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C.L. "Butch" Ofter, Governor Curt Fransen, Director

February 20, 2015

Mr. Michael J. Lidgard NPDES Permits Unit Manager EPA Region 10 1200 Sixth Avenue, Suite 900 Seattle, WA 98101-3140

Subject:

Final 401 Water Quality Certification for the Star Sewer and Water District WWTF,

ID-0023591

Dear Mr. Lidgard:

The Boise Regional Office of the Department of Environmental Quality (DEQ) has reviewed the above-referenced permit for the Star Sewer and Water District. Section 401 of the Clean Water Act requires that states issue certifications for activities which are authorized by a federal permit and may result in discharge to surface waters. In Idaho, DEQ is responsible for reviewing these activities and evaluating whether the activity will comply with Idaho's Water Quality Standards, including any applicable water quality management plans (e.g., total maximum daily loads). A federal discharge permit cannot be issued until DEQ has provided certification or waived certification, either expressively, or by taking no action.

This letter is to inform you that DEQ is issuing the attached final 401 certification subject to the terms and conditions contained therein. DEQ requests that changes be made to the surface water monitoring requirements and compliance schedule in the permit to address public comments received. DEQ made the following changes to the 401 certification as a result of public comments received:

- 1. Clarification that the 401 certification does not authorize or excuse the permittee from obtaining surface water monitoring and access agreements.
- 2. Revised description of water origin for the Lawrence Kennedy Canal.
- 3. Clarification that in addition to ensuring protection of agricultural water supply use in Lawrence Kennedy Canal, DEQ examined whether the discharge is consistent with downstream sediment, bacteria, and total phosphorus TMDL allocations.
- 4. Clarification of total phosphorus impairment in the Boise and Snake Rivers and consistency with existing TMDLs and Implementation Plans.

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- 5. Authorization for a delay in surface water monitoring to allow equipment installation and calibration.
- 6. Revisions to the tasks, interim limits, and completion dates for the total residual chlorine compliance schedule.
- 7. Revision of tasks and deliverables for the ammonia and total phosphorus compliance schedules.

The Response to Public Comments is included with this letter. DEQ is providing documents relating to the man-made waterway provision in the Idaho Water Quality Standards. They are available at ftp://164.165.67.237, under the directory: Star Sewer and Water District DEQ Response to Comments Supporting Documents. Please follow the attached instructions.

Please contact Lauri Monnot at (208) 373-0461 to discuss any questions or concerns regarding the content of this certification.

Sincerely

Pete Wagner

Regional Administrator Boise Regional Office

Enclosures (3)

ec:

Jill Nogi, EPA Region 10
Stephen Berry, DEQ 401 Program Coordinator
Justin Hayes, Idaho Conservation League
Justin Walker, Keller Associates
Ken Vose, Star Sewer and Water District
Liz Paul, Idaho Rivers United
David M. Bennett, Retired Chemist
Robbin Finch, Boise Pubic Works



Idaho Department of Environmental Quality Final §401 Water Quality Certification

February 20, 2015

NPDES Permit Number(s): ID-002359-1 Star Sewer and Water District Wastewater Treatment Plant (WWTP)

Receiving Water Body: Lawrence-Kennedy Canal

Pursuant to the provisions of Section 401(a)(1) of the Federal Water Pollution Control Act (Clean Water Act), as amended; 33 U.S.C. Section 1341(a)(1); and Idaho Code §§ 39-101 et seq. and 39-3601 et seq., the Idaho Department of Environmental Quality (DEQ) has authority to review National Pollutant Discharge Elimination System (NPDES) permits and issue water quality certification decisions.

Based upon its review of the above-referenced permit and associated fact sheet, DEQ certifies that if the permittee complies with the terms and conditions imposed by the permit along with the conditions set forth in this water quality certification, then there is reasonable assurance the discharge will comply with the applicable requirements of Sections 301, 302, 303, 306, and 307 of the Clean Water Act, the Idaho Water Quality Standards (WQS) (IDAPA 58.01.02), and other appropriate water quality requirements of state law.

This certification does not constitute authorization of the permitted activities by any other state or federal agency or private person or entity. This certification does not excuse the permit holder from the obligation to obtain any other necessary approvals, authorizations (including surface water monitoring access agreements), or permits, including without limitation, the approval from the owner of a private water conveyance system, if one is required, to use the system in connection with the permitted activities.

Antidegradation Review

The WQS contain an antidegradation policy providing three levels of protection to water bodies in Idaho (IDAPA 58.01.02.051).

- Tier 1 Protection. The first level of protection applies to all water bodies subject to Clean Water Act jurisdiction and ensures that existing uses of a water body and the level of water quality necessary to protect those existing uses will be maintained and protected (IDAPA 58.01.02.051.01; 58.01.02.052.01). Additionally, a Tier 1 review is performed for all new or reissued permits or licenses (IDAPA 58.01.02.052.07).
- Tier 2 Protection. The second level of protection applies to those water bodies considered
 high quality and ensures that no lowering of water quality will be allowed unless deemed
 necessary to accommodate important economic or social development (IDAPA
 58.01.02.051.02; 58.01.02.052.08).

• Tier 3 Protection. The third level of protection applies to water bodies that have been designated outstanding resource waters and requires that activities not cause a lowering of water quality (IDAPA 58.01.02.051.03; 58.01.02.052.09).

DEQ is employing a water body by water body approach to implementing Idaho's antidegradation policy. This approach means that any water body fully supporting its beneficial uses will be considered high quality (IDAPA 58.01.02.052.05.a). Any water body not fully supporting its beneficial uses will be provided Tier 1 protection for that use, unless specific circumstances warranting Tier 2 protection are met (IDAPA 58.01.02.052.05.c). The most recent federally approved Integrated Report and supporting data are used to determine support status and the tier of protection (IDAPA 58.01.02.052.05).

Pollutants of Concern

The Star Sewer and Water District WWTP discharges the following pollutants of concern: BOD₅, TSS, *E. coli*, ammonia, total residual chlorine (chlorine), total phosphorus (TP), temperature, chloroform, zinc, and copper. Effluent limits have been developed for BOD₅, TSS, *E. coli*, ammonia, chlorine, and TP. Due to lack of temperature, chloroform, zinc and copper effluent data, monitoring requirements are included so that reasonable potential to exceed WQS can be determined in future permits.

