

# Project strategy on Hg target

## - Pitting Erosion Issue -

- Findings and recognition
- Strategy of JSNS
- Scenario for Hg adoption
- Concluding remark

# Findings and recognition

- Pits were found at pressure wave tests with SHPB @JAERI 3 years ago -> rang a caution
- WNR p-beam test identified and confirmed the pit as serious.
- Various actions have been done to understand the pitting damage and to evaluate the lifetime estimation.
  - WNR test, SHPB, theoretical formulation, etc. WNR p-beam test identified and confirmed the pit as serious.
  - MIMTM high cycle test up to 10,000,000
    - Mass loss, Kolsterized SS, VP data, etc
- SNS-EFAC
  - Conditional adoption of Hg ? (dead line for making a decision)
  - Positive accumulation of data to support Hg
  - Continuing efforts to strengthen Hg in terms of reasonable lifetime

# JSNS condition

- Hg target design
- Bits of a reflector and vessels, which are interfacing with the target container are underway.
- Time constraint to change the baseline
- MW is a present goal, directing to a higher power
- Almost same condition as SNS
- Expecting to have important data with MIMTM

# JSNS strategic assumption

- Design lifetime estimation normalized with the realistic beam condition is the most critical
- Marginal leading time for Hg target realization
  - Still 5 year to go for beam acceptance.
  - In the early time, beam will be low to allow us to examine all what we like to confirm.
  - Setting program of R&Ds
    - Strengthen data base, systematic analysis
    - MIMTM extension, Material, Pressure wave mitigation,
    - Hg flow, Temperature
    - Irradiation effect,

## Concluding remarks of JSNS strategy

- We will continue the JSNS design with Hg target
- The final decision will be made by the end of 2002, respecting advises and recommendations from the N-TAC
- The project director is responsible to the decision.