ITEM # 24
DATE: 08-10-10

COUNCIL ACTION FORM

SUBJECT: NPDES PERMIT FOR WATER POLLUTION CONTROL PLANT

BACKGROUND:

The Ames Water Pollution Control (WPC) Facility is required to have a National Pollutant Discharge Elimination System (NPDES) permit to discharge into the South Skunk River. The existing permit expired in August of 1999. The City filed for a permit renewal in February 1999, six months in advance of the permit expiration date as required by the federal Clean Water Act. While the existing permit is "expired," it continues to be valid and enforceable until a new permit is issued.

The Iowa Department of Natural Resources (IDNR) has been delegated authority to administer the NPDES permit system in Iowa. After waiting six years for a permit renewal with little action by the IDNR, in 2005 the City began a process to advance the issuance of a new permit. Two independent consulting firms were tasked by the City with developing a Waste Load Allocation (WLA) for the segment of the South Skunk River where the Ames WPC Facility discharges. The last evaluation was completed in May 2007. The WLA forms the technical basis for assigning numerical discharge limits for the NPDES permit.

Using the information from the WLA's, discharge limitations were developed by our consultants that staff believed to be appropriately protective of the South Skunk River and consistent with Iowa law. After holding two public meetings to share the findings, staff presented the proposed permit limits to Council on August 14, 2007. At that meeting, Council gave its consent for staff to forward the proposed limitations to the IDNR as discharge limits acceptable to the City of Ames.

On June 29, 2010, IDNR issued the formal "draft" discharge permit for the Ames facility. The issuance of a "draft" permit is the first formal step in imposing a NPDES permit. The "draft" permit begins a public notification and comment period. During this period, the permittee, as well as the public at large, may provide comments to the IDNR either in support of, or in objection to, the terms and conditions of the draft permit. In this case, the public comment period will end on August 14, 2010. At the conclusion of the comment period, the IDNR will review the comments and prepare a "responsiveness summary" for all substantive comments. The IDNR may then either modify the draft permit and begin a new round of public comments or issue the permit as "final." When issued as "final," the permit becomes effective, pending concurrence by the U.S. EPA.

The public comment period is a critical time for the permittee. If the "final" permit contains provisions that the permittee believes are inappropriate, the permittee has both administrative and judicial avenues that can be pursued. However, challenges can only

be brought forward for topics that the permittee raised as a concern during the public comment period. Thus, a critical review of the "draft" permit and a comprehensive identification of issues of concern are essential during this period. To assist in the evaluation, staff engaged the services of one of the consulting firms that assisted with the earlier Waste Load Allocation evaluation; namely, Hall & Associates. Their evaluation of the requirements shown in the "draft" permit has been completed. Staff recommends that the following topics be raised with the IDNR as objections to conditions contained in the "draft" permit.

1. Part 567, Chapter 64 of the Iowa Administrative Code describes the conditions under which the City must give IDNR six-months' advance notice of a new industry connection to our sanitary sewer system. The draft permit contains wording that greatly broadens the instances where the six-month notice must be given and could potentially compel the City to hold up a new industrial customer's connection to and discharge into the sanitary sewer system.

2. The draft permit proposes to alter the minimum dissolved oxygen limitations from the current seven-day average limitation to a single-day limitation. Under the federal Clean Water Act, this is appropriate only if an acute water quality standard would not be met. Staff has concluded that the numerical limitations proposed would not result in such a situation and that a seven-day average continues to be the appropriate standard.

3. The draft permit proposes to establish single-day carbonaceous biochemical oxygen demand ($CBOD_5$) limits, as opposed to seven-day average limits. This was an issue in the previous permit appeals back in the 1990s. The Clean Water Act requires that secondary treatment standards, including $CBOD_5$, should be expressed as 30-day and seven-day averages unless impractical. The purpose of the $CBOD_5$ standard is to protect in-stream oxygen levels. Much like the dissolved oxygen standard, staff believes that a seven-day average is both practical and appropriate for $CBOD_5$ limitations.

