

Reliability & Maintenance Plant Life Extension Program (PLEP)



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Technology Inquiries | Contact Us | JGC HOLDINGS CORPORATION

Access to Our Homepage

https://www.jgc.com/en/business/epc/operation-maintanance/service/

Do you have any issues about plant materials?

🙁 Plant Aging

Approaching the lifespan, material degradation is accelerating...

Operating Condition Changing

Conditions becoming more severe, deviating from the design range...

Competitiveness Stagnating

O&M cost increasing, maintenance intervals shortening...

PLEP Solutions

- Identification of facility and locations having materials and inspection concerns
- Suggestion of practical and economical solutions to solve the concerns
- Projection of revamp work, inspection and maintenance work, etc., to extend plant life

Example of issue:

Furnace tube bowing

• <u>Cause</u>

Bowing on the specific location

 \rightarrow Main cause: coking

• <u>Countermeasures</u>

- Periodical IR Monitoring (Hot Spot Monitoring)
- Periodical Pigging
- Visual, DPT, UTTM, Creep/PI.Tape, PMI, Hardness, etc.

Recommendation for Life Extension

- To measure circumference length on bowed and sound tube periodically in order to assess the creep in every shutdown.
- CFD modeling and consultation may be an option for detailed assessment.

CFD Analysis







Plant Life Extension Program (PLEP)

PLEP for preventing troubles in advance...



Workflow & Result

1st Step - Plant Integrity Assessment (PIA): Finding / Screening

- ✓ Assessment of materials selection, inspection program, etc.
- ✓ Site visit and discussion with client.

2nd Step - Integrity Improvement Initiative (III) : Detail Study

3rd Step - Life Extension Project (LEP): Project Development and Execution



Our Strengths

- One-stop service of engineering, construction and maintenance services to make convenient for client
- Practical and efficient approaches including workshops and site observations will provide best solutions
- Easy methods without special software will avoid client burden
- Flexible program will run along with client's demands to the goal.

Our Experience

CDU/VDU, Asia

83 findings / 22 recommendations

> Gas Processing Unit, Middle East

116 findings / 34 recommendations

GOSP, Middle East

88 findings / 7 key recommendations

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