



## A Guide to Design Based Plant DPI® Review

**Objective:** Production of a high-level review of the plant's proposed conceptual design and philosophy with respect to in-service availability targets.

**Approach:** Allied will carry out a high-level review of the proposed plant's conceptual design and philosophy with respect to in-service availability targets to identify any areas of potential risk to plant availability. Allied will then direct the design team to produce evidence of the proposed mitigation methods for each of the identified risk areas.

It is expected that the areas for review will fall into one of four broad categories:

- **Design Characteristics.** Typically, it is expected that the design documentation will include a defined environmental section giving expected damage mechanisms for the exposed components and how these have been overcome or allowed for. Suitability of proposed systems and other balance of plant for integration with the primary plant would be examined, including the required maintenance regime.
- **Fitness for purpose.** Typically, the data will describe the suitability of the plant to handle the proposed fuel feedstock and the way in which the plant is to be operated. It is expected that any experience gained in the build and operation of similar equipment, including pilot plant, would be highlighted in this stage and the one above.
- **Proposed fabrication and build.** Evidence of applicable code compliant fabrication and build plans will be sought. System integration plans will also be reviewed. Provision for post-build audit will be assessed.

**Deliverables:** It is expected that the deliverables will be;

- a report itemising the risk areas identified and their ranking.
- the design team documentation addressing these risks and any associated risk mitigation plans.
- any areas considered that are not covered by the documentation provided.

The report will summarise in one of three final possible summary statements, the following:

- 1) Given the supplied information, and excluding possible fabrication and operational issues, the design has a high likelihood of achieving the target availability.
- 2) Given the supplied information, and excluding possible fabrication and operational issues, the design is unlikely to meet the target availability. However, if the following mitigation work is conducted then it is possible to meet the availability targets.
- 3) Given the supplied information the design will not achieve the target availability, without significant risk mitigation methods being employed.