4. The draft permit includes language that reads "wastes in such quantities as to exceed the design capacity of the treatment works…are considered to be a waste which interferes with the operation or performance of the treatment works [and] are prohibited...." When asked specifically whether that wording is intended to treat flow as a waste, IDNR staff replied categorically "yes." Staff believes there are no enabling federal or state statutes granting IDNR the authority to regulate wastes entering a treatment plant—only the effluent leaving the plant. Also, there is no underlying water quality standard that would treat "flow" as a pollutant. As such, imposing such a limitation has neither a water quality nor legal basis for inclusion in a permit.

5. The draft permit contains a compliance schedule for the installation of disinfection at the facility, calling for the system to be operational within 37 months of the effective date of the permit. However, there are steps in the process where the City is entirely

at the mercy of IDNR staff to process applications and grant approvals in a timely manner. Staff is not comfortable accepting a compliance schedule with a fixed end date when critical portions are outside the City's control. City staff provided a compliance schedule to IDNR that would alleviate this concern, but that solution was not incorporated into the draft permit.

6. The draft permit would not allow the continued use of the plant's existing peak wet-weather treatment scheme of "blending," but instead would treat it as an illegal bypass. In order to comply with this requirement, the City would need to spend an estimated $30 to $40 million to construct additional hydraulic capacity that would be needed on average only a few hours per year.

In addition to these six significant issues, staff has also identified a number of smaller inconsistencies between the narrative in the permit and the accompanying permit rationale document. Staff would propose to identify these to IDNR as well, simply to keep the administrative record of the permit as clean as possible.

Staff is requesting Council authorization to file comments with the Iowa Department of Natural Resources raising these six objections to the draft permit. The comments need to be filed by the end of the week in order to preserve the City's ability to pursue further administrative or judicial review of a finalized permit. If the City files these objections, the IDNR may take one of two actions. They may revise the draft permit to take into account the concerns raised by the City and then re-issue a new draft permit for public comment. Or, they may issue the permit as "final" over the objections of the City. If the City desires to seek changes to a "final" permit, it must first exhaust all administrative remedies before seeking judicial review.

Staff of the Water and Pollution Control Department has a mission to protect public health and the environment, and that consideration was foremost in reviewing the draft permit. It is worth noting that there are a number of tightened restrictions contained in the draft permit (for example, much more restrictive ammonia and dissolved oxygen limits and the inclusion of bacterial limitations) that staff proposed to the IDNR more than three years ago and is supportive of having included in a new discharge permit. However, staff must also carefully consider the cost of complying with restrictions for which there are no technical or regulatory basis to impose. The recommendation to object to selected provisions in the draft permit is based on the cost of compliance with permit limits for which there is no legal basis.

Included with this Council Action Form are two attachments. Attachment A contains a more detailed background on the history of the Ames NPDES permit. Attachment B is the report prepared by Hall & Associates.

ALTERNATIVES:

1. Authorize staff to file written comments with the Iowa Department of Natural Resources that raise the above-described objections with the draft National Pollutant Discharge Elimination System permit for the Ames Water Pollution Control Facility.

2. Authorize staff to file modified written comments with the Iowa Department of Natural Resources, reflecting the desires of the Council.

3. Direct staff to file no comments with the Iowa Department of Natural Resources. This would preclude the City from making a future appeal of the permit and would require the City to comply with the terms and conditions contained in the draft permit.

MANAGER'S RECOMMENDED ACTION:

City staff has performed an evaluation of the draft permit with the assistance of outside experts. The following are key points from that evaluation leading to the City Manager's recommendation:

- A number of requirements contained in the draft permit are not authorized by either state or federal legislation or regulation.

- Conditions contained in the draft permit would unnecessarily hamper the City's ability to accept new commercial and industrial customers.

- The imposition of inappropriate numerical limits would expose the City to enforcement action, including citizen suits, even in the absence of any water quality impairment or any violation of the Clean Water Act.

- Conditions contained in the draft permit would place the City in the position of being liable for a disinfection compliance schedule when portions of the process are outside the City's control.

- Terms in the draft permit would compel the City to construct additional hydraulic capacity with a cost of tens of millions of dollars that would sit idle for all but a few hours per year.

Therefore, it is the City Manager's recommendation that Council adopt Alternative No. 1, thereby authorizing staff to submit the above-described comments to the Iowa Department of Natural Resources in response to the draft National Pollutant Discharge Elimination System permit for the Ames Water Pollution Control Facility.

