

Storm Water Regulations, Policies, and Practices

Environmental Compliance

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Presentation Overview



- Summary of storm water regulation and policies
- Overview of current and future storm water management practices
- Overview of Areas for industry support

Storm Water Regulations / Policies



Applicable Storm Water Regulations



- **Federal Clean Water Act**
 - TMDL Rule
 - Water quality standards
 - Effluent standards
 - NPDES permitting requirements (municipal separate storm sewer systems (MS4) permitting, for construction and post construction conditions)
- **State and Local Storm Water Regulations**
 - Equal to or more stringent than Federal standards
 - Permitting and enforcement authority

Most Naval installations are located in urbanized areas, subject to MS4 permitting

Recent Rule and Executive Orders



- **Energy Independence and Security Act (EISA) of 2007, Section 438 (Federal regulations)**
 - Applies to construction project with more than 5,000 square foot-print
 - Restores predevelopment/project hydrologic conditions (flow, volume, rate, and temperature) –through (LID) technologies
- **EO 13423 (2007) Strengthening Federal Environmental, Energy, and Transportation Management**
 - Requires water consumption reduction, besides energy reduction,
 - Implementation period: FY10 - FY15
- **EO 13514 (2009) Federal Leadership in Environmental, Energy, Economic Performance**
 - Enhances EO 13423 by extending implementation period (FY15 – FY30)
 - Enhances implementation of EISA 438
- **EO 13508 (2009) Chesapeake Bay Protection and Restoration**
 - Focuses on storm water management to restore Chesapeake Bay water quality
 - Implementation serves as a model for other regions in the US

