate-nitrite, nitrite, and *E. coli* bacteria to gather data to determine if there is a reasonable potential for the pollutants from this discharge to cause a violation of the Idaho water quality standards, either in the Main Drain or in the Snake River. The permittee may request reduced monitoring for these latter parameters after three years.

MVP is responsible for conducting the monitoring and reporting the results to EPA, the IDEQ, and the Minidoka Irrigation District on monthly discharge monitoring reports (DMRs) and in annual reports.

Table 2 presents the proposed effluent monitoring requirements for the draft permit.

Table 2: Proposed Effluent Monitoring Requirements for Outfall 001			
Parameter	**Units**	**Sample Frequency**	**Sample Type**
Outfall flow	gpd	daily	recording
Biochemical Oxygen Demand (BOD_5)	mg/l	quarterly	grab
Total Suspended Solids (TSS)	mg/l	1/week	grab
Total Phosphorus (as P)	mg/l	monthly	grab
pH	su	daily	grab
Total Kjeldahl Nitrogen (TKN)	mg/l	quarterly	grab
Total Ammonia (NH_3)	mg/l	quarterly	grab
Nitrate-Nitrite (NO_3-NO_2) as N	mg/l	quarterly	grab
Nitrite as N	mg/l	quarterly	grab
E. coli bacteria	#/100 ml	quarterly	grab

B. Basis for Surface Water Monitoring

The purpose of surface water monitoring is to determine water quality conditions as part of the effort to evaluate the reasonable potential for the discharge to cause an in-stream excursion above water quality criteria. Upstream monitoring is used to determine background levels in the receiving water. This data will be used during the next permitting cycle to determine the need for incorporating water quality-based effluent limits in the permit.

The draft permit specifies monitoring immediately upstream of the discharge. The location must be approved by IDEQ as indicated in its pre-certification of the permit. The permittee may request reduced monitoring after three years. Table 3 presents the proposed surface water monitoring requirements for the draft permit.

Table 3: Proposed Surface Water Monitoring Requirements (upstream of Outfall 001)			
Parameter	**Units**	**Sample Frequency**	**Sample Type**
TSS	mg/L	1/quarter	grab
Total Phosphorus	mg/l	1/quarter	grab
pH	s.u.	1/quarter	grab

Table 3: Proposed Surface Water Monitoring Requirements (upstream of Outfall 001)			
Parameter	**Units**	**Sample Frequency**	**Sample Type**
Total Kjeldahl Nitrogen (TKN)	mg/l	1/quarter	grab
Total Ammonia (NH_3)	mg/l	1/quarter	grab
Nitrate-Nitrite (NO_3-NO_2) as N	mg/l	1/quarter	grab
Nitrite as N	mg/l	1/quarter	grab
E. coli bacteria	#/100 ml	1/quarter	grab
Canal flow	cfs	weekly	visual

C. Representative Sampling

The draft permit has expanded the requirement in the federal regulations regarding representative sampling (40 CFR 122.41[j]). This provision now specifically requires representative sampling whenever a bypass, spill, or non-routine discharge of pollutants occurs, if the discharge may reasonably be expected to cause or contribute to a violation of an effluent limit under the permit. This provision is included in the draft permit because routine monitoring could miss permit violations and/or water quality standards exceedences that could result from bypasses, spills, or non-routine discharges. This requirement directs MVP to conduct additional, targeted monitoring to quantify the effects of such occurrences on the final effluent discharge.

V. OTHER PERMIT CONDITIONS

A. Quality Assurance Plan

Federal regulations at 40 CFR 122.41(e) require permittees to properly operate and maintain their facilities, including "adequate laboratory controls and appropriate quality assurance procedures." To implement this requirement, the draft permit requires that MVP develop a Quality Assurance Plan (QAP) to ensure that the monitoring data submitted is accurate and to explain data anomalies if they occur. The QAP must include standard operating procedures that the permittee must follow for collecting, handling, storing, and shipping samples, for laboratory analysis, and for data reporting. The draft permit requires MVP to submit the QAP to EPA within 60 days of the effective date of the permit.

B. Best Management Practices Plan

Section 402 of the Clean Water Act and federal regulations at 40 CFR 122.44(k)(2) and (3) authorize EPA to require best management practices (BMPs) in NPDES permits. BMPs are measures that are intended to prevent or minimize the generation and the potential for release of pollutants from industrial facilities to waters of the U.S. These measures are important tools for waste minimization and pollution prevention.

