



# Department of Environmental Protection

Jeb Bush  
Governor

Northwest District  
160 Governmental Center  
Pensacola, Florida 32501-5794

David B. Struhs  
Secretary

January 4, 2002

RMC QA'ed  
Initials \_\_\_\_\_ Date \_\_\_\_\_

Mr. Jeff Kirk  
Operations Manager  
Superior Special Services, Inc.  
242 Marpan Lane  
Tallahassee, Florida, 32305

RECEIVED  
RCRA  
JAN 07 2002  
Hazardous Waste Regulation

Dear Mr. Kirk:

Enclosed is a copy of the Final Order Granting Petition for Variance from Rule 62-737.860(4), F.A.C., concerning Superior Special Services, Inc. located at 4972 Woodville Highway in Tallahassee, Florida.

If you have any other questions concerning this matter, please contact Jim Byer at telephone (850) 595-8360, extension 1265.

Sincerely,

Charles F. Goddard  
Program Administrator  
Waste Management

CFG:jbl  
Enclosure  
Cc: Satish Kastury, Hazardous Waste Regulation  
Jack Price, Hazardous Waste Management  
Augusta Posner, OGC

**BEFORE THE STATE OF FLORIDA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION**

In re, Superior Special Services, Inc.

OGC File No. 01-1298

Petition for Variance

**FINAL ORDER GRANTING PETITION FOR  
VARIANCE FROM RULE 62-737.860(4), F.A.C.**

On August 6, 2001, Superior Special Services, Inc., filed a petition for variance from requirements in rule 62-737.860(4) of the Florida Administrative Code (F.A.C.), under sections 120.542 and 403.201, Florida Statutes (F.S.) and rule 28-104.002, F.A.C. The petition was for a variance from the requirement of rule 62-737.860(4), F.A.C., that facilities shall demonstrate an effective reclamation rate of 99 percent of the mercury introduced into the process, or a resulting total mercury concentration below the method detection limit.

The Department has jurisdiction under Chapters 120 and 403, Florida Statutes (F.S.) and Chapters 28-104, 62-110 and 62-737, Florida Administrative Code (F.A.C.)

A notice of receipt of the petition was published in the Florida Administrative Weekly on August 31, 2001. Notice of the Department's intent to issue this Order was published in Tallahassee Democrat on December 17, 2001. No comments or petitions were received by the Department in response to the published notices.

The Department finds that the Petition establishes the following facts and conclusions of law on which this Order is based:

1. Superior Special Services, Inc., ("Petitioner") has operated a mercury reclamation and mercury recovery facility since 1996. Petitioner is located at 4972 Woodville Highway, Tallahassee, Florida 32311. The facility permit number is HO37-82472-004, and the facility hazardous waste identification number is FL0000207449.

2. Petitioner processes mercury containing devices, mainly waste fluorescent lamps, generating a phosphor powder which contains mercury. The mercury is separated from this phosphor powder by distillation in a retort unit. In the retort unit, the mercury is separated by heating the phosphor powder in a vacuum chamber which causes the mercury to vaporize. The vaporized mercury is subsequently condensed and collected for recycling.

3. Since the mid 1990s, fluorescent lamp manufacturers have reduced the concentration of mercury in fluorescent lamps. Additionally, new lamps have become available that contain even less mercury.

4. As part of the quality control program for the facility, Petitioner has collected pre-retort and post-retort mercury concentration sample analyses of phosphor powder on a monthly basis. This

analytical data confirms that the concentration of mercury contained in the phosphor powder prior to retort has dropped significantly in recent years.

5. As the concentration of mercury in the waste stream has declined, the concentration in the post-retort powder has remained essentially steady. Petitioner identified the reason for this disparity: as the concentration of mercury decreases, the amount of time required to volatilize and capture the mercury increases. Eventually a point is reached where current equipment and operating procedures are no longer technically capable of capturing 99 percent of mercury in the waste stream because the initial mercury concentration of the phosphor powder is so low.

6. The applicable rule states in pertinent part: "(f)acilities shall maintain quality control and testing records based on statistically significant and updated laboratory analyses that use an EPA-approved methodology for analyzing total mercury content as specified in the facility's operation permit issued under this Chapter, and that demonstrate at least semi-annually an effective reclamation rate of 99 percent of the mercury introduced into the process, or a resulting total mercury concentration below the method detection limit." [Rule 62-737.860(4), F.A.C.]

7. Petitioner has stated that to achieve an effective reclamation rate of 99 percent of the mercury introduced into the process would create a substantial hardship because there is no currently available technology to achieve this reclamation rate. Petitioner asserts it evaluated three alternatives that are not technologically viable, including: a) increase the residence time of the processed material in the retort unit, b) increase the surface area of the processed material in the retort unit, and c) increase the peak operating temperature of the retort unit. Petitioner has stated that no technologically viable alternative exists to consistently achieve a 99% reclamation rate once the concentration of the material being processed drops below a level of 750 milligrams per kilogram (mg/kg).