Receiving Water Body Level of Protection

The Star Sewer and Water District WWTP discharges to the Lawrence-Kennedy Canal within the Lower Boise Subbasin. Lawrence-Kennedy Canal is a man-made waterway, not designated in sections 110 through 160 of the WQS which delivers water from the Boise River to irrigate agricultural land to the west of the City of Star and collects shallow groundwater and tailwater from agricultural field irrigation. Man-made waterways, for which uses are not designated in IDAPA 58.01.02, sections 110-160, are to be protected for the uses for which they were developed; in this case, agricultural water supply (IDAPA 58.01.02.101.02).

Water from the Lawrence-Kennedy (LK) Canal enters Mill Slough (AU 17050114SW005_02) just before it converges with the Boise River (AU 17050114SW005_06a) approximately seven (7) miles to the west of the facility near the City of Middleton. During the irrigation season, approximately May—September, water from LK Canal is applied to agricultural land, with any overflow going to various agricultural drains that then enter Mill Slough or the Boise River. From October through April, shallow groundwater intercepted by the unlined canals runs into LK Canal for approximately 9 miles, then discharges to South Middleton Drain and/or Watkins Drain, and then to Mill Slough.

Because no aquatic life or recreational uses are designated for the LK Canal, DEQ will provide Tier 1 protection only for the LK Canal (IDAPA 58.01.02.051.01).

While the LK Canal is the receiving water for Star's discharge, DEQ has also examined whether the discharge is consistent with achieving compliance with WQS in the Boise River through compliance with the sediment and bacteria wasteload allocations (WLAs) applicable to Star in the Lower Boise River TMDL, and the TP load allocation (LA) for the Boise River in the Snake River Hells Canyon (SRHC) TMDL.

Protection and Maintenance of Existing Uses (Tier 1 Protection)

As noted above, a Tier 1 review is performed for all new or reissued permits or licenses, applies to all waters subject to the jurisdiction of the Clean Water Act, and requires demonstration that existing uses and the level of water quality necessary to protect existing uses shall be maintained and protected. In order to protect and maintain designated and existing beneficial uses, a permitted discharge must comply with narrative and numeric criteria of the Idaho WQS, as well as other provisions of the WQS such as Section 055, which addresses water quality limited waters. The numeric and narrative criteria in the WQS are set at levels that ensure protection of designated beneficial uses. The effluent limitations and associated requirements contained in the Star Sewer and Water District WWTP permit are set at levels that ensure compliance with the narrative and numeric criteria in the WQS that are applicable to the LK Canal.

Water bodies not supporting existing or designated beneficial uses must be identified as water quality limited, and a total maximum daily load (TMDL) must be prepared for those pollutants causing impairment. A central purpose of TMDLs is to establish wasteload allocations for point source discharges, which are set at levels designed to help restore the water body to a condition that supports existing and designated beneficial uses. Discharge permits must contain limitations that are consistent with wasteload allocations in the approved TMDL.

Prior to the development of the TMDL, the WQS require the application of the antidegradation policy and implementation provisions, which for an impaired water body means the application of the tier 1 protection provisions discussed in this section (IDAPA 58.01.02.055.04). As discussed above, in order to protect existing uses as required for water afforded tier 1 protection, DEQ must ensure the permit requires compliance with the applicable narrative and numeric water quality criteria.

The Star Sewer and Water District WWTP discharges to the LK canal which, at times, discharges water to the Boise River or Mill Slough, which are both impaired for elevated temperature. Temperature TMDLs have not yet been completed for these water bodies. At this time, there is not sufficient data to determine whether or not the discharge of heat to the LK Canal has the reasonable potential to cause or contribute to excursions above the water quality standards for temperature. Continuous temperature monitoring of the effluent and receiving water are permit requirements and will allow assessment of potential impacts of the discharge on temperature of the Lower Boise River. The results of the monitoring may require temperature related effluent limits in the future.

The Boise River, downstream from the City of Middleton, is impaired for TP. The Star Sewer and Water District WWTP discharge has the potential to cause or contribute to excursions above water quality standards for nutrients (i.e. total phosphorus); therefore, the permit proposes water quality based effluent limits for total phosphorus. A TMDL is under development to address TP impairment in the Lower Boise River. Once this TMDL is approved by EPA, DEQ expects wasteload allocations for the Star Sewer and Water District WWTP will be incorporated into their NPDES permit. The effluent limitations in the permit will result in a decrease of TP in the Boise River.

The Hells Canyon segment of the Snake River is also impaired because of excess nutrients. The *SRHC TMDL* (DEQ 2003) established a load allocation for the Boise River based upon a total phosphorus concentration of 0.07 mg/L at the mouth of the Boise River. The Lower Boise

Watershed Council and DEQ (2008) developed the Lower Boise Implementation Plan Total Phosphorus (Implementation Plan), which implements the SRHC TMDL for the Lower Boise watershed and assigns wasteload allocations to the point sources and load allocations to non-point sources in order to meet the target for total phosphorus set in the SRHC TMDL.

The permit allows the Star Sewer and Water District WWTP to discharge a monthly average of 1.1 lbs/day of phosphorus to the LK canal, and ultimately the Boise River from May-September. The Implementation Plan established a WLA in years 10-15 of implementation to the Star Sewer and Water District WWTF of 2.4 lbs/day (1.1 Kg/day), as a monthly average. The WLAs in the Implementation Plan allow the 0.07 mg/L TP target to be met at the mouth of the Boise River in Parma. The permit limit is more stringent than the target limit set forth in the Implementation Plan; therefore, DEQ believes the permit will ensure compliance with the TMDL and the applicable narrative criteria.

The Boise River (AU 17050114SW005_06b) is also impaired for sediment and bacteria at the confluence of Mill Slough. The EPA-approved Lower Boise River TMDL (DEQ 1999) and TMDL Addendum (2008) establishes load allocations for sediment and bacteria at the mouth of Mill Slough as well as wasteload allocations for sediment and bacteria for the Star Sewer and Water District WWTP. In accordance with the procedure outlined in the sediment TMDL, the Star Sewer and Water District requested an increase in their wasteload allocation from the sediment TMDL Reserve for Growth. Their design flow has increased from 0.33 million gallons per day (MGD) at the time of TMDL development to 1.85 MGD. DEQ has approved the requested sediment wasteload allocation increase and has adjusted the remaining reserve for growth accordingly. These sediment and bacteria allocations are designed to ensure the Boise River will achieve the water quality necessary to support its existing and designated aquatic life beneficial uses and comply with the applicable numeric and narrative criteria. The effluent limitations and associated requirements contained in the Star Sewer and Water District WWTP permit are set at levels that comply with these wasteload allocations.

