ConocoPhillips Alaska, Inc.	**CONOCOPHILLIPS ALASKA** **Health Safety and Environmental** **Used Aerosol Can and Compressed Gas Cylinder Management** **Standard Operating Procedure**		Issued: March 29, 2011 Revised: 03/17/2025 Reviewed: 03/17/2025
Retention Code **CG01**	**Procedure Owner/Author** **Operations Environmental Coordinator**	**SOP Number:** **W-003**	**Review Frequency:** **3 years**

Used Aerosol Can and Compressed Gas Cylinder Management

PURPOSE

The purpose of this Standard Operating Procedure (SOP) is to ensure that appropriate procedures are in place detailing how to safely handle, puncture, drain and recycle used aerosol cans and compressed gas cylinders (CGCs) and dispose of the fluids purged from them, in accordance with current federal, state, and local regulations and ConocoPhillips Alaska (COPA) policies.

Halon equipment and cylinders recovery and recycling are covered under 40 CFR 82 and are not addressed in this procedure. Refer to Halon Shop fire technician procedures for details. Note that halon releases are covered in SOP AI-006.

PROCEDURE

Currently, Western North Slope (WNS) manages aerosol cans as hazardous waste. Waste aerosol cans and CGCs are considered D003 Reactive Hazardous Waste until pressure is equal outside and inside the containers. The contents of the aerosol cans and CGC's may also be hazardous waste due to ignitability (D001), exhibit other characteristics, or may be F-listed or U-listed hazardous waste.

Waste aerosol cans may also be managed as Universal Waste. Kuparuk is currently managing waste aerosol cans as Universal Waste. The universal waste rules must be followed when managing cans as universal waste.

As part of a recycling process, aerosol cans are punctured with an approved device specifically designed to safely puncture aerosol cans and to effectively contain the residual contents and any air emissions thereof through a filter, **in locations approved by Environmental only.**

Aerosol cans and CGC are punctured in a manner to ensure the safety of the handler. The puncturing device, equipment, and fluids collection drums shall be located on a solid, flat surface in a well-ventilated area. Operations and Maintenance shall follow all manufacturer instructions of the puncturing device to safely puncture and drain the punctured aerosol cans. The empty, punctured cans and cylinders are then recycled under 40 CFR 261.4 (a)(13) as scrap metal.

Safety is additionally ensured by performing occasional exposure assessments, by following administrative and engineering controls as indicated in the SOP, and by wearing proper PPE. The most recent exposure report in Kuparuk was performed on April 30, 2019, and reported June 13, 2019, and is included as an addendum to this SOP.

Spills and leaks are reported in accordance with SOP S-004 and cleaned up promptly in accordance with the plans, policies, and procedures relevant to the spilled material as soon as possible. Spill clean-up kits are located near the waste collection and puncturing locations.

Unless destined for reuse or taken directly to the puncturing device, waste aerosol cans and CGCs must be placed in designated collection containers, located in Satellite Accumulation Area's (SAA's) or Universal Waste Accumulation Areas (UAA)'s where allowed. Large CGCs can normally be sent back to the manufacturer for continued use or repair. When containers become full, aerosol cans and CGC's may be transported to the puncturing locations in the waste collection containers, or in plastic bags as long as the plastic bags are correctly labeled and taped closed to prevent leakage. It is preferred that aerosol cans are delivered in clear plastic bags, and Environmental will encourage SAA/UAA owners to use clear plastic bags instead of closed drums when self-transporting used aerosol cans and CGCs directly to the on-site puncturing device location.

Approved puncturing personnel attach a regulator to CGCs to verify that they are empty before puncturing. If they are not empty, the contents of the CGC's can typically be released to the atmosphere in a designated Central Accumulation Area (CAA) in an open area outside with good ventilation, if the contents are reviewed by Environmental and approved for release. The CGC's must be vented in a CAA because emptying CGC's is considered treatment of hazardous waste (see 51 FR 10168). In Kuparuk, the CAA extends to an area outside of the CD Warehouse. The CGCs can be placed into a vice to be held for safe puncturing, or to have the valve removed prior to being placed in the recycle bin. The puncturing tool filter must be replaced before breakthrough, to protect employees from VOC exposure.

