

Dade Moeller NORM/TENORM Resume

Dade Moeller, an NV5 Company, has extensive experience dealing with NORM (naturally occurring radioactive material) and technologically enhanced NORM (TENORM) issues. We have performed numerous radiological site characterizations for NORM at oil and natural gas facilities as well as human health risk assessments, independent reviews, and evaluation of remediation options. Staff members have served as expert witnesses on behalf of clients due to litigation involving allegations related to various types of radioactive materials, including NORM/TENORM.

Dade Moeller/NV5 has the capability to develop radiological safety assessments to account for NORM, TENORM, and other radioactive materials. We also can prepare NORM/TENORM sampling and analysis plans based on guidance provided in the Multi-Agency Site and Survey Implementation Manual (MARSSIM) document. These plans typically include sampling strategies for NORM/TENORM in multiple environmental media, including sediments, soil, surface water, ground water, and vegetation. As part of our Training Academy, Dade Moeller/NV5 offers a hands-on workshop designed for people who have to deal with NORM hazards at waste treatment facilities, sites that handle oil or gas drilling equipment, mineral extraction and mining operations, and natural gas and propane processing facilities.

NORM/TENORM Experience

Subject Matter Expertise

- Provided technical expertise on NORM/TENORM issues for California landfill.
- Evaluated and responded to State of California's NORM concerns at oil pad site.
- Acted as City's technical expert for NORM-impacted chemical plant decommissioning.
- Prepared NORM/TENORM Health and Safety Plans for oil and gas industry clients.

Licensing

- Prepared application and supporting basis for NORM/TENORM disposal at a Colorado landfill.
- Prepared air emissions application for decommissioning of NORM-impacted alum plant.

Radiological Site Characterization

- Performed site characterizations for NORM at numerous oil and natural gas facilities.

Radiological Risk Assessment

- Developed, implemented, and documented radiation-related components of Remedial Investigation/Feasibility Study for three NORM-impacted Superfund sites.

Sampling

- Prepared SOP for NORM measurements during environmental sampling at California well pads.
- Conducted NORM sampling at Washington alum processing plant.
- Provided health physics support for removal of iron ore fines and remediation of areas associated with former titanium oxide manufacturing site.
- Supervised staff performing radiological surveys of soil, ground water, and buildings at more than 300 properties near three NORM-impacted Superfund sites.

Training

- Provided TENORM meter training for safety department staff at a gas processing company.
- Provided Train-the-Trainer training for health and safety managers responsible for projects involving potential worker exposure to TENORM-impacted sludges and wastewater.

Other Oil & Gas Experience

Subject Matter Expertise

- Served as radiological expert during federal review of proposed natural gas storage project.
- Peer reviewed *Health Physics Journal* manuscript on radiation exposure from pipe in oil industry.
- Performed a review of the Public Health England annual report for American Petroleum Institute.

Licensing

- Prepared radioactive materials license applications and sealed source and device registration certificates for well services companies.
- Consulted on acquisitions and consolidations of radioactive materials licensees in several states.

Audits and Assessments

- Conducted third party assessments and radiation safety program audits for natural gas storage project, well logging company, and petroleum refinery.
- Performed audit of chemicals testing conducted during well drilling in various states.
- Conducted audits of laboratory in Trinidad refinery.
- Prepared federal Environmental Impact Statement for natural gas pipeline in Washington.

Radiation Safety Officer

- Provided RSO consulting services for a radioactive material detection technology company.

Dose Reconstruction

- Reconstructed workers' radiation doses from exposure to a well logging source.

Training

- Provided on-site radiation safety training for clients throughout the U.S. as well as internationally (Scotland and Malaysia).

Corporate Resources and Competencies

Associations

- National Council on Radiation Protection and Measurements: Board of Directors, Committee.
- National Academy of Sciences: Committee.
- American National Standards Institute: Authors.
- U.S. Department of Energy Laboratory Accreditation Program: Oversight Board.
- Health Physics Society: Presidents, Board of Directors, lecture series, scholarships.
- American Academy of Health Physics: President, Committees.
- Marcellus Shale Coalition: Associate Member.
- Montana Petroleum Association.

Licenses

- Washington: Health physics, waste brokerage.
- Maryland: Radioactive material license.
- Tennessee: Radioactive material license.

Radiation Protection Programs

- Establish, audit, and implement radioactive material licensees' radiation protection programs.

Training Academy Offerings

- NORM RSP.
- NORM Workshop.
- Radioactive materials shipping in compliance with DOT, NRC, IATA.
- Radiation Safety Officer.

Monitoring/Instrumentation

- Maintain inventory of radiation detection instruments used to characterize radiation levels at NORM/TENORM facilities, including rate meters, GM detectors, NaI detectors, ion chambers, hand-held gamma spectrometers.

Radioanalytical Laboratory

- Working relationship with several licensed commercial full service radioanalytical laboratories capable of alpha- and gamma spectrometry analyses.

Dade Moeller/NV5 Point of Contact

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