Office Memorandum • UNITED STATES GOVERNMENT

TO : Lyall E. Johnson

FROM : C. K. Beck

DATE: JUN 3 1957

SUBJECT: SNM LICENSE APPLICATION OF BAKER AND CO., INC.

SYMBOL: CA:HEB:CKB

The material from Baker & Co., Inc., submitted with your memoranda of April 26 and May 9, has been reviewed from the standpoint of safe-guards against occurrence of inadvertent criticality in the proposed operations.

It is noted:

1. That in the small scale batch operations contemplated, only 2 - 10 kg daily, of assorted scrap from various nuclear fuel process operations will be handled daily.

2. That storage of safe geometry or safe mass-limited batches will be on 2 foot centers, and that mechanical means will be utilized in all movement of materials to prevent one batch coming closer than 1 foot to another.

3. That 5" diameter, "always-safe" geometry equipment will be used in all operations, with two exceptions as noted below.

4. Two acid dissolvers, of 14" and 20" diameter, respectively, possess "unsafe" geometries, and dependence for safety here is placed on strict limitation of the U-235 inventory at all times. Operation of these dissolvers will be batch-wise, with the maximum permissible amount of total uranium per-mitted in either one being 350 g. No possibility of criti-cality would exist if this amount in one of the dissolvers were accidently doubled, and if the uranium were fully enriched. No materials may be added to these dissolvers except on prior direction of the Production Supervisor, and addition can only be made in the presence of the Supervisor in charge.

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It is concluded (1) that the applicant has exhibited an awareness
of the factors influencing the possibility of inadvertent criticality,
and the safeguards necessary to prevent a criticality incident, and
(2) that adequate design and administrative safeguards are incor-
porated in the plan as outlined to insure protection against criti-
cality accidents.

We are returning the material transmitted with your memoranda.

Enclosures: