

THE INSTITUTE OF PETROLEUM

**PROCEDURES FOR THE RECLAIM
OF DUTY ON RECOVERED VAPOUR
AT DUTY SUSPENDED INSTALLATIONS**

THE INSTITUTE OF PETROLEUM

PROCEDURES FOR THE RECLAIM
OF DUTY ON RECOVERED VAPOUR
AT DUTY SUSPENDED INSTALLATIONS

March 1999

Published by
The Institute of Petroleum, London
A charitable company limited by guarantee

Copyright © 1999 by The Institute of Petroleum, London:
A charitable company limited by guarantee. Registered No. 135273, England

All rights reserved

No part of this book may be reproduced by any means, or transmitted or translated into
a machine language without the written permission of the publisher.

ISBN 0 85293 218 9

Published by The Institute of Petroleum

CONTENTS

	Page
Foreword	vii
Acknowledgements	viii
1 Introduction	1
1.1 Purpose	1
1.2 Background	1
1.3 Scope	2
2 Protocol for reclaiming duty	3
2.1 Agreements with HM Customs and Excise	3
2.2 Basis for determining reclaim volumes	3
3 Operational procedures	5
3.1 Arranging measurements	5
3.2 VRU performance factor	5
3.3 VRU service factor	6
3.4 Loaded volumes of product	6
4 Measurement and analytical procedures	7
4.1 General	7
4.2 Measurement of concentrations of total organic compound vapour returned from loading operations to vapour recovery units	7
4.3 Measurement of total organic compound vapour compositions	11
4.4 Compliance test method for vapour recovery units	13
4.5 Calculating the performance factor of a petrol vapour recovery unit	17
5 Accounting procedures	19
5.1 Returns to HM Customs and Excise	19
5.2 Detailed computation	19

Contents Cont....	Page
Annexes	
Annex A - TOC meter calibration for UK government compliance test	21
Annex B - Response factor correction for TOC meters used in UK government compliance test	23
Annex C - Molecular weight calculation	24
Annex D - Conversion from TOC volume concentration to TOC mass concentration for results of UK Government compliance test	25
Annex E - Measurement decision tool and measurement decision tree for UK government compliance test	26
Annex F - Liquid density calculation	28

FOREWORD

European Directive No.94/63/EC requires the installation of measures to control volatile organic compound (VOC) emissions at sites handling the distribution of petrol for use as a motor vehicle fuel. This involves the collection and subsequent recovery in a vapour recovery unit (VRU) of vapour during reloading of mobile containers following deliveries of petrol. For the purposes of the current Directive, mobile containers are defined as road tankers, rail tank cars and barges. In the United Kingdom a number of these sites are operated under duty suspension arrangements with HM Customs and Excise. Consequently, petrol vapour is returned across the duty point from duty paid to duty suspended status and, when recovered and redistributed, will be subject to double taxation.

Following agreement in principle between the UK Petroleum Industry Association and HM Customs and Excise that the duty on recovered vapour can be reclaimed at duty suspended sites, the Institute of Petroleum was asked to develop standard procedures for this transaction. These, together with the necessary field testing, have been fully reviewed with, and accepted by, HM Customs and Excise, and are described in this document.

Although it is believed that adoption of the procedures in this document will not increase the risk of accident at the relevant sites involved in petrol distribution, the Institute of Petroleum cannot accept any responsibility, of whatsoever kind, for damage or alleged damage arising or otherwise occurring in or about premises, areas, equipment or vehicles to which these procedures have been applied.

ACKNOWLEDGEMENTS

These procedures have been drawn up in consultation with HM Customs and Excise by a working group with the following members:-

A. B. Smithers	-	BP Amoco (Chairman)
M. Akhurst	-	BP Amoco
T. P. Ramsey	-	Esso Petroleum
D. T. Coker	-	Esso Research
A. A. Sangster	-	Institute of Petroleum

Assistance in their development was received from I. M. Duguid acting on behalf of Conoco.

The Institute records its appreciation of the input made by HM Customs and Excise to the development of these procedures.

INTRODUCTION

1.1 PURPOSE

The purpose of this document is to provide guidance on the procedures to be adopted in reclaiming the duty on vapour evolved from petrol which has passed through the duty point but is subsequently recovered in liquid form at duty suspended storage and distribution installations. These procedures have been agreed in discussions with HM Customs and Excise and the aim is to encourage industry to adopt a common approach in applying for an approval under the existing extra-statutory concession which enables the crediting of duty on recovered hydrocarbons.

Applicants may use other means for determining recovered volumes and may propose alternative procedures, but they would have to satisfy HM Customs and Excise that these procedures provide a sound basis for reclaiming of duty.

1.2 BACKGROUND

At the end of 1994 the European Union adopted Directive No. 94/63/EC mandating the suppression of vapour emissions arising from the storage and distribution of petrol used as an automotive fuel. In 1996 the UK Government enacted this Directive into UK legislation through the Environmental Protection (Prescribed Processes and Substances etc.) (Amendment) (Petrol Vapour Recovery) Regulations 1996.

The legislation requires petrol vapour generated in the loading of mobile containers for the purposes of distribution to be collected and, through a recovery process, converted back into liquid form. A timetable is set out requiring the equipping of all existing installations by the end of 1998 where the loading of petrol to road and rail exceeds 150,000 tonnes/year; by the end of 2001 where it exceeds 25,000 tonnes/year; and at all other sites, subject to derogations, by the end of 2004.

Most distribution of petroleum products in the UK to customers is from duty paid premises, i.e. the owner of the product has already paid the duty prior to its delivery into storage on the site. However, a significant amount is from facilities located within the duty suspended areas of refineries or from duty suspended import warehouses. At these locations the point at which duty is levied is normally at the meters on the loading points for mobile containers. The legislation requires vapours collected from deliveries of petrol to filling stations and other customers to be returned for recovery. This leads to hydrocarbons, on which duty has already been levied, passing back into the duty suspended area in the form of vapour which is then recovered as a liquid.

In discussions with the industry, HM Customs and Excise have emphasised that they do not want to impose duty more than once, and are willing to consider applications from individual companies and operators for the crediting of duty already paid on recovered petrol.