

Construction and Development Effluent Guidelines

Meeting with Trade Associations

August 21, 2007

Washington, DC

Purpose of Meeting

- ❑ Provide background and update on status of Construction and Development (C&D) effluent guidelines rulemaking
- ❑ Discuss activities to date
- ❑ Discuss EPA's ideas for regulatory options
- ❑ Discuss EPA's methodology for determining costs and benefits
- ❑ Discuss data needs/opportunities for stakeholder involvement
- ❑ Discuss next steps

Background

- EPA previously conducted a rulemaking for the C&D category
- EPA developed options pre-proposal that addressed temporary discharges of stormwater during construction as well as post-construction discharges
- Proposed 3 options for temporary erosion and sediment controls June 2002;
 - Option 1 – Codify provisions of EPA construction general permit for sites >1 acre
 - Option 2 – Codify provisions of EPA CGP for sites >5 acres, add site inspection and BMP certification requirements
 - Option 3 – No rule
- Final action withdrawal of proposal April 2004

Litigation

- ❑ EPA listed C&D in 2000 304(m) plan
- ❑ C&D removed from 304(m) plan in 2004
- ❑ EPA sued by Waterkeeper Alliance, NRDC, and states of NY and CT over failure to promulgate a guideline
- ❑ Court ordered EPA has a mandatory duty to promulgate ELGs for new categories of dischargers listed in 304(m)
 - Complete data collection and develop models by December 2007
 - Proposed rule December 2008
 - Final rule December 2009

Activities to Date

- Collected updated information on each state's erosion and sediment control and stormwater management requirements – plan to collect select MS4 requirements
 - This information is important for determining the baseline of what existing rules and regulations are already requiring
- Collected and are analyzing data for estimating the number, size and location of construction sites
 - NOI databases from 14 states as well as the EPA NOI database
 - Land use datasets, such as USDA's National Resources Inventory and USGS National Land Cover Dataset
 - National Hydrography Dataset
 - Census Urbanized Area data

State and Local Programs

- All states currently have statewide erosion and sediment control programs that address construction site runoff, either through existing state laws or as a result of the NPDES regulations
- Many states have laws or regulations addressing post-construction stormwater runoff from new development activities
- There are also extensive programs implemented at the local level, although requirements vary

NOI Database Summary

- ❑ EPA NOI Database = 15,500
- ❑ Alabama = 13,200
- ❑ Arkansas = 1,950
- ❑ Arizona = 13,500
- ❑ California = 20,750
- ❑ Georgia = 21,900
- ❑ Florida = 22,600
- ❑ Illinois = 4,400
- ❑ Louisiana = 1,400
- ❑ Mississippi = 1,600
- ❑ Ohio = 9,100
- ❑ South Dakota = 1,380
- ❑ Tennessee = 8,850
- ❑ Washington = 1,800
- ❑ West Virginia = 1,200

Determining Location and Amount of Construction and Development

- Location of construction sites is important for cost analysis (different states/municipalities have varying baseline requirements) and for benefits analysis (streams receiving discharges, long-term hydrologic impacts)
- State NOI databases give us information on location, number, size and type of projects for a portion of the country – need something else to estimate for states without data
- Land use databases that track land use change can be used as a proxy for estimating new development on various geographic scales
 - NRI gives land use change on large watersheds (HUC8) for U.S. in 1992 and 1997 – later NRI only gives changes on state and major river basin level
 - NLCD provides 30-meter resolution of land use in 1992 and 2001, however changes in methodology do not allow for direct comparison of these two datasets

Determining Location and Amount of Construction and Development

- Use hybrid approach – 2001 NLCD provides snapshot of land use, use NRI to project annual change in land use within each HUC8 to extrapolate 2007 (baseline) land use for nation and annual rate of change
- Census data can provide information on where development is likely to occur within each watershed
- NOI databases give us mix of project types and sizes – can apply distribution to determine number of construction sites per watershed (and state) on an annual basis

