

BEFORE THE ENVIRONMENTAL APPEALS BOARD
of the UNITED STATES ENVIRONMENTAL PROTECTION AGENCY,
WASHINGTON, D.C.

In re:)	
)	
)	Appeal No. NPDES 13-10
City of Homedale)	
Wastewater Treatment Plant)	
Permit No.: ID-002042-7)	
)	
)	

ICL’S REPLY TO EPA REGION 10’S RESPONSE BRIEF

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Attachment 1

Memo Clarifying EPA's Position on the Use of Daily Time Increment When Establishing Total Maximum Daily Loads for Pollutants. Environmental Protection Agency, November 15, 2006.

Attachment 2

Mid Snake River/Succor Creek Subbasin: Five-Year Review of 2003 and 2007 Total Maximum Daily Loads, Idaho Department of Environmental Quality, September 2011.

Overview

The Idaho Conservation League (ICL) has appealed the NPDES permit for the City of Homedale (City) WWTP, charging that the NPDES permit contains effluent limits for the discharge of total phosphorus that are not consistent with the TMDL which assigned the City's WWTP a wasteload allocation. Specifically, the TMDL assigned the City's WWTP a wasteload allocation for total phosphorus of 11 lbs/day. The EPA recently issued NPDES permit contained a weekly average effluent limit for total phosphorus of 16.5 lbs/day and a monthly average limit of 11 lbs/day. ICL holds that the particulars of the TMDL necessitate that the City's total phosphorus effluent limit be expressed as a daily maximum discharge of no more than 11 lbs/day.¹

EPA, in its Response Brief, counters that ICL "is incorrect because the water quality-based effluent limits in the in the Permit are consistent with the underlying assumptions used in calculating the WLA in the Mid-Snake TMDL."² Asserting "the fundamental error in ICL's argument is based on the misunderstanding of the difference between a TMDL WLA and a permit effluent limit that is based on a TMDL WLA."³

Region 10's Response Brief does an excellent job of outlining the various statutory requirements, court cases and EAB decisions that bound the issues related to the development of daily loads in a TMDL and the translation of a WLA in a TMDL into an effluent limit in an NPDES permit. However, EPA ultimately reaches the wrong conclusion because it fails to understand that the effluent limits developed in this particular NPDES are fundamentally not consistent with the critical assumptions of this particular TMDL.

Because the City's effluent limits are not consistent with the assumptions in the TMDL and the TMDL WLA, implementation of the permit's effluent limits will not result in the attainment of the water quality standards. And, since "the central statutory requirement for water quality-based effluent limits in NPDES permits is that they implement

¹ Petition of Review, p. 3

² EPA Region 10's Response Brief, p.5

³ EPA Region 10's Response Brief, p.5

applicable water quality standards,”⁴ the effluent limits in the City’s NPDES must be seen as insufficient.

Total Phosphorus Effluent Limits Not Consistent With TMDL Assumptions

Citing the EAB in *In re City of Moscow, Idaho*, the EPA quotes: “WLAs are not permit limits per se; rather they still need translation into permit limits.” ... “While the governing regulations require *consistency*, they do not require that the permit limitations that will finally be adopted in a final NPDES permit be *identical* to any of the WLAs that may be provided in a TMDL”⁵

This is, of course, correct. Permit limits do not need to be identical to WLAs, however, as noted, they must be consistent with the critical assumptions used to develop the WLA. This need for consistency is articulated in 40 C.F.R. section 122.44(d)(1)(vii)(B), which directs that effluent limits in an NPDES based on TMDL WLAs must be “consistent with the assumptions and requirements of any applicable wasteload allocation...”

Let it be clearly stated, the Idaho Conservation League is not, in any way challenging the notion that NPDES effluent limits based on TMDL WLAs need to necessarily be identical to the daily wasteloads allocated in the germane TMDL. Further, let it be clearly stated that ICL agrees that effluent limits can differ from the TMDL WLAs provided that the effluent limits are consistent with the assumptions and requirements in the TMDL and the WLA, and that the permit limits succeed in the implementation of applicable water quality standards. These are fundamental concepts and ICL is not challenging them.

ICL is, however, challenging the total phosphorus limits contained in the City’s NPDES precisely because they are *not* consistent with the assumptions and requirements of the TMDL and the WLA and, as a result, they do not implement the applicable water quality standards per the Mid Snake/Succor Creek TMDL.

⁴ Memo Clarifying EPA’s Position on the Use of Daily Time Increment When Establishing Total Maximum Daily Loads for Pollutants. Environmental Protection Agency, November 15, 2006.

