

PART 1 - GENERAL

1.1 RELATED WORK DESCRIBED ELSEWHERE

- A. The provisions and intent of the Contract, including the General Conditions, Supplementary Conditions and General Requirements, apply to this work as if specified in this Section. Work related to this Section is described in:
 - 1. Section 02 80 00 "Facilities Remediation"
 - 2. Section 02 82 00 "Asbestos Abatement"
 - 3. Section 02 83 00 "Heavy Metals-Related Activities"
 - 4. Section 02 85 00 "Fugitive and Silica Dust Control Procedures"
 - 5. Section 02 86 00 "PCB-Containing Bulk Materials Removal"
 - 6. Section 02 87 00 "Water Loss Response"
 - 7. Section 02 88 00 "Biological Contaminants"
 - 8. JOC Abatement Design Scope for this Work Order

1.2 DESCRIPTION OF WORK

- A. This Section applies to all PCB-containing items and mercury-containing lights and lamps to be removed, handled, transported and recycled/disposed of during execution of the Work Order.
- B. The Contractor will be responsible for removing and containerizing the following items as specified in the Work Order and defined in Paragraph 1.4:
 - 1. PCB light ballasts – intact and leaking (if discovered)
 - 2. Magnetic ballasts with "No PCBs" labels – intact and leaking (if discovered)
 - 3. PCB-contaminated items
 - 4. State-regulated PCB waste
 - 5. TSCA-regulated PCB waste
 - 6. Mercury-containing lights and lamps
- C. The Contractor shall segregate and package all removed items, disposable personal protective equipment (PPE), cleaning rags, wash water, and any other materials contaminated with PCBs in accordance with Washington State Department of Ecology regulations.
- D. The Owner will be responsible for disposal of State-Regulated PCB Waste and TSCA-Regulated PCB Waste.
- E. Light fixtures that will be impacted by the Project shall be removed prior to demolition, and the ballasts shall be inspected for "No PCBs" labeling. Magnetic ballasts without "No PCBs" labels will be considered to be PCB ballasts. Handling, packaging and transport of PCB light ballasts must be in accordance with EPA PCB Regulations (40 CFR 761) and Washington State Department of Ecology Dangerous Waste Regulations (WAC 173-303). PCB light ballasts are considered TSCA-Regulated PCB Waste and will be disposed of by the Owner.
- F. A "No PCB" label on a magnetic means there are less than 50 parts per million (ppm) PCBs in the ballast. However, magnetic ballasts with "No PCBs" labels may still contain more than 2 ppm PCBs, making them State-Regulated PCB Waste. Magnetic ballasts with "No PCBs" labels may

also have the potential to contain Bis(2-ethylhexyl)phthalate (DEHP), a hazardous substance listed under the federal Resource Conservation and Recovery Act (RCRA). Handling, packaging and transport of magnetic light ballasts with “No PCBs” labels must be in accordance with EPA PCB Regulations (40 CFR 761) and Washington State Department of Ecology Dangerous Waste Regulations (WAC 173-303). Magnetic light ballasts with “No PCBs” labels are considered State-Regulated PCB Waste and will be disposed of by the Owner.

- G. Mercury-containing lights and lamps that will be impacted during execution of the Work Order will be removed intact and containerized by the Contractor. Intact lights and lamps will be managed and recycled in accordance with federal (40 CFR 273), state (WAC 173-303-573) regulations, and Owner protocols. Owner will provide containers.
- H. All mercury-containing lights and lamps shall be transported and recycled by the Owner at a universal waste recycling facility. The Contractor must label the containers.

1.3 CODES AND REGULATIONS

- A. The applicable sections, latest editions and addenda of the following government regulations, codes, industry standards and recommended practices, form a part of these Specifications.
 - 1. U.S. Environmental Protection Agency (EPA)
 - a. 40 CFR 761: PCB Manufacturing, Processing, Distribution in Commerce, and Use Prohibitions
 - b. 40 CFR 260 through 268: Resource Conservation and Recovery Act Regulations
 - c. 40 CFR 273: Standards for Universal Waste Management
 - 2. U.S. Department of Transportation (DOT)
 - a. 49 CFR 100 through 180: Hazardous Materials Transportation Act Regulations
 - 3. National Electric Code (NEC)
 - a. National Fire Protection Association (NFPA) 70
 - 4. National Electrical Manufacturers Association (NEMA)
 - a. Various Standards
 - 5. Washington State Department of Labor & Industries (L&I)
 - a. WAC 296-800: Safety and Health Core Rules
 - 6. Washington State Department of Ecology (Ecology)
 - a. WAC 173-303: Dangerous Waste Regulations
 - b. WAC 173-303-573: Universal Waste Regulations
 - c. WAC 173-350: Solid Waste Handling Standards
 - 7. All other applicable federal, state and local regulations
 - 8. All applicable industry standards
 - 9. All applicable Owner protocols
- B. The Contractor is cautioned that it is responsible for ascertaining the extent to which these regulations affect the operations and to comply therewith.

