

40-7604



BP CHEMICALS

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VIA OVERNIGHT MAIL

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U.S. Nuclear Regulatory Commission
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April 29, 1997

Reference: Docket No. 040-07604
License No. SUB-0908

Subject: Letter Application for License Amendment to Extend Expiration Date
and to Revise License Conditions

Dear Sir:

On May 31, 1997, NRC License No. SUB-908 will expire. In order to allow BP Chemicals, Inc. (BPCI) additional time with which to complete decontamination and decommissioning activities at its Lima, Ohio facility, BPCI requests by this letter application that the NRC grant a five (5) year extension of the license expiration date to May 31, 2002. As the NRC is aware, BPCI has been actively involved in decontamination and decommissioning activities since the previous license extension in 1992, and has made a concerted effort to complete this work in a timely fashion. The five year extension is needed to complete this effort. It is expected that decontamination and decommissioning activities will be completed site-wide within the next five years. By then the only contamination not addressed at the BPCI Lima facility will be Acrylonitrile Reactor 2-B which will still be in operation at that time for the production of acrylonitrile.

It is further requested that NRC utilize the opportunity of this license amendment for extension to also re-examine the applicability of Condition 9 through Condition 24 of the current license. BPCI has reviewed each of these conditions and concludes that several of the conditions are no longer needed and should be deleted. Other current conditions should be revised to make them appropriate to current activities. BPCI proposes the following changes. (Proposed revisions are shown by striking through text to be deleted and by underlining proposed new text.)

License Condition 9: Authorized use: For possession and storage of depleted uranium waste incident to the performance of radiation surveys and

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decontamination of facilities and plant areas, including the packaging of waste for transfer and disposal.

BPCI Recommended Revision: BPCI proposes the following revised wording: *"Authorized use: For possession and storage of depleted uranium waste incident to the performance of radiation surveys and decontamination of facilities and plant areas, including the packaging of waste for transfer and disposal and the placement of waste in on-site disposal cells."*

BPCI Justification: The revised wording incorporates NRC's authorization of limited on-site disposal of mixed RCRA hazardous and low-level radioactive waste in disposal cells as approved in License Amendment 9, issued by NRC on July 9, 1996.

License Condition 10: Licensed material shall be used on and at the licensee's address stated in Item 2. above.

BPCI Recommended Revision: No change is proposed.

BPCI Justification: The address as stated is correct and commonly used for the facility. There is, however, a street number assigned to the facility. The street address is 1900 Ft Amanda Road, Lima, Ohio 45804. This alternative address could be substituted for that contained in the current license at NRC's discretion.

License Condition 11: The licensee shall comply with the provisions of Title 10, Chapter 1, Code of Federal Regulations, Part 19, "Notices, Instructions and Reports to Workers; Inspections" and Part 20. "Standards for Protection Against Radiation."

BPCI Recommended Revision: Delete Condition 11.

BPCI Justification: BPCI believes that License Condition 11 is unnecessary, since the regulations referred to in this condition are applicable to all licensees whether or not the statements are specified in the license. The condition could therefore be deleted with no change in BPCI's responsibility and accountability as a licensee in meeting NRC regulations.

License Condition 12: (Deleted.)

BPCI Recommended Revision: No change is proposed.

BPCI Justification: No justification is required.

License Condition 13: Except as specifically provided otherwise by this license, the licensee shall possess and use licensed material described in items 6,

7, and 8 of this license in accordance with statements, representations, and procedures contained in letters dated September 19, 1978, December 1, 1978, July 2, 1979, April 29, 1992, and June 12, 1992. The nuclear Regulatory Commission's regulations shall govern the licensee's statements in applications or letters, unless the statements are more restrictive than the regulations.

BPCI Recommended Revision: Delete Condition 13.

BPCI Justification: The condition refers to five letters which contain statements, representations and procedures. The statements, representations and procedures are either no longer relevant to the licensee's operations and decommissioning activities, or are described in more recent correspondence referenced in Condition 24. BPCI offers the following specific comments on each of the referenced letters:

- a. September 19, 1978 Letter: This letter requested termination of License SUB-756. This letter also provided an expanded description of site contamination to include those items previously covered under License SUB-756. Further studies have now been conducted to better define the site-wide contamination, making the subject letter inaccurate. The most comprehensive description is found in the *Site Characterization Report*, submitted as Appendix H of the *License Application for On-site Disposal of Contaminated Soil and Debris from SWMU 102 and Aiv-1, and Containerized Debris from Catalyst Plant Decommissioning*, submitted to NRC on August 2, 1996.