The draft permit requires MVP to prepare a BMP plan within 120 days of permit issuance and to implement the BMP plan within 180 days of permit issuance. The BMP Plan is intended to achieve the following objectives: minimize the quantity of pollutants discharged from the facility; reduce the toxicity of discharges to the extent practicable; prevent the entry of pollutants into waste streams; and minimize storm water contamination. The draft permit requires that the BMP plan be maintained and that any modifications to the facility are made taking into consideration the effect that the modification could have on the generation or potential release of pollutants. The BMP Plan must be revised if the facility is modified and as new pollution prevention practices are developed.

C. Standard Permit Provisions

In addition to facility-specific requirements, most of sections II, IV, and V of the draft permit contain standard regulatory language. Standard regulatory language applies to all permittees and must be included in NPDES permits. Because it is based on regulations, standard regulatory language cannot be challenged in the context of an NPDES permit action. Standard regulatory language covers conditions, such as monitoring, recording, and reporting requirements, compliance responsibilities, and general requirements.

VI. OTHER LEGAL REQUIREMENTS

A. Endangered Species Act

The Endangered Species Act (ESA) requires federal agencies to consult with the U.S. National Oceanic and Atmospheric Administration Fisheries Service (NOAA Fisheries) and the U.S. Fish and Wildlife Service (collectively referred to as "the Services") regarding potential effects that a federal action may have on threatened or endangered species. The Services have identified the following threatened and endangered species in Minidoka County, where the discharge is located.

Endangered Species:

Snake River physa snail (*Physa natricina*)
Utah valvata snail (*Valvata utahensis*)

Threatened Species:

Gray wolf (*Canus lupus)*
Bald eagle (*Haliaeetus leucocephalus*)
Bliss Rapids snail (*Taylorconcha serpenticola*)

EPA has determined that the requirements contained in the draft permit will not have an impact on any of these species. Appendix C provides further information on the listed species.

B. State Certification

Section 401 of the Clean Water Act requires EPA to seek certification from the State of Idaho that the permit is adequate to meet State water quality standards before issuing a final permit. The regulations allow for the state to stipulate more stringent conditions in the permit, if the certification cites the Clean Water Act or State law references upon which that condition is based. In addition, the regulations require that the state's certification include statements on the extent to which each condition of the permit can be made less stringent without violating the requirements of State law.

The state submitted its preliminary certification of the draft permit, conditions of which were incorporated into the draft permit. Those conditions are the following:

1. Certification of the effluent limits and monitoring requirements in the permit;
2. Requirement of IDEQ approval of the surface monitoring site;

3. Submittal of sample results to EPA, IDEQ, and the Minidoka Irrigation District;

After the public comment period, a proposed final permit will be sent to IDEQ for final certification. If IDEQ authorizes different requirements in its final certification, EPA will incorporate those requirements into the permit.

C. Antidegradation

In setting permit limitations, EPA must consider the State's antidegradation policy. This policy is designed to protect existing water quality when the existing quality is better than that required to meet the standard and to prevent water quality from being degraded below the standard when existing quality just meets the standard. For high quality waters, antidegradation requires that the State find that allowing lower water quality is necessary to accommodate important economic or social development before any degradation is authorized. This means that, if water quality is better than necessary to meet the water quality standards, increased permit limits can be authorized only if they do not cause degradation of water quality or if the State makes the determination that such degradation is necessary.

The draft permit has effluent limits for total suspended solids and pH from outfall 001. Because the issuance of this permit places new limits on an already existing, but unregulated, discharge, the conditions in the permit will improve water quality and therefore will comply with the State's antidegradation requirements.

D. Permit Expiration

This permit will expire five years from the effective date of the permit.

APPENDIX A

Figure A-1: **Magic Valley Produce, Paul, Idaho**

APPENDIX B

Basis for Effluent Limitations

I. Statutory and Legal Basis for Limits

Sections 101, 301(b), 304, 308, 401, 402, and 405 of the Clean Water Act (CWA) provide the basis for the effluent limitations and other conditions in the draft permit. The EPA evaluates the discharge with respect to these sections of the CWA and the relevant NPDES regulations to determine which conditions to include in the draft permit.

