

WET Testing FAQs

Whole Effluent Toxicity (WET) Testing is a permit requirement. It requires the permittee to obtain samples, report the results in NetDMR, and submit the "Kentucky Toxicity Test Report Sheet" to DOW via the portal.

Reporting Results:

1. How do I report on NetDMR the WET testing results on NetDMR?

The permit limit is ≤ 1.0 for passing. Report the testing result on the DMR as < 1.0 or the value. Do not report 0.00 as this will show up as an invalid test.

2. Do I attach the WET report to the DMR?

No, you must submit a report to the [ePortal](#) each quarter. Do not attach reports to DMRs.

3. Where do I submit the WET report?

You submit the quarterly reports, and any documentation required through [ePortal](#). Choose the "Whole Effluent Toxicity Documents" document type on the portal.

4. What if there is no discharge during the quarter?

If there is no discharge *for* the entire quarter, use NODI Code "C" for No Discharge. If sampling was started but flow ceased prior to sample requirements as specified in the permit, use NODI Code "F". Submit an explanatory letter to DOW in place of the required WET Report. Include the outfall identification information.

5. Do I have to attach the "Kentucky Toxicity Test Report Sheet" to each report?

Yes, you must complete and attach the Kentucky Toxicity Test Report Form to all reports submitted. With 2300 quarterly WET testing reports submitted, we need this cover form.

This can be found on our website.

<http://water.ky.gov/permitting/Pages/WholeEffluentToxicityTesting.aspx>

6. What if the lab results don't show the outfall number on the permit?

The KPDES Outfall number found on your coverage letter or permit documents should be shown on all reports including the Reporting Form for proper identification of results.

7. If I sampled twice during a quarter, can I report both results on the DMR?

You can only report one (1) result for each quarter, and it is the **worst** WET test result for the quarter. You can show that additional testing was done in the Comments section of the DMR. Submit all testing reports to the portal.

General Questions:

8. How many KV Certified WET testing labs are there?

Currently there are 25 certified labs, but there are only 22 listed on the website. This report on the website will be updated soon. Contact DOW lab Certification for up-to-date information.

9. When I have a WET question, who do I contact?

For a question about compliance with permit requirements question, contact the WET Coordinator at SWPBToxicity@ky.gov or one of the [Surface Water Permits Branch Supervisors](#)

For a lab procedure question, contact the WET Coordinator at SWPBToxicity@ky.gov or the [Laboratory Certification Section Supervisor](#).

For a failed test, notify the WET Coordinator and retest within 15 days.

If a lab is not available to run a retest, check with Lynne on how much delay is allowable, or find another lab to do the retest.

To request to permanent change In WET Testing permit conditions (WET testing frequency /species reduction, etc.), submit an eNOI (when eNOI form is updated). Until then email the most current WET Coordinator at SWPBToxicity@ky.gov or one of the [Surface Water Permits Branch Supervisors](#).

To request approval of temporary changes to testing procedures for specific situations, contact the WET Coordinator at SWPBToxicity@ky.gov or one of the [Surface Water Permits Branch Supervisors](#)

- o Accelerated testing on just the species that failed
- o Extending the time range for collection of renewal samples
- o After two (2) significant failures to request skipping the accelerated testing and go to TRE

10. Who is responsible for determining whether an outfall receiving underground mine drainage flows continuously and is required to do chronic WET or flows non-continuously and is required to do acute WET testing?

This determination is made in the permitting phase based on the certified eNOI submittal and review performed by the Permit Writer.

11. Is there a correlation between the natural hardness of the Appalachian region streams and the failed WET testing?

Lab Certification has reviewed a set of biomonitoring results from various coal sites (all testing was performed by a single laboratory) with both passing and failing test results and there didn't seem to be any direct correlation between the effluent hardness level and the outcome of the test (passing or failing). There was no noticeable pattern to definitely say that a certain hardness level (high or low) would be directly indicative of a failing test result.

Compliance Questions:

12. What are the WET testing requirements for Substantially in Compliance determination?

The Substantially in Compliance review Is used to transition from Active mining to Reclamation mining or outfall removal

For 2016 ONLY: the criteria for an outfall being considered Substantially in Compliance with WET testing has been defined as:

- 1) The outfall has passed the last two quarters of WET testing
- 2) If the outfall passes the first quarter and then has no discharge for the second quarter, the “No Discharge” is considered a pass
- 3) If the outfall fails, and then has no discharge, the “No Discharge” is considered to be a fail and it is not considered to be in compliance.

