

NORM & DECOMMISSIONING

Wastes Made Simple

40
YEARS

SERVING THE
OIL & GAS
INDUSTRY
www.scotoil.co.uk



Technical expertise and compliance

We support two key service areas:

- ▶ Oil and gas production
- ▶ Oil and gas decommissioning

Our range of services include:

- ▶ **Decommissioning, Project Management and Waste Services**
- ▶ **Decontamination of NORM contaminated equipment**
- ▶ **Handling and Disposal of NORM contaminated waste**
- ▶ **Radiochemical Analysis of NORM contaminated waste**
- ▶ **Supply of Radiation Protection Services**
- ▶ **Sales, hire and repair of radiation detection monitors**
- ▶ **NORM Awareness Training.**

Since 1982, Tradebe Scotoil has operated Scotland's premier onshore facility, authorised for the removal and disposal of NORM (Naturally Occurring Radioactive Material) contaminated waste, gaining an excellent reputation for BAT (best available technology), compliance, decommissioning, project management, safety, technical expertise and waste management.

Whilst serving the oil and gas industry for over 40 years Tradebe Scotoil has gained vast experience and knowledge giving our customers assurance that their NORM and waste requirements are undertaken compliantly, safely and in compliance with the environmental waste hierarchy for waste disposal.

Tradebe Scotoil only send NORM contaminated waste for disposal by high temperature incineration at the Tradebe Fawley HTI Permitted Facility in the UK, which is (BAT) Best Available Technology.

This uniquely positions our customers with an unbroken chain of custody for their wastes.

We have significant experience dealing with a wide portfolio of projects of varying size and budget, our permitted quayside areas at, Aberdeen, Peterhead and Montrose, provide the capacity to simultaneously handle multiple decommissioning and waste management projects.

With our breadth of services, customer focused approach, Tradebe Scotoil can add value by offering bespoke, compliant, tailored solutions that both minimise risk and provide efficiencies.

Decontamination
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Radiation
Protection
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Radiation
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Equipment
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Waste Management Services

NORM Waste
Analysis
Services

NORM
Awareness
Training

High
Temperature
Incineration

NORM waste what is it?

NORM forms when large quantities of water are injected into the reservoir to displace the oil and gas for receipt at the production facility such as an offshore platform.

In moving through the reservoir, injected seawater comes into contact with the formation water. The formation water contains solutions of a number of naturally occurring mineral salts, notably barium, strontium and radium..

As the fluids approach the surface, changes in the temperature and pressure cause the barium, strontium and radium sulphates to precipitate out of solution and form scale within equipment such as pipework, valves, pumps and trees.

NORM scale varies from solid to thick sludge or dry flaky substances. This scale has to be removed periodically. Otherwise the equipment will be deemed inoperable and require costly replacement.



Health Hazards

The hazards associated with NORM are inhalation, ingestion and external exposure, so the appropriate training and health and safety procedures must be followed when working with NORM.

Disposal

NORM contaminated waste such as scale, sludges and sands must be disposed of by a fully Authorised Permitted and Licenced Waste Facility.

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Radiation protection services

Tradebe Scotoil provides highly trained, experienced Radiation Protection Supervisors (RPS) to support our customers NORM work both onshore or offshore

Our RPS's are vastly experienced, working in both UK and international projects, providing radiation protection supervision for over 300 production turnarounds, well abandonments and decommissioning scopes.

It has been demonstrated many times that a Competent RPS can help prevent rig downtime during well abandonment activities

Our RPS provide onsite health and safety, guidance and overall management for the handling of radioactive materials in accordance with IRR17 (Ionising Radiation Regulation 2017).

All our RPS is trained for Class 7, ADR (Dangerous Goods by Road) and IMDG (International Maritime Dangerous Goods) documentation and are authorised Gas Testers.



Tradebe Scotoil provides a wide range of consumables for working with NORM including but not limited to:

- ❑ PPE (face masks, paper coveralls, gloves, safety footwear, safety glasses).
- ❑ Bagging and Tagging (NORM free tape, NORM contaminated tape, duct tape, tags, 1000-gauge polythene sheeting/sleeving, radioactive labelling).
- ❑ Other (spill kits, signs, chain)
- ❑ Tradebe Scotoil is a one-stop-shop for all our customers RPS, NORM Monitors and NORM Consumables.

