

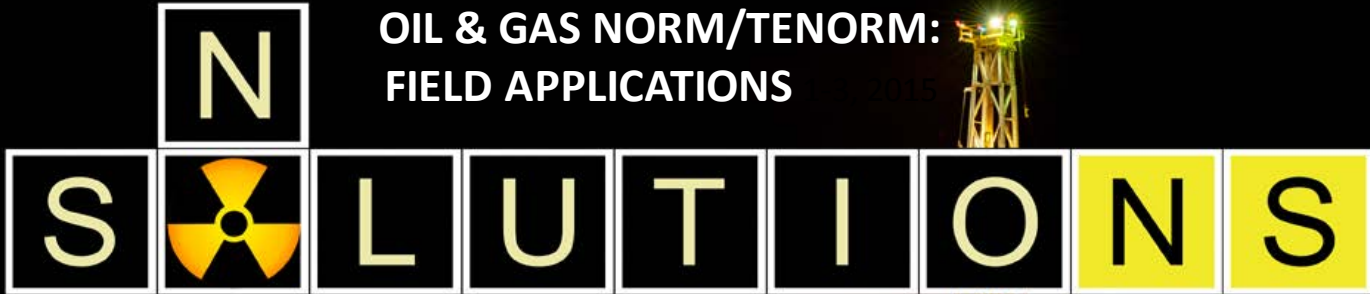
# Oil & Gas NORM/Tenorm: Field Applications

Geri Blanchard,  
NORM Solutions LLC

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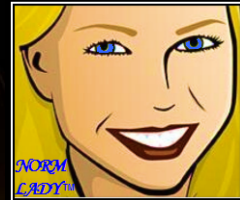
**OIL & GAS NORM/TENORM:  
FIELD APPLICATIONS**



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PRESIDENT / CRSO**

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# FIELD MANAGEMENT

- ☢ **IDENTIFY – SURVEYING/SAMPLING**
- ☢ **POLICY/PLANS**
- ☢ **DECON/MAINTENANCE**
- ☢ **TRANSPORTATION**
- ☢ **RELEASES**
- ☢ **DISPOSAL/RECOVERY/RECLAMATION/RECYCLING**



# SAMPLING (WASTE CHARACTERIZATION)

- ☢ **Responsibility of the Generator**
- ☢ **Sample Collection – EASY**
  - ☢ Size of your Fist
  - ☢ First 15 centimeters ~ 6.5 inches
  - ☢ NOT Air-tight
  - ☢ NOT Preserved on Ice
- ☢ **What do you do when you have an insufficient volume  
SEND:**
  - ☢ Wipe Test Smears to the Lab
  - ☢ Small Piece of Contaminated Equipment to Lab
  - ☢ Air Sample Filter Papers to Lab



# IS NORM/TENORM HAZARDOUS?

## NORM/TENORM IS NOT INHERENTLY HAZARDOUS!

- ☢ **HAZARDOUS WASTE** - any material that is subject to the Hazardous Waste Manifest requirements of the U.S. EPA specified in 40 CFR 262.
- ☢ **HAZARDOUS MATERIAL**- a material designed as hazardous in the Hazardous Materials Table found in 49 CFR 172.101. The term includes Hazardous Substances and Hazardous Wastes. Material meeting the DOT definition for Radioactive Material is considered a “Hazardous Material”.
- ☢ **HAZARDOUS SUBSTANCE** - a material, including its mixtures and solutions, that is listed in 49 CFR 172.101, Appendix A, Table 2 and is in a quantity, in one package, which equals or exceeds the reportable quantity (RQ) listed in Table 2.

# EQUIPMENT/OBJECT EXEMPTION LIMITS

☢ 7 States possess NORM/TENORM specific regs

☢ AR, LA, MS, NM, OH, TX, WV (ND 2016)

☢ 50  $\mu$ R/hr Most Common Gamma Exposure Limit

☢ Surface Contamination Limits:

## TEXAS DEPARTMENT OF STATE HEALTH SERVICES - 25 TAC §289.259(w)

| RADIONUCLIDE <sup>a</sup> | AVERAGE <sup>b,c,f</sup>      | MAXIMUM <sup>b,d,f</sup>       | REMOVABLE <sup>b,c,e,f</sup>  |
|---------------------------|-------------------------------|--------------------------------|-------------------------------|
| NORM                      | 5,000 dpm/100 cm <sup>2</sup> | 15,000 dpm/100 cm <sup>2</sup> | 1,000 dpm/100 cm <sup>2</sup> |