For 2017 onward: being Substantially in Compliance with respect to WET testing will require:

- 1) Three (3) out of four (4) quarters pass with the most recent quarter being one of those passes
- 2) An invalid test or no discharge is not considered a pass
- 3) If the outfall fails first, then passes the retested, you would report the worst testing result on the DMR but this outfall would be considered in compliance.
Make sure you submit both reports for quarter to ePortal

If you are not considered Substantially in Compliance, do not submit an eNOI for a permit modification. We cannot keep them in house to wait for passing tests.

13. What happens if an outfall fails a WET test, then passes the retest?

The worst result must be reported on the DMR for the quarter. This would count as a failed quarter, but because the retest passed, there would be no further action required on your part at this time.

14. What happens if an outfall fails a WET test, then fails the retest worse than the original?

The DMR for the quarter must show the worst WET test result for the quarter. Submit both WET testing reports to the portal.

15. What Is the effect of an invalid test? Is it considered to be a Pass or a Fail?

It is not considered a pass or a fail; however, an invalid test does not break the chain of passing results. The permit does require that a retest be initiated within 15 days for a Chronic test and 10 days for an Acute test.

16. If I collect the first sample, but the flow stops before I get the renewal samples collected, do I need to do an acute test?

No, this is not a requirement of the new KPDES Coal General Permit. HOWEVER, there may be a few remaining Coal Individual KPDES permits (IPs) that have that requirement. Make sure to check the requirements on your IPs. New IPs are being issued with the same WET requirements that are in the GP.

17. What if I don't have enough time to cool down the sample before it gets to the lab?

If there is less than two (2) hours between collection time and delivery to laboratory, there may not be time for the sample to cool down to 6° C. This is acceptable. Do not use blue ice packs to cool samples down.

18. Is there a blanket approval for use of UV irradiation to eliminate fish pathogens?

UV irradiation of samples can be approved on a case-by-case basis if you can show pathogen interference. There is no blanket approval. Contact the WET Coordinator at SWPBTotoxicity@ky.gov or the [Laboratory Certification Section Supervisor](#) for approval.

19. We are measuring chlorine on these sites, Is that really required?

Yes, it is required when collecting the effluent. If not present in initial sampling, it will not be required to be tested in the lab.

20. It's tough to schedule re-tests and accelerated testing due to lab capacity. What do we do if there's a delay before starting the re-test or accelerated testing?

Contact the WET Coordinator at SWPBTotoxicity@ky.gov for permit variances.

21. Is there any flexibility in the 1, 3, 5 sample collection days?

Yes, there can be flexibility for weekend or holiday schedules. Contact the WET Coordinator at SWPBTotoxicity@ky.gov for approval.

22. What if the pond is not discharging on the scheduled sampling days?

If there is a discharge anytime during month, you are required to sample.

23. Are there any APELs for WET testing?

No, there are no APELs associated with WET testing.

24. If I have 1 (one) failed WET test and 1 (one) passing WET test, will I see a violation?

Yes.

25. If I only failed one species, can I request to resample only the failed species?

Contact the WET Coordinator at SWPBToxicity@ky.gov for this request.

26. If I only failed one species, can I request to resample and test the failed species?

Contact the WET Coordinator at SWPBToxicity@ky.gov for approval

27. If I suspect a contributor upstream is the cause of my failed tests, can I sample upstream to prove It?

Yes, and submit this documentation for review.

28. What do I do if acute monitoring is called for in the coverage, but the outfall has a continuous flow?

If a bench outfall is found to have a continuous flow, a permit modification shall be submitted.

29. I think my failing result is due to a factor at the lab rather than my effluent. What do I do about this?

There are a number of laboratories getting into the toxicity testing arena which is not a bad thing considering the capacity issues. DOW has audited nearly all the laboratories in the state performing WET analysis, (we still need to get to McCoy (Pikeville) scheduled for this September). There are also a number of out-of-state WET labs (most which have equivalent certification through NELAP) but there are a few that will require an on-site audit as well.

Based on the on-site audits, we have placed some labs on.