Decontamination Services

Radiation Protection Services

Radiation Detection Equipment Services

Decommissioning Project Management Waste Management Services

NORM Waste Analysis Services

NORM Awareness Training

High Temperature Incineration

Decontaminating equipment of NORM

NORM builds up on the surfaces of oil and gas field equipment such as - pipework, valves, pumps, trees and must be removed.

Otherwise, this could render the equipment inoperable and require costly replacement.



NORM scale is removed from contaminated equipment at the Tradebe Scotoil permitted facility in Aberdeen mainly by high and ultra-high pressure water jetting techniques.

All equipment is decontaminated to natural background radiation levels, before being returned to customers.

The Tradebe Scotoil facility has multiple decontamination areas, so several NORM work scopes can be undertaken simultaneously, this facilitates efficiencies and the capacity to undertake urgent turnarounds, meaning there is no delay getting critical equipment returned to customers.

With over 40 years of experience and knowledge, Tradebe Scotoil has successfully decontaminated all types of oil and gas equipment, utilising different approaches for decontamination.

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Radiation detection equipment

Tradebe Scotoil is the market leader in supplying specialist NORM (Naturally Occurring Radioactive Material) Services to a number of Industries.

At our NORM facility in Aberdeen, our instrumentation department provide an efficient and professional service for the repair and calibration of dose rate and contamination monitors to the National Physics Laboratory (NPL) guidelines.

We are unique in having the only NORM instrumentation service in Scotland meaning we can provide a more rapid laboratory turnaround time than our competitors as monitors do not have to be couriered to other parts of the UK thus offering additional cost savings. In some scenarios, same day turnaround can be undertaken.

Informed by decades of practical experience, we support key service areas, -

- **Oil and Gas Production**
- **Oil and Gas Decommissioning**
- **National Health Service**
- **Fire Service**
- **Universities**



Sales and hire

Tradebe Scotoil Services carries a comprehensive range of monitors and dose rate meters for sale and hire.

The monitors are suitable for use within the oil and gas industry as well as other industrial, research and teaching facilities.

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Oil and Gas decommissioning



Decommissioning services Include:

- ▶ Project Management
- ▶ Supply of onshore and offshore Radiation Protection Supervision (RPS)
- ▶ Quayside size reduction of NORM contaminated and NORM-free structures
- ▶ Removal of marine growth from subsea structures
- ▶ NORM contaminated equipment decontamination
- ▶ In-house handling, treatment and final disposal of NORM waste
- ▶ In-house NORM waste analysis (radiological, hydrocarbon and heavy metals)
- ▶ In-house radiation detection monitors sales, repair and calibration
- ▶ NORM Awareness Training Courses
- ▶ Hazardous Waste Disposal

The oil and gas decommissioning sector in the UKCS whether topside or subsea, will mostly encounter NORM and hazardous wastes during decommissioning projects.

Tradebe Scotoil, has successfully managed thousands of tonnes of NORM waste material, NORM contaminated structures and decom waste for the sector. We have successfully completed a large number of decommissioning projects for our customers over the years and mostly achieve a 98% recycling/reuse rate or higher for decommissioned waste materials we handle.

2021 subsea decommissioning waste management services in numbers

- ▶ Circa 5000Te of subsea material, managed from quayside to recycling
- ▶ Five decommissioning projects planned and executed
- ▶ Reuse opportunities found for 146Te of concrete waste
- ▶ Decommissioning offering grown and strengthened with new approved suppliers and acquisition of SEPA Waste Management Licence for Aberdeen, Clipper Quay
- ▶ Operations for 14 separate port calls at six different quaysides
- ▶ 98.9% recycling and reuse rate

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NORM waste analysis

Tradebe Scotoil has been supporting the oil and gas industry for over 40 years and is the market leader in supplying specialist NORM (Naturally Occurring Radioactive Material) services.

At our facility in Aberdeen, our onsite laboratory and chemists undertake sampling, analysis, and characterisation of solid, liquid (including produced water) waste for the oil and gas industry

We are unique in having the only dedicated NORM laboratory operating within a NORM Waste Facility in the UK.

This allows Scotoil to provide our customers with a quick and efficient turnaround time for completing waste analysis on samples as there is no requirement to rely on third party companies in the UK to carry out this service.

Our onsite laboratory mainly carries out radiochemical analysis on NORM contaminated waste, however analysis of other waste types can be carried out on request.