In sum, the effluent limitations and associated requirements contained in the Star Sewer and Water District WWTP permit are set at levels that ensure compliance with the narrative and numeric criteria in the WQS and the wasteload allocations established in the *Lower Boise River TMDL* and the *Snake River-Hells Canyon TMDL*. Therefore, DEQ has determined the permit will protect and maintain existing and designated beneficial uses in the Lawrence-Kennedy Canal in compliance with the Tier 1 provisions of Idaho's WQS (IDAPA 58.01.02.051.01 and 58.01.02.052.07).

Conditions Necessary to Ensure Compliance with Water Quality Standards or Other Appropriate Water Quality Requirements of State Law

Alternative Limitations

The following subsection(s) discuss how the permit can be made less stringent and still comply with Idaho WQS.

Compliance with IDAPA 58.01.02.101.02 Protected Uses for Nondesignated Man-made Waterways

The Star permit contains effluent limits to meet cold water aquatic life and recreational uses in the LK Canal, which is a man-made waterway. In order to include these limits, EPA relies upon the provision in the WQS, IDAPA 58.01.02.101.01, that generally applies to waters that are not specifically designated for uses in the WQS. The WQS, however, include a specific provision that addresses man-made waterways that is applicable to the LK Canal. In accordance with IDAPA 58.01.02.101.02, unless designated for other uses in the WQS, man-made waterways are to be protected for the use for which they were developed. The LK Canal is a man-made waterway developed to convey irrigation water for agricultural purposes. It is not designated for other uses in the WQS. Therefore, the LK Canal is not protected for aquatic life or recreational uses. As a result, the limits in the permit to protect aquatic life and recreational uses are not consistent with state law and should be removed. This includes the following limits: chlorine and ammonia.

Surface Water Monitoring Requirements

The permit requires surface water monitoring of the receiving water, LK Canal. This is a new permit requirement and the Star Sewer and Water District WWTP does not yet have access agreements or continuous monitoring equipment installed upstream from their point of discharge. The Star Sewer and Water District WWTP requests 60 days from March 15th, the last day construction is allowed in the channel, to install and calibrate monitoring equipment. They have been working with the LK Canal owner and adjacent property owners on an agreement for property access and construction of monitoring structures. The agreement shall be in place in time to complete construction of the monitoring structure prior to March 15th, when water will be diverted to the canal for seasonal agricultural use. DEQ authorizes this day delay in receiving water monitoring to allow equipment installation for representative data collection.

Compliance Schedules

Pursuant to IDAPA 58.01.02.400.03, DEQ may authorize compliance schedules for water quality—based effluent limits issued in a permit for the first time. Star Sewer and Water District WWTP cannot immediately achieve compliance with the effluent limits for chlorine, total ammonia as N (ammonia), and total phosphorus (TP). As set forth above, the chlorine and ammonia limits should be removed from the permit because these limits are intended to protect aquatic life uses in the LK Canal. However, since they have not been removed, DEQ authorizes a

compliance schedule and interim requirements as set forth below. This compliance schedule provides the permittee a reasonable amount of time to achieve the final effluent limits as specified in the permit. At the same time, the schedule ensures that compliance with the final effluent limits is accomplished as soon as possible.

- 1. The Star Sewer and Water District WWTP (Permittee) must achieve compliance with the final chlorine effluent limitations of Part I.B.1. (Draft NPDES permit, Table 1), within one (1) year and six (6) months after the effective date of this Permit. The Permittee must also achieve compliance with the final ammonia and TP effluent limitations of Part I.B.I. (NPDES permit, Table 1) within nine (9) years and eleven (11) months after the effective date of this permit.
- 2. While the schedules of compliance are in effect, the Permittee must comply with the following interim requirements:
 - a) The Permittee must comply with the interim effluent limitations and monitoring requirements in Part I.B. of the Permit.
 - b) Until compliance with the final chlorine, ammonia, and TP effluent limits are achieved, at a minimum, the Permittee must complete the tasks and reports listed in Table 1 (below), as required under the schedules of compliance.
- 3. In addition to the tasks and deliverables listed in the table below, the Permittee must submit an annual progress report outlining progress made towards reaching the final compliance dates for the chlorine, ammonia, and TP effluent limitations. The annual report of progress must be submitted by December 31st of each year. The first report is due December 31, 2015 and annually thereafter, until compliance with the chlorine, ammonia, and TP effluent limits is achieved. At a minimum, the written notice must include:
 - a) An assessment of the previous year's chlorine, ammonia, and TP effluent data and comparison to the final effluent limitations in the permit.
 - b) Any exceedances of interim permit limits or anticipated challenges for compliance within the next year. This may include a technological explanation of why the interim limit is no longer appropriate as well as a request to modify the Permit.
 - c) A report on progress made towards meeting the final effluent limitations, including the applicable deliverable required under Part I.C.2 of the Permit.
 - d) Further actions and milestones targeted for the upcoming year.