Options

- Will evaluate options for temporary E&S as well as post-construction stormwater
- Temporary E&S
 - BMP/SWPPP options
 - Numeric design standards
 - Effluent standards/action levels
 - Monitoring
- Post-Construction
 - Numeric BMP design standards
 - Pollutant removal/hydrology/groundwater recharge

Cost Analysis

- Previous rulemaking used model site approach – 24 model sites
 - 4 land uses (single-family residential, multi-family residential, commercial, industrial)
 - 6 site sizes (0.5, 3, 7.5, 25, 70, 200 acres)
- For this analysis, propose to evaluate fewer combinations
 - Small and large residential
 - Small and large non-residential
- Unit costs for BMPs
 - Data from literature
 - Industry-supplied data
- State-level analysis of incremental costs of options, number of sites per state based on census data, NOI data and NRI land use change
- Evaluate life-cycle costs of post-construction BMPs and assess O&M and replacement costs for property owners/municipalities

Loadings and Benefits Analysis

- For each model site, evaluate regional differences in pollutant removal reflecting regional soil (STATSGO) and rainfall/runoff (NOAA)
 - Construction phase – SEDCAD model
 - Post-construction phase – SLAMM model
- Scale up model site loads to watershed and state level, reflecting existing baseline requirements
- For post-construction options, evaluate long-term reduction in stream channel erosion (need to develop methodology)
- Input loads into watershed model (SPARROW) to determine changes in in-stream pollutant concentrations and impacts on water quality
- Calculate benefits metrics, such as willingness to pay for water quality improvements

Economic Analysis

- ❑ Compliance costs are determined for model construction sites
- ❑ Assess economic impacts for a set of model firms considered to be typical of industry
- ❑ The model firms are assumed to undertake different numbers and types of projects
- ❑ Under the assumption of no cost pass through, assess the potential for closures, employment losses, and barriers to entry
- ❑ Use a series of regional market models to estimate impact on markets for new construction assuming 100% pass through of costs. Use a national partial equilibrium model to estimate changes in the national market for new construction
- ❑ Conduct SBFEFA analysis to determine impacts on small businesses – will not convene a new SBREFA panel

Other Analyses Required by Statute

- ❑ EO12866
- ❑ Paperwork Reduction Act
- ❑ UMRA
- ❑ EO 13132 (Federalism)
- ❑ EO 13175 (Consultation and Coordination with Indian Tribal Governments)
- ❑ EO 13045 (Protection of Children from Environmental Health Risks and Safety Risks)
- ❑ EO 13211 (Actions Concerning Regulations that Significantly Affect Energy Supply, Distribution or Use)
- ❑ NTTAA
- ❑ EO 12630 (Takings)
- ❑ EO 12889 (Environmental Justice)
- ❑ EO 12988 (Civil Justice Reform)

Schedule

- ❑ Complete Data Collection/Develop Models (December 2007)
- ❑ Option Selection (July 2008)
- ❑ OMB Review (October 2008)
- ❑ Publish Proposal in Federal Register (December 2008)
- ❑ Publish Final Rule in Federal Register (December 2009)

EPA Data Needs

- Costs of BMPs (construction, design, O&M)
 - Temporary E&S controls
 - Sediment basins, standard and improved designs (skimmers, baffles)
 - Filtration systems
 - Chemical treatment (polymers, coagulants, flocculants)
 - Seeding/mulching, rolled erosion control products
 - Phasing construction
 - Turbidity/TSS monitoring
 - Post-construction BMPs
 - Bioretention/rain gardens
 - Infiltration systems
 - Ponds/wetlands
 - Filters
 - Rain barrels/cisterns, stormwater reuse
 - Green roofs

Next Steps

- Develop options paper for circulation and discussion with stakeholders – September
- Develop cost, loadings, economic and benefits methodologies and preliminary models by Fall 2007
 - Would like input from industry on BMPs utilized on model sites under baseline conditions and regulatory options, as well as input on costs
 - Would like input from industry on assumptions used in economic models

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