

eGuide

# How well is your well? Four things to consider to get the most from your asset and prevent failure in the future

# Introduction

It's impossible to over emphasize just how important an effective well integrity program is to the safety and optimal performance of your well.

Imagine your completion was your car. If it was burning too much gas, leaking oil, smoking, or the tires were wearing thin, you would want to address those issues before embarking on a long car journey.

Well integrity is very similar to a car servicing plan where an effective well integrity plan can make sure your well is ready for the long journey of production.

Developing a quality well integrity process and having robust plans in place is therefore critical to achieving production excellence and safety integrity. However, despite the criticality that surrounds the topic of well integrity, many companies do not have the fundamentals in place and continue to expose themselves and the environment to significant risk.

But to be effective, well integrity has to start in the concept design stage, making sure you're going to get the most from your well even before a drop of oil has been delivered.

So, if you are about to embark on this journey, or are already well into your journey of production and are looking for help in how to optimize what you have – you're in luck. Here are four key considerations companies should think about as they review and refine their design, construction, handover and production programs.



# During Well Design

Far too often we see a lack of a long-term well lifetime view during this initial, critical stage. Investing in the well integrity process in the formative stages of well design could likely head off a number of issues we see during production. A few problems in design we see are:

- Specification of equipment that will not last over a well's long lifetime
- Poor cement isolation design for aquifer zones above the casing shoe
- A focus on initial well cost and disregard for future repair work

To address this gap, the best option is to involve the well integrity team at the early design stage and get their input on the design and long-term well utility.

---

# During Well Construction

One of the biggest issues in well construction is a lack of minimum acceptance criteria for the installation of critical barrier elements. Equipment or cement has to be verified when it's installed and before the well is handed over to production. When the focus is on costs or schedule, the verification steps are often reduced to the critical steps required to drill ahead or complete the well.

To address this gap, the verification steps required for long-term well integrity should be built into the schedule and the cost estimate. This ensures the well can be produced with confidence and that the right barriers are in place.

---





# Well Handover (from Drilling and Completion to Production)

Communication of the 'as built' well details should be one of the simplest processes because all of the well design and construction information has already been collected. But too often we see a breakdown in communication of the details required to understand the operating limits and constraints once the well is completed.

The handover information should include the general specifications associated with "that type of a well" and also all of the unique features and history of the individual well.

---

## During Production

There are a number of items that can compromise well integrity during production. Some problems include a lack of well specific, well operating procedures (initial clean up, bean up, bean downs, shut-ins, maintenance, interventions, etc.) or changes in the well conditions. A well is not static but needs to be monitored and maintained to preserve the production capability. Many operators do not monitor their wells and are surprised when well problems develop, even when the signs have been present for years.

Well integrity requires monitoring your well integrity conditions over time. This can be a simple system or complex software with automatic data collection. But monitoring allows for problems to be identified and dealt with before they become too big and harder to control.

All of this provides a system for wells that is the same as maintaining your car. It is much easier, and safer, to change your tires when they wear out than to change one on the side of the road after it fails.

Well integrity systems provide confidence that your well won't have a problem when you least expect it.

---





[www.addenergy.no/addenergyacademy](http://www.addenergy.no/addenergyacademy)