

## **Q-Proc Paper machine technical audit**

### Objectives

A technical audit of a paper machine is similar to other audits addressing business processes and financial aspects because it seeks to establish the condition of a machine relative to industry technical standards. The main objectives are to identify existing equipment limitations and bottlenecks, identify machine inefficiencies and reliability issues, process optimization opportunities, determine process capability and quality improvements, maximize machine performance and provide cost effective alternatives maximizing capital assets. The basis of technical audits will always be tailored to meet specific project goals.

The technical audit can be focused at individual machine sections, production areas or complete machines. A complete audit usually starts at the wet end and covers the entire machine down to the reel. An older paper machine may not be technically lacking; rebuilds over the years may have kept the machine at a performance level equal to that of a new machine. Yet objectives or paper grades may have changed, and machine improvements or changes may have missed some areas. Another aspect concerns paper machine efficiency being the most important operating parameter, yet in many mills the average efficiency is far below the industry standard. Through lost time analysis the efficiency can be raised, resulting in direct and in many cases, dramatic financial benefits to the clients. These are some examples where technical audits can be valuable.

During a technical audit following activities are performed: collect and interpret data, interview operators, consult industry standards and perform gap analysis'. The results and identified, prioritized measures are intended to form the basis for decisions to apply for funds required for implementation and realization. In order to achieve the best results the technical audit will consider the objectives of the mill first, collect the data, compare with industry standards, develop recommendations for improvement, and prioritize the measures and recommendations.

### Auditors

2 to 5 persons (senior level consultants and service engineers with more than 20 years experience in the pulp & paper industry)

### Audit duration

Minimum 2 weeks to 8 weeks depending on the audit objectives

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