Table 1. Tasks Required Under the Schedules of Compliance

Table 1. Tasks Required Under the Schedules of Compliance		
Task No.	Completion Date	Task Activity
		Tasks to Achieve Final Chlorine Effluent Limits
1	Six (6) months	Disinfection System Design/Planning Phase:
	from the Effective Date of the Permit (EDP)	The Permittee must complete preliminary and final engineering designs to comply with the final chlorine effluent limits. The design documents must be submitted to and approved by DEQ.
·		Deliverables:
		 Permittee must provide written notice that the final design has been completed and submitted to DEQ for approval within 6 months of EDP.
		 Permittee must provide written notice to EPA that approval of the final design has been provided by DEQ within 14 days of receiving DEQ approval.
2		Disinfection System Construction Phase:
		The Permittee will have completed the construction and commissioning of disinfection system upgrades to meet the interim TRC limits.
	Nine (9) months from EDP	Construction: Permittee must provide EPA with written notice that construction of the disinfection system is complete within 9 months of the EDP.
٠ ا	: '	Commissioning: Permittee must achieve and send written notice of compliance
	One (1) year from the EDP	with the interim chlorine effluent limit (0.5 mg/L AML and 0.75 mg/l AWL and associated mass loading limits) to EPA within 1 year of the EDP.
3	18 months	Disinfection Process Optimization and Compliance Phase:
	after EDP	The Permittee will optimize the disinfection process and chemical dose rates to achieve compliance with final chlorine limits.
		Deliverables:
		 Permittee must achieve and send written notice of compliance with the final effluent limits for chlorine to EPA within 18 months of the EDP.
		Tasks to Achieve Final Ammonia and TP Limits
4	2 years after EDP	Ammonia and TP Facility Upgrade Early Design/Planning Phase: The Permittee must complete a comprehensive facility plan to comply with the final effluent limitations for ammonia and TP by the end of each parameter's compliance schedule. Options to meet final limits may include: pollutant trading, offsets, chemical treatment, biological treatment, and any other options available at the time of the facility
		planning study.
		 Permittee must provide a written progress report to the EPA on the status of facility upgrade planning, by 1 year after EDP. Permittee must provide written notice to the EPA that the facility upgrade plan has been completed and submitted to DEQ for approval within 2 years of the EDP.

Task No.	Completion Date	Task Activity
5	Five (5) years from EDP	Funding Phase:
		The Permittee must acquire funds to complete facility upgrades necessary to comply with the final effluent limitations for ammonia and TP by the end of this compliance schedule.
]·		Deliverables:
		 Permittee must provide a written progress report to the EPA on the status of funding for facility upgrades by December 31st of 2017 and 2018, including any necessary alternatives.
		Permittee must provide written notice to EPA that the funding to finance the facility upgrade is in place within 5 years of the EDP.
6	Five (5) years from EDP	Final Facility Design Phase:
,		The Permittee will have completed the detailed design for the upgraded facility to meet the final ammonia and TP limitations.
		Deliverables:
		Permittee must provide written notice that the final design report has been submitted to IDEQ for approval within 5 years of the EDP.
	t	Permittee must provide written notice to EPA that approval of the final design has been provided by IDEQ within 14 days of receiving DEQ approval.
7	Nine (9) years from EDP	Final Facility Construction Phase:
		The Permittee will select a construction contractor, acquire equipment and complete the construction for the upgraded facility to meet the final total ammonia as N and total phosphorus limitations.
		Deliverables:
	· · · · · · · · · · · · · · · · · · ·	 Permittee must provide a progress report to the EPA on construction activity by December 31, 2020, and each year thereafter until final construction is complete.
		Permittee must provide EPA with written notice that the facility construction has been completed within 9 years of EDP.
	Nine (9) years and eleven months from EDP	Process Optimization and Compliance with Final Effluent Limitations: Deliverable: Permittee must achieve compliance with the final ammonia and TP effluent limitations
		within 9 years and 11 months and must submit written notice of compliance to EPA within 14 days of compliance with final effluent limits.

Mixing Zones

As set forth above, the chlorine and ammonia limits should be removed from the permit because these limits are intended to protect aquatic life uses in the LK Canal. However, since they have not been removed, DEQ authorizes a mixing zone as set forth below.

Pursuant to IDAPA 58.01.02.060, DEQ authorizes a mixing zone that utilizes 25% of the critical flow volumes of Lawrence-Kennedy Canal for ammonia and chlorine.

Other Conditions

This certification is conditioned upon the requirement that any material modification of the permit or the permitted activities—including without limitation, any modifications of the permit to reflect new or modified TMDLs, wasteload allocations, site-specific criteria, variances, or other new information—shall first be provided to DEQ for review to determine compliance with Idaho WQS and to provide additional certification pursuant to Section 401.

Right to Appeal Final Certification

The final Section 401 Water Quality Certification may be appealed by submitting a petition to initiate a contested case, pursuant to Idaho Code § 39-107(5) and the "Rules of Administrative Procedure before the Board of Environmental Quality" (IDAPA 58.01.23), within 35 days of the date of the final certification.

Questions or comments regarding the actions taken in this certification should be directed to Lauri Monnot, DEQ Boise Regional Office at 208,373.0461 or Lauri Monnot@deq.idaho.gov.

Pete Wagner

Regional Administrator

Boise Regional Office

RESPONSE TO COMMENTS

Star Sewer and Water District WWTP NPDES Permit # ID-002359-1

Idaho Department of Environmental Quality

On May 19, 2014, the U.S. Environmental Protection Agency issued a public notice for the reissuance of the Star Sewer and Water District Wastewater Treatment Plant National Pollutant Discharge Elimination System (NPDES) permit No. ID-002359-1, including the draft Clean Water Act (CWA) Section 401 certification and antidegradation analysis prepared by Idaho Department of Environmental Quality (DEQ). This Response to Comments provides a summary of significant comments received by DEQ on the 401 certification of this NPDES permit and provides corresponding DEQ responses.

Comments were received by:

- 1. Justin Hayes, Program Director, Idaho Conservation League (ICL), received June 17, 2014
- 2. Justin Walker P.E., District Engineer, Keller Associates on behalf of the Star Sewer and Water District (SSWD) received June 17, 2014
- 3. Liz Paul, Boise River Campaign Coordinator, Idaho Rivers United (IRU), received June 18, 2014
- 4. David M. Bennett, Retired Chemist formerly with Analytical Laboratories, Inc., received June 15, 2014
- 5. Robbin Finch, Water Quality Environmental Program Manager, Boise Public Works (BPW), received June 17, 2014

Commenter: Justin Hayes, Idaho Conservation League (ICL)

Comment: The EPA states that this facility only needs TP limits during the season (May – September) that the Snake River Hells Canyon TMDL calls for the attainment of an instream target of less than or equal to 0.07 mg/l TP at the mouth of the Boise River.

However, phosphorus discharged by Star between October 1 and April does not travel completely through and exit the segment of the Snake River covered in the Hells Canyon TMDL during the October – April time frame. Rather, phosphorus discharged by Star from October – April will still be present in the Hell's canyon reach and be bioavailable into the May-September time period. As, such this facility needs an annual TP limit in the permit to meet the instream target of less than or equal to 0.07 mg/l TP during the May-September season.

