Doc# NSCS-M-P-7091-21
Title: High Turbidity at Outfall 104/Outfall 004
Issue Dt: 12/30/2003
Revision Dt:07/23/2018 Review Interval:12
Cat: Quality Doc Type: SOP
Auth:
Desc: High Turbidity at Outfall 104/Outfall 004
Loc: Midwest - Utilities-Midwest - Plant Maintenance-Midwest-Gary Works

STEPS	PROCEDURES
Process Overview	The Final Treatment Plant Operator (FTO) tests turbidity at Outfall 104 via SOP NSCS-M-P-7091-06. In the corrective action section of that SOP if the value is greater than 10 turbidity the FTO will contact the Manager. A high turbidity at Outfall 104 could cause an NPDES permit exceedence. Turbidity is not a NPDES permit condition and testing of turbidity is not required. However, a high number could mean that a high grease and oil condition or an off color water discharge could occur. Therefore, the Manager should investigate the situation and take corrective measures.
High Equalization Basin pH due to Alkaline Cleaner	If a pH >8.5 is entering the equalization basin and is causing a high turbidity, then inspect the production areas for leaks, overflows, solution dumps, full sumps, carryover and seal leaks. This inspection does not need to be performed unless it is causing high outfall turbidity. 1. Inspect the ETL cleaner section, cleaner sump and bulk storage tank. 2. Inspect the TFS cleaner section, cleaner sump and bulk storage tank. 3. Inspect the CA Line cleaner section, cleaner sump and bulk storage tank. 4. Inspect the Cleaner Line cleaner section, cleaner sump and bulk storage tank. 5. Inspect the Combo Line cleaner section, cleaner sump and bulk storage tank. 6. Inspect the 72” Galvanized Line cleaner section, cleaner sump and bulk storage tank. 7. Inspect the #3 Coating Line cleaner section, cleaner sump and bulk storage tank. 8. Inspect the weir overflow from SDW for high pH. 9. Inspect the weir overflow from the PT interceptors for high pH.
High pH Problem Located	Once the source of the problem has been located take one or more of the following actions: 1. Notify the production line Manager that they have a problem and that it needs to be corrected ASAP as you have an environmental problem that may cause a permit exceedence. 2. If the problem can not be resolved have the unit shut down their sumps and meter the solution to the treatment plant. 3. Have the unit hold the high pH solution in their storage tanks or sumps. A water hose will not help.

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4. If the unit cannot comply, ask the unit to shut down and cease production.
5. After the problem is resolved at the production line and the turbidity is back down to normal contact the production unit and have them start up and/or restart the sumps.

High pH Not Located

The source of the high pH must be located if the problem at the Treatment Plant is not improving. Take either the Laborer, UT Helper or the SDW operator and secure samples from the DIW sewer system and determine what production unit is the source.

Secure samples and test them from the following manholes at the first three listed locations. Then secure samples at other locations depending on what is learned from the first three locations.

To secure samples from the DIW sewer system take a long handled dipper, or bottle on a wire/rope, pH meter, and sample bottles and secure sample from the DIW sewers.

1. Manhole 100, on west hillside opposite Final Treat equalization basins. If the high pH is here its either the Galvanizing Lines, Cleaner or Combo.
2. Pretreat Lift Pumps at Final Treat. If the high pH is here its either the Energy Plant, PT interceptors or SDW.
3. Manhole outside of UT-11 office bldg., outside IR Shop. If the high pH is here its either the CA Line, ETL and TFS.

If the first three tests do not correct the problem continue with the remainder of the survey or until the problem is located.

4. Manhole due north of #3 Coating Line. Manhole is 50 feet north of mill outside in dirt.
5. Manhole 47 near column L43. This is the Combo Line.
6. Manhole 16 near the east side of the south ramp into the roll shop. This is the 48" Gal Line or the Combo Line.
7. Manhole 4B near column D64, Tin warehouse. This is the 48" Gal Line, 72" Gal Line or the Combo Line.
8. Manhole 20 in tin courtyard near column G 122. This is the CA Line.
9. Manhole 21 in tin courtyard, west side, is either the CA Line or the ETL. Sometimes manhole 22 in the mill is easier.
10. Manhole 23 west of TFS in tin warehouse is either the CA, ETL or TFS.
11. Manhole 18 and 17 at the cleaner line. Manhole 18 can be difficult and 17 may not show the problem. Check cleaner

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line basement sump and verify pumps are set on line recycle or to DIW sewer.

