# ECCS Suction Strainers – NEDC-33608-P San Jose Fuels Workshop

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Fuels Testing Program

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BWR OWNERS' GROUP

*BWR Expertise – Proven Solutions*

# Topics

- Context for fuel test program
- Evolution of fuel testing program
- Benchtop test program development
- BT2, BT4 test plans
- Approach and goals for BT1, BT3

# Context for Fuel Test Program

Test program follows accident sequence:

- Lower plenum refill
- Bundle refill
- Injection from lower plenum
- Cooling with core-spray from above

# Context for Fuel Test Program

Lower plenum refill (Test 1):

- Aided by existing clean water in ECCS piping
- Only credible clogging occurs in bypass channel
- Compare debris laden to clean to show negligible time delay

# Context for Fuel Test Program

Bundle refill (Test 2)

- Possibly still aided by existing clean water in ECCS
- Possible areas of concern are bypass holes and lower fuel inlet
  - Flow from core spray not credited due to CCFL

# Context for Fuel Test Program

Injection from lower plenum (Test 3)

- Only credited until cooling allows core spray to enter fuel bundle
- Provides definitive time target for showing acceptable flow into fuel
- No flow credited from LTP once core spray can sufficiently cool fuel

# Context for Fuel Test Program

Core spray cooling (long term – Test 4):

- Long term cooling consists of core spray
- Heat transfer to core-spray:
  - Boil-off at fuel rod surface (early)
  - Natural convection within bundle
  - Natural convection to bypass region