

December 13, 1985

C. W. Kocher

- 4 -

For your further guidance in preparing the proper information to be included in your license renewal application, we are enclosing a copy of a license renewal package recently issued for a reactor facility (UMD, Enclosure 3) similar to yours. This includes the staff's Safety Evaluation Reports and Environmental Assessment, and the new license for the reactor. Upon completion of our review and a favorable evaluation of your facility, similar documents will be issued in conjunction with renewal of your reactor operating license. We emphasize that these enclosures, except for the Technical Specifications, were developed and issued by the staff and are provided as examples of the types of findings we must make. Your documentation must provide the technical and descriptive information that will support our issuance of similar evaluations for your facility.

If you have any questions, please contact Robert Carter, our project manager for your facility, at (301) 492-9795.

Sincerely,

Original signed by
Herbert N. Berkow, Director
Standardization and Special
Projects Directorate
Division of PWR Licensing-B

Enclosures:
As stated

cc: See next page

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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

December 13, 1985

Docket No. 50-264

Mr. C. W. Kocher
Reactor Supervisor
H&E. S/I.H
1602 Building
Chemical Research Center
Dow Chemical Company
Midland, Michigan 48674

Dear Mr. Kocher:

SUBJECT: RENEWAL OF OPERATING LICENSE R-108

This letter is to remind you that the Operating License No. R-108 for the Dow Chemical Company research reactor is scheduled to expire on December 20, 1986, and to provide you guidance for preparing your application for a renewal of the license. Title 10 of the Code of Federal Regulations (10 CFR 2.109) allows continued operation under your current license until the Nuclear Regulatory Commission (NRC) acts upon an application for renewal provided the application is received at least 30 days prior to the expiration date of your current license.

The NRC considers the renewal of a non-power reactor operating license to be equivalent to reissuing the license. Therefore, renewal is not merely a routine administrative step, but involves in-depth reviews of all documentation related to the facility, an on-site review, and publication in the FEDERAL REGISTER of a notice of your request that provides the opportunity for public participation, as well as a notice of the results of our review of your application.

Your renewal application should address the requirements in applicable sections of Title 10 of the Code of Federal Regulations, and should demonstrate that the reactor can continue to be operated safely and without adverse impact on the environment or the public. For the review of your renewal application, the NRC staff will apply the guidance contained in the NRC Division 2 Regulatory Guides for Research Reactors (Enclosure 1) and the industry standards in the American Nuclear Society ANS-15 Series for research reactors.

In order for us to perform an adequate review, you are requested to include, as part of your application, all of the following documentation, in accordance with 10 CFR 50.33 and 50.34:

1. Updated Safety Analysis Report (SAR)

A complete updated edition of your Safety Analysis Report (SAR) and Technical Specifications are required to be submitted with your renewal application. The SAR should include information that describes

the facility and all changes made during the license period; the design bases and limits on its operation; and a safety analysis of the structures, components and systems to ensure that they will be able to continue to perform their intended functions. Potential and reasonable accident scenarios and their consequences should be analyzed using the best current input data and computational techniques, and should be compared, wherever possible, with facility operating experience.

Furthermore, the SAR should include updated information and analyses on demography, meteorology, geology, seismology and other natural and unnatural phenomena.

2. Financial Qualifications to Continue Operation [10 CFR 50.33(f)]

This information must show that there is reasonable assurance that you will be able to obtain the funds necessary to cover estimated operating costs for the period of the requested license renewal plus the estimated costs of permanently shutting down the facility and either decommissioning it or maintaining it in a safe condition. To facilitate our review, we request that the following information be provided, appropriately certified:

- a. The most recently published annual financial statement of the Corporation. Indicate the source of funds utilized to cover costs of operation of the reactor facility,
- b. The estimated annual cost to operate the reactor for the requested period of renewal, the underlying assumptions and bases of the estimate and certification that future budgets will include these funds, and
- c. The estimated costs of eventually shutting down the reactor and safely disposing of it, a listing of what is included in these costs, the assumptions underlying these estimated costs, the type of shutdown contemplated, and the source of funds to cover these costs.