The subject letter also described a proposed decontamination plan for contaminated gravel and soil which called for excavating the material and placing it in Burn Pond. Subsequently, Burn pond would be dewatered and the solids would be drummed for offsite disposal. This plan was never successfully implemented. Release criteria resulted in the waste volume being too large to be accommodated by Burn Pond. Further, EPA RCRA restrictions regarding the requirements for offsite disposal of the pond contents made the plan impractical. Therefore, this letter has no relevancy or value to the present.

- b. December 1, 1978 Letter: This letter detailed the decontamination plan previously described in the September 19, 1978 letter. Detail plans called for a release criteria of 750 pCi/g. Materials higher in activity would be transferred to Burn Pond. Materials having activities less than 750 pCi/g would be left in place and released. Semi-annual inspection was also proposed. Clearly this decontamination strategy is no longer acceptable to NRC and there is no value in retaining reference to the letter in our license.
- c. July 2, 1979 Letter: This letter was in response to NRC comments received June 12, 1979. This letter provided detailed information on a site-wide decommissioning plan including timing commitments. The

described work was never completed, and the plan and timing commitments are no longer applicable to the current project.

- d. April 29, 1992 Letter: This letter was submitted to request extension of the expiration date for License SUB-908. This letter included a description of site-wide contamination and a status report of decommissioning efforts to date. The information is relatively accurate but has been provided more recently in much greater detail. See the *Site Characterization Report*, submitted as Appendix H of the *License Application for On-site Disposal of Contaminated Soil and Debris from SWMU 102 and AN-1, and Containerized Debris from Catalyst Plant Decommissioning*, submitted to NRC on August 2, 1996. There is no apparent value in retaining reference to this letter in the license.
- e. June 12, 1992 Letter: The subject letter was a request for license amendment to correct the listing of plant Radiation Safety Officers. The list as provided to NRC in the subject letter is no longer correct and a further change is being requested (See License Condition 22). Therefore, continued reference to this letter in the license is not appropriate.

Copies of the five letters referenced in License Condition 13 are attached as Exhibit A. None of these five letters have any current relevance to the licensee's decommissioning activities. Therefore, this condition should be deleted.

License Condition 14: The licensee shall submit by November 15, 1988, a revised schedule for the decontamination of the ponds, grounds, buildings and other facilities on the Lima, Ohio site.

BPCI Recommended Revision: Delete Condition 14.

BPCI Justification: The schedule submitted per this condition is no longer relevant to the timing of current and future decommissioning activities. More current schedules have been submitted to NRC since 1988. A schedule of planned 1997 decontamination and decommissioning activities was submitted to NRC on April 24, 1997.

License Condition 15: Release of facilities and equipment to unrestricted use shall be in accordance with the enclosed Annex, "Guidelines for Decontamination of Facilities and Equipment Prior to Release for Unrestricted Use or Termination of Licenses for Byproduct, Source, or Material," May 1987. Records of decontamination surveys and disposition of equipment and material shall be maintained until the license is terminated.

BPCI Recommended Revision: Revise text as follows: *Release of facilities and equipment to unrestricted use shall be in accordance with the enclosed Annex,*

"Guidelines for Decontamination of Facilities and Equipment Prior to Release for Unrestricted Use or Termination of Licenses for Byproduct, Source, or Material," May August 1987. Records of decontamination surveys and disposition of equipment and material shall be maintained until the license is terminated.

BPCI Justification: Correct date of issuance of the Annex. The text of Condition 15 is covered in Amendment 9 and Condition 24, so it could be deleted, but with new criteria for decommissioning being promulgated, it may be useful to keep this reference in the license.

License Condition 16: If the decontamination operation requires removal of contaminated residues from the Waste retention ponds, the ponds shall not be backfilled until such, confirmatory surveys as deemed necessary by the NRC are performed.

BPCI Recommended Revision: Delete Condition 16.

BPCI Justification: The requirement for a confirmatory survey of the pond bottoms is incorporated in the soil sampling plan for the mixed waste pond closure project. The specific requirement is covered in Paragraph a (ii) of Condition 24.

License Condition 17: The Radiological Control Supervisor or Radiological Control Technician shall be onsite when decontamination activities are being conducted.

BPCI Recommended Revision: BPCI proposes the following wording: *The ~~Radiological Control Supervisor~~ BPCI Radiation Safety Officer or his designated Radiological Control Technician Contractor shall be onsite when decontamination activities are being conducted.*

BPCI Justification: This revised text conforms with BPCI's plan for radiological control and oversight of the project using outside supplemental resources to support BPCI's Radiation Safety Officers. BPCI does not have its own staff of Radiological Control Supervisors or Radiological Control Technicians.