City of Ames, Iowa
Water and Pollution Control Department

ATTACHMENT A:
Background Information on the Ames NPDES Permit

Permit Background

Beginning in 1971, the City of Ames undertook the process of planning, designing, and constructing a new Water Pollution Control (WPC) Facility. The new facility was required due to water quality degradation in the South Skunk River south of the then-current Ames WPC Plant. In 1986, the state issued a new NPDES permit to the City of Ames. This permit included new discharge limitations and a compliance schedule for the City of Ames to achieve the new limitations. This 1986 permit formed the basis of design for the new facility. The plant began partial operation in May of 1989; and by the time it began full operation in November 1989, it had already achieved four months of full compliance with its 1986 NPDES permit.

In January 1990 (two months later), the State of Iowa issued a new draft permit to the City of Ames that contained more stringent effluent limitations than the 1986 permit. The City objected to those new limitations based in part on §455B.173(3) of the Iowa Code, which reads in part as follows:

> "A publicly owned treatment works whose discharge meets the final effluent limitations which were contained in its discharge permit on the date that construction of the publicly owned treatment works was approved by the department shall not be required to meet more stringent effluent limitations for a period of ten years from the date that construction was completed and accepted but not longer than twelve years from the date that construction was approved by the department."

The state's rationale for issuing a new permit to Ames was that recent changes in the water quality standards (WQS) necessitated a change in the permit limits. The City of Ames requested to see the technical basis of the new WQS, as no changes had ever gone through formal rules review and public comment. IDNR responded that the new standards were the result of an "informal compromise" to a dispute between Iowa and U.S. EPA Region VII, which had objected to several Iowa permits.

The City of Ames filed an appeal before an administrative law judge with the Iowa State Department of Inspections and Appeals. On March 1, 1991, the administrative law judge ruled that "…the legislative intent and mandate of IC § 455B.173 is unqualified, clear, and unambiguous…" and that "…the [IDNR's] arguments…to avoid the effect of the statute are singularly unpersuasive." The ruling ordered IDNR to issue a final permit with discharge limitations no more restrictive than the 1986 permit.

The IDNR appealed the administrative law judge's ruling to the Iowa Environmental Protection Commission. On July 15, 1991, after less than an hour of discussion, the Commission unanimously affirmed the judge's decision and ordered IDNR to issue a permit with the original construction limits as the discharge limits. On September 16, 1991, IDNR drafted the permit as ordered.

On December 24, EPA formally notified IDNR of the Region's intent to object to the permit as not ensuring compliance with Iowa's water quality standards. IDNR was given 90 days to issue a permit that EPA approved of or EPA would initiate action to assume authority back from the state and issue a federal permit. In a January 21, 1993 letter, EPA formally notified IDNR that Region VII was assuming authority for the Ames permit.

On July 18, 1994, more than a year after EPA assumed authority, Region VII issued Ames a draft NPDES permit where the fact sheet alone was 41 pages. The new draft permit included $CBOD_5$ and NH_3-N limits that were even more stringent than the appealed IDNR permit. Also included were monitoring requirements for six parameters for which EPA freely admitted there was no reasonable potential of a water quality standard violation. The City filed a Notice of Appeal with the U.S. EPA Environmental Appeals Board (EAB) in Washington D.C. On June 4, 1996, the EAB ruled that, as a matter of law, it could find no persuasive argument that the position taken by EPA was valid and remanded the matter back to U.S. EPA Region VII to reconsider. Since that time, the City of Ames has received no correspondence from Region VII about a new draft permit.

As a matter of law, the discharge limitations contained in the federal permit were modified by the EAB ruling such that IDNR's 1986 permit contains the only valid discharge limitations applicable to the City of Ames. That permit expired in August 1999; and although the City properly filed for a permit renewal six months prior to its expiration, to date no new permit has been issued by either the state or EPA.

In early 2004, IDNR and the City of Ames began periodic discussions to restart the Ames permit process. In September of that year, IDNR provided the City of Ames with results of a waste load allocation. The City of Ames accepted all of the numerical limitations proposed in that waste load allocation except one; namely, the maximum-day CBOD value. The City retained two independent consulting firms to prepare separate waste load allocations for the Ames facility. Each firm concluded that the existing CBOD limitations for the Ames WPC Facility were still appropriate; and, in fact, less stringent secondary limits for CBOD will still satisfy Iowa's water quality standards. Both firms concluded that the CBOD limits put forth by IDNR were more stringent than necessary to protect aquatic life in the South Skunk River.