⁵ *In re City of Moscow, Idaho*, 10 E.A.D. 135, 147-8 (EAB 2001). Provided as Attachment 1

The Mid Snake/Succor Creek TMDL, crafted by the State of Idaho and approved by the EPA, reports:⁶

The target shown to result in attainment of water quality standards and support of designated uses in the reach is an instream concentration of less than or equal to 0.07 mg/L TP. Transport and deposition of phosphorus, and the resulting algal growth within the reach, is seasonal in nature. Therefore, application of the 0.07 mg/L TP target is also seasonal in nature, extending from the beginning of May through the end of September.

Critical here is the fact that the TP ‘target’ is articulated as a maximum in river TP concentration of 0.07mg/L. This target is *not* a weekly average, it is *not* a monthly average, and, although the target is only in affect on a seasonal (May-September) basis, it is *not* a seasonal average.⁷ This target is an instantaneous, in river concentration of 0.07 mg/L. If the TP concentration in this reach of the Snake River exceeds 0.07 mg/L then the target is exceeded.

Load allocations and wasteload allocation were developed in the TMDL such that the total phosphorus target of 0.07 mg/L could be achieved in this reach of the Snake River. Pursuant to this, and to insure that the targets could be “met and maintained,” the City’s WWTP was given a wasteload allocation for TP of 5 kg/day.⁸ This is equal to 11 lbs/day of TP.

Because the TMDL’s target is an instantaneous instream concentration, it is imperative that all of the wasteload allocations developed in the TMDL must, for NPDES effluent limit considerations, be preserved and implemented as daily maximums. This is necessary because a permit limit that tries to translate these WLAs into a weekly or monthly daily average would invariably authorize the NPDES permittee to discharge at a level that would cause the TP target to be exceeded.

⁶ Mid Snake/Succor Creek TMDL, April 2003. p. 164.

⁷ Amici Curiae Wet Weather Partnership, et al., fundamentally misrepresent this target in their Brief at page 7; stating that the TP target is “an average water quality target.” As such Amici Curiae’s entire rational for the use of weekly and/or monthly averages crumbles. Further, Amici Curiae’s assertion that “EPA determined that phosphorus loads higher on some days or even some weeks then the daily load will have no adverse impact on the seasonal water quality goals” (page 8 of their brief) is totally unsubstantiated, unattributed to any source and appears to be fabricated.

⁸ Mid Snake/Succor Creek TMDL, April 2003. p. 176-7.

In this instance, the City's NPDES permit authorizes weekly average daily discharges of 16.5 lbs/day. Hypothetically, let us presume that the City discharged the following:

Day 1, 70 lbs
Day 2, 10 lbs
Day 3, 7.1 lbs
Day 4, 7.1 lbs
Day 5, 7.1 lbs
Day 6, 7.1 lbs
Day 7, 7.1 lbs

The total discharge over this seven-day (1 week) period is 115.5 lbs.

The average daily discharge during this week is 16.5 lbs/day.

Per the TP effluent limits in the City's NPDES permit, these discharges would be compliant with the NPDES permit limits.

However, this pattern of discharges, because of the use of a weekly or monthly average of the daily discharges, allows for discharges on individual days that greatly exceed the numerical weekly average discharge. It authorizes daily discharges that are in essence large pulses of total phosphorus and tries to balance these out by averaging in correspondingly lower discharge days. In the example above, this is demonstrated by the large discharge on Day 1 and the much lower discharges on Days 2-7.

Recall that the Mid Snake/Succor Creek TMDL seeks to achieve an instream total phosphorus target of less than or equal to 0.07 mg/L. The TMDL achieves the attainment of water quality standards in this reach of the river *only* if all point and non-point dischargers discharge at or below their allocations on a daily basis.

If a subset of dischargers discharges a pulse of total phosphorus that exceeds the loads modeled in the TMDL, then this would upset the carefully constructed balancing act achieved by the TMDL's assigned load allocations and wasteload allocations. Resulting in the exceedance of the TMDL's total phosphorus target of 0.07 mg/L.