3. Environmental Report (10 CFR 51)

Your Environmental Report (ER) should include sufficient operational data, analyses and discussions to provide a substantial basis for NRC to develop its environmental assessment (see enclosure for an example of an Environmental Report).

4. Technical Specifications

The content and format for Technical Specifications should be in conformance with ANSI/ANS 15.1-1982, "The Development of Technical Specifications for Research Reactors." Because your Technical Specifications are currently in a format no longer being approved by NRC, major changes will be required. Any substantive changes to the

current Technical Specifications should be proposed and justified at the time of the license renewal application so they can be evaluated during the review. Note that in following the ANSI/ANS 15.1-1982 format, bases must be included to support all "specifications."

5. Operator Requalification Program (10 CFR 50.54 (i-1) and 10 CFR 55, Appendix A)

A copy of your current and implemented operator requalification program must be submitted to ensure that it is reviewed with your renewal application and meets current NRC requirements for non-power reactors (guidance contained in ANS 15.4-1978).

6. Emergency Plan (10 CFR 50.54(q) and (r) and 10 CFR 50, Appendix E)

As your revised Emergency response Plan (ERP), dated February 1984 has been approved by NRC, you need only reference those respective Dow Company and NRC documents. However, if you wish to modify your ERP, any changes must be submitted for NRC review in accordance with the above-cited regulations.

7. Physical Security Plan (10 CFR 73.67)

You have an approved Physical Security Plan on file with NRC which we shall review. Accordingly, you need only reference the license amendment containing that documentation. However, if you wish to modify your Physical Security Plan, changes should be made in accordance with the requirements of 10 CFR 50.54(p) or 10 CFR 50.90.

8. Filing of Application

The requirements for submitting your renewal application and all other formal documentation relating to your license with respect to addressee, notarization, signatory and number of copies are defined in NRR Generic Letter No. 84-18, "Filing of Applications for Licenses and Amendments," from Darrell G. Eisenhut to All Non Power Reactor Licensees, dated July 6, 1984. Please follow the guidance in this letter (Enclosure 2).

9. Fees (10 CFR 170)

In accordance with the regulations in effect at the time of your application for renewal, prescribed fees will be due and payable for NRC efforts expended. Recent experience indicates that such effort is likely to amount to approximately 12 professional staff-months.

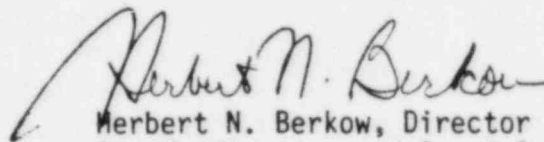
10. Staff Visit

As a part of our review of your facility, members of the NRC licensing staff will expect to visit your facility for a few days. This visit will be coordinated with you following receipt of your application for renewal.

For your further guidance in preparing the proper information to be included in your license renewal application, we are enclosing a copy of a license renewal package recently issued for a reactor facility (UMD, Enclosure 3) similar to yours. This includes the staff's Safety Evaluation Reports and Environmental Assessment, and the new license for the reactor. Upon completion of our review and a favorable evaluation of your facility, similar documents will be issued in conjunction with renewal of your reactor operating license. We emphasize that these enclosures, except for the Technical Specifications, were developed and issued by the staff and are provided as examples of the types of findings we must make. Your documentation must provide the technical and descriptive information that will support our issuance of similar evaluations for your facility.

If you have any questions, please contact Robert Carter, our project manager for your facility, at (301) 492-9795.

Sincerely,

A handwritten signature in dark ink, appearing to read "Herbert N. Berkow". The signature is fluid and cursive, with a long horizontal stroke extending to the left.

Herbert N. Berkow, Director
Standardization and Special
Projects Directorate
Division of PWR Licensing-B

Enclosures:
As stated

cc: See next page

Dow Chemical Company

Docket No. 50-264

cc: Mayor Robert D. Goodenough
202 Ashman
Midland, Michigan 48640

Mr. Jim Macki, Chairman
Reactor Operations Committee
Dow Chemical Company
1602 Building
Midland, Michigan 48640

Office of the Governor
Room 1 - Capitol Building
Lansing, Michigan 48913