Staff held two public meetings (June 20 and July 16, 2007) to present the results of the waste load allocations to interested members of the Ames community. Materials presented ranged from general background on the Clean Water Act and the NPDES permit process to detailed scientific discussions of the waste load allocation model used

for the South Skunk River. At that time, staff presented discharge limitations believed to be appropriately protective of the South Skunk River and consistent with Iowa law. Staff presented these permit limits to Council on August 14, 2007. With Council's authorization, staff subsequently submitted the materials to IDNR.

Staff had occasional conversations with IDNR staff about the permit over the next 18 months. In the spring of 2009, an IDNR permit writer notified the City that work was beginning in earnest on preparing a new draft permit for Ames. City staff coordinated with IDNR staff to collect additional discharge performance data from the Ames WPC Facility. On April 7, 2010, city staff received a courtesy "pre-draft" NPDES permit from the IDNR. Staff reviewed the "pre-draft" version and on April 21, 2010 provided written comments back to the IDNR, identifying three IDNR conclusions that staff supported, eight issues for which staff sought additional supporting information, and two issues of significant concern.

On May 13, IDNR responded in writing, providing most of the requested clarifications. Some of the clarifications resolved city staff concerns, and some raised new concerns. The response from IDNR also indicated that some of the discharge limits shown in the initial "pre-draft" permit were now being changed. IDNR gave city staff two weeks to provide additional comments and were informed that the next response from IDNR would be a formal "draft" permit. City staff traded correspondences with IDNR staff over this period in an attempt to resolve the outstanding issues and were granted additional time to further research the underlying legal, technical, and regulatory basis of the points of concern. A written response was forwarded by city staff to the IDNR on June 14, 2010. On June 29, 2010, a formal "draft" permit was issued by IDNR. The public comment period for the draft permit runs from June 30, 2010 until August 14, 2010.

City of Ames, Iowa
Water and Pollution Control Department

ATTACHMENT B:
Comments on the 2010 Draft NPDES Permit for the City of Ames, Iowa

Prepared by Hall & Associates

The Iowa Department of Natural Resources (IDNR) issued a draft NPDES permit for the Ames Water Pollution Control Facility (WPCF) on June 30, 2010. On review of the draft permit, the City of Ames identified several conditions that require revision prior to issuance of the final permit. These conditions include: (1) notification requirements under the industrial pretreatment program, (2) the daily minimum effluent dissolved oxygen requirements, (3) the maximum daily effluent limits for CBOD5, (4) the prohibitions related to facility design capacity, and (5) the prohibitions related to the blending of peak wet-weather flows prior to discharge.

1. New Industry Notification

The draft permit includes the following notification provisions with regard to Major Contributing Industries (Draft at 15):

> 1. You are required to notify the department, in writing, of any of the following:
> (a) 180 days prior to the introduction of pollutants to your facility from a significant industrial user.
> (1) Discharges an average of 25,000 gallons per day or more of process wastewater excluding sanitary, noncontact cooling and boiler blowdown wastewater;
> (2) Contributes a process waste stream which makes up five percent or more of the average dry weather hydraulic or organic capacity of the publicly-owned treatment works:
> (3) Is subject to Categorical Pretreatment Standards under 40 CFR 403.6 and 40 CFR Chapter I, Subchapter N; or
> (4) Is designated by the department as a significant industrial user on the basis that the contributing industry, either singly or in combination with other contributing industries, has a reasonable potential for adversely affecting the operation of or effluent quality from the publicly-owned

treatment works or for violating any pretreatment standards or requirements.

(b) 60 days prior to a proposed expansion, production increase or process modification that may result in the discharge of a new pollutant or a discharge in excess of limitations stated in the existing treatment agreement.

(c) 10 days prior to any commitment by you to accept waste from any new significant industrial user. Your written notification must include a new or revised treatment agreement in accordance with rule 64.3(5)(455B).

This wording in the draft permit differs from the actual wording contained in the regulations upon which the Department relied to set this requirement in the draft permit. The actual wording from the pertinent section of IAC 567 – 64.7(5) is provided below.