1.4 DEFINITIONS

- A. Whenever the terms below occur in this Section, they will have the meanings which follow:
1. Mercury-Containing Lights and Lamps: Fluorescent, compact fluorescent, neon and high intensity discharge (HID) lights and lamps, as defined by the Washington State Department of Ecology.
 2. No PCBs Label: A "No PCB" label means there are less than 50 ppm PCBs in the equipment/ material. However, the equipment/material may still be regulated by the Washington State Department of Ecology, which starts regulation of PCBs at 2 ppm.
 3. PCBs: Polychlorinated biphenyls
 4. PCB Light Ballasts: All magnetic light ballasts without "No PCBs" labels.
 5. PCB-Contaminated Items: Light fixture components that cannot be cleaned, personal protective equipment, cleaning materials and any other materials contaminated with PCBs at any concentration.
 6. State-Regulated PCB Waste: Magnetic ballasts or other materials that have been shown to contain 2 parts per million (2 ppm) or greater PCBs by laboratory analysis. State-regulated PCB waste also includes magnetic light ballasts with "No PCBs" labels. A "No PCB" label means there are less than 50 ppm PCBs, but the Washington State Department of Ecology starts regulation of PCBs at 2 ppm.
 7. TSCA: The federal Toxic Substances Control Act, which is enforced by the U.S. Environmental Protection Agency.
 8. TSCA-Regulated PCB Waste: All magnetic light ballasts without "No PCBs" labels other PCB-containing materials that have been shown to contain 50 parts per million (50 ppm) or greater PCBs by laboratory analysis.
 9. Universal Waste: Batteries, mercury-containing lamps (fluorescent, compact fluorescent, neon, HID), mercury-containing thermostats and mercury-containing equipment, as defined by the Washington State Department of Ecology.

1.5 SUBMITTALS

- A. Each Contractor performing work that will impact PCB-containing materials or mercury-containing lights and lamps shall provide a complete set of submittals for review by the Owner. The submittals may be submitted and reviewed electronically. Following receipt of review comments from the Owner, the Contractor shall submit additional versions of revised submittals to the Owner until each submittal is accepted by the Owner. No work that will impact PCB-containing materials or mercury-containing lights and lamps will be permitted prior to submittals being reviewed and accepted by the Owner.
- B. Mark each submittal with the following information for proper processing and recording of action taken:
1. Project name and location
 2. Title of submittal
 3. Name and address of Contractor
 4. Date
 5. Submittal Number

- C. Pre-Work Submittals: The Contractor shall submit a Work Plan, Health and Safety Plan and Waste Management and Disposal Plan to the Owner for review and acceptance as a prerequisite to issuance of the Notice to Proceed. The Plan must be suitably titled and indexed, providing detailed information concerning the following items, at a minimum, in the order listed below:
1. Work Plan: Provide a site specific Work Plan which demonstrates the methods by which removal and disposal of PCB-containing materials and mercury-containing lights and lamps will be performed. At a minimum, the Work Plan shall include:
 - a. Complete list of all materials and equipment proposed for use in the work. The list shall include such items as waste containers, protective clothing, breathing apparatus, sorbents and solvents. The Owner will provide waste containers for State-Regulated PCB Waste and TSCA-Regulated PCB Waste.
 - b. Listing of addresses for Hazardous Materials Cleanup Agencies, 24-hour manned telephone numbers and home telephone numbers for personnel working on the Project.
 - c. Method of removal, segregation, handling, containerization and labeling of all waste streams.
 - d. Method for coordinating pickup of State-Regulated PCB Waste and TSCA-Regulated PCB Waste by the Owner.
 - e. Statement of Qualifications. The Contractor shall submit the statement sufficiently far in advance of the performance of the work as to permit adequate time for the Owner to review and accept a firm to perform the work. The statement shall provide sufficient data and information to prove to the satisfaction of the Owner that the firm performing the work is fully experienced in the removal, handling, transportation and storage of PCB-containing and PCB-contaminated articles and items.
 2. Health and Safety Plan: Provide a site specific Health and Safety Plan, including a worker protection program, demonstrating the methods by which all applicable health and safety requirements will be met. The Health and Safety Plan shall be available at all times on the job site. At a minimum, the Health and Safety Plan shall include the following components:
 - a. Written Respiratory Protection Program per WAC 296-842
 - b. Personal Protective Equipment (PPE), including respiratory protection
 - c. Personal hygiene practices
 - d. Employee training
 - e. Emergency Plan
 - f. Site housekeeping procedures
 - g. Engineering controls/equipment
 - h. Decontamination of equipment and areas
 - i. Record keeping
 - j. Respirator Fit Test Records: Submit a written statement certifying that all Contractor employees with the potential to be exposed to PCBs or mercury will have respirator fit testing records showing passing results. The statement shall