If none of the above is effective, notify the Directors for each area and obtain additional help.

Documentation on Alkaline Cleaner Problem

Document all findings as a short memo on Form #7010-01.

Rolling Oil or Hydraulic Oil Causing the High Turbidity

If oil is causing a high turbidity at Outfall 104 inspect the areas for leaks, overflows, solution dumps, full sumps, carryover and seal leaks:

Items 1-3 below discharge into the DIW oily waste sewer, which ends at the Pretreat 75,000-gallon tank. Inspect the API interceptor color, pH and flow and duration of flows.

In general if the oil is white, it's hydraulic oil. If it's tan or black, it's rolling oil. If its gray its normal wastewater.

Then go to the production units:

1. Inspect the 52" Five Stand basement and sumps.
2. Inspect the 80" Five Stand basement and sumps.
3. Inspect the #1 Tin Temper Mill basement and sumps.

The first three listed all flow into the Pretreat Oil Interceptor. If the source is not passing through the oil interceptor a more complete survey will be required.

Inspect the following areas to continue the survey.

4. Inspect the Sheet Temper Mill basement and sumps.
   –The STM does not discharge to PT. It discharges to the DIW sewer south of the unit, which flows directly to Final Treatment Plant.
5. If none of the above corrected the problem each hydraulic area at every production line will need inspected. See the section below on problem **not** located.

Oil Problem Located

Once the source of the problem has been located take **one or more** of the following actions:

1. Notify the production line Manager that they have a problem and that it needs to be corrected ASAP as you have an environmental problem that may cause a permit exceedence.
2. If the problem can not be resolved have the unit shut down their sumps and meter the solution to the treatment plant; or
3. Have the unit hold the oil solution in their storage tanks or sumps. Do not continue to discharge it. A water hose will not help.
4. If the unit is unable to comply, ask the unit to shut down and cease production.

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5. After the problem is resolved at the production line and the turbidity is back down to normal contact the production unit and have them start up and/or restart the sumps.

Oil Problem Not Located

Take a long handled dipper, or bottle on a wire/rope, pH meter, and sample bottles and secure sample from the DIW sewers.

Take either the Laborer, UT Helper or the SDW operator and secure samples from the DIW sewer system and determine what production unit is the source.

Secure samples and test them from the following manholes at the first three listed locations. Then visit every production unit hydraulic section.. If the source of the leak can still not be located a sewer survey will be required. Secure samples at other locations depending on what is learned from the first three locations:

1. Manhole 100, on west hillside opposite Final Treat equalization basins. If the oil is here its either the Galvanizing Lines, Cleaner or Combo.
2. Pretreat Lift Pumps at Final Treat. If the oil is here its either the Energy Plant, PT interceptors or SDW.
3. Manhole outside of UT-11 office bldg, outside IR Shop. If the high pH is here it's the CA Line, ETL or TFS.
4. Manhole due north of #3 Coating Line. Manhole is 50 feet north of mill outside in dirt.
5. Manhole 47 near column L43. This is the Combo Line.
6. Manhole 16 near the east side of the south ramp into the roll shop. This is the 48" Gal Line or the Combo Line.
7. Manhole 4B near column D64, Tin warehouse. This is the 48" Gal Line, 72" Gal Line or the Combo Line.
8. Manhole 20 in tin courtyard near column G 122. This is the CA Line.
9. Manhole 21 in tin courtyard, west side, is either the CA Line or the ETL. Sometimes manhole 22 in the mill is easier.
10. Manhole 23 west of TFS in tin warehouse is either the CA, ETL or TFS.
11. Manhole 18 and 17 at the cleaner line. Manhole 18 can be difficult and 17 may not show the problem. Check cleaner line basement sump and verify pumps are set on line recycle or to DIW sewer.

If none of the above is, effective notify the Directors for each area and obtain additional help.

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Documentation On Oil Problem	Document all findings as a short memo and add it to the Dump log sheet, 7010-01.