

El Research report

# Enhancing human performance using process safety performance indicators

RESEARCH REPORT: ENHANCING HUMAN PERFORMANCE  
USING PROCESS SAFETY PERFORMANCE INDICATORS

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## **1    PREFACE**

The work contained in this research has been developed and supported by a working group which included members of the Energy Institute (EI) Process Safety Committee (PSC) and Human and Organisational Factors committee (HOFCOM). The intention of the research was to identify the state of practice with respect to how process safety practitioners take account of human and organisation factors in the measurement and assessment of process safety performance. It is worthwhile to state that the working group did not universally subscribe to the recommendations of the report as described in Section 9 but all believed that there is genuine value to these being included in their entirety in the published report.



## 2 FOREWORD

The importance of applying human factors (HF) principles and monitoring HF performance is increasingly recognised across the major hazards industries particularly as several major accident investigations have highlighted key HF issues as contributing factors. There is a widely held view that developing, implementing, monitoring and using key performance indicators (KPI) to monitor performance in process safety (PS) and HF supports organisations in their efforts to minimise the risk of accidents/incidents, and to continuously improve their safety performance. It is also understood that guidance on process safety performance indicators (PSPI) is more established, in comparison to the guidance on human factors performance indicators (HFPI).

The EI, through its HOFCON and PSC, wished to understand how organisations across the energy and process related industries are using the available resources to develop, implement and use PSPI and HFPI.

There are several publications (from a range of authoritative organisations) offering advice on HF and PSPI. It was recognised that there may be gaps in these guidance documents, and that some of these publications may need to be revised. There is also duplication of information across these publications and different ways of presenting information as well as using different, although complementary, concepts and models. It is judged that this is likely to create difficulties for the reader, firstly to identify the right publication and then to understand the presented information.

HOFCON and PSC commissioned this work to review these publications and consult industry representatives, to acquire insights into:

- the scope of these documents, the type and extent of information they provide, and to identify any gaps;
- how industry use current guidance and implement PSPI and HFPI within their organisations, and
- the advantages and disadvantages of guidance and how it could be further developed to better meet industry needs.

This technical research report (TRR) presents the findings from a desktop review (DTR), interviews with industry representatives, and a stakeholder workshop, conducted as a part of this project, along with conclusions and recommendations. This TRR is aimed at HF and process safety practitioners across the oil and gas sector and members of the HOFCON and PSC, to support their decision-making on next steps with regard to HF and PS KPI guidance.

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