64.7(5) *Other terms and conditions of issued NPDES permits.* Each issued NPDES permit shall provide for and ensure the following:

d. That, if the permit is for a discharge from a publicly owned treatment works, the permittee shall provide notice to the director of the following:

(1) One hundred eighty days in advance of any new introduction of pollutants into such treatment works from a new source as defined in 567—Chapter 60 if such source were discharging pollutants;

(2) Except as specified below, 180 days in advance of any new introduction of pollutants into such treatment works from a source which would be subject to Section 301 of the Act if such source were discharging pollutants. However, the connection of such a source need not be reported if the source contributes less than 25,000 gallons of process wastewater per day at the average discharge, or contributes less than 5 percent of the organic or hydraulic loading of the treatment facility, or is not subject to a federal pretreatment standard adopted by reference in 567—Chapter 62, or does not contribute pollutants that may cause interference or pass through; and

(3) Sixty days in advance of any substantial change in volume or character of pollutants being introduced into such treatment works by a source introducing pollutants into such works at the time of issuance of the permit.

Such notice shall include information on the quality and quantity of effluent to be introduced into such treatment works and any anticipated impact of such change in the quantity or quality of effluent to be discharged from such publicly owned treatment works.

We note that permit provision 1.(a) should specify that the notification is only required for "new" SIUs. Moreover, the proposed permit language now requires all of the exceptions to be met to defer notification, although the rule only required notification if *none* of the exceptions are met. To conform the permit provision to the underlying rule, the language, as it appears in IAC 567-64.7(5)(d)(2), should be referenced to avoid confusion. Finally, the wording of permit provision 1.b does not reflect the exact wording of the rule and appears to contain substantial revisions whose impact is not clear. To rectify these inconsistencies, we suggest that the permit condition should read as follows:

1. You are required to notify the department, in writing, of any of the following:
   (a) 180 days prior to the introduction of pollutants to your facility from a **new** significant industrial user **unless reporting is not required in accordance with 64.7(5)(d)(2).**
   (b) 60 days **in advance of any substantial change in volume or character of pollutants being introduced into such treatment works** excess of limitations stated in the existing treatment agreement.
   (c) 10 days prior to any commitment by you to accept waste from any new significant industrial user. Your written notification must include a new or revised treatment agreement in accordance with rule 64.3(5)(455B).

2. Dissolved Oxygen

The draft permit includes monthly minimum dissolved oxygen requirements ranging from 6.0 – 7.5 mg/L. The preliminary Wasteload Allocation Calculations and Notes (January 13, 2010) indicate that the dissolved oxygen limits were established as necessary to maintain a dissolved oxygen level of 5 mg/L with consideration for ammonia-nitrogen and CBOD5 in the effluent (e.g., a Streeter-Phelps type analysis using the model QUALII). The Wasteload Allocation Calculations and Notes provide the following:

CBOD5/Total Dissolved Oxygen:

QUALII modeling was performed from April through October starting from upstream of the outfall location to Cambridge. The model was calibrated using the data collected in September of 1984 by UHL. At the time the old Ames POTW was in operation and was discharging an effluent with CBOD5 ranging from 14 mg/l to 26 mg/l and NH3-N levels ranging from 10 to 19 mg/l.

After calibration, the QUALII model was run for the Ames Water Pollution Control Facility for the months of April through October at zero critical low flow conditions. The model was run at a discharge flow from the POTW of 8.6 mgd, and utilizing CBOD5 of 40 mg/l which is the maximum seven day technology based limit for a secondary treatment discharge. The ammonia-nitrogen was adjusted from the water quality based limits based on ammonia toxicity to maintain a dissolved oxygen level of 5 mg/l. The criterion is that the discharge cannot cause the DO level in the receiving stream below 5.0 mg/l.

It is important to note that there is an infinite combination of pairs of carbonaceous and nitrogenous oxygen demands that exert the same total oxygen demand. The relative concentrations of CBOD5 and NH3-N can be varied to achieve the same oxygen demands.

One constraint on the model is that the ammonia component cannot be allowed to exceed the acute toxicity levels. At lower levels, the primary concern with ammonia is its oxygen-consuming properties; at higher levels, it can become toxic to aquatic life.

