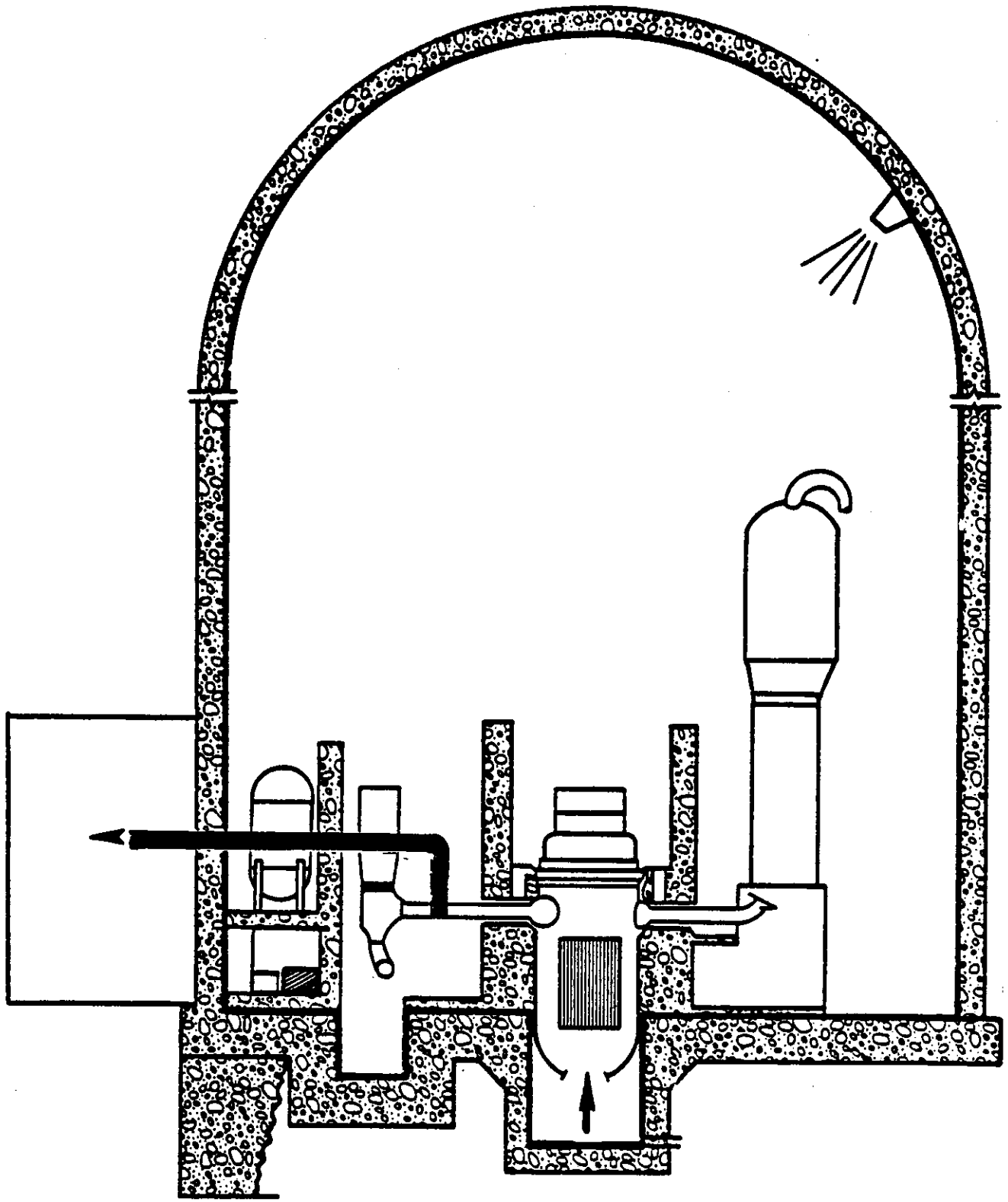


FIGURE 4.7. RELEASE PATHWAY TO SAFEGUARDS BUILDING IN SEQUENCE V

Courtesy of U.S. NRC.