Further, evidence has shown that water quality in the Hells Canyon stretch is failing to meet the water quality standards for nutrients during periods of time outside the TMDL's season of applicability (May-September). This is evidenced by the fact that Oregon has determined that the Hells Canyon stretch is failing to meet Oregon nutrient standards outside the May-September seasonal window. As, such, EPA is aware of the fact that the TMDL is not adequately protecting WOS in the Hells Canyon reach. Pursuant to this, EPA is obligated to develop NPDES effluent

limits necessary to meet water quality standards. As a result, EPA needs to develop TP limits year round – not just limits for the May-September timeframe.

Response: The Snake River Hells Canyon (SRHC) TMDL defined the season of impairment and concluded that the concentration of 0.07 mg/L total phosphorus from tributaries including the Boise River during that season would allow uses to be met from May-September. Determination of impairment outside of the water bodies and season described in the SRHC TMDL cannot be made without a watershed wide assessment of the loading capacity for phosphorus and applicable load and wasteload allocations (LAs and WLAs) for each source in the watershed. The Lower Boise River (LBR) Total Phosphorus (TP) TMDL, which is currently under development, will identify the season of impairment as well as pollutant reductions and source allocations necessary to support beneficial uses in the Boise River. Until the LBR TMDL is submitted and approved, phosphorus limits in permits must be consistent with the SRHC TMDL. No change was made to the final 401 certification.

Comment: In DEQ's 401 cert for this permit, the agency determined that the LK canal was a man-made water, and as such, the water body has no designated uses other than agricultural water supply. DEQ further concluded that since no aquatic life or recreational uses were designated for the LK Canal, that DEQ would only provide the receiving water with Tier 1 protection.

EPA, however, correctly determined that the receiving water was an undesignated water and that a UAA had not been undertaken to remove beneficial uses. As such, the EPA determined that the LK Canal requires aquatic life and recreation uses. To this end, the EPA issued effluent limits that are more stringent than the limits that the DEQ authorized in its 401 certification.

Response: DEQ disagrees with EPA's interpretation of the Idaho WQS. The WQS include a general provision for undesignated waters, but then also specifically address, in section 101.02, undesignated man-made waters. Such waters are protected for the use for which they were developed. The WQS do not protect undesignated man-made waters for aquatic life or recreational uses unless there is information that shows that these are existing uses. There is no information establishing existing aquatic life or recreational uses in this canal.

Man-made waterways include "canals, flumes, ditches, wasteways, drains, laterals, and/or associated features, constructed for the purpose of water conveyance." IDAPA 58.01.02.010.58. Section 101.02 recognizes the complex system of canals and drains and other water conveyances built to support Idaho agriculture. These man-made waterways are distinctly different from natural water bodies. They were constructed and are operated to promote water conveyance and were not intended to support aquatic life and recreational uses. Canal owners and operators maintain the channel to promote water conveyance, through such activities as period application of algaecides, removal of benthic and riparian vegetation, and excavation of accumulated sediment to restore channel shape, depth and gradient. The flow of water is highly regulated and abruptly changes on a seasonal basis. DEQ applies the criteria applicable to agricultural uses to protect these waters for the use for which they were constructed—agricultural water conveyance. If there is information that establishes other existing uses, DEQ will protect for those existing uses. In addition, DEQ will protect downstream waters.

The man-made waterway provision has been in Idaho's WQS since at least 1980. EPA approved this section as part of its approval of Idaho's WQS in 1980. When EPA disapproved other sections of Idaho WQS in 1997, EPA specifically confirmed that the man-made waterway provision continued to be part of the approved WQS for Idaho. Importantly, EPA also confirmed that man-made waterways were protected for the use for which they were developed, unless designated for "other or additional uses." 62 Federal Register at page 41176 (July 31, 1997).

In rulemaking conducted in 2006 and 2007, DEQ made it easier to identify man-made waterways by describing their attributes, such as uniform and rectangular cross-sections and straight channels. EPA attended the negotiated rulemaking meetings associated with this rulemaking at which DEQ clearly stated that the provision protected only for the use for which such waters were developed. EPA approved of this rule change.

DEQ has consistently applied this section of its WQS, and for years EPA has agreed with DEQ's interpretation of the plain language of this section. This is reflected in EPA's approval of the section as noted above. EPA has also included limits in its permits for years that protect these waters for agricultural uses only (because these are agricultural irrigation conveyances). It is only relatively recently that EPA has taken a new position and argued that, despite the fact that there is a specific undesignated man-made waterway provision; the general default undesignated provision applies to such waters so that they are protected for cold water aquatic life and recreational uses.

EPA's new interpretation of the Idaho WQS is inconsistent with the plain structure and language in the undesignated waters section of the WQS. There are three subsections in section 101 that address nondesignated waters: 1. The general default provision that protects waters for cold water aquatic life and recreational uses; 2. The man-made waterway provision that specifically addresses man-made waterways that are undesignated; and 3. The private waters provision, which specifically addresses undesignated private waters. Basic rules of construction demand that the more specific provision must control over a general provision. DEQ obviously developed the man-made waterway provision to ensure specific treatment for such undesignated waters. Therefore, the more specific man-made waterway provision determines the uses for which the waterways are protected rather than the general default language.

EPA asserts that 101.02 and the general default language in 101.01 both apply to man-made waters. Under EPA's new interpretation 101.02 operates only to ensure protection of the man-made use in addition to the default cold water aquatic life and recreational uses. This assertion is belied by the plain language of the section. 101.02 provides that man-made waterways are protected for the use for which they were developed "unless designated in Sections 110 through 160." Sections 110 through 160 are the tables that list designated uses for waters. The use of the "unless designated" language makes it clear that it takes an affirmative action by DEQ—designating a different or additional use in the tables—for any use other than the man-made use to be protected. EPA's new interpretation is simply inconsistent with the language in 101.02.

DEQ believes the WQS are unambiguous, and clearly state that undesignated man-made waters are protected for the use for which they were developed and not for cold water aquatic life and recreational uses. To the extent the language is viewed as unclear or ambiguous, DEQ has attached to the response to comments additional information that clearly indicates the intent of

the language, and EPA's agreement with DEQ's interpretation. No change was made to the final 401 certification.

Comment: However, the EPA has failed to direct the DEQ to redo the antidegradation analysis of the LK Canal in light of the fact that there are aquatic life and recreational uses. Nor did the EPA undertake its own antidegradation review of the water body to consider the impacts that were authorized in the draft NPDES permit. As such, no antidegradation review and analysis has been conducted for this NPDES permit and as a result, this process undertaken to develop this permit is legally lacking and must be redone.