As discussed above, the analysis was performed from April through October at a stream flow of zero (the critical low flow condition) and the Ames WPCF at its design flow, the daily maximum ammonia concentration, and the 7-day maximum CBOD5 for secondary treatment. The analysis resulted in monthly effluent limits for January – December with the daily maximum ammonia limit set equal to the acute wasteload allocation, a daily maximum CBOD5 of 30 mg/L, and varying dissolved oxygen minimum requirements summarized in Table 1.

The analysis used by the Department to calculate minimum dissolved oxygen requirements for the effluent inappropriately paired the daily maximum effluent limits for ammonia and CBOD5 to calculate the required DO in the effluent. The dissolved oxygen standard of 5.0 mg/L is a chronic standard and the calculations should have used the monthly average effluent limits for ammonia and CBOD5 to determine the effluent DO requirement. This is done because the monthly limit is a better estimator of the actual facility performance, particularly under dry weather flow conditions. The calculation methodology already uses a rare low flow event and it is inappropriate to assume that the effluent concentrations for ammonia and CBOD5 will simultaneously be at the maximum permit limit when the stream is at its low flow condition. This simultaneous occurrence is physically impossible if the nitrification unit is functioning properly.

Use of the daily maximum ammonia effluent limit is particularly inappropriate given that the facility must also comply with the 30-day average ammonia limit. Compliance with the 30-day average makes it virtually impossible to approach the daily maximum effluent limit. Consider, for example, the effluent limits proposed for April. The 30-day average ammonia limit is 2.1 mg/L and the daily maximum limit is 15.7 mg/L. In order to meet the monthly average, the facility needs to achieve a long term average ammonia concentration of about 1.1 mg/L (assuming a coefficient of variation equal to 0.6 for a well-operated facility). This operation is consistent with a daily maximum effluent ammonia concentration no greater than about 3.5 mg/L. The daily maximum ammonia effluent limit, 15.7 mg/L, is appropriate for toxicity considerations but should not be used to estimate DO impacts in the receiving water.

Table 1
Daily Ammonia/CBOD5/Dissolved Oxygen Limits (mg/L)

Month	Ammonia	CBOD5	Dissolved Oxygen
January	15.2	30	6.0
February	14.2	30	6.0
March	14.7	30	6.0
April	15.7	30	7.5
May	15.2	30	7.1
June	11.5	30	6.8
July	8.5	30	6.5
August	10.0	30	6.5
September	16.5	30	6.7
October	15.7	30	7.0
November	14.7	30	6.0
December	16.0	30	6.0

In summary, the approach used inappropriately pairs the chronic DO standard with extreme worst-case daily maximum (i.e., acute) events. Accepted permit derivation practice is to use the 30-day average conditions in modeling the chronic DO standard.

3. Daily Maximum CBOD5 Limit

The current permit specifies CBOD5 limits of 20 mg/L as a 30-day average and 30 mg/L as a 7-day average. The draft permit retains the numeric limits but specifies the 30 mg/L limit as a daily maximum. This change in the averaging period is not supported by the analysis for DO limits, as discussed above, and is contrary to federal requirements for POTWs (*See* 40 CFR 122.45(d)).

> **40 CFR §122.45 Calculating NPDES permit conditions (applicable to State NPDES programs, see §123.25)**

> (d) *Continuous discharges*. For continuous discharges all permit effluent limitations, standards, and prohibitions, including those necessary to achieve water quality standards, shall unless impracticable be states as: (1) Maximum daily and average monthly discharge limitations for all dischargers other than publicly owned treatment works; and (2) Average weekly and average monthly discharge limitations for POTWs.

Federal regulations require that permit limits be set at 7-day and 30-day averages for POTWs, unless impracticable. The only case where a municipal limit is set as a daily maximum is when an acute criterion is being modeled (See, EPA TSD (1991). Under the circumstances, both the CBOD and the DO requirements should remain as 7-day averages because the underlying water quality criteria is a chronic criteria and there is no realistic possibility the modeled conditions could occur under low flow performance of the facility.

