

November 3, 2000

Mr. Ben Baker  
Project Manager  
The Dow Chemical Company  
2020 Dow Center  
Midland, Michigan 48674

**SUBJECT: APPROVAL OF EXTENSION OF TIME TO COMPLETE DECOMMISSIONING  
AND AMENDMENT OF THE DOW CHEMICAL COMPANY LICENSE TO  
EXTEND THE EXPIRATION DATE (TAC# L60463)**

Dear Mr. Baker:

The initial request for schedule extension was submitted by the Dow Chemical Company (TDCC) on May 23, 2000. We responded with a request for additional information on July 21, 2000. We met with you and your staff on September 14, 2000, to discuss this and other issues. TDCC presented a status update, a proposed decommissioning schedule and proposed actions that would lead to license termination. It was concluded that the current decommissioning plan, which was approved on July 7, 1996, would require a license amendment to address remediation of residual radioactivity within the water table in order for license termination to occur. TDCC provided additional information on September 15, 2000, requesting an extension for completion of decommissioning to December 31, 2002. The information submitted by TDCC documents extensive contamination that was not known at the time the original decommissioning plan was submitted. A portion of this contamination exists in wetlands and areas of seasonal flooding. These conditions have required the implementation of time-consuming surface water control measures and have prevented TDCC from completing decommissioning within the two years required by 10 CFR 40.42(h)(1). 10 CFR 40.42(h)(2)(i) identifies the conditions under which the Commission may determine that an alternate schedule is warranted. Therefore, based on the information provided by TDCC, as summarized above, and pursuant to 10 CFR Part 40.42(h)(2)(i)(1), NRC approves extending the schedule to complete decommissioning to December 31, 2002. The term of the license has been extended to June 30, 2003, to allow for NRC review of your completed activities.

The NRC staff has concluded that this license amendment concerns administrative changes and meets the requirements, for a categorical exclusion in accordance with 10 CFR 51.22(c)(11), because: (i) there is no significant change in the types or significant increase in the amounts of any effluents that may be released offsite; (ii) there is no significant increase in individual or cumulative occupational radiation exposure; (iii) there is no significant construction impact; and (iv) there is no significant increase in the potential for, or consequences from radiological accidents. Therefore, neither an environmental assessment nor an environmental impact statement is required.

All other conditions of this license will remain the same. Please review the enclosed revised

Materials License STB-527. If you have any questions, please contact Sam Nalluswami of my staff, at (301) 415-6694.

Sincerely,

***/RA/***

Larry W. Camper, Chief  
Decommissioning Branch  
Division of Waste Management  
Office of Nuclear Material Safety  
and Safeguards

Docket No.: 040-00017

License No.: STB-527

Enclosure: Materials License STB-527

cc: D. Minnaar, MDEQ  
Dow Dist. List

All other conditions of this license will remain the same. Please review the enclosed revised Materials License STB-527. If you have any questions, please contact Sam Nalluswami of my staff, at (301) 415-6694.

Sincerely,

**/RA/**  
 Larry W. Camper, Chief  
 Decommissioning Branch  
 Division of Waste Management  
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**MATERIALS LICENSE**

**Amendment No. 10**

Pursuant to the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974 (Public Law 93-438), and the applicable parts of Title 10, Code of Federal Regulations, Chapter I, Parts 19, 20, 30, 31, 32, 33, 34, 35, 36, 39, 40, 51, 70, and 71, and in reliance on statements and representations heretofore made by the licensee, a licensee is hereby issued authorizing the licensee to receive, acquire, possess, and transfer byproduct, source, and special nuclear material designated below; to use such material for the purpose(s) and at the place(s) designated below; to deliver or transfer such material to persons authorized to receive it in accordance with the regulations of the applicable Part(s). This license shall be deemed to contain the conditions specified in Section 183 of the Atomic Energy Act of 1954, as amended, and is subject to all applicable rules, regulations, and orders of the Nuclear Regulatory Commission now or hereafter in effect and to any conditions specified below.

<b>Licensee</b>		<b>3. License Number</b>  <b>STB-527 is amended In its entirety to read as follows:</b>
<b>1. The Dow Chemical Co.</b>		
<b>2. 2020 Dow Center Midland, MI 48674</b>		
		<b>4. Expiration Date</b>  <b>June 30, 2003</b>
		<b>5. Docket or Reference</b>  <b>040-00017</b>
<b>6. Byproduct, Source, and/or Special Nuclear Material</b>	<b>7. Chemical and/or Physical Form</b>	<b>8. Maximum Amount that Licensee May Possess at Any One Time Under This License</b>

- |                   |   |   |
|-------------------|---|---|
| <b>A. Thorium</b> | <b>A. Contaminated soil, sludge, sediment, trash, building rubble, structures, and any other contaminated material.</b> | <b>A. All residual contamination which currently exists at Dow's Bay City, MI, site</b> |
|-------------------|---|---|

**CONDITIONS**

- 9. Authorized Use:** Licensed material shall be possessed and used during site activities leading to its removal from the Bay City site in accordance with the statements, representations, and procedures contained in the amendment request dated October 12, 1995; and the supplemental information submitted by letters dated December 6, 1995; March 11, 1996; May 24, 1996.
- 10. Authorized Place of Use:** The existing Dow site in Bay City, MI.
- 11. A. Licensed materials shall be kept under the supervision of the Radiation Safety Officer, who shall have the following education, training, and experience:**
  - 1. Education:** A bachelor's degree in the physical sciences, industrial hygiene, or engineering from an accredited college or university or an equivalent combination of training and relevant experience in radiological protection. Two years of relevant experience are generally considered equivalent to one year of academic study.
  - 2. Health physics experience:** At least one year of work experience in applied health physics, industrial hygiene, or similar work relevant to radiological hazards associated with site remediation. This experience should involve actually working with radiation detection and measurement equipment, not strictly administrative or "desk" work.

**MATERIALS LICENSE  
SUPPLEMENTARY SHEET**License Number **STB-527**Docket or Reference  
Number **040-00017**Amendment No. **10**

3. **Specialized knowledge:** A thorough knowledge of the proper application and use of all health physics equipment used for thorium and its daughters, the chemical and analytical procedures used for radiological sampling and monitoring, methodologies used to calculate personnel exposure to thorium and its daughters, and a thorough understanding of how thorium was used at the location and how the hazards are generated and controlled.
- 11.B. The licensee, without prior NRC approval, may appoint a Radiation Safety Officer provided: a) the licensee maintain documentation demonstrating that the requirements of condition 11A are met; and b) the NRC is informed of the name of the new Radiation Safety Officer by letter to the Regional Administrator, [Region III], within 30 days of the appointment.
- 12.A. The Dow Chemical Company shall conduct the final survey of the Bay City site in accordance with the final survey plans submitted by letters dated October 12, 1993; December 6, 1995; March 11, 1996; and March 31, 1997.
- 12.B. The Dow Chemical Company shall use the release criteria for surfaces and soil established in submittal of March 11, 1996.

FOR THE U.S. NUCLEAR REGULATORY COMMISSION

Dated: \_\_\_\_\_

By: \_\_\_\_\_

Larry W. Camper, Chief  
Decommissioning Branch  
Division of Waste Management  
Office of Nuclear Material Safety  
and Safeguards