ADVISORY COMMITTEE ON REACTOR SAFEGUARDS
UNITED STATES ATOMIC ENERGY COMMISSION
WASHINGTON 25, D. C.

January 14, 1961

Honorable John A. McCone
Chairman
U. S. Atomic Energy Commission
Washington, D. C.

Subject: ADVISORY COMMITTEE ON REACTOR SAFEGUARDS RECORDS PERTAINING TO SAFETY REVIEW OF ALPR (SL-1)

Dear Mr. McCone:

In response to your letter of January 10, 1961, the files of the Advisory Committee on Reactor Safeguards were reviewed in order that the Committee records pertinent to the safety review of the ALPR (SL-1) could be made available to the Commission. Attached is a copy of that section of the Committee's minutes of its meeting of March 6-8, 1958, which pertains to review of the ALPR case. In addition, in an appendix hereto we have listed all documents related to this case which we have. Presumably these are already in the files of the Commission. The information supplied is the total information which we have in our files.

The ACRS will make every effort to cooperate with the AEC in its efforts to understand the incident. We believe that it is important to assure that any new lessons which can be learned from this incident be applied to existing and contemplated reactors as soon as possible.

Sincerely yours,

/s/ T. J. Thompson

T. J. Thompson
Chairman

Attachments:
1. Extract of Minutes of Fifth ACRS Meeting - March 6-8, 1958
2. Appendix A

cc: A. R. Luedecke, GM
W. F. Finan, AGMRS
H. L. Price, Dir., DL&R

Extracted from Minutes of Fifth ACRS Meeting, March 6-8, 1958

B.2 Argonne Low Power Reactor

No RHES comment

The staff was queried regarding further information requested from Argonne and stated:

1. The operation of both the water pumps did not constitute a hazard.

2. The maximum fission product release was revised downward to a realistic figure of 25% rather than 100% producing 100 R external gamma from ingested dosage at the road after 15 minutes. This road should be cleared (US 20).

3. Steam void transient consequences compare to the Borax experience.

4. A steam line rupture would produce a melt-down except with operation of a hand-operated auxiliary fee water pump. Some difficulties exist in reaching the emergency pump due to steam and fission product contamination.

5. The plant is scheduled for LEW line operations for remote but as yet unspecified bases.

6. The probably power of 3 megawatts perhaps approaching 8 megawatts.

7. Probably flashing of water would produce some fuel element melting.

8. Radar requirements set a maximum height of 50 feet which preclude the possibility of a stack.

There is storage for contaminated resins from the ion exchangers and a hold up tank for water drained from the reactor core.

The Weather Bureau representative stated that the gamma dosage calculations were pessimistic and that inversion and north winds occur (the worst meteorological conditions) about 25% of the time. Suggestions were made for further study on waste disposal in Arctic areas.

APPENDIX A

1. Preliminary Design Requirements ALPR, ANL, August 1955.

2. ANL-5744, October 1957, (1st issue).

3. Letter - C. R. Braun to Martin Biles, February 21, 1958, with transmittal letter from H. L. Price to C. R. McCullough, February 27, 1958.

4. Letter - H. L. Price to C. R. McCullough, dated February 13, 1958 with enclosures:

   DL&R Staff Report dated February 3, 1958.

   Memo - W. K. Davis to H. L. Price, dated November 12, 1957 - "Hazard Summary Report on the Argonne Low Power Reactor (ALPR) - ANL-5744."

5. Letter - H. L. Price to C. R. McCullough, dated March 5, 1958 with enclosure:

   DL & R Staff Report, dated March 4, 1958.

6. Letter - C. R. McCullough to Chairman Strauss, "Argonne Low Power Reactor - ALPR," March 8, 1958.

7. Summary letter - C. R. McCullough to Chairman Strauss, "Fifth Meeting of ACRS, March 6-8, 1958," dated March 8, 1958.

APPENDIX A

Attachment 2
to ALPR letter