8. Petitioner proposes to replace the 99 percent reclamation rate with a two-part reclamation schedule based on the original concentration of mercury contained in the material to be processed. When the original concentration of mercury is greater than or equal to 1000 mg/kg the minimum reclamation rate will be 99 percent. When the original concentration of mercury is less than 1000 mg/kg the maximum mercury concentration in the resulting processed material will be 10 mg/kg.

9. The purpose of the Statute is to remove mercury from the municipal waste stream and to recover and manage the mercury in a manner that protects human health, safety, and welfare and the environment. At the time that the rules regarding the 99% reclamation rate were promulgated, no one anticipated that the concentration of mercury in fluorescent lamp phosphor powder would drop so precipitously. The initial average concentration of mercury in the phosphor powder derived from processing fluorescent lamps in calendar years 1997 and 1998 was in excess of 2000 mg/kg. At a reclamation rate of 99%, the residual mercury remaining in the phosphor powder could have been in excess of 20 mg/kg and been in compliance with the regulations. The actual average post-retort concentration of mercury in the phosphor powder in calendar years 1997 and 1998 was 10.35 mg/kg.

The reclamation rate schedule that Petitioner is proposing in this request for variance would cap the final mercury concentration for low-level mercury wastes at 10 mg/kg. This schedule would provide a means for Petitioner to remain in compliance while still removing the mercury from the waste stream to the extent currently feasible, and still below levels achieved in previous years.

WHEREFORE, IT IS HEREBY ORDERED by the State of Florida Department of Environmental Protection that Petitioner, Superior Special Services, Inc., is granted a variance from the 99 percent mercury reclamation rate in Rule 62-737.860(4), F.A.C. for its Tallahassee facility, subject to the following conditions.

- a. This variance shall expire on January 1, 2004.
- b. Superior Special Services, Inc. shall demonstrate an effective reclamation rate of the mercury introduced into the process with a two-part reclamation schedule based on the original concentration of mercury contained in the material to be processed. When the original concentration of mercury is greater than or equal to 1000 mg/kg the minimum reclamation rate shall be 99 percent. When the original concentration of mercury is less than 1000 mg/kg the maximum mercury concentration in the resulting processed material shall be 10 mg/kg.
- c. Superior Special Services, Inc. shall generate data regarding the efficiency of the retort when operated with an increased residence time at peak temperatures. Superior Special Services, Inc., shall process one batch per week with an increased retention time. The length of time that each batch is held at the peak temperature will be increased by two hours. Subsequent tests will be conducted with an increase of four hours and an increase of six hours. A minimum of six batches will be processed for each time increase series. Upon completion of these tests, Superior Special Services, Inc. will submit a test evaluation report to the Department for review.
- d. Superior Special Services, Inc. shall research and subsequently test a minimum of two additional technology alternatives to increase the reclamation rate for low-level mercury-containing devices. Upon completion of these tests, Superior Special Services, Inc. will submit a test evaluation report to the Department for review.
- e. Superior Special Services, Inc. shall allow all authorized representatives of the Department access to the property and facility at reasonable times for the purpose of determining compliance with the terms of this Order and the rules and statutes of the Department.
- f. Entry of this Order does not relieve Superior Special Services, Inc. of the need to comply with applicable federal, state or local laws, regulations or ordinances.
- g. The terms and conditions set forth in this Order may be enforced in a court of competent jurisdiction pursuant to §120.69 and §403.121, F.S.

This Order is a final order of the Department pursuant to §120.52(7), F.S., and effective on the date filed with the Clerk of the Department.

Any party to this Order has the right to seek judicial review of it under §120.68, F.S., by filing a notice of appeal under Rule 9.110 of the Florida Rules of Appellate Procedure with the clerk of the Department in the office of General Counsel, Mail Station 35, 3900 Commonwealth Boulevard, Tallahassee, Florida 32399-3000, and by filing a copy of the notice of appeal accompanied by the applicable filing fees with the appropriate district court of appeal. The notice must be filed (received) within thirty days after this order is filed with the clerk of the Department.

DONE AND ORDERED this, 3<sup>rd</sup> day of January 2002 in Pensacola, Florida.

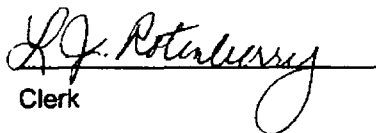
STATE OF FLORIDA DEPARTMENT  
OF ENVIRONMENTAL PROTECTION

  
MARY JEAN YON  
DIRECTOR OF DISTRICT MANAGEMENT

Northwest District  
160 Governmental Center  
Pensacola, Florida, 32501-5794  
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FILING AND ACKNOWLEDGEMENT and CERTIFICATE OF SERVICE

FILED, on this date, pursuant to §120.53, Florida Statutes, with the designated Agency Clerk, receipt of which is hereby acknowledged. All copies were mailed before the close of business on the date below to the persons listed.

  
Clerk

Jan. 4, 2002  
Date

Copies furnished to:

John Price, Hazardous Waste Management  
Doug Outlaw, Hazardous Waste Regulation  
Augusta Posner, OGC