Main Policies Related to Storm Water Management

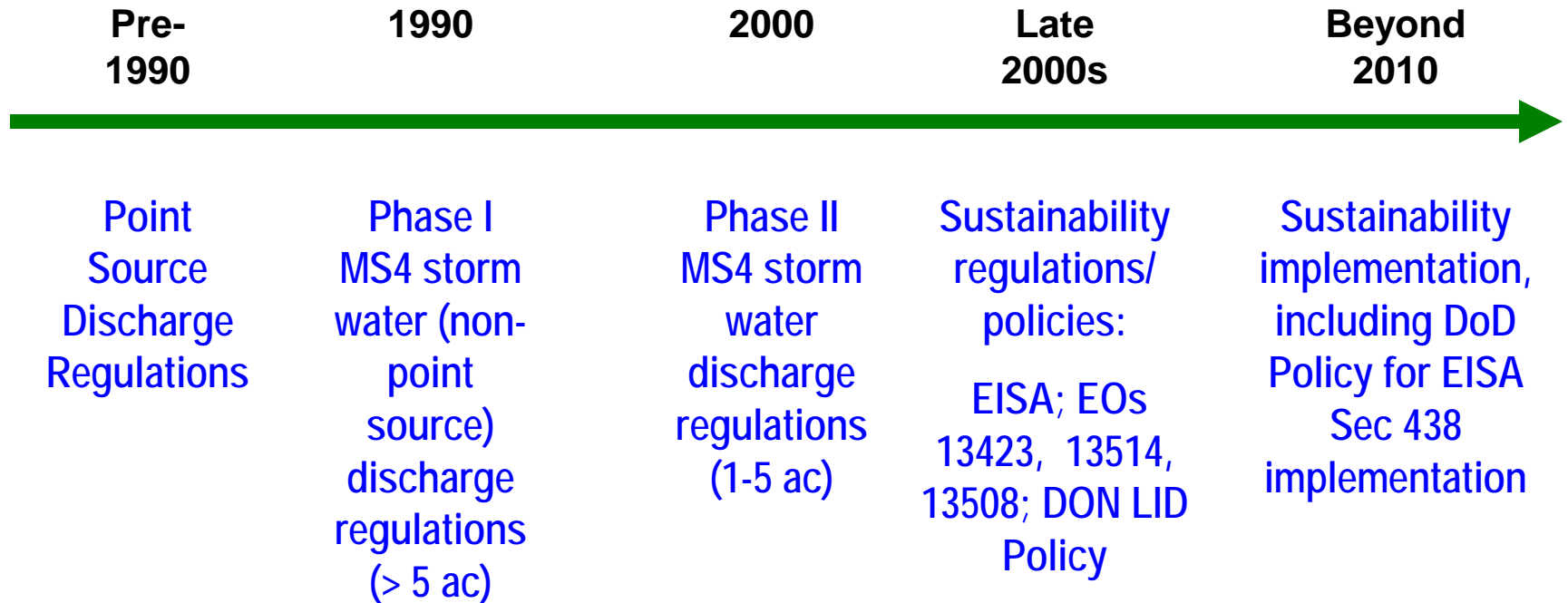


- **Nov. 2007 DON LID Policy for Storm Water Management**
 - FY11 and beyond
 - \$750K new construction; \$5 Million renovation
 - Waiver option
 - Annual reporting (updated reporting procedure being developed)
- **Jan. 2010 DoD Policy for EISA Section 438 Implementation**
 - Restoration of pre-project hydrologic conditions of temperature, rate, volume, and duration of storm water flow from affected project site
 - To the maximum extent technically feasible, applying LID
 - Documentation of cost data
- **LID UFC 3-210-01 being updated to reflect the DOD policy**
- **LEED Silver Certification**
 - Control of peak storm water discharges and 90% avg annual rainfall

A Regulatory / Policy Historical Perspective



FOCUSES



Traditional Storm Water Management Systems and Practices



- **Conventional (“pipe-and-pond”) systems**
- **Main design/operational focuses: flood control**
- **Much less focus on water quality control, except in special cases (e.g., SW in San Diego)**
- **Storm water systems not considered utilities – maintenance (if any) low in priority**

Current Storm Water Management Practices



- **Limited number of LID facilities in place (est. 40 in FY08; est. 70 in FY09)**
- **Increased awareness of new storm water mandates and LID applications among planners and designers**
- **Limited experience in planning, design, construction, and O&M**
- **Limited documented records on costs and system effectiveness**
- **Conventional systems still required by current storm water management standards and needed for flood control**

Outlook for Storm Water Management Practices



- **LID included in for FY11 major construction projects**
- **EISA Section 438 implementation (with LID) expected in FY12 construction projects**
- **Storm water management part of multi-disciplinary approach in planning, acquisition, design, construction, O&M, and asset management. This should apply to both conventional and LID systems.**
- **A holistic approach - storm water management part of multi-purpose approached in sustainable development (water conservation/reuse/recycle, energy reduction, reduced carbon footprint, LEED certification, EMS, and compliance) while maintaining flood control for site and regional levels.**
- **More efforts in system maintenance and evaluation**
- **Increased level of record-keeping and reporting**

Overview of Areas for Industry Support



- **Site Characterization and Planning**

- Characterization of hydrologic conditions of regions and installations (e.g., through additional sampling and mathematical modeling)
- GIS update
- Comprehensive master planning using a holistic approach to achieve goals set by EISA 438 and LID Policies
- Development of better cost data

- **Design and Construction**

- Design facilities to meet or exceed requirements in EISA; LID policies; EO's, applicable Federal, state, and local standards; and LEED requirements
- Expertise in applications of industrial technologies and integrated storm water systems (LID technologies) to meet mandates (in design, construction, and maintenance)

Overview of Areas for Industry Support



- **Design and Construction (Cont'd)**

- Expertise in applications of storm water treatment technologies in meeting Federal, state, and local standards wrt water quality
- Improved QA/QC and construction techniques for construction of LID facilities

- **Operation & Maintenance and Other Services**

- Operation and maintenance of LID facilities; SOP preparation
- System monitoring, inspection, testing, and evaluation
- Evaluation of program effectiveness and cost-effectiveness
- Generation of life-cycle cost data for LID facilities / storm water systems
- Development of storm water management database
- Providing continued training on LID application and ECATTS in planning, design, construction, and O&M

QUESTIONS?