In order to be consistent with the assumptions and requirements of the TMDL TP target and the TMDL's WLAs, the NPDES effluent limits need to ensure that a discharger is not authorized to discharge TP at a level that would cause the instream TP concentration to exceed 0.07 mg/L. In this instance, that obligates the EPA to develop permit limits that

are no less stringent than the loads expressed in the WLA *and* consistent with the instantaneous nature of the TMDL's TP target. As a result, EPA cannot utilize weekly or monthly averaging when crafting the TP effluent limits in the City's NPDES permit unless these weekly and monthly average limits are set so stringently that they ensure that no single daily discharge exceeds 11 lbs/day. The use of weekly and monthly averages, in this instance, would be "impractical."⁹

EPA is wrong in claiming that "monthly" and "averages" were critical assumptions in TMDL

In EPA's Response Brief, EPA muddies the water by attempting to interject non-daily time periods and uses of the word 'average' from non-germane portions of TMDL into this discussion regarding permit limits. This appears to be done under the misguided belief that the mere mention of non-daily time periods and the use of the word 'average' in the TMDL somehow justifies the use of weekly and/or monthly *average* effluent limits in the NPDES permit. However, these efforts are misapplied, as the portions of the TMDL referenced by EPA are not germane to the assumptions that the TMDL relies on to demonstrate implementation of water quality standards and compliance with the total phosphorus target.

For instance, EPA points to the fact that the TMDL utilized the City's "monthly" design flow and relied on the "average" discharge concentration of phosphorus from other like facilities when modeling the City's discharges and developing the City's WLA.¹⁰

While it is true that the TMDL was informed by this information, the use of the City's 'monthly' design flow and the 'average' phosphorus concentration of like facilities does not play a role in the actions required to meet the instream total phosphorus target. The EPA is not correct in implying that the EAB's finding in *In re Moscow, Idaho* and/or the requirement that permit limits are "consistent with the assumptions and requirements of

⁹ 40 C.F.R. section 122.45(d), directing that effluent limits in NPDES permits for continuous dischargers should be expressed as weekly or monthly averages unless doing so is impractical.

¹⁰ EPA Region 10's Response Brief, p.6

any applicable wasteload allocation....” found in C.F.R. 122.44(d)(1)(vii)(B) would allow certain facts used to develop factual information about the pre-TMDL discharges to the river to somehow trump the assumptions that the TMDL relies on demonstrate how the TMDL will be implemented to result in the attainment of water quality standards.

When developing a NPDES permit limit, EPA needs to ensure that the effluent limit is consistent with TMDL and WLA assumptions that are relevant to ensuring that the implementation of the TMDL will achieve its intended goal; in this case the TMDL’s goal is to comply with the total phosphorus target. The mere reference to non-daily time periods and the use of the word ‘average’ in disparate parts of a TMDL does not raise these matters up to the level of “assumptions” vis-a-vis “assumptions” to which the effluent limit must conform. EPA errors by doing so.

EPA is wrong in claiming that “monthly averages” were critical assumptions in TMDL

Another TMDL ‘assumption’ referenced in EPA’s Response Brief requires discussion. On page 7 of its Response Brief, EPA writes

IDEQ state in the SR-HC TMDL that the WLA’s are to be applied “on a monthly average basis.” [SR-HC TMDL p. 445] Therefore, to be consistent with the assumptions made in the Mid Snake TMDL, which are based, in part, on the assumptions made in the SR-HC TMDL, the Region translated the Facility’s WLA into an average monthly effluent limit in the permit.

At first read, this seems damning to ICL’s claims. Here, finally, is a statement that seems to specifically state that a WLA would be translated into a permit limit via a *monthly average*. However, EPA’s reliance on this statement is misplaced.

First and foremost, this statement can not be used to support EPA’s use of a monthly average in the City’s effluent limit because this statement is lifted out of the Snake River/Hells Canyon TMDL – which is not the TMDL that contains the WLA germane to the City of Homedale. The City’s WLA are found in the Mid Snake River/Succor Creek TMDL.

That said, the guidance provided in the Snake River/Hells Canyon TMDL – that this particular WLA would be applied “on a monthly average basis” – is just the sort of information that EPA (nationally) has stated should be integrated into a TMDL to facilitate the development of NPDES permit limits.¹¹

To facilitate implementation of the TMDL, one of the stated "assumptions" of a TMDL's daily load or daily wasteload allocation might be that, for purposes of NPDES implementation in an appropriate context (e.g., storm water), the permit writer has the flexibility to express the permit's effluent limitation using a time frame in keeping with, and appropriate to, the water body and pollutant in question and the applicable water quality standard. Indeed, the TMDL submission might even include such alternate temporal expressions of the total load or the wasteload allocation as implementation assumptions.