License Condition 18: The Radiological Control Function shall conduct a daily inspection of all decontamination areas while the decontamination activities are being conducted. Findings of potential or actual license violations shall be communicated within 8 hours to the Contractor's Site Supervisor and Radiological Control Supervisor. Records of the findings and corrective actions taken shall be kept until the license is terminated.

BPCI Recommended Revision: BPCI proposes the following revised wording: *"The ~~Radiological Control Function~~ licensee's radiation safety officer shall ~~conduct a~~ be responsible for conducting daily inspections of all decontamination*

decommissioning areas while the decontamination activities are being conducted. Findings of potential or actual license violations shall be communicated within 8 hours to the Contractor's Site Supervisor and Radiological Control Supervisor. Records of the findings and corrective actions taken shall be kept until the license is terminated. The licensee's radiation safety officer may delegate the actual inspection activity to a qualified radiological control contractor selected by the licensee. The radiological control contractor shall follow all requirements of the licensee's radiological control plan in conducting his inspections, and shall report the results of each inspection to the licensee's radiation safety officer. If the licensee utilizes a radiological control contractor to perform inspections, the licensee's radiation safety officer shall conduct audits of the radiological control contractor to assure compliance with the licensee's radiological control plan."

BPCI Justification: BPCI ceased all use of licensed material at its Lima facility in 1971. Since then, the facility's only involvement with licensed material has been in the decommissioning of the site. This decommissioning has occurred and continues to occur in stages with prolonged lapses of time between stages, due in large part to delays in securing regulatory approvals. Given this scenario, it is not feasible or cost effective for BPCI to maintain a dedicated radiological control staff. Therefore, BPCI has made substantial use of outside professionals (including Dames & Moore, IT Corporation and B. Koh & Associates) in various technical and regulatory support roles over the last several years. BPCI proposes to continue this strategy by supplementing its two Radiation Safety Officers (RSOs) with outside resources to conduct daily inspections. Both BPCI RSOs have other duties which prevent them from conducting daily inspections. BPCI therefore will hire qualified outside radiological control contractors who will perform daily inspections whenever decommissioning activities are in progress. The BPCI RSOs will coordinate, oversee and audit the work of these contractors. Unless BPCI supplements its current staff by qualifying additional RSOs, this is the most practical alternative to accomplishing daily inspections.

License Condition 19: The licensee shall not allow an individual whose skin is found contaminated above background radiation levels to exit the controlled area without prior approval of the Radiological Control Function.

BPCI Recommended Revision: This condition should be deleted.

BPCI Justification: Worker decontamination and release requirements are included in the Radiological Control Plan which was approved by NRC by reference in Condition 24.

License Condition 20: The minimum calibration frequency for radiation survey instruments shall be at the intervals not to exceed 7 months or after each repair, whichever is earlier.

BPCI Recommended Revision: This condition should be deleted.

BPCI Justification: Calibration frequencies are included in the Radiological Control Plan which was approved by NRC by reference in Condition 24.

License Condition 21: The license expiration date of May 31, 1992, for completion of decontamination and decommissioning activities at Fort Amanda road and Adgate Road shall be extended to May 31, 1997.

BPCI Recommended Revision: Revise the wording as follows: *The license expiration date of May 31, ~~1992~~ 1997, for completion of decontamination and decommissioning activities at Fort Amanda road and Adgate Road shall be extended to May 31, ~~1997~~ 2002.*

BPCI Justification: The extension is required to allow BPCI sufficient time to complete decontamination and decommissioning activities at the Lima site. By the year 2002, only Acrylonitrile Reactor 2-B will be the only contaminated equipment not to have undergone decontamination and decommissioning, as it will still be in operation at that time.

License Condition 22: Licensed material shall be used by or under the supervision of, Messrs. Joseph H. Martz, Thomas E. Dixon and Robert J. Ryan, at the Lima, Ohio facility.

BPCI Recommended Revision: The condition should be revised as follows: *Licensed material shall be used by or under the supervision of, Messrs. Joseph H. Martz, ~~Thomas E. Dixon~~ and Robert J. Ryan, at the Lima, Ohio facility.*

BPCI Justification: Thomas E. Dixon is no longer with BPCI.

License Condition 23:

Note: This condition replaces Condition 23 of License Amendment No. 7 dated October 13, 1993.

Based on the letters of September 19, 1994, October 25, 1994, October 31, 1994 and November 11, 1994, BP Chemicals, Inc. is permitted to directly transfer water collected in Deepwell Pond, Burn Pond and Celite Pond with Uranium concentrations less than 30 pCi/l from the mixed waste pond closure project into its system of underground injection wells subject to following criteria:

- a. The concentration of pond waters to be injected into the system of underground injection wells is limited to 30 pCi/l of uranium based on a daily average limit.

