

Survey & Identification of NORM Contaminated Equipment



Are you going to meet the March 3, 2005 deadline?

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Background

Naturally occurring radioactive material (NORM) encountered in oil and gas exploration, development and production operations originates in subsurface formations, which may contain radioactive materials such as uranium and thorium and their daughter products, radium 226 and radium 228. NORM can be brought to the surface in the formation water produced in conjunction with oil and gas. NORM in these produced waters typically consists of the radionuclides, radium 226 and 228. Radon gas, a radium daughter, may be found in produced natural gas.

Because the levels are typically so low, NORM in produced waters and natural gas is not a problem in Texas unless it becomes concentrated in some manner. Through temperature and pressure changes that occur in the course of oil and gas production operations, radium 226 and 228 found in produced waters may co-precipitate with barium sulfate scale in well tubulars and surface equipment. Concentrations of radium 226 and 228 may also occur in sludge that accumulates in oilfield pits and tanks. These solids become sources of oil and gas NORM waste. In gas processing activities, NORM generally occurs as radon as in the natural gas stream. Radon decays to Lead-210, then to Bismuth-210, Polonium-210, and finally to stable Lead-206. Radon decay elements occur as a film on the inner surface of inlet lines, treating units, pumps, and valves principally associated with propylene, ethane, and propane processing streams. Workers employed in the area of cutting and reaming oilfield pipe, removing solids from tanks and pits, and refurbishing gas-processing equipment may be exposed to particles containing levels of alpha-emitting radionuclides that could pose health risks if inhaled or ingested.

Oil and gas waste with radioactivity at levels above the exemption levels are oil and gas NORM wastes. Oil and gas NORM wastes must be managed in accordance with the Commission's NORM disposal regulations. Transfer of NORM-contaminated equipment is allowed provided the equipment is used in oil and gas operations. NORM-contaminated equipment that is being discarded must be decontaminated before it is disposed of, or sent to a scrap recycling facility. The TDH regulations require a specific license to perform decontamination work.

Any person who possesses NORM above the exemption levels is a general licensee under the TDH regulations. Operators have a duty to determine whether or not they possess NORM above the exemption levels.

Introduction to Requirements

What is the purpose of the NORM regulation and what is required?

The purpose of the NORM regulation is to establish requirements for the identification of equipment contaminated with oil and gas NORM, and the disposal of oil and gas NORM waste to protect public health and safety, as well as to protect the environment.

Every oil and gas production operator in the state of Texas is required to have oil and gas production equipment surveyed for naturally occurring radioactive material (NORM) and identified with a NORM tag by March 3, 2005.

Regulation Source Documents

Identification of Equipment Contaminated with NORM, 16 TAC, Part 1, Chapter 4 Subchapter F, Rule §4.605 can be accessed from the Railroad Commission website at <http://www.rrc.state.tx.us/rules/rule.html> and selecting **Chapter 4: Environmental Protection**, and then selecting **Subchapter F: Oil and Gas NORM**. It states in part:

"...within two years of the effective date of this rule (March 3, 2003), each person who owns or operates equipment used for production or disposal including each person who owns or operates equipment associated with a commercial facility, as defined in §3.78 (relating to Fees, Performance Bonds, and Alternative Forms of Financial Security Required to be Filed), shall identify NORM-contaminated equipment with the letters "NORM" by securely attaching a clearly visible waterproof tag or marking with a legible waterproof paint or ink. Employers whose employees speak languages other than English may add to the tag the translation of the acronym "NORM" in those languages as long as the acronym "NORM" is also on the tag."

Alternatively, please e-mail a request to our company and we will send you an electronic copy of the document.

e-mail: general@e-ht.com

Where Do I Start?

ENPROTEC / HIBBS & TODD, INC. offers assistance with NORM regulatory compliance. We have certified professionals who would be glad to assist your operations staff by conducting your NORM survey for equipment tagging. Should you decide to accept our help in meeting this deadline, please contact us at 325.698.5560.

Our company can assist you in assessing your need for compliance with this program. Please call one of our offices for answers to questions you may have. ENPROTEC and Hibbs & Todd are integrated engineering firms offering comprehensive services to both private and public clients. Our team has over a decade of experience assisting agencies in dealing with regulatory compliance issues such as those listed below. Give our Lubbock or Abilene offices a call and our professional staff will discuss your specific needs and answer any questions you may have.

Consulting Services

- Environmental Impact
- Phase I Assessments
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- Water Treatment
- Water Distribution
- Sewer Treatment/Collection
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- Water Quality Planning
- System Optimization
- Process Efficiency Studies
- Pollution Prevention
- Waste Minimization
- Risk Management Programs



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