

# Accepted Manuscript

What about nudges in the process industry? Exploring a new safety management tool

P. Lindhout, G. Reniers

PII: S0950-4230(17)30472-2

DOI: [10.1016/j.jlp.2017.10.006](https://doi.org/10.1016/j.jlp.2017.10.006)

Reference: JLPP 3605

To appear in: *Journal of Loss Prevention in the Process Industries*

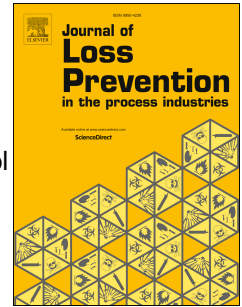
Received Date: 18 May 2017

Revised Date: 8 October 2017

Accepted Date: 10 October 2017

Please cite this article as: Lindhout, P., Reniers, G., What about nudges in the process industry? Exploring a new safety management tool, *Journal of Loss Prevention in the Process Industries* (2017), doi: 10.1016/j.jlp.2017.10.006.

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.



# What About Nudges in the Process Industry?

## Exploring a new safety management tool

Lindhout P.<sup>a</sup>, Reniers G.<sup>b\*</sup>

<sup>a</sup>Safety & Security Science Group, Faculty of TPM, Delft University of Technology, Building 31, Jaffalaan 5, 2628 BX Delft, The Netherlands;

<sup>b</sup>ARGoSS, Faculty of Applied Economics, University of Antwerp, Antwerp, Belgium;

\*Corresponding author: G.L.L.M.E.Reniers@tudelft.nl

### Highlights

- Safety nudges are studied as a new approach for safety management
- 9 existing and well proven nudge types are proposed to be used by safety management in the process industry
- An extensive list of nudges and references is provided in the paper
- A development, implementation and evaluation approach for safety nudges in the process industry is suggested

### Abstract

*Since the nineteen sixties, after the successive introductions of safety equipment, standards, inherently safe process designs, sophisticated safety management systems and a suite of process safety indicators, all that remains to be slayed in 'safe work' would seem to be the person centered part. The presence of major hazard and risk control via well-established safety management systems in the process industry offers a unique opportunity to add safety via nudges. Psychology and behavioural economics have already entered the safety science realm. Behaviour-based safety emerged in the early nineteen eighties and is in need of an upgrade. Where conscious behaviour according to unwritten cultural rules and written instructions are not enough for safety, additional manipulation of unconsciously made choices might be used. This principle, which is called a 'nudge' towards desirable behaviour, is already being applied in e.g. traffic control, public space, politics, energy saving, health care and trade practice. Nudging may have uncertainties about its feasibility and magnitude of its effects, might be developed specifically for certain application areas, might raise ethical concerns and – hence – requires investigation of its application boundaries. The potential of improving safety this way resides in the human error domain and may not only reduce hitherto unaffected unsafe behaviour but also increase rule compliance on legislation, procedures and codes of conduct. This article explores 'safety nudges' and proposes a new safety management tool for influencing behaviour of workers in safety controlled environments in the process industry. Based on currently available evidence, a set of 9 nudge types and an implementation approach are proposed.*

### Keywords:

Process industry, chemical industry, nudge, behavioural economics, behaviour-based safety

متن کامل مقاله

دریافت فوری ←

**ISI**Articles

مرجع مقالات تخصصی ایران

- ✓ امکان دانلود نسخه تمام متن مقالات انگلیسی
- ✓ امکان دانلود نسخه ترجمه شده مقالات
- ✓ پذیرش سفارش ترجمه تخصصی
- ✓ امکان جستجو در آرشیو جامعی از صدها موضوع و هزاران مقاله
- ✓ امکان دانلود رایگان ۲ صفحه اول هر مقاله
- ✓ امکان پرداخت اینترنتی با کلیه کارت های عضو شتاب
- ✓ دانلود فوری مقاله پس از پرداخت آنلاین
- ✓ پشتیبانی کامل خرید با بهره مندی از سیستم هوشمند رهگیری سفارشات