Response: DEQ disagrees. The antidegradation analysis in the draft 401 certification is appropriate and complete. As a man-made water, the LK Canal is a Tier 1 water body and the existing in stream water uses and the level of water quality necessary to protect the existing agricultural water supply uses shall be maintained and protected (IDAPA 58.01.02.051.01).

Moreover, even assuming the cold water aquatic life and recreational uses were applicable uses for the LK Canal, DEQ believes the LK Canal would only be afforded Tier 1 protection for such uses. During the irrigation season, (approximately May-September), the LK Canal receives water diverted from the Boise River in a stretch of the Boise River where aquatic life and recreational uses are not fully supported. It is reasonable to assume that the water quality in the LK Canal is similar to that reach of the Boise River. Therefore, the LK Canal would be a water afforded Tier 1 protection only for aquatic life and recreational uses.

In addition to looking at water quality in the LK Canal, DEQ also reviewed whether the discharge is consistent with the TMDLs intended to bring the Boise River back into compliance with WQS. The permit includes effluent limitations that are consistent with the Lower Boise TMDL for bacteria and sediment and the SRHC nutrient TMDL. Changes were made to clarify consistency with TMDL load and wasteload allocations for downstream waters in the final 401 certification.

Comment: While undertaking this needed antidegradation review, the EPA (and DEQ) need to consider the implications of the DEQ's recent action to greatly increase the TMDL WLA for TSS at the Star WWTP. By increasing the TSS WLA from this facility, the DEQ runs afoul of required antidegradation protection.

Response: The proposed effluent concentration and load for sediment support the existing, agricultural water supply use in the LK Canal. The sediment load allocations in the 1999 Lower Boise River TMDL were designed to ensure the Boise River will achieve the water quality necessary to support its existing and designated aquatic life beneficial uses and comply with the applicable numeric and narrative criteria. A reserve for growth based on 20 year build out scenarios for wastewater facilities was part of the TMDL allocations. The Star Sewer and Water District requested an increase in their wasteload allocation from this reserve for growth. Allotting the Star WWTP a portion of the reserve will not exceed the TSS targets established in the TMDL. Thus, DEQ is maintaining water quality to protect downstream waters, the Mill Slough and the Boise River as well as existing uses in the LK Canal. No change was made to the final 401 certification.

Comment: Similarly, EPA (and DEQ) need to consider the consequences of the fact that the facility has increased its design flow since the most recent (1999) NPDES permit was issued for this facility. As such, it is not appropriate to base the antidegradation review on the 1.85 million gallons per day (MGD) design flow. Rather the review needs to be based on the 0.33 MGD design flow authorized in the facilities most recent permit.

Response: The antidegradation review demonstrates that the proposed effluent concentration and loads support the level of water quality necessary to protect both the existing agricultural water supply use associated with the LK Canal and existing uses of downstream waters, the Mill Slough and the Boise River. For Tier 1 water bodies there is no requirement to compare the previous to current design flow in the antidegradation review. No change was made to the final 401 certification.

Comment: DEQ and EPA have allowed the Star WWTP 9 years and 11 months to comply with the final TP (seasonal) limits in the permit. This is unacceptably long and inconsistent with EPA's direction that compliance schedules should require permit compliance as soon as possible.

The DEQ 401 certification contains a list and schedule for compliance related tasks (see Table 1 in cert). This table provides that star shall undertake an 'overall planning phase' for compliance with TP limits during 2015 and 2016. However, not until 2019 must Star again visit TP compliance. And then, star has no obligations related to TP until 2023 when it must conclude the final construction phase' for TP compliance.

The multiyear gap in TP related compliance activities between 2016 and 2019 and 2019 and 2023 is inconsistent with EPA's direction to secure permit compliance as soon as possible and represents an unacceptable delay. A shorter compliance schedule must be developed.

Response: Additional clarification of tasks associated with each completion date is included in the final 401 certification's compliance schedule. Additionally, a report of progress toward final compliance is required by December 31st of each calendar year. After the initial planning phase is complete in 2016, the facility must then acquire funds for their preferred design alternative. Acquisition of funds can take more than one annual application cycle. In addition, the Star Sewer and Water District (SWD) must pass a bond election in the community to repay the acquired loan. If the Star SWD cannot acquire all funds requested they may have to alter the design. Hence, the final design may not be complete until 2019. Construction must begin after the final design is complete in 2019. Tasks for construction include selecting a construction contractor, equipment acquisition and physical construction. Most equipment for upgrades must be designed and built specifically for each facility by the manufacturer, a process that may take more than one year.

Comment: The SRHC TP target requires that the Boise River not exceed .07 mg/L at the confluence with the Snake River during May-September. EPA's incorporation of final TP limits of 70 µg/L AML and 141 µg/L AWL inappropriately allows for daily discharges that may exceed the 'not to exceed' 70 µg/L TMDL target. Because the permit limits allow discharges on individual days to greatly exceed 70 µg/L TP, the permit has the potential of causing the Boise River to exceed the TP at the confluence of the Boise River and Snake River.

EPA either needs to limit TP discharges to a daily maximum of 70 μ g/L (or the corresponding mass limit) or to recalculate the AML and AWL such that no single day exceeds 70 μ g/L TP (or the corresponding mass load). We submit that recrafting the AML and AWL such that no single day has the appropriate statistical probability of exceeding 70 μ g/L would result in the need for a very stringent AML and AWL, well below the 70 μ g/L limit. As such, this method of complying with the not to exceed 70 μ g/L would be impractical. It would be more practical to simply articulate the TP limit as a daily maximum of 70 μ g/L, or its corresponding mass load).

Response: The SRHC TMDL sets a target for the Snake River of 0.07 mg/L TP. Point sources that discharge directly to the Snake River are provided waste load allocations applied on a monthly average basis (ref., SRHC TMDL, page 445). The SRHC TMDL provides a gross allocation to the mouth of the Boise River based upon a concentration of 0.07 mg/L TP. The TMDL does not provide allocations to sources on the Boise River, but rather provides that tributary TMDL processes will distribute the load to sources within the watershed (SRHC TMDL, page 447). DEQ developed the Lower Boise River TP Implementation Plan (2008) which implements the SRHC Boise River allocation and assigns Star a wasteload allocation of 2.4 lbs/day monthly average. DEQ believes the TP limit provided to Star is more stringent than is necessary to meet the allocation provided to the Boise River in the SRHC TMDL. At the very least, it is consistent with the allocations and assumptions provided in the SRHC TMDL. No change was made to the final 401 certification or the NPDES permit.

