



NPCA
Precast ... The Concrete Solution

NPDES Compliance

**NPDES Water Quality Issues
for the Precast Concrete
Industry**



What Are NPDES Permits?

- NPDES is the permitting program established under the Federal Clean Water Act (CWA)
- **N**ational **P**ollutant **D**ischarge **E**limination **S**ystem
- Permits designed to protect and preserve water quality of our nation's waterways
- Discharge of pollutants to waters of the US require an NPDES permit



Do Precast Plants Require NPDES Permits?

- Typically, **YES**
- For **stormwater discharges**
- For **process water discharges** (if present)
- Although not as common, may be other types of activities or discharges present as well
- Since most commonly held NPDES permit, many precast producers refer to NPDES permits as "stormwater permits"
 - Although may cover other discharges, or there may be other activities requiring NPDES permit coverage at a precast plant site!



Who Issues NPDES Permits?

- The Federal Clean Water Act required the US Environmental Protection Agency to generate the NPDES permitting program, and implement it throughout US
- Individual states may elect to administer the NPDES permitting program under a program called “delegation”
- State NPDES permit program must be at least as strict as the Federal regulations



Who Issues NPDES Permits?

- In nearly every state, it is the state environmental protection agency
- The only non-delegated states (as of 2011) are NH, MA, NM, ID, AK (seeking delegation)
 - In non-delegated states, the Federal US Environmental Protection Agency issues NPDES permits
- Delegated states may have their own name for the program, such as NJPDES (New Jersey), CPDES (Colorado), TPDES (Texas), etc.
- Must apply to the applicable state for a permit



What activities might an NPDES permit be required for?

- At a precast plant, the discharge of either process water or stormwater to waters of the US / waters of the delegated state
- What are waters of the US / waters of the delegated state?
 - Generally all natural surface water bodies and their tributaries (including man-made drainage to a natural water body), wetland areas, and many others
 - Some states include groundwaters



What is Process Water?

- Any discharge containing pollutants or contaminants that is then discharged to water of the US / water of the state
- Examples:
 - Mixer or mixing plant washout water
 - Any other types of washwater
 - Water used for dust control
 - Water used for equipment cleaning
 - Any water containing any pollutant or contaminant generated as part of site activities!



What is Stormwater?

- Stormwater associated with industrial activity, and which is then discharged
- Has come into contact with "source materials" which can impart pollutants or contaminants to the stormwater that is discharged
- Examples:
 - Runoff which has come into contact with stockpiles, unpaved ground surfaces, concrete material stockpiles, oils and lubricants, and any other pollutant or contaminant
- Stormwater has come from the sky – if not, it is likely process water!



Caution - Commingled Discharges

- Any time stormwater mixes with process water, it all becomes process water!
- Makes sense to separate the two to the highest degree possible!



What is the Permit Difference?

- Process water discharges generally have very strict permit requirements with significant penalties if these requirements are not met
 - Example: Monitoring requirements, strict limits on levels of pollutants that can be discharged, high permit fees, difficult application process
- Stormwater discharges generally have less stringent permit requirements
 - Permits are often “general permits” which are less costly and easier to obtain, have less restrictive requirements usually based on Best Management Practices, may have few or no monitoring requirements



What Should A Precaster Do?

- Avoid process water discharges to the maximum extent possible!
- Reduce process water generation
- Recycle / reuse process water whenever possible
- Seek alternatives to discharge, but if you must discharge, get appropriate permit coverage and ensure you maintain compliance!



If you do discharge process water

- Obtain appropriate NPDES permit coverage
 - Failure to do so can result in significant penalties!
- Permit requirements may include:
 - Regular discharge monitoring for pollutants, such as pH, total suspended solids, total dissolved solids, and other pollutants
 - Monitoring results reporting
 - May require treatment to ensure compliance with discharge limits, such as pH reduction, solids removal, etc.
 - Inspections, recordkeeping, and documentation requirements
 - Strict regulatory oversight



How About Stormwater?

- If you have stormwater discharges, obtain appropriate NPDES stormwater discharge permit coverage
- Do what is necessary to maintain compliance with your permit
 - Usually, prepare and implement a “**Stormwater Pollution Prevention Plan**” (SWPPP)
 - Implement **Best Management Practices** to minimize stormwater pollution



What Are “BMPs”?

- Best Management Practices usually fall into two categories:
 - Baseline / Standard – Activities all precast plants should do, such as housekeeping, spill prevention and cleanup, inspections, equipment maintenance, etc.
 - Site specific – Those related to specific site conditions or activities
- NPDES permits (particularly stormwater discharge permits) usually contain the requirements for the implementation of BMPs



What Should I Do?

- Understand the difference between process water and stormwater
- Ensure you have the appropriate NPDES permit for your site activities, whether stormwater and/or process water discharges
- **AVOID** process water discharges as much as possible!
 - Reduce generation, recycle, reuse, contain
 - Segregate from stormwater to avoid commingling



Can We Use any Sustainable Practices?

- Process water recycling and reuse, such as for further washing or concrete production, reduces fresh water consumption
- Avoiding process water discharges reduces overall environmental impact (and eliminates permit issues)
- Consider reducing stormwater discharge by capturing and using on-site (stormwater harvesting), including for washing, dust control, and concrete production – reduces freshwater consumption
- Sustainable practices may impact overall NPDES permit situation!



Where Can I Find Additional Help?

- Your plant environmental officer
- National Precast Concrete Association
- Your state environmental protection agency's water pollution control department
- US Environmental Protection Agency