"Provisional Certification" meaning they can perform the analysis but there are some issues that need to be cleaned up. Any laboratory certified as Provisional is required to notify their clients as such. So there will be no grace period, it will be up to the permittee to research the laboratory and make an informed decision on who they wish to use, and if for some reason they are dissatisfied they can find another lab to perform the analysis

Accelerated Testing:

30. When do I initiate accelerated testing?

When the initial test fails and the retest fails, you start accelerated testing. If you have 2 significant failures or 4 failures of any level within the 6 tests, you must develop and implement a TRE. Keep the current WET Coordinator informed of this process.

31. When do I stop accelerated testing?

If the initial test fails, the retest fails, the first accelerated fails, the second passes, the third passes, and the fourth passes to a total of 6 tests, you resume quarterly testing. This has shown that the toxicity was not persistent. Additionally, if at any time during the accelerated testing you have met the criteria for a TRE, you may discontinue the accelerated testing and initiate a TRE. This may save time and money as accelerated testing is every 2 weeks, and a TRE typically calls for monthly testing.

32. Why must I complete the 6 testing during the Accelerated testing phase?

This is to see if the toxicity is persistent. 2 significant failures show persistent toxicity and you can go straight to a TRE. If toxicity is not persistent, it is very unlikely that you will have 2 significant failures or 4 failures at any level out of 6 tests. If at any time during the accelerated testing you have met this criteria, you may discontinue the accelerated testing and initiate a TRE. Otherwise, if there are passes sprinkled in, you will need to complete all 6 tests to determine that the toxicity is not persistent.

33. When Accelerated testing is required, how long to I test?

You must complete a total of 6 WET tests to complete the accelerated testing. If toxicity was shown not to be persistent, then you can resume regular quarterly testing. If the toxicity is shown to be persistent, (4 failures or 2 significant failures within the 6 tests) then a TRE is required.

34. If I am doing accelerated testing and that lasts into the next quarter, can I use the accelerated testing results to meet the testing requirement for that next quarter?

Yes, but if you are performing accelerated testing on only one species, the test you count for the next quarter will need to include both required species.

35. At what point can I stop testing and go directly to a TRE?

Be sure to contact the WET Coordinator at SWPBToxicity@ky.gov before going to a TRE. The requirement to perform a TRE kicks in after you have had:

- Two (2) significant failures, or four (4) failures of any kind

Toxicity Reduction Evaluation (TRE):

36. Where can I get guidance on what is required in a TRE?

Here is a link to the EPA guidance for TREs. NPDES (water quality based permitting publications) contains information on a multitude of programs (not just toxicity) - there are toxicity documents throughout the page (including the acute and chronic manuals and all the manuals for TRE/TIE protocols). Be sure to include a breakdown of requirements to show possible causes in TRE. <https://cfpub.epa.gov/npdes/docs.cfm?view=allprog&program>

37. What's the drop-dead date for submitting a TRE?

You are required to notify DOW within five (5) days of completing accelerated testing that

- 1) toxicity persisted and that a TRE will be initiated OR
- 2) that toxicity did not persist and normal testing will resume

Within 30 days of determining whether a TRE is required, the permittee shall develop a TRE plan and submit it to DOW.

38. I'm not a biologist or a chemist or a statistician, so how am I supposed to write up a TRE?

The TRE plan may be written by a consultant or laboratory personnel using the guidance provided on the EPA website as shown in question 35 above.

39. If I have multiple outfall failures and a TRE is required, can I use a representative outfall RO site to perform the TRE?

Yes, a TRE RO request with justification can be submitted for review.

40. While the TRE is being conducted on a RO site, how do I sample from the remaining outfalls?

If TRE RO is approved, continue quarterly on all but do monthly on RO.

Remember: We are available for a field visit for any situation that doesn't look good on paper.

Below are the WET FAQs from the original 2014 Coal General Permits document

WET Requirements

1. What is WET testing?

WET testing measures a wastewater's effects on specific test organisms' ability to survive, grow and reproduce.

2. What is an acute WET test?

The acute WET test is multi-concentration, or definitive test, consisting of a control and a minimum of five effluent concentrations used to determine at what percent effluent concentration the wastewater is toxic to 50% of the test organisms with a 48-hour period of time.