Comments submitted to EPA (and cc'd to DEQ) that are related to DEQ's 401 certification:

Commenter: Star Sewer and Water District (SSWD)

Comment: (Paraphrased) The LK Canal is a man-made water way and as such is to be protected for the use for which it was created. This was correctly identified by EPA in the 1999 NPDES permit fact sheet. The state has not modified, nor has EPA approved a change in the designated use for the LK Canal since issuance of the 1999 permit. The LK Canal requires protecting for agricultural water supply consistent with the 1999 permit. The District's position is that Tier 1 antidegradation protection is appropriate.

Response: DEQ agrees with this comment.

Comment: The new permit requires extensive water monitoring in the receiving stream. First, access to the canal must be obtained by the District from the owner of the LK Canal (Ada County Drainage District #2). The District's compliance with the required flow monitoring will be contingent upon approval from the owner of the LK Canal. The District is unable to comply with the surface water monitoring requirements without legal authorization from Ada County Drainage District # 2.

Response: DEQ agrees with this comment. The surface water monitoring of the conditions of the LK canal is a new requirement this permit cycle. EPA allowed for time to work with the canal company to obtain permission to take samples of the waterbody with the requirement to

begin surface water monitoring by March 15, 2015; which was expected to allow ample time for the construction and installation of monitoring devices. At this time, the agreement with the Drainage District is not complete. The Star Sewer and Water District WWTP requests 60 days from March 15th, the last day construction is allowed in the channel, to calibrate monitoring equipment. DEQ authorizes this delay in receiving water monitoring to allow equipment installation for representative data collection. Please note: The 401 certification and Permit section I.E.2 state that failure to obtain approval for the required surface water monitoring station does not relieve the Permittee of the surface water monitoring requirements of the permit. The 401 certification has been changed to include a 60 day extension after March 15th to allow calibration of monitoring equipment after the last date construction could occur in the canal.

Comment: Without undergoing upgrades, the District is not able to meet the *E. coli* bacteria limits using their combined wastewater treatment processes. Due to engineering and funding requirements, the required upgrades are impossible to meet within 30 days of the effective date of the permit.

The wastewater treatment process is not currently equipped with any de-chlorination facilities. Since there is no flow pacing no de-chlorination facilities, it is necessary for the District to establish a high chlorine dosing rate to ensure adequate bacteria kill. Even then, upsets or high TSS events in the lagoon treatment process occasionally cause higher bacteria counts in the effluent. Consequently, the District requests a 10-year compliance schedule for *E. coli*, similar to the schedule for phosphorus, for meeting the new *E. coli* limits, enabling the District to construct improvements and abandon the lagoons. Once this occurs, the District can confidently meet the new *E. coli* limits.

Response: DEQ notes a few single-sample exceedances of proposed instantaneous maximum *E. coli* effluent limits in the monitoring reported on submitted DMRs. The Star Sewer and Water District is upgrading the facility to better control chlorine dose rates and provide adequate dechlorination time. While the proposed E. coli limits are immediately achievable, the Star Sewer and Water WWTP may have difficulty ensuring there is no exceedance of instantaneous daily maximum permit limits for *E. coli* during commissioning of upgrades in the Compliance Schedule Task 2 (Table 1 of the Final 401 Certification). However, *E. coli* is not a new limit, and is thus not eligible for a compliance schedule; the previous permit had fecal coliform bacteria limits which have been replaced by *E. coli* limits. DEQ recommends that if the instantaneous maximum *E. coli* limit is exceeded, the facility should follow reporting procedures in the permit, adjust the chlorine dose, continue to sample to assess the effectiveness of the disinfection process, and prevent an exceedance of the monthly geometric mean permit limit. No changes were made to the final 401 certification or permit.

Comment: The design of the lagoons does not include ammonia removal. As growth occurs and the flows and loading increase into the WWTP, the ammonia concentrations out of the lagoon will increase until the plant is upgraded and the lagoons are abandoned. The District requests that EPA remove the interim AML or at a minimum, increase the AML from 5.4 mg/L to a level reflecting the use of the lagoons. The MBR treats 68% of the influent into the plant. We propose that the interim ammonia limit reflect the lagoon flow as well (19.5 mg/L for 32% of the influent

in 2013). The combination interim ammonia limit would be 9.9 mg/L as a weighted average of 5.4 mg/L * 0.68 + 19.5 mg/L * 0.32).

Response: DEQ has no sampling data suggesting that the interim ammonia limit cannot be met 30 days after the effective date of the permit. The interim effluent limits were derived using performance data provided by the facility while operating with the above-described split flow between the MBR and lagoons for treatment. Therefore, there is no basis upon which to allow for a change in the interim limits or compliance schedule. No change was made to the final 401 certification or permit.

Comment: Based on historical data, the District can't meet the interim total residual chlorine (TRC) limit (technology based limit or TBEL) of 0.5 mg/L based on historical data. Consequently, the District requests the interim TRC limits be eliminated to avoid constructing temporary improvements in the next few months that will be replaced with more permanent improvements in the next 3-4 years to comply with the final TRC limits. At a minimum, the District requests a one year compliance schedule from the effective date of the permit to construct the improvements necessary to meet the interim TRC limits.

Response: DEQ understands and agrees that it is reasonable to allow sufficient time to upgrade the facility to establish necessary controls for interim and final chlorine effluent limits. The Star SWD is working on preliminary engineering plans; DEQ staff has visited the facility and have provided consultation regarding options to allow a flow-paced control system for chlorine addition as well as adequate de-chlorination. Therefore, DEQ's final 401 certification includes a compliance schedule for the facility to take no more than one (1) year from the effective date of the Permit to install the necessary system improvements to comply with the interim TRC limits of 0.5 mg/L on an average monthly basis and 0.75 mg/L on an average weekly basis. The final TRC limits of 50 μ g/L on both average monthly and maximum daily (not to exceed) bases must be met 18 months after the effective date of the permit. The 401 certification was changed as a result of this comment to include a one (1) year compliance schedule for meeting the interim TRC limits and an additional six months to meet the final permit limits.

