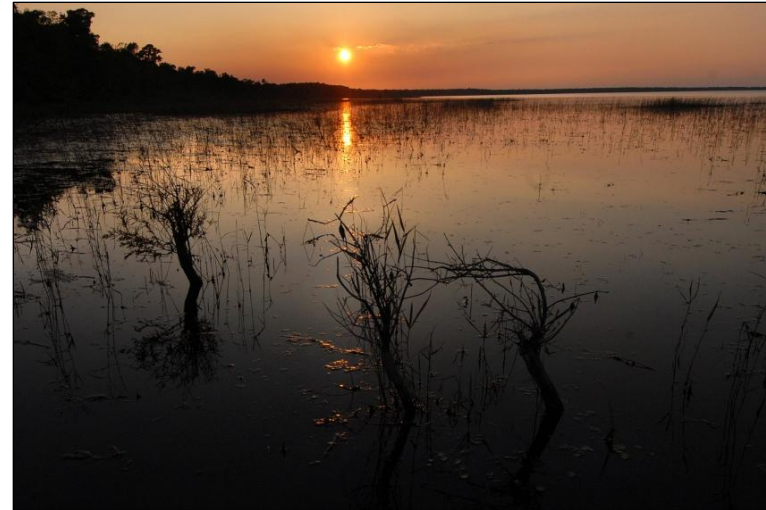


# Stormwater Management for Airports

**Judy Weseman  
and  
Mike Randall**



# Why Regulate Stormwater Runoff?





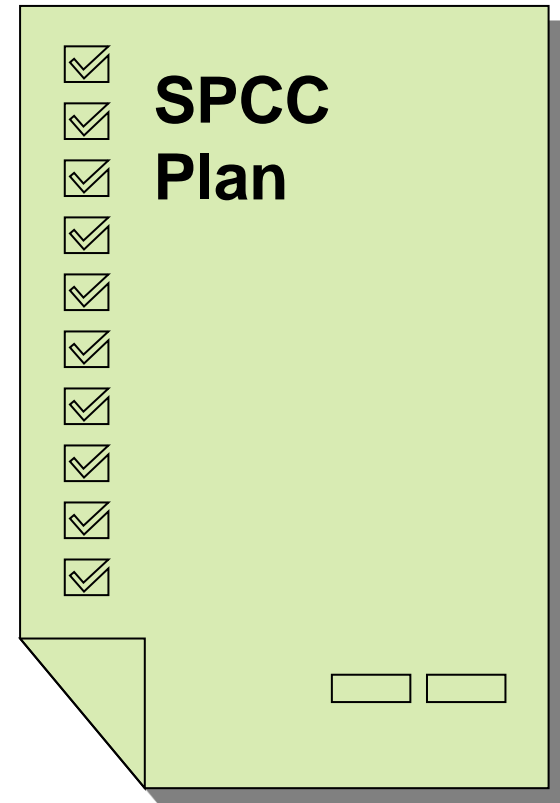


Fueling Operations and Tank Farms

03/09/2010

# SPCC Plan

- The Spill Prevention Control and Countermeasures (SPCC) Plan is required for transportation facilities handling oil, both petroleum and non-petroleum based
- 660 gallons bulk tank or 1,320 gallons non-bulk.



Activity		Is a Stormwater Permit Required?	Is a Plan Required?	Professional Engineer (PE) Certification Required
Fuel Storage	Tank Farms	No	Yes - SPCC Plan	Yes
Industrial Activities	Aircraft manufacturing, maintenance and painting	Yes - NCG150000	Yes - SWPPP	No
	Fixed and Mobile Fueling			
	Deicing			
Construction	Stream and Buffer Impacts	Yes – 401 and 404	Yes, if High Density - Stormwater Management Plan (SMP)	Yes
	Land Disturbing: greater than or equal to one acre	Yes - NCG010000	Yes - E&SC Plan Division of Energy, Mineral, and Land Resources	Yes
	Added Impervious surface	Yes* – Local or State review and approval**	SMP – for either Low Density or High Density	Yes

\* Unless deemed permitted

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# Aircraft Maintenance, Service and Painting



A photograph of an airport tarmac under a clear blue sky. In the foreground, a large orange traffic cone with a reflective silver band stands on a black base. The tarmac is marked with red and yellow lines. In the background, a white fuel truck is positioned next to a white commercial airplane. A white ground support equipment (GSE) vehicle, possibly a belt loader, is connected to the aircraft's front door. The GSE has a 'B3' logo on its side. A group of smaller orange traffic cones is clustered near the fuel truck. The overall scene depicts a busy airport environment.

## Mobile or Fixed Fueling Operations



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Deicing / Defrosting

03/09/2010



# Industrial Activities

- NCG15000
- Section A: Stormwater Pollution Prevention Plan
- Section B: Visual Monitoring Requirements
  - Outfall associated with industrial activity
  - Representative storm event
- Section C: Deicing Operations
  - Evaluate present operating procedures
  - Produce and implement a plan for the minimization of the release of materials used for deicing into the stormwater system.
  - Determine annually the usage rate
  - Report annual usage rate to the State.