3. What test organisms are used in an acute WET test?

Two (2) species of test organisms are required to conduct the acute WET test, one (1) species of water flea (*Ceriodaphnia dubia*, *Daphnia magna* or *Daphnia pulex*) and the fathead minnow (*Pimephales promelas*).

4. What are the sampling requirements for an acute WET test?

The permittee is required to collect two discrete grab samples during a period of discharge that are at least two (2) hours apart but no more than 48 hours apart.

5. How is an acute WET test conducted?

Each of the two discrete grab samples are individually tested using both the water flea and fathead minnow for a total of four (4) tests. Tests are to be conducted in accordance with Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms, EPA-821-R-02-012 (5th edition).

6. How many of the 4 tests do I have to fail before I have failed acute WET testing?

Failing any of the 4 tests results in the failing of the acute WET testing requirement.

7. What is a chronic WET test?

The chronic WET test is multi-concentration, or definitive test, consisting of a control and a minimum of five effluent concentrations used to determine at what percent effluent concentration the wastewater effects on the hatchability, gross morphological abnormalities, survival, growth, and/or reproduction of the test organisms over a 7-day period.

8. What test organisms are used in a chronic WET test?

Two species of test organisms are required to conduct the chronic WET test, the water flea (*Ceriodaphnia dubia*) and the fathead minnow (*Pimephales promelas*).

9. How is a chronic WET test conducted?

Beginning with day 1, the permittee initiates a separate test for each of the two species. Each subsequent day of the test the permittee renews the test water using samples of the effluent collected on days 1, 3 and 5 of the discharge. Tests are to be conducted in accordance with Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to freshwater Organisms (4th Edition), EPA-821-R-02-013.

10. What are the sampling requirements for a chronic WET test?

The permittee is required to collect and composite daily three (3) sets of two (2) discrete grab samples on days 1, 3, and 5 of the discharge. The samples shall be collected during periods of discharge at least two (2) hours apart but no more than 48 hours apart.

11. What happens if the discharge ceases before I can collect the required number of samples?

The test is considered incomplete, and you will need to report NODI Code “F” in NetDMR for that outfall and submit a copy of the DMR with an explanatory cover letter to DOW in place of the required WET Report.

12. Has DOW considered the number of ponds for WET testing vs. the number of certified labs?

Yes, there are currently 12 labs certified for WET testing before any facilities have been issued coverage under the new coal GPs. The new GP allows a phased implementation of WET testing requirements that will provide time for the development and certification of additional labs for WET testing. Any new or expanded facility that receives coverage will be required to initiate quarterly WET testing within 30 days of the effective date of coverage, but the actual WET testing will only be required once the eligible pond is constructed. Prior to pond construction permittees will submit copies of no-discharge DMRs in lieu of WET test results. Existing facilities must apply for coverage under the new GP within 180 days, and will be required to initiate WET testing no later than January 1, 2016. The delayed Implementation for existing facilities allows additional time for development of WET Testing lab capacity.

13. In-stream ponds with flows less than an average of 96 hours, are they acute or chronic?

Under the new Coal KYG04, an in-stream pond is a sediment control structure that is constructed within the natural drainage way of a water body, has a continuous discharge, or has an average discharge duration of 96 hours or more. If the structure meets any one of the three conditions, it is classified as an in-stream sediment control structure and is subject to chronic WET effluent limitation requirements.

14. What if pond does not discharge more than 96 hours in order to collect discharge for sampling?

Three (3) sets of two (2) discrete grab samples are collected and composited for chronic WET testing on days 1, 3, and 5 of a discharge. If flow is of insufficient duration to allow the collection of all of the required samples, the permittee shall submit a No-Discharge DMR with NODI code "F" (insufficient flow for sampling) and also submit a copy of the No-Discharge DMR to the WET coordinator in place of the required WET Testing Report.

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Three sets of 2 discrete grab samples are collected and composited for chronic WET testing on days 1, 3, and 5 of a discharge. If flow is of insufficient duration to allow the collection of all of the required samples, the permittee shall submit a No-Discharge DMR with NODI code "F" (insufficient flow for sampling) and also submit a copy of the No-Discharge DMR to the WET coordinator in place of the required WET Testing Report.