include the Contractor's signature. For the purpose of maintaining worker information privacy, do not submit individual fit testing records with the pre-work submittal package.

- k. Medical Examinations: Submit a written statement certifying that all Contractor employees with the potential to be exposed to PCBs or mercury have received medical examinations as required by L&I, are medically fit to perform the work, and are medically fit to wear a respirator. The statement shall include the Contractor's signature. For the purpose of maintaining health information privacy, do not submit individual medical clearance certificates with the pre-work submittal package.
- l. Site inspection process/logs/documents
- m. Procedures for personnel and equipment cleanup/decontamination
- 3. Waste Management and Disposal Plan including:
 - a. Description of waste streams (i.e., liquid and solids, including PPE) which will be generated during the site work
 - b. Methods for managing/storing waste materials on-site
 - c. Waste minimization efforts
 - d. Method of coordinating with Owner for container selection and labeling
- D. Prior to commencement of work, the Contractor shall make copies of respirator fit test records showing passing results available for review by the Environmental Consultant or Owner at the job site.
- E. Final Submittals: The Contractor shall submit a report of completion to the Owner within two weeks of completion of the work. The report shall include the following:
 - 1. Certification that the work has been completed pursuant to this Specification Section.

1.6 COORDINATION

- A. Coordinate light ballast removal with a Certified Electrician for disconnect and lockout of electrical service.
- B. Coordinate all waste shipments with the Owner.

1.7 SAFETY PROCEDURES AND WORKER PROTECTION

- A. Work Area Protection and Marking: Prior to commencing any PCB- or mercury-related work activities, provide barricades and warning signs to clearly identify and effectively guard against unauthorized entry into the Work Area.
- B. Protective Clothing and Equipment
 - 1. At all times when PCB-containing materials in any volume are not sealed in drums, containers or electrical equipment, workers shall wear:
 - a. Disposable non-porous protective gloves
 - b. Disposable whole body protective clothing impermeable to PCBs
 - c. Respiratory protection (NIOSH/MSHA-approved) against organic vapors and particles (at least the level of particulate protection required at that stage of work for asbestos protection)

- d. Eye protection
- 2. At all times when mercury-containing lights and lamps are not sealed in drums, containers or electrical equipment, workers shall wear:
 - a. Disposable non-porous protective gloves
 - b. Disposable whole body protective clothing impermeable to PCBs
 - c. Eye protection
- C. The Contractor shall provide protective clothing, eye protection and respiratory protection as required for regulatory personnel monitoring work activities within the Work Area and for firefighters responding to incidents.
- D. Personnel Protection and Procedures: The PCB Work Area shall at no time be left unattended after procedures have been implemented and shall be attended until all ballasts and incidentals have been sealed in approved containers. During procedures and at all times when PCB ballasts or PCB-containing materials in any volume are not sealed in drums, containers or electrical equipment, all personnel entering the Work Area must don protective clothing and equipment listed herein. Upon exiting the Work Area, all disposable protective clothing shall be placed in open-top drums, sealed and removed from building property when other materials in same areas are removed. If there is not immediate transportation off-site, waste containers shall be stored in the Work Area or secured on-site until shipment. Coordinate all waste shipments with the Owner.