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# Construction Activity

03/09/2010

# Stormwater Programs

- Stream and buffer impacts - DWQ RO/401 group
- Construction E&SC Program and NCG01
- Post Construction
  - Local government: flooding, WS I, WS II, WS III, WS IV, NSW, Phase I/II program, Delegated program
  - DWQ: HQW, ORW, Coastal Counties, urban areas
  - BMP Manual and Interactive Map  
<http://portal.ncdenr.org/web/wq/ws/su/npdessw>



# Airport Chapter - BMP Manual

## 1. Background Information

- Wildlife hazards
- Description of airports
- Pollutants of concerns
- Non-structural Stormwater Management Practices
- SB 229 (no standing water in or around airports)

## 2. Permitting

- Low Density Projects
- High Density Projects
- SB 229 (overland flow deemed permitted)
- Stormwater Master Plans

## 3. Engineered BMPs

# Senate Bill 229





## **SB 229**

### **PART VI. STORMWATER CONTROL AT PUBLIC AIRPORTS**

#### **SECTION 6. G.S. 143-214.7 is amended**

1. The Department shall not require the use of stormwater retention ponds, stormwater detention ponds, or any other stormwater control measure that promotes standing water
2. Projects located within 5 miles shall not be required to use stormwater retention ponds, stormwater detention ponds, or any other stormwater control measure that promotes standing water
3. Existing stormwater retention ponds, stormwater detention ponds, or any other stormwater control measure that promotes standing water located at public airports or within 5 miles of an airport operations area may be replaced with alternative measures
4. Alternative measures shall provide for equal or better stormwater control based on the pre- and post-development hydrograph
5. Runways, taxiways, and any other areas that provide for overland stormwater flow shall be deemed permitted pursuant to the State post-construction stormwater requirements.

# **SB 229 Projects within 5 Miles**

1. DWQ will work with the applicant to address any concerns that the airport has to minimize the likelihood that the permit will be contested
2. DWQ fully expects the applicant to address any concerns raised by the airport during the application review process
3. Any concerns not addressed will be noted in the cover letter and the airports can formally contest the permits.

# **SB 229 Projects within 5 Miles**

1. If any parts, requirements, or limitations contained in the permit are unacceptable, you have the right to request an adjudicatory hearing
2. File a written petition with the Office of Administrative Hearings (OAH).
3. The written petition must conform to Chapter 150B of the North Carolina General Statutes.
4. Per NCGS 143-215(e) the petition must be filed with the OAH within thirty (30) days of receipt of this permit.



# SB 229 Projects within 5 Miles

Petition for a Contested Case Hearing – OAH Form H06

Filing fee: \$125.00

OAH Contact:

Office of Administrative Hearings

6714 Mail Service Center,

Raleigh, NC 27699-6714,

919-431-3000, or visit their website at: [www.NCOAH.com](http://www.NCOAH.com)

DOA is developing a policy and guidance for airports that feel they need to formally contest a permit.

# Contested Permits

1. DWQ fully expects the applicant will address concerns raised by the airport during the review process
2. If contested
  - You're not contesting the development, you're contesting the approach the developer is taking to managing stormwater runoff
  - Contested permits are often resolved through exchange of e-mails and other correspondence
  - Otherwise they may be resolved through meetings with appropriate legal staff
3. As a last resort an Administrative Law Judge will make a legal decision
  - The decision would have to consider safety issues and
  - Whether or not the applicant considered alternative approaches to managing storm water runoff

# Senate Bill 229

- Runways, taxiways, and any other areas that provide for overland stormwater flow are deemed permitted
- Recommend DWQ concurrence





# Overland Flow – Public Comments

1. Minimum Distance Stormwater runoff must travel
  - 12 feet for slopes of 3% or less
  - 12-15 feet for slopes greater than 3% but less than 10%
  - 15-30 feet for slopes greater than 10% but less than 35%
2. 80% or greater vegetation coverage
3. The receiving area must be graded to avoid reconnection
4. Areas receiving stormwater runoff must be similar in length and width to the impervious surface, where the travel distance being the lesser of
  - the minimum distance as a function of the slope or
  - the width of the impervious area contributing runoff

# Overland Flow – Public Comments

- Seasonal High Water Table (SHWT)
  - No separation required per se
- Type A and Type B Soils
  - Soil evaluation not required
- Soil Evaluation
  - Type C and Type D Soils
  - Where the soils have been compacted, or
  - Fill has been provided
- State will allow Soil Amendments
  - Runway Safety Area (RSA) soil amendments limited to the top 4 inches

# Permitting added Impervious Surfaces

- SB 229 (overland flow deemed permitted)
- Low Density Projects
  - Less than 24% BUA and vegetative conveyances
- High Density Projects
  - Provide Stormwater Control Measures (BMP)
  - Compensatory Treatment
    - In lieu of treating a new runway extension – treat an existing parking lot
    - Biggest Bang for your Buck
- Stormwater Master Plans
  - Comprehensive plan
    - Airport Layout Plan (ALP)
    - Document Stormwater Control Measures (overland flow, low density, or stormwater control measures if high density)
  - Rescind existing SW permits

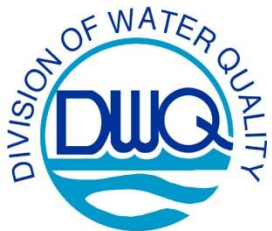


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# Summary





# Fueling Operations and Tank Farms

03/09/2010



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Asheville  
AIRPORT



**Industrial Activities. i.e., Deicing / Defrosting**

**03/09/2010**





# Construction Activities

03/09/2010

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# Panel Discussion

**Judy Weseman  
and  
Mike Randall**