4. <u>Standard Language</u>

The draft permit includes the following notification provisions with regard to Major Contributing Industries (Draft at 13):

> Outfall Number: 001
>
> Design Capacity
>
> The design capacity for the treatment works is specified in Construction Permit Number 87-242-S, issued September 22, 1987. The treatment plant is designed to treat an average dry weather (ADW) flow of 8.6000 million gallons per day (MGD), an average wet weather (AWW) flow of 12.1000 MGD, and a maximum wet weather (MWW) flow of 20.4000 MGD. The design 5-day biochemical oxygen demand (BOD5) load is 16150 lbs./day.* The design Total Kjeldahl Nitrogen (TKN) load is 4950 lbs/day.*
>
> Operator Certification Type/Grade: WW/IV
>
> Wastes in such volumes or quantities as to exceed the design capacity of the treatment works or reduce the effluent quality below that specified in the operation permit of the treatment works are considered to be a waste which interferes with the operation or performance of the treatment works and are prohibited by rule IAC 567-62.1(7).
>
> *Based on peak month.

There are several concerns with this provision. First, it constitutes an "internal waste stream" limit which is not allowable under federal rules. *See* 40 CFR 122.45(h). The CWA only regulates effluent discharges, not influent loadings. It is perfectly reasonable to expect that a wastewater plant would not violate its permit effluent limits simply because an influent loading in excess of the plant design occurred. Treatment plant design is normally quite conservative. As such, this provision should not be considered part of the NPDES permit since the exceedances of a design load has never been considered a CWA violation or even subject to restriction under the CWA. If this provision is to remain in the permit, we request that it be identified as a provision beyond the scope of the federal program and therefore would not trigger fines or penalties under the CWA. *See* 40 CFR 123.1(i).

Second, the Department has indicated that it now interprets IAC 567-62.1(7) to include flow in excess of the design capacity. This interpretation is misplaced, based on the plain reading of the regulation, and is contrary to federal requirements.

> **62.1(7)** Wastes in such volumes or quantities as to exceed the design capacity of the treatment works, cause interference or pass through, or reduce the effluent quality below that specified in the operation permit of the treatment works are considered to be a waste which interferes with the operation or performance of a publicly owned treatment works or a semipublic sewage disposal system and are prohibited.

With regard to the regulation, it specifies that "wastes" exceeding the design capacity of the treatment works are prohibited, but the meaning of "wastes" is not specifically defined in the regulations. However, the regulations do provide the following definitions (IAC 567-60.2):

> *"Other waste"* means heat, garbage, municipal refuse, lime, sand, ashes, offal, oil, tar, chemicals, and all other wastes which are not sewage or industrial waste.
>
> *"Sewage"* means the water-carried waste products from residences, public buildings, institutions, or other buildings, including the bodily discharges from human beings or animals together with such groundwater infiltration and surface water as may be present.

The definition of sewage indicates that "wastes" are the constituents carried by water (*e.g.*, BOD) and not the water itself. Consequently, flow cannot be considered a waste. Moreover, IAC 567-62.1(7) refers to design capacity, interference/pass-through, or permit limit exceedance as the basis upon which a waste is considered to interfere with the operation or performance of the treatment works. In this regard, the design capacity is an indicator of the facility's ability to meet its permit requirements. Flow is not a limited parameter and cannot cause a permit excursion. Moreover, the facility design incorporates an equalization basin and high water bypass overflow that prevents elevated flows from interfering with process operations.

Federal law is clear that it only regulates pollutants, not flow. In consideration of the question of whether water (flow) may be regulated as a pollutant under the CWA, the resounding judicial answer is "no." Several Circuits have held that water is not a pollutant under the CWA. *Orleans Audubon Society v. Lee*, 742 F.2d 901, 910 (5th Cir. La. 1984) ("Clear water is not within the definition of a pollutant under the CWA"); *see also* *Bettis v. Ontario*, 800 F. Supp. 1113, 1118 (W.D.N.Y. 1992) ("Water itself, however, is not a pollutant"). EPA has also announced the same position — "EPA does not consider flow to be a pollutant, and therefore the final rule does not require TMDLs or flow." 65 Fed. Reg.43619 (July 13, 2000). For this reason, effluent limitations are not established for flow in NPDES permits. Thus, under the State rule and federal law, we believe it is not proper to assert that influent flow occurring in excess of the plant design is a violation of State law. This new provision should be removed from the permit or, if included, clarified that it (1) does not apply to flow and (2) is not part of the federal program subject to fines under the CWA. See, 40 CFR 123.1(i).

