



ENVIRONMENTAL ALERT

ALERT NUMBER: 005/2014

**ISSUE DATE: 10 November
2014**

INCIDENT / ALERT DETAILS:

It has been identified by DECC that there is the potential for operators to be incorrectly calculating the concentrations of oil on sand due to misinterpretation of the DECC Methodology for the Sampling and Analysis of Produced Water and Other Hydrocarbon Discharges. This may have resulted in some operators under reporting the amount of oil discharged to sea and, in some cases, potentially breaching their permitted discharge limits.

This has arisen due to confusion over the calculation required to convert the analysis results to determine a final concentration.

INITIAL / ALERT FINDINGS:

The calculation to determine oil concentration of sand, as stated within the DECC Methodology for the Sampling and Analysis of Produced Water and Other Hydrocarbon Discharges (section 6.10 : Annex A), is:

$$\text{Oil concentration (mg/kg)} = \frac{\text{oil concentration (from graph)} \times 1000 \times DF \times 100}{\text{Sample weight (g)} \times Y}$$

Where,

DF = dilution factor

Y = normal IR calibration standard solution volume (ml)

The above calculation is based on an extraction of a known weight of sand using 100ml TTCE.

It has been noted that the value of Y has been incorrectly used in a number of cases.

Due to the requirement to perform monthly validations of the IR graph by offshore personnel, it has become standard practise to ship offshore standards of a larger volume (typically 200ml) to prepare the graph and allow enough solution remaining to perform the monthly validations. These solutions are, however, based on an initial standard solution volume of 100ml.

In a number of cases Y has been taken to be 200ml, rather than 100ml, which has resulted in an analysis result half of what the calculated value should be.



What you need to do:

Review your procedures for oil on sand analysis to ensure the correct value for Y is being used during the analysis, updating if required.

Ensure your procedures for oil on sand are clear as to the appropriate value of Y. This should be stated within your procedures and not left to the analyst to determine.

Ensure all personnel undertaking oil on sand analysis are aware of these requirements.

Should you find that the wrong value for Y has been used:

Determine the length of time (where possible) the incorrect value for Y has been in use.

Recalculate your oil on sand discharges *for 2014 only*.

Where it has been determined that discharges of sand have occurred where the oil on sand concentration is greater than that permitted, a single non-compliance notification form must be submitted to account for the error in calculation. On this non-compliance form you must detail all instances of sand discharges during 2014 up to the date of this environmental alert where the permitted concentration limit has been breached.

Please note – any sand discharges from the date of this environmental alert must be correctly analysed and calculated. Non-compliance reports will be required for any sand discharge exceeding your permitted concentration from this date.

Analytical laboratories and service providers – You must ensure all personnel undertaking oil on sand analysis are aware of this environmental alert. You must review any procedures you have responsibility for to ensure the correct value for Y is stated.

If you have any questions relating to this environmental alert, please contact your assigned inspector.

Further Information

Any queries relating to this alert should be addressed to:

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Offshore Environment and Decommissioning
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Or:

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