

# The influence of climatic factors on work performance in the oil and gas industry

THE INFLUENCE OF CLIMATIC FACTORS ON WORK PERFORMANCE  
IN THE OIL AND GAS INDUSTRY

1st edition

November 2013

Published by

**ENERGY INSTITUTE, LONDON**

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Registered charity number 1097899

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The EI gratefully acknowledges the financial contributions towards the scientific and technical programme from the following companies

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ISBN 978 0 85293 669 6

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## **FOREWORD**

The energy industry operates in a wide range of environmental conditions across the globe. Extreme environments like heat, humidity, cold, wind, water and altitude are obviously a potential problem in desert and polar regions, but even in the UK heat can kill those working hard whilst either carrying heavy loads or wearing protective clothing. Those who have had experience in working in hot machinery spaces or of wearing protective clothing know that you do not need to be in a hot region of the world, or be in the middle of summer, to experience significant heat stress when working.

The analysis of different climates and how they affect the ability to control body temperature gives guidance on the impact of environmental conditions on worker safety, health and performance (and hence productivity) in the range of environmental conditions encountered by the industry both globally, and in localised man-made environments such as in machinery spaces and other work spaces where heat and humidity can be particular problems.

## ACKNOWLEDGEMENTS

The EI would like to acknowledge the significant work and effort undertaken by the project team and authors of the Extreme Environments Laboratory in the Department of Sport and Exercise Science, University of Portsmouth, and express its appreciation of that work. In particular, the EI wishes to thank Dr Jim House and Professor Michael Tipton.

This report was commissioned by the EI's Health Technical Committee. The EI would also like to acknowledge the contributions of the Health Technical Committee in steering this project to completion. The membership of the Committee includes representatives from the following companies/organisations:

Abermed  
BG Group  
BP  
Capita  
Centrica  
Chevron  
ConocoPhillips  
ExxonMobil  
HSE  
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# 1 INTRODUCTION

This review, conducted by the University of Portsmouth on behalf of the Energy Institute's (EI) Health Technical Committee (HTC), was conducted to provide advice to the UK Oil & Gas Industry (OGI) regarding the effect of climatic factors on work performance. The purpose of this report is to give guidance on the impact of environmental conditions on worker safety, health and performance (and hence productivity) in the range of environmental conditions encountered by the industry both globally, and in localised man-made environments such as machinery spaces, or storage tanks.

The aim of this report is to provide a comprehensive review of the factors associated with working in extreme thermal environments and, if read in total, should provide the reader with sufficient information to produce a policy for workers in such environments. However, for ease of reference the report is organised into sections, each covering a different aspect of working in an extreme thermal environment. Each section may also be used in isolation. To facilitate this mode of use, some information is repeated throughout the document.

The various equipment and safe working times etc. given in this document are intended as examples; the most appropriate equipment to use and safety limits to apply will be specific to particular work tasks, climates and clothing worn. These should be considered on a case-by-case basis, and where appropriate, determined by a work task assessment. The University of Portsmouth is happy to advise OGI companies how such assessments could be conducted, and could assist in conducting these if required. Undertaking such assessments will ensure that tasks are performed within safe limits, and with practices that are not overtly conservative; this should therefore enhance productivity.