In general, the Clean Water Act requires that the effluent limits for a particular pollutant be the more stringent of either the technology-based or water quality-based limits. The draft permit limits reflect whichever requirements (technology-based or water quality-based) are more stringent. The technology-based and water quality-based evaluations are described below.

II. Technology-based Evaluation

Section 301(b)(2) of the CWA requires technology-based controls on effluents. A technology-based effluent limit requires a minimum level of treatment for an industrial facility based on currently available treatment technology. In many cases, technology-based limits are based on effluent guidelines (ELGs) developed by EPA for specific industries. Where ELGs are not available, technology-based limits are developed on a case-by-case basis based on Best Professional Judgment (BPJ) (40 CFR 125.3). EPA has not promulgated ELGs for discharges from fresh pack potato processors.

A. Total Suspended Solids (TSS)

Technology-based limits are developed based on the demonstrated performance of a reasonable level of treatment that is within the economic means of the facility. Technology-based limits were established for TSS using the following approach.

MVP currently treats the effluent by screening and sedimentation. Sedimentation is the typical control technology used to reduce TSS for most industries. EPA reviewed the technical literature to determine reasonable treatment levels for TSS sedimentation. The review[1] showed a median effluent concentration of total suspended solids (TSS) of 14 mg/l after sedimentation. This level was an average concentration achieved following settling in a sedimentation pond for a variety of industries. Based on this value, EPA developed technology-based limits using best professional judgment as follows:

1. Calculation of TSS limits

The 14 mg/l TSS represents a long-term average (LTA) concentration. In order to establish maximum daily and average monthly limits, the LTA is multiplied by variability factors that take into consideration the variability of the effluent and the sampling frequency. The LTA concentration is converted to effluent limits using the following equations from the *Technical Support Document for Water Quality Control* (TSD)[2].

a. Average Monthly Limit (AML) for TSS (concentration):

$AML = LTA \times \exp[z\sigma - 0.5\sigma^2]$

where: $\sigma^2 = \ln(CV^2/n + 1)$
CV = 0.6 (When there are less than ten data points, the TSD recommends using 0.6 as the default CV.)
n = number of sampling events required per month, i.e. 4
z = 1.645 for 95th percentile occurrence probability[2]

AML = (14 mg/l)(1.55) = **22 mg/l**

b. Maximum Daily Limit (MDL) concentration for TSS:

$MDL = LTA \times \exp[z\sigma - 0.5\sigma^2]$

where: $\sigma^2 = \ln(CV^2 + 1)$
z = 2.326 for 99th percentile occurrence probability[2]
CV = 0.6 (see above)

MDL = (14 mg/l)(3.11) = **44 mg/l**

The NPDES regulations require that effluent limits also be expressed in terms of mass (40 CFR §122.45(f). Mass-based limits were calculated by multiplying the concentration-based limit by the maximum effluent flow and conversion factors. The maximum effluent flow reported by MVP on the permit application is 20 gallons per minute.

c. Average Monthly TSS loading

= (22 mg TSS/l)(2.2 lbs/1,000,000 mg)(3.785 l/gal)
(20 gal/min)(1440 mins/day) = **5.3 lbs TSS/day**

d. Maximum Daily TSS Loading

= (44 mg TSS/l)(2.2 lbs/1,000,000 mg)(3.785 l/gal)
(20 gal/min)(1440 mins/day) = **10.6 lbs TSS/day**

B. Total Phosphorus

The extent to which settling may reduce the phosphorus levels in the effluent is unknown; therefore, no technology-based phosphorus limit is being proposed.

III. Water Quality-based Evaluation

A. Water Quality Standards

EPA evaluated the MVP discharge to determine compliance with Section 301(b)(1)(C) of the CWA. This section requires the establishment of limitations in permits necessary to meet water quality standards.

The regulations at 40 CFR 122.44(d) implement section 301(b)(1)(C) of the CWA. These regulations require that NPDES permits include limits for all pollutants or parameters which are or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above any State water quality standard, including State narrative criteria for water quality. The limits must be stringent enough to ensure that water quality standards are met and must be consistent with any available wasteload allocation (WLA) in an approved TMDL.

When there is an approved TMDL with a WLA for the facility, the limits are developed based on the WLA. When there is not an approved TMDL with a WLA for the facility, EPA generally uses the approach outlined below in determining whether water quality-based limits are needed and in developing those limits when necessary,:

1. Determine the appropriate water quality criterion;
2. Determine whether there is "reasonable potential" to exceed the criterion;
3. If there is "reasonable potential", develop a WLA;
4. Develop effluent limitation based on WLA.

