

# Step-by-Step Decommissioning Process for Electrical Resistance and Gas Water Heating Systems

## I. Preparation and Initial Assessment

### Compliance Verification:

- **Confirm Regulations:** Ensure all decommissioning activities comply with the Environmental Protection Act 2017, Environment Protection Regulations 2021, and Victorian Energy Upgrades (VEU) program guidelines.
- **Knowledge Update:** Stay informed about any updates or amendments to relevant laws and guidelines.
- **System Evaluation:**
- **Identify System Type:** Determine whether the system is an electrical resistance or gas water heater.
- **Connection Assessment:** Identify all connections to electrical, gas, and water supplies.
- **Hazard Identification:** Check for potential hazards like asbestos or other hazardous materials.

## 2. Disconnection and Safety Measures

### Electrical Disconnection (Electrical Resistance Systems):

- **Power Isolation:** Turn off the electrical supply at the main switchboard.
- **Safe Disconnection:** Disconnect wiring according to electrical safety standards.
- **Safety Verification:** Use testing equipment to ensure no live currents remain.

### Gas Disconnection (Gas Systems 3C):

- **Gas Supply Shutdown:** Turn off the gas supply at the meter or main valve.
- **Safe Disconnection:** Disconnect gas lines using appropriate tools and methods.
- **Gastight Sealing:** Seal open gas lines with certified gastight fittings.
- **Water Disconnection (Both Systems):**
- **Water Supply Isolation:** Shut off the water supply to the heater.
- **Drainage:** Drain water from the system safely to prevent spillage.
- **Watertight Sealing:** Seal inlet and outlet connections to prevent leaks.
- **Additional Safety Measures:**
- **Solid Fuel Appliance Attachment:** If connected to a solid fuel appliance, remove the water jacket or secure it safely.
- **Asbestos Handling:** If asbestos is present, follow strict handling procedures per regulations.

## 3. Assessing Safe and Practical Removal

### Feasibility Evaluation:

- **Structural Integrity:** Assess if removal could damage building structures.
- **Accessibility:** Determine if the unit is accessible without undue risk.
- **Safety Risks:** Identify any safety risks to workers or residents.
- **Decision Making:**

### Safe and Practical Removal:

- **Proceed with Removal:** If safe, remove the unit following best practices.

### Not Safe or Practical:

- **Consumer Notification:** Inform the consumer about the inability to remove the unit.

- **Consent and Agreement:** Obtain consent to proceed with the upgrade without removal.

#### 4. Rendering Product Unusable

##### Disabling the Unit:

- **Component Removal:**
- **Heating Elements/Burners:** Remove or disable critical components.

##### Physical Damage:

- **Tank Modification:** Drill holes or deform the tank to prevent reuse.

##### Verification:

- **Irreversibility Check:** Ensure the unit cannot be reconnected or repaired.

##### Final Measures:

- **Documentation:** Record all actions taken to render the unit unusable.
- **Safety Confirmation:** Verify that no hazards remain post-disabling.

#### 5. Removal of Decommissioned Product and Debris

##### Waste Collection:

- **Debris Removal:** Collect all waste materials from the decommissioning site.
- **Site Cleanliness:** Leave the premises clean and free of hazards.

##### Consumer Communication:

- **Scope Explanation:** Clearly explain what will be removed and any potential impacts and why this is required
- **Repair Needs:** Inform about any necessary repairs resulting from removal.

#### 6. Waste Storage and Management

##### Regulatory Compliance:

- **Waste Classification:** Classify waste according to Environment Protection Regulations 2021 (e.g., e-waste code T300).
- **Hazard Identification:** Identify any hazardous components requiring special handling.

##### Safe Storage Practices:

- **Containment:** Store waste in appropriate containers to prevent leakage.
- **Labelling:** Clearly label all waste with proper classification and hazard warnings.
- **Secure Storage:** Keep waste in a secure location to prevent unauthorized access.

#### 7. Transport of Decommissioned Products

##### Verified Transporters:

- **Selection:** Use only verified and contracted waste transporters for specific waste types.
- **Information Provision:** Supply all necessary waste details to the transporter.

##### Transportation Protocols:

- **Secure Loading:** Ensure waste is securely loaded to prevent spills.
- **Documentation:** Obtain and provide all required transport documentation.

#### 8. Disposal at Authorized Facilities

##### Facility Verification:

- **Authorized Acceptance:** Confirm the facility is licensed to accept and process the waste type.
- **E-Waste Compliance:** Adhere to the e-waste landfill ban by using specialized facilities.

#### **Disposal Process:**

- **Material Recovery:** Prefer facilities that recycle or recover materials.
- **Hazardous Waste Handling:** Ensure proper handling of any hazardous components.

### **9. Record Keeping and Compliance Documentation**

#### **Detailed Documentation:**

- **Decommissioning Records:** Keep records of all steps taken, including dates and personnel involved.
- **Waste Tracking:** Maintain records of waste types, quantities, and disposal methods.

#### **Regulatory Compliance:**

- **Waste Receipts:** Obtain receipts from waste transporters and disposal facilities.
- **Regulatory Declarations:** Complete any required declarations confirming compliance.

#### **Retention:**

- **Record Storage:** Securely store records for the period specified by regulations.
- **Accessibility:** Ensure records are available for inspection by authorities if needed.

### **Conducting Storage, Collection, Transport, and Deposit in Accordance with the Environmental Protection Act 2017**

The Environmental Protection Act 2017 mandates responsible handling of waste to minimize environmental impact. Here's how each step complies:

#### **Waste Classification and Storage:**

- **Environmental Protection:** Classifying waste ensures it is handled appropriately, preventing pollution.
- **Secure Storage:** Proper containment prevents leaks and contamination of soil and waterways.

#### **Collection and Transport:**

- **Licensed Operators:** Using EPA-licensed transporters ensures waste is handled by trained professionals.
- **Safe Transport:** Secure loading and proper documentation prevent accidents and illegal dumping.

#### **Disposal and Deposit:**

- **Authorized Facilities:** Disposal at licensed facilities ensures waste is treated or recycled responsibly.
- **E-Waste Regulations:** Complying with the e-waste landfill ban reduces environmental harm from hazardous substances.

#### **Record Keeping:**

- **Traceability:** Detailed records provide accountability and trace the waste's journey from origin to final disposal.
- **Regulatory Compliance:** Documentation demonstrates adherence to laws and can be audited by authorities.

#### **Documents to be used for reference and guidance**

- 1) Final - Water Heating and Space Heating Cooling Activity Guide - V. 3.9- 20240813 .pdf
- 2) Figure 1: Decommissioning guidance flowchart for water heating activities

- 3) *Environmental Protection Act 2017*
- 4) *victorian-energy-upgrades-specifications-2018-version-17.0.pdf*

Figure 1: Decommissioning guidance flowchart for water heating activities