PART 2 - PRODUCTS

2.1 MATERIAL AND EQUIPMENT

- A. Storage Containers
 - 1. All removed equipment/material shall be stored in sealed waste containers in accordance with applicable regulations and the Owner's protocols. The Owner will provide waste containers for State-Regulated PCB Waste and TSCA-Regulated PCB Waste.
 - 2. All PCB solid wastes and items, including disposable items used in the course of the work (i.e., rags, sorbents and protective clothing), shall be stored in sealed waste containers in accordance with applicable regulations and the Owner's protocols.
- B. Solvents, Sorbents and Cleaners
 - 1. Solvents: Diesel fuel, deodorized kerosene or other solvents recognized for a high degree of PCB solubility
 - 2. Sorbents: Material recognized for a high degree of absorption
 - 3. Liquid Cleaners: Concentrated liquid alkaline base cleaner
 - 4. Unless there is a spill, the Work Plan shall be amended to limit and avoid this type of cleanup.

PART 3 - EXECUTION

3.1 SPILL CLEANUP, CONTAINERIZATION AND MARKING

- A. Cleanup of Work Area, PCB Articles and Spills
 - 1. Equipment and Tools: After the last ballast is removed from its fixture and removal of other PCB-containing materials (e.g., caulk) is complete, all tools and equipment used in

the work shall be decontaminated and properly stored for reuse. If building surfaces have been contaminated, PCB sampling to identify the extent of contamination will be conducted by the Owner.

- a. Where work surfaces have contacted PCB fluids, they shall be scraped clean, flushed with solvent, wiped clean and all debris placed in open type drums.
 - b. All tools that may have come in contact with PCBs at any concentration shall be thoroughly flushed with solvent, wiped clean and properly stored.
2. PCB Articles (Electrical Equipment): All exterior surfaces of electrical equipment to be removed that may have come in contact with PCBs or PCB-contaminated oils or fluids either during the course of work activities or due to past leaks, shall be thoroughly cleaned with solvent and wiped clean.
 3. Slabs, Floors and Walls: All surfaces which have come in contact with PCBs or PCB mixtures in the course of the work, or as a result of past leaks, shall be thoroughly cleaned using a combination of sorbent, solvent and cleaners.
 4. All contaminated fixtures will be containerized by the Contractor and shipped off site by the Owner.

B. Containerization and Marking

1. All liquids generated as a result of work activities and cleanup operations shall be placed in closed top drums and sealed.
2. All solids such as sorbents, rags, disposable protective clothing and other incidentals shall be placed in open top drums and sealed.
3. The Owner will provide waste containers and labels for State-Regulated PCB Waste and TSCA-Regulated PCB Waste. Waste streams shall be properly segregated in accordance with the Work Plan; Waste Management Plan; federal, state and local regulations; and Owner's protocols. Drums/ containers shall be packed in accordance with the Work Plan; Waste Management Plan; federal, state and local regulations; and Owner's protocols.
4. All PCB articles (e.g., light ballasts and other equipment to be removed) shall have a record of such action sealed in a weatherproof envelope displayed on the unit. Label record must include the type of action taken, date of action and the name of the technician in charge. A duplication of this label information shall be furnished to the Owner.

3.2 HANDLING AND TRANSPORTATION TO OFF-SITE RECYCLING/DISPOSAL FACILITIES

A. Handling

1. The Owner will coordinate pick-up, transportation and recycling/disposal of State-Regulated PCB Waste and TSCA-Regulated PCB Waste. Owner coordination includes obtaining a TSCA EPA Identification number, completing and signing manifests, inspecting packaging, and preparing packaging for shipment. The Contractor shall make the waste available for inspection by the Owner so that the Owner can check the amount of waste (e.g., number of bags or drums, or volume of waste) and its condition (e.g., whether the bags or drums appear to be sealed and not leaking).
2. The Contractor will coordinate pick-up, transportation and recycling/disposal of mercury-containing lights and lamps. Coordination includes completing and signing manifests, inspecting packaging, and preparing packaging for shipment. The Contractor shall make

the waste available for inspection by the Owner so that the Owner can check the amount of waste (e.g., number of bags or drums, or volume of waste) and its condition (e.g., whether the bags or drums appear to be sealed and not leaking).

B. Transportation to Recycling/Disposal Facility

1. No waste shall leave the site without the Owner's authorization.
2. The Contractor is responsible for packing, labeling, and identifying all Owner-provided drums/containers.
3. The Contractor will also coordinate all waste containers transport and disposal with the Owner.
4. The Owner will manage all waste shipments, off-site disposal and required documentation for PCB waste and mercury-containing lights and lamps.

END OF SECTION