The first step in developing water quality-based limits is to determine the applicable water quality criteria. The state of Idaho's water quality standards are found at IDAPA 58 Title 1, Chapter 2.

The applicable criteria are determined based on the beneficial uses of the receiving water. As discussed in §II.B., the Main Drain is protected for agricultural water supply, including irrigation

and livestock watering. The *Heyburn/Burley Bridge to Milner-Gooding Canal* segment of the Lake Walcott Subbasin of the Snake River, which receives the discharge of the Main Drain, is protected for agricultural water supply, warm water biota, and primary contact recreation.

For any given pollutant, different uses may have different criteria. To protect all beneficial uses, the permit limits are based on the most stringent of the water quality criteria applicable to those uses. As discussed in §I.C., the pollutants of concern in the discharge include TSS, TP, *E.coli*, and pH.

1. Total Suspended Solids: EPA did not develop effluent limits for TSS for two reasons: 1) EPA has not approved the Lake Walcott TMDL and the TMDL did not include a WLA for MVP; 2) there are no numeric state water quality criteria that can be used to develop a water quality based effluent limit (WQBEL) for TSS.
2. Total Phosphorus: EPA did not develop a WQBEL for phosphorus for two reasons: 1) the Lake Walcott TMDL for phosphorus did not include a WLA for MVP; 2) there are no numeric state water quality criteria that can be used to develop a WQBEL for phosphorus.

3. pH: The Idaho water quality standards for aquatic life specify pH limits of 6.5 to 9.5 standard units (IDAPA 58.01.02.250.01.a). The draft permit includes a WQBEL for pH.

4. Nitrate-Nitrite: In order to protect the water quality of the Main Drain, a man-made waterway, for agricultural water supply, the Idaho water quality standards at IDAPA §58.01.02.252.02 specify the use of *Water Quality Criteria 1972 ("Blue Book"), Section V. Agricultural Uses of Water* when developing specific criteria to protect waters designated as agricultural water supplies. The numeric criteria of 100 mg/l nitrate-nitrite as nitrogen (N) and 10 mg/l nitrite as N are listed in the Blue Book for agricultural water supplies intended for drinking water for livestock. No effluent data for nitrate-nitrite as N or nitrite as N have been submitted; therefore, EPA has no data for assessing the reasonable potential of the discharge to cause or contribute to a violation of this standard. Therefore, the draft permit requires effluent and surface water monitoring for these parameters, so that the reasonable potential can be assessed in the next permit cycle.

5. Ammonia: Idaho water quality standards at IDAPA 58.01.02.250.04.c to protect warm water biota in the *Heyburn/Burley Bridge to Milner-Gooding Canal* segment of the Lake Walcott Subbasin of the Snake River include a

pH- and temperature-based limit for ammonia. There is not enough data for these parameters to determine if a limit for ammonia is warranted. Therefore, monitoring is required in the permit to produce the data to evaluate reasonable potential in the next permit cycle.

6. *E. coli*: Idaho water quality standards at IDAPA 58.01.02.251.01 to protect human health in primary contact recreation in the *Heyburn/Burley Bridge to Milner-Gooding Canal* segment of the Lake Walcott Subbasin of the Snake River include a limit for *E. coli*. There is not enough data for this parameter to determine if a limit is warranted. Therefore, monitoring is required in the permit to produce the data to evaluate reasonable potential in the next permit cycle.

ENDNOTES:

1. Treatability Manual, Volume III. Technologies for Control/Removal of Pollutants. U.S. Environmental Protection Agency, Office of Research and Development, 1983. EPA-600/2-82-001c. Page III.3.1.18-7 (Change 2: 1/24/83)

2. Technical Support Document for Water Quality-based Toxics Control U.S. Environmental Protection Agency, Office of Water, March 1991. EPA/505/2-90-001. Page 103.

APPENDIX C

ENDANGERED SPECIES ACT

Section 7 of the Endangered Species Act (ESA) requires federal agencies to request a consultation with the National Oceanic and Atmospheric Administration (NOAA) Fisheries and the U.S. Fish and Wildlife Service (FWS) regarding potential effects an action may have on listed endangered species.

