

**PROGRESS
SYSTEMS &
ENGINEERING**



Solution to Complex Plant Problems
Integrity • Reliability • Performance • Quality

About PSE

Deficiency of plants and daily occurrence of unexpected and premature failures in industry cause significant loss of value. To establish a root reason for these failures and make subsequent decisions, awareness of all critical failure routes is required. This awareness, due to complexity of the cases, needs to be inclusive of all fundamental sources of failures. These sources are:

1. Deficiencies in design
2. Deficiencies in material selection
3. Errors in assembly and installation
4. Deficiencies in processing
5. Imperfection in material
6. Improper service conditions

Enclosure to all these factors needs a multidisciplinary approach with a Diagnostic Expert System. Therefore, PSE with a vision of helping the plants in their relentless effort to reach required efficiency and life extension was established.

PSE success in achieving its goals is assured through utilising world class expertise, multidisciplinary project teams, Diagnostic Expert System and world class laboratories.



Services

PSE's objective is to eliminate complex problems to achieve a step change in plant operations. Therefore, provision of solutions for plant problems is the major task of PSE.

In solving problems, PSE applies a deterministic methodology to find out the root cause(s) of failures and short comings. Integrity, reliability and performance of equipment and systems in addition to process parameters can result in a poor or an excellent performance of a plant. Therefore, PSE activities are targeted to:

- ◆ Analysis, evaluation and solutions for process performance problems
- ◆ Elimination of chronic and endemic failures
- ◆ Investigation of catastrophic failures



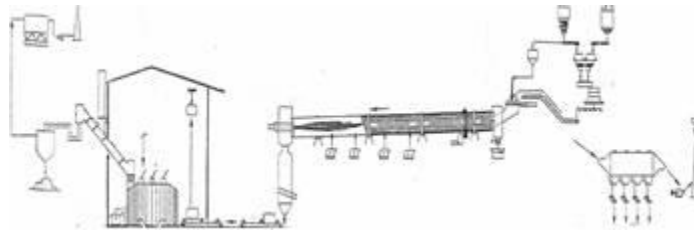
Capabilities

Solutions are delivered by utilising skills and capabilities in the following areas:

- ◆ Process consulting and engineering support in minerals, metal, chemical and gas industry.
- ◆ Equipment/system performance and failure analysis (low and high temperature, stress and different environments)
- ◆ Environmental solutions and carbon management



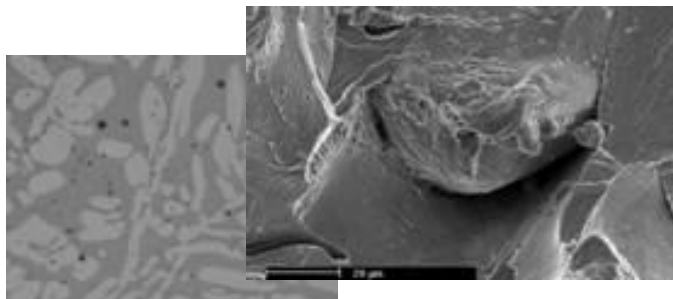
PSE represents a wealth of expertise and experience of professionals and leaders in their respective disciplines. PSE is supported by professionals and scientists within the universities and research organisations in Australia.

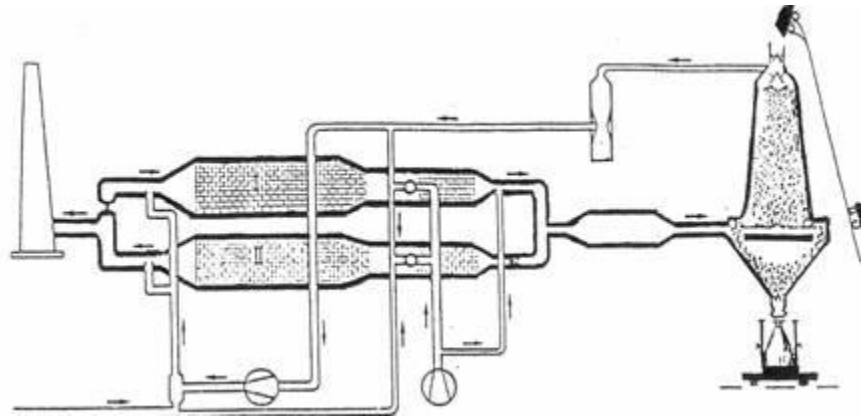


Facilities

PSE activities are supported by different world class analytical and research laboratories:

- ◆ High temperature labs for testing thermal cycling and measuring kinetics of chemical reactions and deterioration speeds in different environments
- ◆ Mechanical testing including micro/macro hardness tests, fatigue and high and low temperature tensile strength
- ◆ Metallurgical analysis including metallography and fractography (SEM and TES)
- ◆ Chemical analysis labs including ICP, AES, SEM-EDS
- ◆ Corrosion labs
- ◆ Crystallography
- ◆ Particle analysis





Contact

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