Source: Rasmussen, Norman et al. "Reactor Safety Study." *WASH-1400* (1975), U.S. NRC.

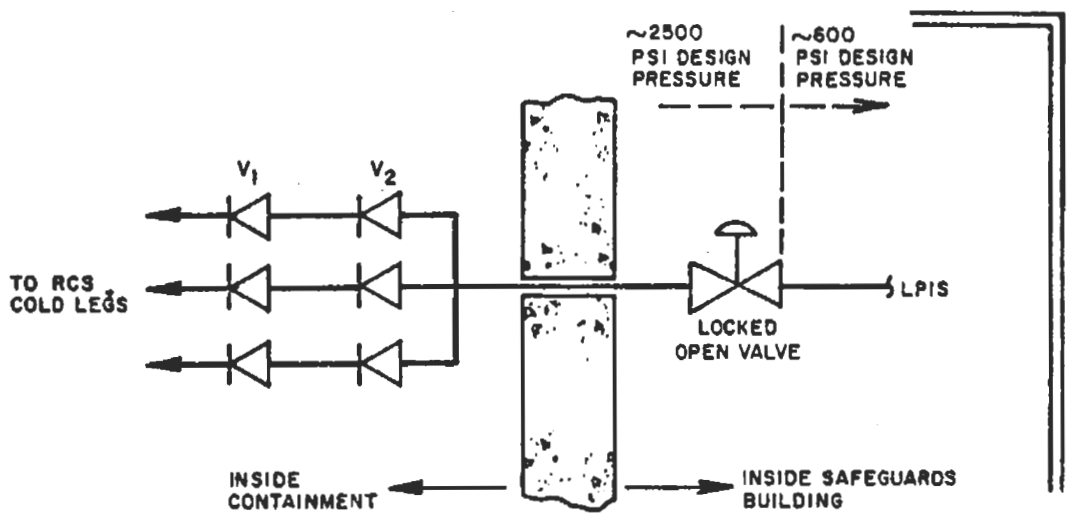


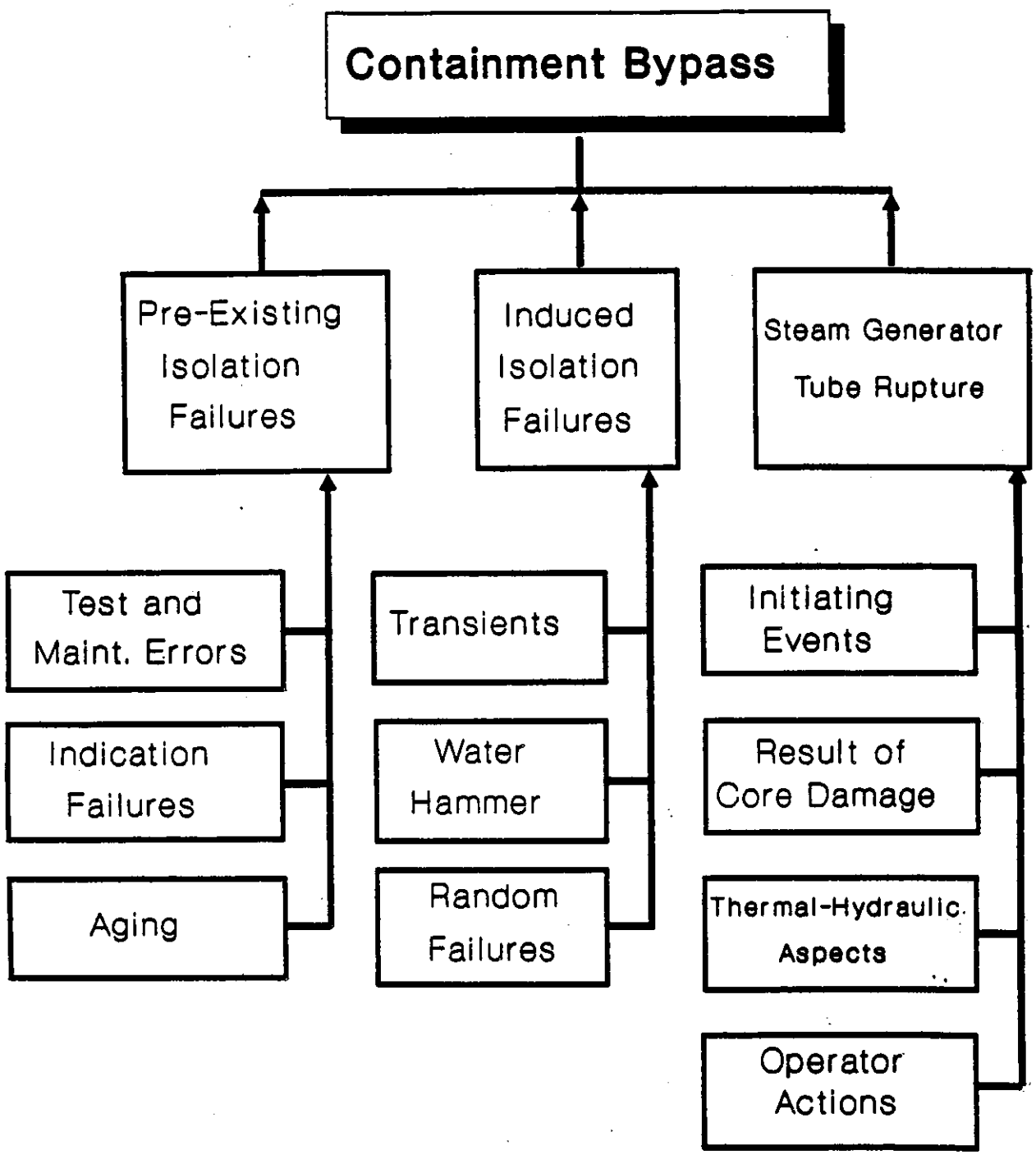
Figure 1. Surry ECCS Low Pressure Injection Configuration (Cold Leg)

SUMMARY OF CONCLUSIONS

Re-examination of the Surry V sequence has revealed the following:

- In analyzing the consequences of an interfacing system LOCA which bypasses containment, a simple diagrammatic treatment may be insufficient. A supplemental engineering evaluation may reveal plant features that will greatly mitigate the release of fission products.
- The SGB will remain largely intact during the initial RCS blowdown, although it is expected that the access door located at grade (see Figure 2) will fail.
- The most likely break location will be covered by drainage from the RWST, which will provide effective scrubbing of the fission product release.
- Due to fission product retention in the RCS and ECCS piping, and the scrubbing effect of RWST drainage covering the break in the intact SGB, the fission product release would be expected to be less than 1 percent of the iodine and cesium inventories and even less of the tellurium inventory.

Source: Rasmussen, Norman et al. "Reactor Safety Study" *WASH-1400* (1975), U.S. NRC.



Courtesy of U.S. NRC.

Source: Rasmussen, Norman et al. "Reactor Safety Study." *WASH-1400* (1975), U.S. NRC.

Figure C.1.1 Example of NUREG-1150 "issue decomposition."

CONTAINMENT BYPASS QUESTIONS

NATURE OF CONTAINMENT WALL PENETRATION

LOCATION AND TYPE OF EX-CONTAINMENT FAILURE

MECHANISMS AND TIMING FOR CORE DAMAGE

MECHANISMS FOR TRANSPORT AND CAPTURE OF RADIOACTIVE MATERIALS SYSTEMS

- In Piping
  - Hygroscopicity
  - Sludge formation
  - Impingement
- In Auxiliary or Reactor Building
  - Natural convection
  - Aerosol dynamics
  - Sprays