

Plug & Abandonment Forum (PAF)



Norsk olje & gass

Plug and Abandonment Seminar
Sola Quality Airport Hotel, 13 June 2013

Martin Straume, chairman of PAF

Topics

- 1. Brief background of PAF**
- 2. Why we should focus on P&A**

Norsk Olje og Gass (former OLF)

- ❑ founded & funded by the oil industry (oil & service)

Drilling Managers Forum

- ❑ 42 oil & gas companies
 - Well Integrity Forum (2007)
 - **Plug and Abandonment Forum (2009)**

- ❑ *The P&A Forum was established to set focus on upcoming P&A challenges in Norway.*

- ❑ **Members:** Currently 15 operating companies (started with - 9)
- ❑ **Facilitator:** Norsk Olje og Gass



Observers:

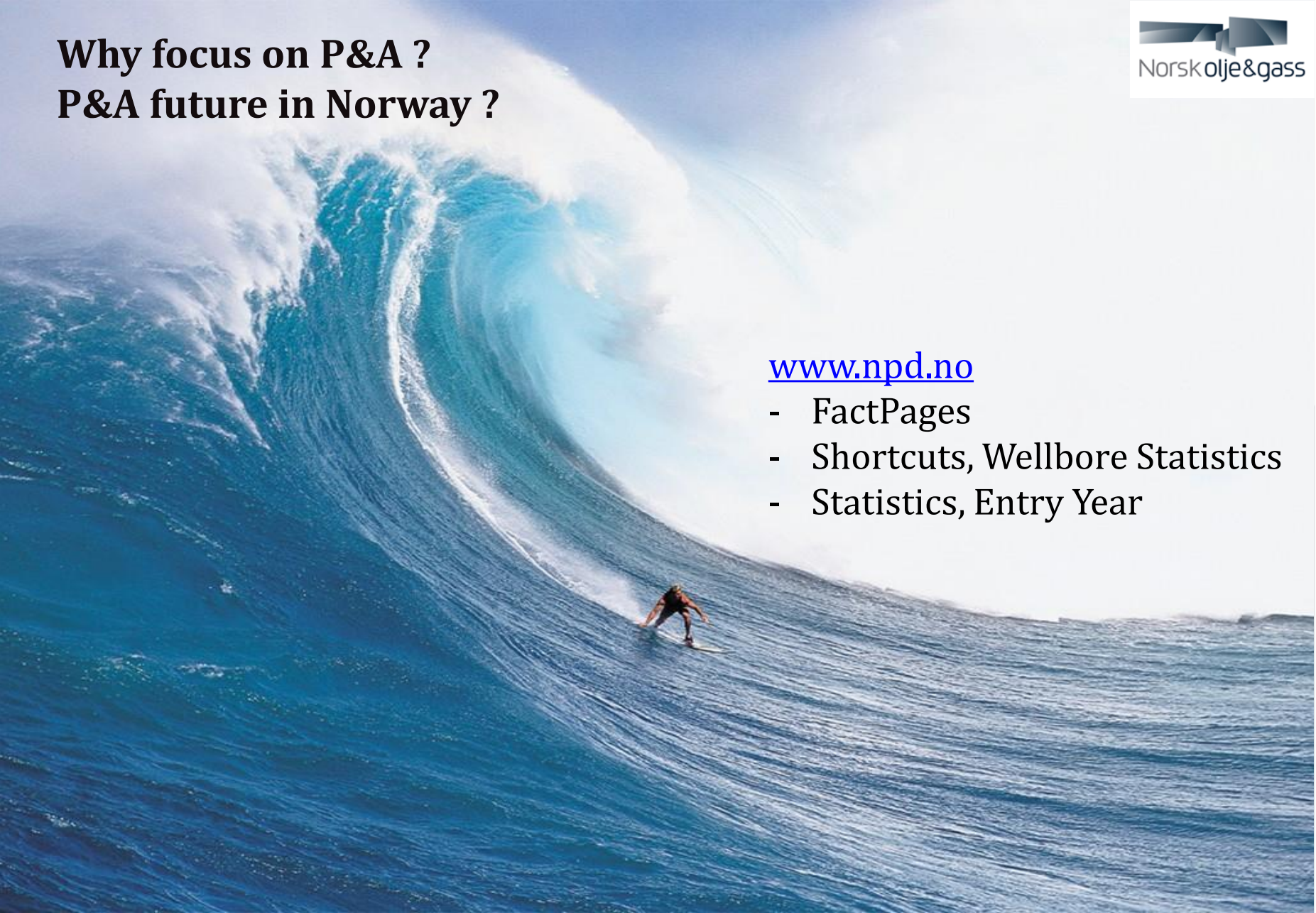
- ❑ *Petroleum Safety Authority and UiS*

Why focus on P&A ?

P&A future in Norway ?

www.npd.no

- FactPages
- Shortcuts, Wellbore Statistics
- Statistics, Entry Year



Wells drilled in Norway from 1966 – May 2013

- Total 5163 wells
- Development wells (utvinning) 3733
(production, injection & monitoring)
- Exploration wells (expl + appraisal) 1430

- 1966 – 2 wells, overall average (47 yrs) 108 wells/yr

- Average of new dev. wells last 10 yrs: + 144 wells/yr

Wells to be P&A-ed

- No available statistics of abandoned wells at NPD fact pages as of today
- Development wells 3733 wells
- Temporary P&A wells 193
- Abandoned platforms (Frigg, Ekofisk,.....) ??? 540
- Wells to be P&A-ed (probably underestimated) 3000 wells
- As an example – let us say Norway sets aside 15 rigs on full time P&A

Today's P&A Time

20 – 60 days

(Note: This is with today's P&A technology)

- This example - time per well: 35 days
- 1 rig will P&A 10 wells per year: 350 days
- 15 rigs will yearly P&A: 150 wells
- Time to P&A 3000 wells: 20 yrs
- New dev. wells added during this time (144 pr yr): 2880 wells
- P&A these 2880 wells at same rate (150 wells/yr): 19,2 yrs
- **Conclusion:** 15 rigs will P&A wells fulltime the next: ca. 40 yrs

- 15 rigs on P&A the next 40 yrs
- Resources (people and equipment)
- Costs (expensive)
- A new Industry ?

What do we need in P&A?

- Do nothing – 15 rigs and 40 yrs – is this OK?
- Reduce time to P&A, but be safe and compliant

- **To do this, we need:**

- Improve Existing Technology

- New technology

- New methods

- Innovative solutions and companies

- Specialized personnel – Educate them

How can we prepare ourselves for P&A?

- Share needs, challenges & solutions within P&A
- Build P&A network
- **Develop New Technology and New opportunities**
- **Agree that P&A is worth focusing on?**
- Enjoy the day and let the program begin.