A Compendium of Creep Lifing Procedures for Boilers

(*Acronym*: **boiler-creep lifing**)

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Summary of the Four Parts of Boiler-Creep Lifing

I. OVERVIEW

- Review of life assessment principles and practices in operation.
- Introduction to design life of steam power plant components (international codes and standards)
- Introduction to the construction materials for boiler tubing, headers & steam pipework.

II. LIFE ASSESSMENT METHODOLOGIES & TOOLS

- Analytical methods for creep life assessment
- Metallographic methods.
- Hardness measurement method.
- Strain measurement method.
- Post exposure (ex-service) creep rupture testing.
- Miniature specimen testing methods.
- Methods based on temperature estimation (oxide thickness, microstructures as a function of temperature and time).

III. COMPONENT LIFE ASSESSMENT –

- Remaining Life Assessment (RLA) for boiler tubes and headers.
- RLA for HRSGs.
- RLA for steam pipework.

IV. MATERIALS DATA

- Sourced from ETD database & international codes & standards.
- Low alloy steels including 2.25CrMo (T22), 1Cr0.5Mo (T12), CMV steels.

CONTENTS **Page No**

PART 1: **Overview of Component Life Assessment & Damage Mechanisms *(Sections 1 to 2)***

PART 2: **LIFE ASSESSMENT METHODOLOGIES AND TOOLS** ***(Sections 3 to 9)***

SECTION 9: MINIATURE SPECIMENT TESTING TECHNIQUES 296