19. If a bench pond flows more than 96 hours, do they have to do chronic WET testing?

A bench pond that has a continuous discharge or has an average discharge duration of 96 hours or more would be classified under this permit as an "In-stream" sediment control structure and would be required to perform chronic WET Testing. WET testing is not required for sediment control structures that do not meet those flow criteria and are classified as "bench" sediment control structures for purposes of this permit.

20. How much time does there need to be in-between flows in order to be considered insufficient flow?

If discharge is intermittent (not continuous), samples for WET Testing must be taken during a period of continuous flow.

21. If there is no flow reported on the DMR, do they still need to notify the WET section?

Yes, a copy of the no-discharge DMR must be submitted to the WET coordinator in place of the required WET Testing report.

22. Why can't DOW just download the copy of the DMR for WET results?

WET results must be submitted directly to DOW in order to meet the requirements to notify DOW of a failed WET Test within five (5) days of test completion and to submit WET Test reports to DOW within thirty (30) days of test completion.

23. Will a statement saying no discharge work for WET reporting?

No. A copy of the No-Discharge quarterly DMR must be submitted.

24. Will WET testing take other influences into consideration? (Example: herbicide used along RR tracks)

It is the permittee's responsibility to submit with the WET Testing report information and documentation of conditions or circumstances that may have affected the samples taken for WET Testing or the results of the WET Testing.

25. Do I have to fail both tests to have failed chronic WET testing?

No, failing the WET test for either species is a failure of the chronic WET testing requirement.

26. Does WET testing have to be performed by a certified wastewater laboratory?

Yes.

27. What happens if I fail a WET test?

For a failed acute WET test, you are required to conduct a second round of testing within 10 days of failing the test. For a failed chronic WET test, a second round of testing must be conducted within 15 days of the failed test.

28. Do I conduct the second round of tests on only the species that failed the test?

No, you are required to conduct the second round of tests on both species. You may request to test only the failed species.

29. If I don't fail the second round of testing what happens?

You have demonstrated that the toxicity was not persistent and that further testing is not required. Thus you can return to the normal testing requirement of once per quarter.

30. What happens if I fail the second round of testing?

Regardless of the type of testing, you are required to conduct accelerated testing consisting of four additional rounds of WET testing on both species within 60 days of failing the second round of testing. If any two of the six total tests are significant failures (1.2 times the permit limit) or any four of the six tests are failures, toxicity is considered to be persistent, and a Toxicity Reduction Evaluation (TRE) is required. If both the first and second round tests are significant failures (1.2 times the permit limit), toxicity is considered to be persistent without the need for accelerated testing and a TRE is required.

31. What Is a TRE?

A TRE is a process whereby the permittee continues to conduct toxicity testing to identify the source of toxicity and to evaluate and implement corrective actions to eliminate the toxicity.

32. Can I get a reduction in WET testing requirements?

Yes, there are two (2) reductions available. The first is a Reduced Species Testing to the most-sensitive single species and the second is a Reduced Frequency Testing from quarterly to annually.

33. How do I get a reduction to a single species?

After at least six (6) consecutive passing toxicity tests using both the water flea and the fathead minnow, a request for testing with only the most sensitive species may be submitted to DOW. Upon approval, the most sensitive species may be considered as representative and all subsequent compliance tests may be conducted using only that species unless directed at any time by DOW to change or revert to both.

34. How do I get a reduction in monitoring frequency?

The permittee may request a reduction in the frequency of WET testing from quarterly to annual upon demonstration that no test failures, incomplete tests, or invalid tests occurred during the following specified timeframes:

1. Existing facilities four (4) consecutive quarters;
2. New or expanded facilities eight (8) consecutive quarters

See answers to the questions of the previous section for definitions of existing, new, and expanded facilities respectively in the issued permit.

35. I currently have an individual permit that requires WET testing; may I submit these tests to get an immediate reduction in frequency or to a single species?

Yes. When submitting the eNOI for coverage under the new GPs attach the completed WET tests and a request to reduce the monitoring requirements for WET testing. DOW will review the request along with the application for coverage. For existing discharges, the effective date is January 1, 2026 and for new or expanded discharges, within 30 days of the effective date of coverage.

36. Does DOW have a list of laboratories that perform WET testing?

Yes, the list is available on DOWs WET webpage at:

<http://water.ky.gov/permitting/Pages/WholeEffluentToxicityTesting.aspx>

37. Are the WET testing labs required to become Kentucky certified wastewater laboratories?

Yes