- b. The licensee shall test and verify the activity of the pond water prior to each transfer to ensure that the water transferred to the underground injection wells does not exceed 30 pCi/l based on a daily average of analyses. This verification shall be documented and maintained by the licensee.
- c. A surface coating of alkaline, non-radioactive solids shall be maintained over radioactive sludges in the ponds to prevent any release of radioactivity greater than 30 pCi/l into the pond waters while the radioactive sludges are maintained in storage. In order to prevent resuspension and entrainment of the settled solids during water transfer, a flotation collar or its functional equivalent shall be employed to suspend the inlet of the pump suction hose near the top surface of the pond. A minimum vertical clearance of eighteen (18) inches shall be maintained between the suction hose inlet and the top of the alkaline surface coating layer.
- d. When it becomes necessary to mobilize the pond sludges for stabilization and burial, "additional treatment" shall be provided to limit the pond water to 30 pCi/l. The licensee shall demonstrate to the satisfaction of the Commission the acceptability of the "additional treatment", prior to mobilizing the pond sludges.
- e. The injection volume may be as necessary to accommodate the disposal within the OHIO EPA UIC Permit constraint of not exceeding 24 million gallons injected per month.

BPCI Recommended Revisions: BPCI proposes the following changes:

Based on the letters of September 19, 1994, October 25, 1994, October 31, 1994 and November 11, 1994 and April 29, 1997, BP Chemicals, Inc. is permitted to directly transfer water collected in ~~Deepwell Pond, Burn Pond and Colite Pond~~ with Uranium concentrations less than ~~30~~ 300 pCi/l from the mixed waste pond closure project into its system of underground injection wells subject to following criteria:

- a. *The concentration of pond waters to be injected into the system of underground injection wells is limited to ~~30~~ 300 pCi/l of uranium based on a daily maximum limit.*
- b. *The licensee shall test and verify the activity of the pond water prior to each transfer to ensure that the water transferred to the underground injection wells does not exceed ~~30~~ 300 pCi/l based on a daily average of analyses. This verification shall be documented and maintained by the licensee.*
- c. *A surface coating of alkaline, non-radioactive solids shall be maintained over radioactive sludges in ~~the ponds~~ Burn Pond to prevent any release of radioactivity greater than ~~30~~ 300 pCi/l into the pond waters while the*

radioactive sludges are maintained in storage. In order to prevent resuspension and entrainment of the settled solids during water transfer, a flotation collar or its functional equivalent shall be employed to suspend the inlet of the pump suction hose near the top surface of the pond. A minimum vertical clearance of eighteen (18) inches shall be maintained between the suction hose inlet and the top of the alkaline surface coating layer.

- d. When it becomes necessary to mobilize ~~the pond sludges~~ Burn Pond sludge for stabilization and burial, "additional treatment" shall be provided to limit the pond water to ~~30~~ 300 pCi/l. The licensee shall demonstrate to the satisfaction of the Commission the acceptability of the "additional treatment", prior to mobilizing ~~the pond sludges~~ Burn Pond sludge.
- e. No changes are proposed.

BPCI Justification:

The proposed change to 300 pCi/g limit is based on Ohio EPA's requirements for deepwell injection. BPCI is prohibited by Ohio EPA from discharging any radioactive waste into our licensed injection wells. Ohio EPA Regulation 3745-3401, Section xx defines a radioactive waste as any waste which contains radioactivity in concentrations exceeding those listed in 10 CFR 20, Appendix B, Table 2, Column 2. For U-238, the defining concentration is $3 \text{ E-}7 \text{ } \mu\text{Ci/ml}$ which is equivalent to 300 pCi/l.

The change to specifying only Burn Pond for water storage and treatment is based on current practice. Water could also be treated in North Deepwell Pond and South Deepwell Pond but the limited freeboard in each pond does not allow accumulations in excess of 18 inches which would be required according to the current wording of License Condition 23. BPCI plans to mobilize North Deepwell Pond sludge and South Deepwell Pond sludge for stabilization while maintaining Burn Pond in service for water treatment. When the time arrives to begin mobilization and stabilization of Burn Pond sludge, the contractor's supplemental water treatment system will be brought on line per Paragraph (e) of License Condition 23.

