FACT SHEET AND STATEMENT OF BASIS
NUCOR STEEL
RENEWAL PERMIT: DISCHARGE & STORM WATER
UPDES PERMIT NUMBER: UT0023850
MINOR INDUSTRIAL

FACILITY CONTACTS

Person Name: Doug Jones  
Position: Manager  
Phone Number: (435) 458-2300

Facility Name: Nucor Steel  
Mailing Address: P.O. Box 100  
Plymouth, Utah 84330  
Telephone: (435) 458-2300  
Actual Address: 7285 W 21200 N W Cemetery Rd

DESCRIPTION OF FACILITY

Nucor Steel, a Division of Nucor Corporation is located at SW ¼, Section 4 and NW ¼, Section 9, Township 13 North, Range 3 West, Box Elder County, Utah about 2.5 miles west and 1.5 miles north of Plymouth, Utah. Latitude 41°52′37″; Longitude 112°11′22″.

Nucor’s Plymouth facility is a non-integrated steel mill (SIC Code 3312) which produces approximately one million tons of structural steel products annually. The principle process at Nucor Steel involves two Electric Arc Furnaces (EAF) for melting scrap metal, the molten metal is then continuously cast into billets and the billets are directed to one of the two hot rolling mills for shaping into final products.

There are wells that produce the process water and culinary water at the facility. One well has water of a high quality that no other treatment is necessary for use a culinary water supply and also for water needed for the steel mill process. As long as this well is producing water there will be no discharge. Nucor Steel has as a back-up option, an Electrodialysis Reversal (EDR) treatment system which is used to remove dissolved solids from the well water from other wells. The wastewater from the EDR is discharged via outfall 001 to an open ditch then to the Malad River. Some of the wastewater from the EDR is used as dust suppression on the unpaved roads as per Nucor Steel’s Air Quality Permit. All of Nucor Steel’s sanitary wastewater is directed to one of 3 on-site septic systems.
DISCHARGE

DESCRIPTION OF DISCHARGE
Nucor Steel maintains a UPDES permit in the event that a discharge from their facility is necessary.

Nucor Steel has been reporting self-monitoring results on Discharge Monitoring Reports on a monthly basis. Nucor Steel has had one discharge event in the last 13 years. This discharge occurred because of the need to maintain the EDR treatment system. No violation of any permit limits were reported.

<table>
<thead>
<tr>
<th>Outfall</th>
<th>Description of Discharge Point</th>
</tr>
</thead>
<tbody>
<tr>
<td>001</td>
<td>Located at latitude 41°52'37&quot;, longitude 112°11'22&quot;. The discharge is piped to an un-named open ditch and then to the Malad River</td>
</tr>
</tbody>
</table>

RECEIVING WATERS AND STREAM CLASSIFICATION
If a discharge were to occur, it would be pumped into an un-named open ditch and then to the Malad River, which is a Class 2B and 3C according to Utah Administrative Code (UAC) R317-2-13:

Class 2B -- Protected for infrequent primary contact recreation. Also protected for secondary contact recreation where there is a low likelihood of ingestion of water or a low degree of bodily contact with the water. Examples include, but are not limited to, wading, hunting, and fishing.

Class 3C -- Protected for nongame fish and other aquatic life, including the necessary aquatic organisms in their food chain.

BASIS FOR EFFLUENT LIMITATIONS
Limitations on total suspended solids (TSS) and pH are based on current Utah Secondary Treatment Standards, UAC R317-1-3.2. The oil and grease limitation is based on best professional judgment (BPJ). The wasteload analysis (see ADDENDUM) indicates that these limitations should be sufficiently protective of water quality, in order to meet State water quality standards in the receiving waters.

The Malad River does not include a stream classification that requires a TDS limit. However, a TDS limit is included in the permit to protect the Bear River, to which the Malad River flows. The TDS and dissolved oxygen limits are based on the wasteload analysis.

Based on effluent monitoring data and the existing treatment facility, the permittee is expected to be able to comply with the limitations.

Reasonable Potential Analysis
Since January 1, 2016, DWQ has conducted reasonable potential analysis (RP) on all new and renewal applications received after that date. RP for this permit renewal was not conducted following DWQ’s September 10, 2015 Reasonable Potential Analysis Guidance (RP Guidance) because there has been a lack of discharge data for the previous 13 years.

Should Nucor find it necessary to discharge from outfall 001, metals analysis shall occur monthly until a minimum of 10 sampling events have been completed. Results from these sampling events will be used to conduct RP analysis of the discharge. Should this analysis show that the Nucor discharge has reasonable
potential to violate current effluent limits; this permit may be modified to include additional monitoring, effluent limits or both. Metals to be analyzed include arsenic, barium, cadmium, chromium, lead, mercury, selenium, silver and iron.

The permit limitations for Outfall 001 are:

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Monthly Average</th>
<th>Maximum Weekly Average</th>
<th>Daily Minimum</th>
<th>Daily Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flow, MGD</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>0.72</td>
</tr>
<tr>
<td>TSS, mg/L</td>
<td>25</td>
<td>35</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>Oil &amp; Grease, mg/L</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>10</td>
</tr>
<tr>
<td>Dissolved Oxygen, mg/L</td>
<td>NA</td>
<td>5.0</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>pH, Standard Units</td>
<td>NA</td>
<td>6.5</td>
<td>9</td>
<td></td>
</tr>
<tr>
<td>TDS, mg/L</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>7000</td>
</tr>
</tbody>
</table>

**SELF-MONITORING AND REPORTING REQUIREMENTS**

The following self-monitoring requirements are similar to the previous permit. The permit will require reports to be submitted monthly and annually, as applicable, on Discharge Monitoring Report (DMR) forms due 28 days after the end of the monitoring period. Effective January 1, 2017, monitoring results must be submitted using NetDMR unless the permittee has successfully petitioned for an exception.