The inclusion of specific guidance in the Snake River/Hells Canyon TMDL directing the use of a monthly average when translating this particular WLA into an NPDES effluent limit serves to underscore the total lack of similar guidance in the Mid Snake River/Succor Creek TMDL. The Snake River/Hells Canyon TMDL was written in tandem with the Mid Snake River/Succor Creek TMDL, so one has good reason to believe that the Mid Snake River/Succor Creek TMDL was developed with the full benefit of knowledge of the contents of the Snake River/Hells Canyon TMDL and vice versa. It is reasonable to conclude that the authors of the Mid Snake River/Succor Creek TMDL intentionally did not direct that a WLA found in the Mid Snake River/Succor Creek TMDL should be translated into a monthly average. Indeed, there is not a single use of the term “monthly average” in the entire 422 pages of the Mid Snake River/Succor Creek TMDL document.

Further it is worth noting that the guidance in the Snake River/Hells Canyon TMDL is directed only at a specific type of facility – treatment facilities that utilize activated sludge or other treatment. The City of Homedale’s WWTP is not this sort of facility. Where the Snake River/Hells Canyon TMDL does discuss facultative lagoon treatment

¹¹ Memo Clarifying EPA’s Position on the Use of Daily Time Increment When Establishing Total Maximum Daily Loads for Pollutants. Environmental Protection Agency, November 15, 2006.

works, like the City of Homedale's, the Snake River/Hells Canyon TMDL specifically does not mention anything about translating these WLA's into monthly average limits.¹²

Language regarding the use of monthly averages in future NPDES permits that is found in the Snake River/Hells Canyon TMDL, but not included in the Mid Snake River/Succor Creek TMDL, cannot be said to represent the implementation assumptions in the Mid Snake River/Succor Creek TMDL. As such, EPA can not rely on the use of a monthly average when it clearly contradicts the governing TMDL's assumption that all point and non-point dischargers will be controlled pursuant to a daily maximum to ensure that the TMDL's instream TP concentration target is not exceeded.

EPA is wrong in claiming that the seasonal nature of phosphorus necessitates monthly averages

EPA points to the TMDL's use of the word "seasonal" in an attempt to convince reviewers that this mention of a non-daily time period necessitates the use of a non-daily time period for effluent limits. But as before, EPA takes the TMDL's statements out of context and imbues them with false meaning.

The TMDL states:¹³

The target shown to result in attainment of water quality standards and support of designated uses in the reach is an instream concentration of less than or equal to 0.07 mg/L TP. Transport and deposition of phosphorus, and the resulting algal growth within the reach, is seasonal in nature. Therefore, application of the 0.07 mg/L TP target is also seasonal in nature, extending from the beginning of May through the end of September.

The Region's Response Brief truncates the TMDL language and reports it as:¹⁴

Transport and deposition of phosphorus, and the resulting algal growth within the reach, is seasonal in nature. Therefore, application of the ... [total phosphorus] target is also seasonal in nature.

¹² Snake River – Hells Canyon TMDL, June 2004. P. 445

¹³ Mid Snake/Succor Creek TMDL, April 2003. p. 164.

¹⁴ EPA Region 10's Response Brief, p.5

By deleting key portions of the TMDL's language, the Region masks true intent of this statement. The deletion hides the fact that the phosphorus target in the TMDL is expressed specifically as a "instream concentration of less than or equal to 0.07 mg/L TP." The target is an instantaneous, instream concentration and it is express specifically in a "less than or equal to format." This "less than or equal to" format can not be achieved if dischargers are authorized to discharge at weekly or monthly averages which allow daily discharges to exceed the lbs/day format of WLA.

Further the deletions hide the fact that the *seasonal* aspect being discussed here is the fact that the total phosphorus target is only applicable during the season in which the transportation and deposition of phosphorus is occurring and during which algal growth is problematic.

The TMDL clearly directs that the TP target is to be 'applied' seasonally – and that during that season, attainment of water quality standards requires that an instream concentration of less than or equal to 0.07 mg/L TP be maintained. The target is not to achieve an *average* concentration of 0.07 mg/L of TP. The target is to keep the TP concentration in the river at "less than or equal to 0.07 mg/L TP" during the entire season in which the target is applied.

EPA misapplies statements in the TMDL regarding effect of the WLA on the City

In crafting the City's NPDES effluent limits for total phosphorus, the EPA appears to have been inappropriately swayed by its interpretation of statements made by the Idaho Department of Environmental Quality regarding the notion that the City would, theoretically, not have to undertake measures to reduce phosphorus discharges until such time that the City expands its discharges beyond the design capacity of its WWTP.

EPA's Response Brief at page 8-9 cites these statements and concludes:

If the region translated the WLA of 11 lbs/day as a daily maximum effluent limit in the Permit, the City would be forced to upgrade its facility before reaching design capacity which was clearly not the intent IDEQ expressed in the TMDL.