Radiochemical analysis

- ❑ Gamma Spectrometry Ra-226, Ac-228, Po-210
- ❑ Alpha Spectrometry Po-210
- ❑ Heavy Metals Arsenic, Cadmium, Chromium, Copper, Mercury, Nickel, Zinc. (Others upon request)
- ❑ Total Petroleum Hydrocarbons (Mg/Kg)
- ❑ Flashpoint °C

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High temperature incineration

Tradebe Scotoil safely repackages all NORM contaminated waste onsite such as solid scale, sludge, sand and PPE into compliant 205 litre drums.

The drums of NORM contaminated waste are disposed of by high temperature incineration at the Tradebe Fawley facility, Southampton UK

Our high temperature incinerator at Fawley has extensive permits that enable acceptance of a wide scope of radioactive waste and package types generated by the oil and gas and nuclear industries.

High temperature incineration provides the Best Available Technology (BAT) and highest level of secure disposal for these difficult hazardous waste types. Operating at temperatures in the excess of 1100°C, we can completely guarantee the destruction of hazardous and radioactive wastes resulting in typical waste volume reductions of up to 80%.

Tradebe Scotoil is uniquely positioned to offer customers an unbroken Duty of Care by handling, treating and disposing of NORM waste within the Tradebe Group of companies.



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NORM awareness training

The NORM Awareness Training Course is suitable for those working in the Oil and Gas sector and other industries where NORM is present.

The course is designed to provide delegates with an understanding of the hazards and legislative requirements on working with NORM.

Usually a classroom-based course, depending on class size and experience, duration would typically range between 4-8 hours.

It can be taught at the dedicated Tradebe Scotoil training facility in Aberdeen or at a suitable customer location, using a mixture of lectures, desktop exercises and practical experience and can also be adjusted to suit "Teams" based requirements.

The course is provided by our own experienced personnel, all of whom have many years of experience in providing radiation detection services for radioactive materials that are used or are commonly encountered, particularly in the Oil and Gas industry.

Delegates are encouraged to renew their training every three years to keep up with changes to legislation, monitoring equipment and industry practices.

Outline course structure

- **Knowledge Learning - What is NORM? Where is it found? The hazards of NORM, The Ionising Radiations Regulations 2017 (IRR2017), The Environmental Authorisations (Scotland) Regulations 2018.**
- **Emergency Response.**
- **Practical - introduction to radiation monitoring, selection and use of radiation monitors and identifying NORM.**
- **Understanding Analytical Data - is the material radioactive, exempt or out of scope?**
- **Training Certification**
- **Delegates who have attended, successfully completed, and passed the course will be awarded a NORM Awareness Certificate.**

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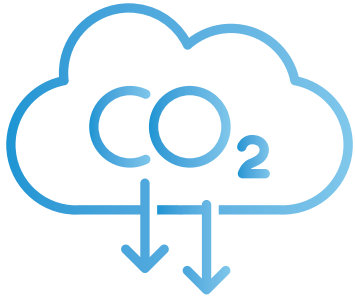
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Investing in the future



Committed to Net Zero 2050

Tradebe Scotoil is committed to be Net Zero by 2050 and is taking action to enhance the sustainability of our operations.

As a leading global waste management company, Tradebe has 2500 over employees and over 80 waste management sites, including Tradebe Scotoil.



NORM & DECOM SERVICES

Quayside permits and licences

In addition to our market leading Aberdeen facility, Scotoil currently has three fully permitted and licensed decommissioning areas at quaysides in Aberdeen, Peterhead and Montrose, providing the capacity to simultaneously handle multiple decommissioning and waste management projects.

These permits and licences enable Tradebe Scotoil to compliantly downsize both structures and components into suitable sizes, for road transport, back to the Tradebe Scotoil NORM facility in Aberdeen.

- **Port of Aberdeen (EAS/P/1176562)**
- **Port of Montrose (EAS/P/1180769)**
- **Port of Peterhead (EAS/P/1180769)**

All activities at all Tradebe Scotoil sites operate under permits in compliance with (Environmental Authorisations (Scotland) Regulations 2018) Permits and in accordance to; ISO 9001:2015, ISO 14001:2015 and ISO 45001:2018 Accreditations.



Brian Henderson

+44 (0) 7483 367002

brian.henderson@tradebe.com

Derek Richardson

+44 (0) 7818 418632

derek.richardson@tradebe.com

Tradebe Scotoil

Davidson House, Miller Street,
Aberdeen, AB11 5AN
01224 571491

www.scotoil.co.uk