Water collected in Celite Pond has historically been transferred directly to the deepwell system. This is because Celite waste pile which drains into Celite Pond has been maintained covered thereby preventing the storm runoff from coming into contact with contaminated clay and becoming contaminated. This cover will have to be removed to access clay for use in sludge stabilization. Once the cover is removed, any subsequent storm water runoff may become contaminated. Therefore, treatment in Burn Pond will be required.

License Condition 24:

Except as specifically provided otherwise, in this license, the licensee shall conduct its mixed waste pond closure program in accordance with the statements, representations, and procedures contained in the licensee's revised application dated February 7, 1994, as supplemented in submittals dated May 25, 1994, March 13, 1995, June 28, 1995, July 28, 1995, September 8, 1995, September 20, 1995, October 13, 1995, October 30, 1995, November 10, 1995, December 5, 1995, December 6, 1995, January 2, 1996, and April 2, 1996.

The Nuclear Regulatory Commission's regulations shall govern unless the statements, representations and procedures in the licensee's application and correspondence are more restrictive than the regulations.

- a. The licensee will conduct surveys to determine compliance with the unrestricted use criteria stated in the February 7, 1994 application, as supplemented, as follows:
 - i. The concentration of residual uranium remaining in the soils under the closure cells shall be determined by the licensee, in accordance with the "Soil Sampling Plan: Mixed Waste Pond Closure Project, BP Chemicals, Lima, Ohio, in July 1991; prepared for V-1 Pond site, as supplemented in submittals dated July 1992, August 1992, November 1992, March 1993, and July 1993.
 - ii. The licensee shall receive unrestricted release of each pond area from NRC prior to initiating construction of the closure cell in that area
 - iii. The concentration of uranium in the material to be placed into the closure cells shall be determined by the licensee in accordance with the "Revised Sampling Plan for Verification of Stabilized Sludge and the Soil Radioactivity levels Document No. 22007-008-006, dated October 13, 1995, as supplemented in submittal dated December 5, 1995.
- b. Potentially contaminated water, from the pond closure project, which will be injected into the licensee's underground and deepwell injection system, shall be below 1.11 Bq/l uranium (30 pCi/l uranium). The underground disposal of water shall satisfy the requirements in License Condition 23.
- c. The licensee will conduct air sampling as described in the "Project Health and Safety Plan" and "Radiological Control Plan."
 - i. If occupational air sample-results exceed 1.0 E-11 pCi/ml (50 percent of the 10 CFR 20, Appendix B. Table 12 Column 3,

air concentration limit), the Radiation Safety Officer and Construction Manager shall be notified, and an investigation shall be conducted and documented to determine if modification to work conditions are necessary.

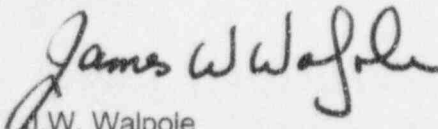
- ii. Continuous air sampling will be conducted at the work zone perimeter to ensure that the airborne radioactivity at the perimeter is less than the 10 CFR 20. Appendix B, Table 2, Column 1 air concentration of 6.0 E-14 pCi/ml . If the concentration exceeds the limit, the Radiation Safety Officer and Construction Manager shall be notified, and an investigation shall be conducted and documented to determine if modifications to work conditions are necessary.
- d. At the completion of construction of each closure cell, the licensee shall submit to the NRC a copy of the final construction report to the Ohio Environmental Protection Agency, as described in the revised application dated February 7, 1994 (Appendix E, Section 9.4 Final Documentation) for license amendment.

BPCI Recommended Revision: No changes are proposed at this time. It should be noted, however, that BPCI has submitted a license amendment application to revise the *Revised Sampling Plan for Verification of Stabilized Sludge and the Soil Radioactivity Levels* (Document No. 22007-000-006, dated October 13, 1995 as supplemented in submittal dated December 5, 1995). Therefore BPCI expects that Paragraph a (ii) of Condition 24 will eventually be revised.

BPCI Justification: The approved specification considers only stabilized sludge which is of a form which can be cast in place. The current expected consistency of the stabilized sludge is soil-like which will require different techniques for verification of radioactivity levels.

BPCI requests that the above changes be incorporated in the subject license amendment. BPCI also requests that the amendment be issued in the near future so that the revised conditions can be put into effect by BPCI as a part of the our the ongoing decontamination and decommissioning work. If you have any questions, please contact Mr. Hugh Blythe at (419) 226-1297 or Mr. William Rupert at (419) 226-1299.

Sincerely,


J.W. Walpole
Plant Manager

cc: Ed Kulzer, U.S. NRC Region III
Sam Nalluswami, U.S. NRC Headquarters
Ruth Vandegrift, Ohio Department of Health
Jim Ottarson, Ohio EPA