<table>
<thead>
<tr>
<th>Self-Monitoring and Reporting Requirements</th>
<th>Parameter</th>
<th>Frequency</th>
<th>Sample Type</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Flow</td>
<td>Continuous</td>
<td>Recorder</td>
<td>MGD</td>
<td></td>
</tr>
<tr>
<td>TSS</td>
<td>Weekly</td>
<td>Grab</td>
<td>mg/L</td>
<td></td>
</tr>
<tr>
<td>Oil &amp; Grease (a)</td>
<td>Weekly</td>
<td>Grab</td>
<td>mg/L</td>
<td></td>
</tr>
<tr>
<td>Dissolved Oxygen</td>
<td>Weekly</td>
<td>Grab</td>
<td>mg/L</td>
<td></td>
</tr>
<tr>
<td>pH</td>
<td>Weekly</td>
<td>Grab</td>
<td>SU</td>
<td></td>
</tr>
<tr>
<td>TDS</td>
<td>Weekly</td>
<td>Grab</td>
<td>mg/L</td>
<td></td>
</tr>
<tr>
<td>Metals (b)</td>
<td>Monthly</td>
<td>Grab</td>
<td>mg/L</td>
<td></td>
</tr>
</tbody>
</table>

(a) Grab samples required only if sheen is observed or there is reason to believe that there are hydrocarbons present.

(b) Sampling required during first 10 months of discharge from outfall 001. Metals to be analyzed include arsenic, barium, cadmium, chromium, lead, mercury, selenium, silver and iron. Not required if no discharge from outfall 001.

**STORM WATER**
STORMWATER REQUIREMENTS

Storm water requirements are included in this UPDES permit. The storm water requirements are based on the UPDES Multi-Sector General Permit for Storm Water Discharges for Industrial Activity, General Permit Coverage No. UTR274003 (MSGP). All sections of the MSGP that pertain to discharges from Steel Mills have been included and sections which are redundant or do not pertain have been deleted.

The permit requires the preparation and implementation of a storm water pollution prevention plan for all areas within the confines of the plant. Elements of this plan are required to include:

1. The development of a pollution prevention team:
2. Development of drainage maps and materials stockpiles:
3. An inventory of exposed materials:
4. Spill reporting and response procedures:
5. A preventative maintenance program:
6. Employee training:
7. Certification that storm water discharges are not mixed with non-storm water discharges:
8. Compliance site evaluations and potential pollutant source identification, and:

Nucor Steel has previously maintained coverage under the MSGP for Storm Water Discharges from Industrial Activity (General Permit Coverage No. UTR274003) and has developed a storm water pollution prevention plan as required by the permit. The plan is kept updated and made available on-site for review as required.

In order to provide more efficient permitting, the MSGP storm water permit provisions have once again been included in this individual permit. The coverage under the general storm water permit may be terminated upon request by the permittee, but is not required to do so if the permittee wishes to maintain separate permit coverage.

PRETREATMENT REQUIREMENTS

This facility does not discharge process wastewater to a sanitary sewer system. Any process wastewater that the facility may discharge to the sanitary sewer, either as a direct discharge or as a hauled waste, is subject to federal, state, and local pretreatment regulations. Pursuant to section 307 of the Clean Water Act, the permittee shall comply with all applicable federal general pretreatment regulations promulgated, found in 40 CFR 403, the state’s pretreatment requirements found in UAC R317-8-8, and any specific local discharge limitations developed by the Publicly Owned Treatment Works (POTW) accepting the waste.

BIOMONITORING REQUIREMENTS

As part of a nationwide effort to control toxic discharges, biomonitoring requirements are being included in permits for facilities where effluent toxicity is an existing or potential concern. In Utah, this is done in accordance with the State of Utah Permitting and Enforcement Guidance Document for Whole Effluent Toxicity (WET) Control (Biomonitoring (2/1991)). Authority to
require effluent biomonitoring is provided in UAC R317-8, Utah Pollutant Discharge Elimination System and UAC R317-2, Water Quality Standards. The result of the wasteload analysis was a finding of no significant impact. Based on these considerations, and that the facility is not classified as a major or a significant minor facility, there is no reasonable potential for toxicity in Nucor Steel’s discharge (per State of Utah Permitting and Enforcement Guidance Document for WET Control). As such, there will be no numerical WET limitations or WET monitoring requirements in this permit. However, the permit will contain a toxicity limitation re-opener provision that allows for modification of the permit should additional information indicate the presence of toxicity in the discharge.

**PERMIT DURATION**

It is recommended that this permit be effective for a duration of five (5) years.

Drafted by
Kelsey Christiansen
Michael George, Storm Water
Dave Wham, Wasteload Analysis
Utah Division of Water Quality, (801) 536-4300

**PUBLIC NOTICE**

Began: September 13, 2017
Ended: October 16, 2017

Comments will be received at: 195 North 1950 West
PO Box 144870
Salt Lake City, UT 84114-4870
ATTACHMENT 3

Wasteload Analysis