# WASTE EXEMPTION LIMITS

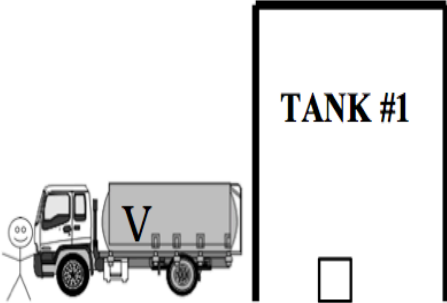

☢ 5 pCi/g or 30 pCi/g – Disposal allowed limits are NOT exemption limits!

☢ Several states possess product exemptions:

| ADDITIONAL EXEMPTIONS |             |                |               |
|-----------------------|-------------|----------------|---------------|
| Crude Oil             | Natural Gas | Produced Water | No Exemptions |
| Arkansas              | Arkansas    | Arkansas       | Ohio          |
| Louisiana             | Louisiana   | Louisiana      | West Virginia |
| Mississippi           | Mississippi | Mississippi    |               |
| New Mexico            | New Mexico  | New Mexico     |               |
| Texas                 | Texas       | Texas          |               |



# MAINTENANCE/DECONTAMINATION

| MAINTENANCE   | DECONTAMINATION   |
|---|---|
| <ul style="list-style-type: none"><li>– NO ADDITIONAL AIRBORNE PARTICULATES</li><li>– CLOSED-LOOP SYSTEM</li><li>– NO RESPIRATORS</li><li>– NO VESSEL ENTRY</li></ul>  | <ul style="list-style-type: none"><li>☢ NO ADDITIONAL AIRBORNE PARTICULATES</li><li>☢ OPEN-LOOP SYSTEM</li><li>☢ RESPIRATOR USAGE</li><li>☢ VESSEL ENTRY AND CONFINED SPACE ENTRY</li><li>☢ SOIL REMEDIATION</li></ul>  |

# ON-SITE TREATMENT/DISPOSAL

☢ **SPECIFIC LICENSE IS REQUIRED FOR FIELD ACTIVITIES OUTSIDE THE REALM OF ROUTINE MAINTENANCE IN MOST STATES**

☢ **“Authorized by Rule” vs. Permit Required**

☢ **Landowner Approval Required**

– **Avoid terms such as “radioactive”, “radiation”, “dangerous”, or “hazardous”!**



# TRANSPORTATION

- ☉ **STATE & FEDERAL REGULATIONS**
- ☉ **Waste Hauler Permits – Oil and Gas Wastes**
- ☉ **Hazardous Waste Permits – Mixed with Hazardous Wastes**
- ☉ **Transportation of TENORM License – North Dakota**
- ☉ **Could be Class 7 HAZMAT!**
  - ☉ **Ra<sup>226</sup>: 270 pCi/g**
  - ☉ **Ra<sup>228</sup>: 270 pCi/g**
  - ☉ **Th<sup>228</sup>: 27 pCi/g**
  - ☉ **Pb<sup>210</sup>: 270 pCi/g**



# RELEASES

## CONDITIONAL RELEASE:

- ☢ Equipment/property must be used for its intended function
- ☢ Transaction should be between similar parties
- ☢ Equipment/property may be NORM-contaminated; however must be disclosed to the opposing party

## RELEASE FOR UNRESTRICTED USE:

- ☢ Used by anyone for any purpose
- ☢ Equipment/property is NOT used for its intended function
- ☢ Equipment/property MUST be decontaminated!!!



# DISPOSAL/RECOVERY/RECLAMATION /RECYCLING

## RECOVERY/RECLAMATION/RECYCLING:

- ☢ **Recovery and Reclamation Becoming Popular with Landfills**
- ☢ **Recyclers and Steel Mills accept thresholds below exemption limits**




## DISPOSAL:

- ☢ **On-site – P&A, Landfarming, Land spreading**
- ☢ **Commercial Disposal Facilities (Northern states vs. Gulf States)**

QUESTIONS?


**We Have Solutions for Your NORM Problems**

**S**  **L** **U** **T** **I** **O** **N** **S**

**N**

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**M**



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