



**GENERIC SAFETY ISSUE
(GSI) 191, Debris-Induced
PWR Sump Clogging
Office of Nuclear Reactor
Regulation
October 25, 2006**

Agenda

- Regulatory history
- Generic Letter (GL) 2004-02 status
- Key technical issues
- Research status
- Conclusions

Regulatory History

- BWR strainer clogging issues addressed in 1990s
- Bulletin 2003-01
- Generic Letter (GL) 2004-02
- Chemical effects testing results – 2005/2006

GL 2004-02 Status

- Licensees are making major modifications to sumps
- Staff auditing licensee actions on a sampling basis
- Strainer vendors conducting head loss testing
- Staff and industry discussing water management initiatives

Extension Requests

- Acceptance criteria in SECY-06-0078
- Staff has approved 10 extensions, all for relatively short durations
- All include relatively large strainers in place before 12/31/07

Chemical Effects

- Tests indicate chemical effects are a potential issue
- May need to refine chemical loadings and/or other measures
- Solutions may involve more than adding screen area

Coatings

- NRC testing indicates “chip” forms not expected to transport
- Industry needs to show validity of visual coatings examinations
- Joint (with EPRI) coating condition assessment program

Downstream Effects

- Improved strainers appear to pass very little debris
- Licensees modifying systems to reduce susceptibility of downstream components
- Owners Group developing topical report on in-vessel effects

Research

- NRC-sponsored research results are documented in numerous NUREGs
- Review of licensee submittals may lead to additional, focused confirmatory research

Conclusions

- Installing larger strainers adds substantial safety margin
- Licensees removing problem materials
- Resolution path identified
- Chemical effects issue complex
- Staff will decide on future research
- Anticipate closing the GSI in 2008

Acronyms

BWR – boiling water reactor

EPRI – Electric Power Research Institute

GL – Generic Letter

GSI – Generic Safety Issue

NRC – Nuclear Regulatory Commission

PWR – pressurized water reactor