According to its species update #1-4-03-SP-287 for Minidoka County, the U.S. Fish and Wildlife Service identified the Utah valvata snail and the Snake River physa snail as endangered species, the bald eagle and Bliss Rapids snail as threatened species, and the gray wolf as a non-essential population. NOAA Fisheries has not identified any additional listed endangered, threatened, or candidate species for this area

Gray wolf – The FWS reintroduced wolves into Idaho in late 1994. This population is not believed to be essential for the survival of the species, but is considered important for its full recovery and eventual removal from the endangered and threatened species list. Such populations are treated as "threatened" species, except that the ESA's Section 7 consultation regulations (requiring consultation with the U.S. Fish and Wildlife Service to reduce adverse

impacts from Federal actions) do not apply (except where the species occurs within National Parks or National Wildlife Refuges, which is not the present case), and critical habitat cannot be designated[1].

The primary threats to wolf populations are human caused mortality. The principal exposure of the gray wolf to water quality impacts is through either drinking water exposure or habitat degradation. Gray wolves consume prey that are primarily vegetarian. Their prey species are therefore highly unlikely to bioaccumulate toxics.

The possibility of exposure of gray wolf to the pollutants in the MVP discharge in toxic amounts via contamination of plant materials in aquatic systems is highly unlikely because exposure via this pathway would require: (1) that gray wolves would consume prey species affected primarily by the area of the discharge; and (2) that prey species consume enough contaminated vegetation in the area of the discharge to pass on a significant amount to their predators. Since the pollutants in the MVP discharge do not bioaccumulate in the food chain, EPA has determined that the issuance of the NPDES permit for the MVP discharge will have no effect on the gray wolf.

Bald eagle – Eagles begin to appear at wintering sites in early November and concentrate at locations where there is open water during the colder months when smaller or slower moving water bodies freeze.[2] Their diet includes hatchery trout, other fish species including both salmonids and non-salmonids, mule deer, ground squirrels, rabbits, waterfowl, and other small mammals. Water quality could potentially affect bald eagles through four avenues: prey displacement or quantitative decline, prey mortality, bioaccumulation in prey, or direct consumption.

The FWS has not designated critical habitat in Idaho for the bald eagle, but there is a bald eagle Recovery Plan. In the Recovery Plan, habitat loss is identified as the most significant long-term threat to all bald eagle populations in the recovery area. Shooting continues to be the most frequently recorded cause of bald eagle mortality, though the rate appears to be declining. One of the general recommendations for augmenting bald eagle populations is to reduce mortality through exposure to contaminants.

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[1] 68 Federal Register 62:15808 (April 1, 2003)

[2] Spahr, R. 1990. Factors affecting the distribution of bald eagles and effects of human activity on bald eagles wintering along the Boise River. M.S. Thesis, Boise State University, Boise, ID.

Because bald eagles are not aquatic animals, the only concern for exposure is through their prey (consumption of fish) that have been exposed to toxins. It is highly unlikely that there are fish in the Main Drain where MVP discharges. The MVP discharge would not affect fish in the Snake River since the MVP discharge flow is insignificant compared to the Snake River flow (Maximum daily discharge for MVP of 0.00775 cfs vs a 93 year low daily flow in the Snake River of 3438 cfs[3]). In addition, the pollutants of concern in the MVP discharge are not likely to bioaccumulate in fish and up the food chain. Therefore, based on lack of exposure, EPA has determined that issuance of the NPDES permit for the MVP discharge will have no effect on the bald eagle.

Utah valvata snail, **Snake River physa snail**, and **Bliss Rapids snail** – All three snail species are all found only in free-flowing waters of the Snake River. It is unknown, but highly unlikely, that these species are present in the Main Drain. The permittee's discharge constitutes less than 2% of the lowest measured flow in the canal; the effluent is further diluted in the Snake River, such that it represents less than 0.0002 % of the flow in the Snake River. Therefore, MVP's discharge would have inconsequential effects on the snail species. In addition, EPA notes that the pollutants discharged into the Main Drain and into Snake River under the terms of this draft permit will be less than those discharged over the past 15 years, during which time the permittee discharged without restriction or monitoring. Therefore, any effect of this permit on the endangered snail species would be positive.

[3] U.S. Geological Survey. Daily Streamflow Statistics for Idaho. USGS 13081500 Snake River Near Minidoka, ID (At Howells Ferry). On-line at http://waterdata.usgs.gov/id/nwis/dvstat/?site_no=13081500&agency_cd=USGS