ICL has two responses to this. First: if faithfully translating the City's WLA into permit limits that are constant with the assumptions in the TMDL (i.e. assumptions about what is needed to be undertaken to ensure that the TP target is met), means that the City has to upgrade its wastewater treatment plant, then the City is going to have to upgrade its facility.

Second, and perhaps more politically palatable for Region 10: the City does not actually need to upgrade its facility. As it turns out, the City is discharging at levels well within its WLA. Data published by the Idaho Department of Environmental Quality in 2011 in the Mid Snake River/Succor Creek TMDL 5-year review reveals that the City's WWTP discharges 7.5 lbs/day of total phosphorus.¹⁵ The City is currently operating in a manner that is within its WLA and still has significant flexibility with regard to operations and/or growth before its discharges exceed the WLA.

Thus, Idaho Department of Environmental Quality statements cited by the EPA may turn out to be accurate. "This TMDL allows the [Facility] to continue discharging at their current level ... The [Facility] will have to experience considerable growth before design capacity is met," and "it is the initial expectation that the sources [i.e Homedale] will meet their specific WLA's immediately."¹⁶

And the City is capable of meeting more stringent limits, like those which ICL believes are necessary, without additional facility upgrades. Indeed, the City is already demonstrating that it can operate within the 11 lbs/day load allocation assigned to it in the TMDL.

Irrespective, the EPA should not shy away from developing the appropriate NPDES permit effluent limits simply because it is concerned that the City might have to upgrade its WWTP as a result.

¹⁵ Mid Snake River/Succor Creek Subbasin: Five-Year Review of 2003 and 2007 Total Maximum Daily Loads, Idaho Department of Environmental Quality, September 2011. Provided as Attachment 2

¹⁶ EPA Region 10's Response Brief, p.8

Conclusion

The Mid Snake River/Succor Creek TMDL determined that instream concentrations of total phosphorus must be at or below 0.07 mg/L in order to attain water quality standards and support designated uses. The target is not to achieve an *average* concentration of 0.07 mg/L of TP. The target is to keep the TP concentration in the river at “less than or equal to 0.07 mg/L TP” during the entire season in which the target is applied. The load allocations and wasteload allocations developed and assigned in the TMDL, expressed in a “mass/day” format, represent a delicate balancing act. If all dischargers discharge at or below their assigned allocations on a daily basis, then the total phosphorus target of maintaining instream concentrations of TP at or below 0.07 mg/L will be met and maintained.

However, if on any given day a discharger exceeds their lbs/day allocation then they run the risk causing the river to exceed the instream total phosphorus target. Thus, the primary, and most critical assumption in this TMDL is that dischargers not discharge phosphorus at levels greater than the maximum daily load assigned to them by the TMDL’s WLAs.

In order to be consistent with the assumptions and requirements of the TMDL’s TP target and the TMDL’s WLAs, the City’s NPDES effluent limits need to ensure that the City not discharge more than 11 lbs/day of total phosphorus into the river.


EPA’s translation of the City’s WLA into NPDES permit limits which authorize weekly average discharges of 16.5 lbs/day and monthly average discharges of 11 lbs/day is not consistent with the TMDL’s critical assumption. Indeed, the discharges that are authorized by the City’s effluent limits place the attainment of the TMDL phosphorus target and thus water quality standards at risk.

So, while it is generally the case that there can often be significant flexibility in how WLA’s are translated into permit limits, in this instance, because of the unique way that the TMDL’s total phosphorus target was crafted and the TMDL’s underlying assumptions about what is necessary to achieve the target, there is actually very little flexibility available to the permit writers. The City’s NPDES permit limits must be

crafted in such a manner that they do not allow the City's discharge to exceed 11 lbs/day on any day.

Accordingly, for all the reasons mentioned above, ICL asks that the EAB find in favor of its petition and direct the EPA to develop new total phosphorus limits for the City's NPDES permit; limits that are consistent with the assumptions of the Mid Snake River/Succor Creek TMDL and implement and attain applicable water quality standards.

Dated: January 24, 2014

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Statement of compliance with word limitation

I, Justin Hayes, hereby certify, in accordance with 40 C.F.R. section 124.19(d)(1)(iv), that this Reply Brief is less than 7,000 words.

DATED: January 24, 2014

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CERTIFICATE OF SERVICE

I hereby certify that on the 24th of January, 2014, I caused a true and correct copy of ICL's Reply to EPA Region 10's Response Brief regarding Appeal No. NPDES 13-10 to be served upon the following, by the method indicated:


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