Hydrocarbon management

HM 53

Guidelines for the management of measurement of emissions streams associated with trading and discharges in offshore UKCS

2nd edition

energy institute

HM 53 GUIDELINES FOR THE MANAGEMENT OF MEASUREMENT OF EMISSIONS STREAMS ASSOCIATED WITH TRADING AND DISCHARGES IN OFFSHORE UKCS

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This publication has been produced as a result of work carried out within the Technical Team of the EI, funded by the EI's Technical Partners. The EI's Technical Work Programme provides industry with cost-effective, value-adding knowledge on key current and future issues affecting those operating in the energy sector, both in the UK and internationally.

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CONTENTS

Contents continued

Page

LIST OF FIGURES AND TABLES

Page

Figures

Tables

FOREWORD

The EI Hydrocarbon Management Committee is responsible for the production and maintenance of guidelines covering various aspects of static and dynamic measurement. This publication has been instigated and managed by the EI's Upstream Hydrocarbon Management Committee, HMC-1 which deals with measurement applicable to the upstream sector of the industry which includes measurement for fiscal reporting, product allocation and streams associated with emissions trading.

Since the first edition of HM 53 was published in 2007 the European Union Emissions Trading Scheme (EU ETS) has entered Phase 3 of the Directive. Phase 3 of the Directive came into effect on 1 January 2013 and aims to ensure the complete, transparent and accurate monitoring and reporting of greenhouse gas emissions. HMC-1 deemed it necessary to develop a second edition of HM 53 to ensure industry is provided with appropriate up-to-date guidance which informs managers and personnel involved in measurement, of the current governing legislation and the associated requirements for measurement of streams associated with emissions from offshore installations.

This publication has been compiled for guidance only and while every reasonable care has been taken to ensure the accuracy and relevance of its contents, the EI, its sponsoring companies, the author and the Working Group members listed in the Acknowledgements who have contributed to its preparation, cannot accept any responsibility for any action taken, or not taken, on the basis of this information. The EI shall not be liable to any person for any loss or damage which may arise from the use of any of the information contained in any of its publications.

This guideline may be reviewed from time to time and it would be of considerable assistance for any future revision if users would send comments or suggestions for improvements to:

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1 INTRODUCTION

1.1 SCHEMES RELEVANT TO OFFSHORE INSTALLATIONS

The purpose of the EU Emissions Trading Scheme (EU ETS) is to allow the EU Member States to fulfil their commitments to reduce anthropogenic (caused by humans) greenhouse gas emissions in compliance with the Kyoto Protocol. Participation in the EU ETS is compulsory for all operators conducting specified activities. Since these specified activities include the operation of combustion installations exceeding 20 MW maximum rated thermal input, the legislation applies to virtually all offshore operations on the UKCS.

The UK Emissions Trading Scheme (UK ETS) predated the EU ETS, and had a very similar purpose. However, as the UK ETS ended in December 2006, the scheme has not been discussed in detail in these guidelines.

The purpose of the Offshore Petroleum Activities (Oil Pollution Prevention and Control) Regulations 2005 (as amended 2011) is to ensure robust controls of hydrocarbon discharge from offshore oil and gas installations.

Our planet's climate is anything but simple; all kinds of factors influence it. However, despite all the complexities, a firm and ever-growing body of evidence points to a clear picture: the world is warming and this warming is due to human activity increasing levels of greenhouse gases in the atmosphere. If emissions are allowed to continue, then global warming will also continue with increasingly serious consequences.

1.2 IMPORTANCE OF EMISSIONS TRADING SCHEMES AND OPPC

Compliance with emissions and discharge legislation is important at two levels – operational and environmental.

At its simplest level, operators must comply because it is a condition of their licence to operate. However, the introduction of Emissions Trading Schemes (ETSs) allows operators to decide for themselves how to achieve compliance – either by reducing emissions, or by purchasing allowances on the trading market. The trading market also provides an additional business opportunity for operators who wish to pursue this.

There may be more direct benefits, e.g. most reductions in flaring and discharged hydrocarbons will have a direct impact on the product available for export or possibly fuel.

At another level, full compliance with the reduction targets will present a favourable impression to investors and the general public.

1.3 AIM OF THESE GUIDELINES

A vast amount of documentation – legislation, guidelines, and interpretations exists with regard to the various emissions trading and discharge schemes. However, the bulk of this material refers to legislation, responsibilities, procedures and so forth. There is very little material available which focuses on the technical implications – on how measurement personnel are affected.

The aim of these guidelines is to:

– Inform and advise key personnel of the relevant aspects of ETS and Discharge Legislation. This will promote understanding of the significance of measurement in complying with current and future legislation.
– Summarise the uncertainty requirements applied within trading schemes.
– Provide a list of useful references relevant to these issues, for further reading.
– Provide a framework process to ensure compliance with relevant environmental legislation.

This publication considers legislation relevant to offshore operations on the UKCS.

These guidelines concentrate on matters relating to measurement of emissions streams once these have been identified. There are a number of associated activities which, although necessary to comply with the scheme, are not directly related to measurement. These activities include:

– Identification of installations to which the legislation applies.
– Identification of process streams on the installations which require measurement.

It has been assumed that these activities will not be carried out by measurement personnel and they are not, therefore, discussed in detail in these guidelines except where it is helpful to the understanding of the overall system and the measurement requirements.