5. Blending

The draft permit includes the following provisions with regard to Bypasses (Standard Condition 23):

> 23. BYPASSES
>
> (a) Definition – "Bypass" means the diversion of waste streams from any portion of a treatment facility or collection system. A bypass does not include internal operational waste stream diversions that are part of the design of the treatment facility, maintenance diversions where redundancy is provided, diversions of wastewater from one point in a collection system to another point in a collection system, or wastewater backups into buildings that are caused in the building lateral or private sewer line.

The City of Ames provided several comments on this condition prior to issuance of the draft NPDES permit. In its April 21, 2010 letter to Ms. Hildebrand, the City noted that "the Ames WPC Facility was designed and approved by both the IDNR and the U.S. EPA with a peak-flow scheme that utilizes the practice known as "blending." To our knowledge, there have been no regulatory changes that would preclude our continued use of this treatment scheme." In the Department's response to this statement (May 13, 2010 letter from Anne Hildebrand to John Dunn), it asked for documentation supporting the City's assertion, noting:

> "A bypass does not include internal operational waste stream diversions that are part of the design of the treatment facility."

The City provided the requested documentation in a letter from Mr. Dunn to Ms. Hildebrand (June 14, 2010). The documentation included a "Finding of No Significant Impact" by U.S. EPA Region VII (January 14, 1982), a process flow diagram with the December 1984 Facilities Plan Addendum, the 1990 NPDES permit issued by the State of Iowa, and the 1994 NPDES

permit issued by the U.S. EPA. These two permits identified Outfall Number 005 as the Equalization Basin Overflow identified on the process flow diagram. This unit was expressly designed to route peak flows from the biological process. Moreover, Section B-3.b of the 1994 NPDES permit describes the conditions under which the bypass can be used: "The Permittee may allow any bypass to occur that does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to ensure operation. These bypasses are not subject to the provisions of Paragraphs (c) and (d) of this section." Together, these permits confirm that the design and operation of the Equalization Basin Overflow were recognized and approved by IDNR and EPA.

The Department's Permit Rational (June 25, 2010) included a memorandum from Terry Kirschenmann, P.E. (June 18, 2010) titled, "Ames Bypass Overflow Discussion" in response to the information provided by the City on approval of the Equalization Basin Overflow. This memorandum confirms that the facility design included the Equalization Basin Overflow and notes "the fixed high water bypass overflow for the wet weather flow equalization basin was never expected to be used during the design life of this project for any flow up to the approved design flows." By implication, flows in excess of the approved design flows may be expected to discharge through the equalization basin overflow and be combined with the final effluent from the rest of the facility.

It is apparent from the definition of bypass provided in the permit and the statement in the May 13, 2010 letter that use of the Equalization Basin Overflow is authorized and not considered a bypass if it is used consistent with the design of the facility. The rule is clear, "A bypass does not include internal operational waste stream diversions that are part of the design of the treatment facility." The plant was designed with a diversion that is recombined with the biologically-treated effluent prior to discharge. This is a blending design and is precisely the type of condition intended to be addressed by the rule.

6. Schedule of Compliance - Disinfection

The draft permit includes a compliance schedule for achieving the new *E. coli* limits that triggers all submissions and compliance dates off of the permit issuance date. (Draft Permit at 17). A total period of 37 months is allocated to achieving compliance with the new limit. While the overall timeframe for the City's efforts is reasonable (37 months), triggering the compliance requirements solely off of the permit issuance date is problematic. The City cannot control how long it takes DNR to review and approve the facility plan, plans and specifications or issue any necessary construction authorizations. In similar cases where DNR's actions were in the critical path for completing an activity, the schedule is modified to trigger further City action *after* DNR has completed its approval actions.

In this instance, there is considerable uncertainty regarding the appropriate design flow condition that must be utilized for sizing the disinfection facility. In addition, EPA's position on treatment of peak flows is a moving target. Under these circumstances, it would be appropriate to have all schedule provisions after the first two to be triggered based on DNR approval actions.

Therefore, we request that the following compliance schedule be adopted:

- Submit a complete Facilities Plan (insert 6 months from permit issuance date)

- Submit a progress report 6 months after submission of Facilities Plan.

- Submit final plans and specifications 5 months after DNR approval of the Facilities Plan.
- Award contract for construction of wastewater treatment improvements 4 months after DNR approval of a construction permit.

- Submit construction progress report 8 months after initiation of construction.

- Achieve compliance with final *E. coli* limits 15 months after initiation of construction.