Commenter: Idaho Rivers United

Comment: Idaho Rivers United agrees with EPA's determination that the LK Canal must be protected for cold water aquatic life, primary contact recreation, agricultural and industrial water supply, wildlife habitats, salmonid spawning and aesthetics. While the LK Canal is a man-made waterway that delivers water from the Boise River to irrigate agricultural land to the West of the City of Star, an undetermined amount of that water re-enters the Boise River either before or after being applied to fields. Canals routinely overfill, and it is common to have large volumes of water flowing out of canals and re-entering the Boise River. With that in mind, Idaho DEQ is wrong in protecting the water in the LK Canal for agricultural use only – the LK Canal must be treated as a side channel of the Boise River and it must be protected to meet the beneficial uses of the Boise River.

Response: Please see the response above to Idaho Conservation League's second comment.

Comment: To allow the SSWD WWTP to discharge up to 4500 µg/L of TP year round for 10 more years, adding approximately 248,400 lbs of TP to the river, is not in keeping with the CWA. IRU recognizes that permanent plant improvements take many years, but the facility could use chemical treatment to greatly reduce TP discharge to the Boise River and the Snake River in the interim. The fact sheet contains no discussion of a strategy to immediately reduce TP levels (using chemical treatment for example) and move the Boise and Snake Rivers into compliance with Idaho WQS. EPA should require lower interim limits starting in 2015.

Response: At this time, the Star SSWD WWTP does not include chemical treatment in the process. The facility is required to complete a facility plan and evaluation of treatment alternatives (including chemical treatment), cost effectiveness and an implementation timeframe. After this analysis has been completed, the facility may choose to implement chemical treatment as a phase in meeting the final effluent limits. The compliance schedule has been modified to include additional clarification of tasks associated with each completion date and is included in the final 401 certification. A specific task and interim limit related to chemical treatment was not included in the schedule.

Comment: (Paraphrased) Given currently available information, IRU supports the final TP limits assigned in the draft permit for May 1- Sept 30, but does not support the absence of limits for TP for October 1 - April 30. Limits on TP discharge year round are clearly needed as TP accumulates in the river throughout the year. There is ample data to conclude that excess phosphorus is entering the Snake River from the Boise River throughout the year. Boise River impairments also extend beyond the May-Sept period. EPA should amend the draft permit to include winter limits on phosphorus. The permit includes a reopener that allows those limits to be modified if additional information becomes available or the TMDL approval happens in the next five years.

Response: Please see the response above to Idaho Conservation League's first comment.

Comment: EPA's establishment of receiving water flow conditions was severely hampered by lack of measurement in the LK Canal. This problem can easily be remedied by measuring flow upstream of the discharge point. IRU supports EPA's requirement that the Star Sewer and Water District continuously measure and report flow in the LK Canal upstream of the discharge.

Response: The Star WWTP is working to install an upstream monitoring location. The Permit requires monitoring to begin after construction and calibration of instream monitoring equipment in spring 2015.

Commenter: David Bennett, Retired Chemist

Comment: The NPDES Facts Sheet clearly designated Star's receiving water (the Lawrence Kennedy Canal) as a "man-made" waterway for agricultural water supply only. However, because Idaho Department of Environmental Quality (IDEQ) does not have the personnel or money to conduct a government required unfunded mandate to complete a UAA Study, Star's customers are being punished with overly restrictive and expensive requirements to meet the fishable/swimmable uses designation.

Response: DEQ agrees that the permit should not include effluent limits to meet cold water aquatic life in Lawrence Kennedy Canal unless they are necessary to protect cold water biota in Mill Slough or the Boise River.

Commenter: Robbin Finch, Boise Public Works

Comment: The 2014 NPDES Fact Sheet description of the Idaho Water Quality Standards description of undesignated waters is incomplete. It describes only one of three EPA approved classes of undesignated waters (IDAPA 58.01.02.101.01) and omits the provisions for "Manmade Waters and Private Waters" (IDAPA 58.01.02.101.02 and 101.03). "Man-Made Waters" is the designated use that IDEQ and EPA used the Man-made Waters designated use in the 1999 NPDES permit and Fact Sheet for Star and it is identified as appropriate in the IDEQ Draft 401 certification of the Draft Star Permit.

Neither the State of Idaho nor EPA has changed the water quality standards use designation for LK Canal since 1999. The 2014 Fact Sheet and the associated permit need to correctly identify the designated use(s), which based on the NPDES permitting and Water Quality Standards record, appears to be "man-made waters".

The permit and fact sheet contain limits and conditions, including monitoring requirements that are based on designated uses and criteria that are not applicable to the Lawrence Kennedy Canal, including aquatic life and human health limits or sampling and monitoring requirements. They need to be revised to remove requirements outside of protection of general water quality criteria, agricultural water quality criteria or for protection of downstream uses.

Response: DEQ agrees that the permit should not include effluent limits to meet cold water aquatic life in LK Canal unless they are necessary to protect cold water biota in Mill Slough and the Boise River. No change was made to the final 401 certification or permit.



Using DEQ's FTP Site

Instructions for External Users

What is an FTP?

FTP (file transfer protocol) is the simplest way to exchange files over the Internet. An FTP site is like a large community filing cabinet where you can drop files off and have someone else pick them up. FTP sites are particularly useful for large documents that are too big to e-mail.

How do users access the FTP site?

To make an FTP connection, you can use a dedicated FTP software program, referred to as an FTP client (e.g., FileZilla) or a standard Web browser (e.g., Internet Explorer or Firefox). The simplest way to use the FTP set is via a Web browser. These instructions are detailed below. However, due the variability in browsers and security settings, some people may have problems accessing the FTP site via a Web browser. If you run into troubles, let your contact at DEQ know and he or she can provide you with instructions for downloading and using FileZilla.

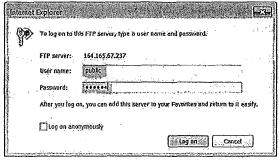
Use Internet Explorer (rather than Firefox) to ensure you can download and upload files.

To Download Files

In Internet Explorer, copy and paste the FTP site address ftp://164.165.67.237 into the address bar of the browser. Click on the folder where the file you want to download is located. When the pop-up box appears, enter the username and password and click Log on.

The username and password are public.





When you see the file you want to download, right-click on the file and select Save target as. (You may get prompted for a username and password one more time—use public for both again.) You can save to any location you choose.