

# Technical Bulletin

## Stripdown vs failure analysis

### Background

FPG are often asked by clients to witness the review of returned equipment which may have failed to meet expectations during use. However, sometimes there is confusion with the various parties about the actual scope of work required, or being executed. Internally, it is then also difficult to determine who should be tasked with the job and the risk is we fail to meet the expectations of our client. The objective of this bulletin is to provide some guidance on the different scopes involved in a 'Witness of Stripdown' vs "Failure Analysis" and the knowledge and experience required by the key parties involved.

In all cases, the scope of work must be discussed with the regional Engineering Manager prior to commitment to ensure Customer expectations have been understood & will be met.

### Failure investigation

A Failure Investigation is a much more involved process. The objective is to determine what part of a tool/system has failed, and ensure that the Contractor has captured it within their QMS process so that it is communicated, robustly reviewed, root causes identified and changes implemented if justified. It is possible that the root cause is outside of the control of the Contractor (Tool run out of specification?) and the report needs to be able to communicate that to the Client.

This requires the FPG attendee to play an active part in the stripdown, and query anything which may not seem correct. Prior to work commencing, the Contractor's detailed procedures need to be reviewed and agreement made with the Contractor Technicians that the process will be done in a controlled manner, with micro-hold points discussed, and all steps recorded. Honest and open engagement with the Contractor Team is critical.

If the Contractor does not intend to perform material tests on critical failed components, agreement may be required to commission the work independently.

**Competencies required:** Intimate familiarity with workshop processes, rig site operations, the environment that the tool was run in and the tool itself is necessary.

**Deliverables:** A detailed report to the client which details each step taken, any observations or measurements made. Conclusions are required which reflect the findings of the investigation, ideally with recommendations on how a repeat failure can be avoided and any commitments made by the Contractor.

### Witness of stripdown

The most common objective is to witness the disassembly of a complex tool, and record the condition of the major assemblies on behalf of the client.

During a stripdown, the key requirement is to ensure that the Contractor Technicians are following their procedures, and observe and record each step taken. It is prudent to take copious amounts of photographs, even when it may appear that everything is normal, and remain alert. Gauges should be watched during break-out of connections and pressure testing to capture peak figures. Contractor technicians should be engaged to ensure that they pass on any observations or deviations that they note during their checks and measurements.

**Competencies required:** Familiarity with workshop processes, and the ability to capture and document observations.

**Deliverables:** A detailed report to the client which details each step taken, and all observations / measurements made. Recommendations are not required.

At the end of the stripdown, it is important to ensure that agreement is made on the key observations with the Contractor Technicians.

### More info:

For more information or assistance with tool failures/stripdowns, and investigations, contact Fearnley Procter Drill String Engineering at [DShelp@fp-g.com](mailto:DShelp@fp-g.com)