Supplement of

Explanations for the development of a novel universally inside pipe separator for dismantling (contaminated) pipelines

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Funded by the Federal Ministry of Education and Research (BMBF) as part of the FORKA - Research for the Decommissioning of Nuclear Facilities funding measure.

1. State of the Art
- Dismantling of pipelines in nuclear facilities poses a variety of challenges due to, among other factors confined space or the routing of pipelines
- Existing pipe cutting systems have significant disadvantages:
  - Not suitable for mobile use
  - Cutting the pipes is usually done from the outside of the pipe
  - Cutting systems for internal pipe separation are only available for a specific application or pipe diameter
  - No integrated drive and holding system as well as high set-up and assembly times

2. Aim of the Project
- Development of an innovative internal pipe cutting device with a wide range of applications in terms of pipe diameter, wall thickness and material
- Continuous extraction of chips or other residual materials
- Combination of cutting and cleaning as well as removal of the cut pipelines
- Dismantling of pipelines that are difficult to access, use both in air and under water
- Manual or remote operation for flexible insertion
- Decontamination of the internal pipe separator

3. Research at KIT – TMB
- Development and construction of a test stand
- Experimental test series for uniform internal pipe cutting with different cutting tools
- Test series on different pipes
- Wall thickness, material and diameter
- Practical test series of different operating parameters
- Feed rate and Speed

Project Information
Funding code BMBF: 15S9415A
Funding period: 01.08.2019 – 31.07.2022
Project partner:
Siempelkamp NIS engineering company mbH
RWE Nuclear GmbH

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