Aerosol can puncturing will occur in locations approved by Environmental only, using an approved puncturing device that traps and drains residual product into a liquids collection drum. The drum must be electrically bonded, previously unused and in good condition, have a vent, a secure lid, and be labeled at a minimum as "Hazardous Waste", with a description of the contents (e.g., Aerosol Fluids), and with the hazardous properties of the contents (e.g., "toxic and ignitable"). This drum shall be stored as a new SAA at or near the puncturing device. ACS Safety Group has indicated that their personnel performing the puncturing will wear a half or full-face

respirator with Defender cartridge during the mobilization and demobilization steps of puncturing, to include opening of the containers to allow them to vent. The Kuparuk D Warehouse has a ventilation system, but additional ventilation will be added by opening the man-doors on either side of the D Warehouse as necessary to improve cross-ventilation. At Alpine the doors to J6 will be opened to improve cross-ventilation as well.

To safely puncture and drain aerosol cans, refer to the owner's manual and instructions to become familiar with the proper assembly of the aerosol can puncturing device and its proper operation and maintenance to prevent injury, fires, and releases of hazardous waste constituents. All sources of ignition must be kept a safe distance away.

Prior to puncturing, attention must be given to segregate any incompatible materials away from the work area and the waste containers of aerosol cans about to be punctured. Remove and place at a safe distance: forklift trucks, air compressors, motor control equipment, any combustible materials including brooms, cardboard boxes, notebooks, garbage cans , any electrical equipment including cell phones, computers, radios, tape players, acids, bases, oxidizers, and batteries.

Do not puncture aerosol cans of corrosive products—specific examples: Easy-Off Oven Cleaner Heavy Duty, Easy-Off Fume Free Oven Cleaner, Great Value Oven Cleaner Heavy Duty, or Mr Muscle Oven Cleaner. These corrosives must be packaged into their own separate container.

Do not puncture Lubriplate Gear Shield Extra Heavy Lubricant, Mac's Even Bead, Permatex The Right Stuff, Handi Foam Polyurethane Foam Sealant, or 3M Super 77 Multipurpose Adhesive as these specific products were identified during the New Chemical Evaluation process as having the potential to react with volatile organic compounds from the more common aerosol cans to produce toxic or explosive gases.

TEEMARK MFG AEROSOL CAN CRUSHER OPERATION:

Do not operate the crusher unless the blower is ON. Always start the blower before the crusher—B comes before C. To prevent the buildup of hazardous vapors it is important that the blower be on and running before and whenever the crusher is running or there is liquid aerosol content present. Start the blower by pulling out the pushbutton labeled "blower." Start the crusher motor by pulling out the pushbutton labeled "crusher."

Allow the crusher to run idle for 10 minutes for initial warmup to allow the hydraulic oil to reach operating temperature.

Operate the crusher with the carbon filtration package attached. The 45-pound drum contains 145 pounds of carbon and a saturation indicator. The saturation indicator provides a positive indication if the carbon has reached its saturation point. Make sure both the 4-inch (or 5 inch) diameter inlet duct and 4-inch (or 5 inch) diameter exhaust duct are securely attached. When the ambient temperature is below freezing, make sure the vent outside the building is not blocked with ice.

The blower must remain on when liquid content or vapors may be present.

Do not crush loads off center, as it could put undue shear stress on the clevis pin, O-ring, and coupling hose. The hydraulic ram and crusher head are designed to work straight up and down.

The crusher will not operate with the door open. Periodically test the safety interlock function by opening the door (without an aerosol can in the chamber) to verify it stops all functions during the crushing process.

Keep your hands and body clear of the chamber door during the crushing operation.

Do not operate without guards in place.

Pull both handles forward to start the automatic cycle.

The puncturing and crushing cycle can be manually overridden at any time by ramming the LEFT handle controls DOWN and the RIGHT handle controls UP. ↓↑

Before puncturing the first aerosol can, make sure the collection drum is properly placed underneath the puncturing device, the drum bung or head is open, and connecting hose or tubing is sufficiently secured to direct the aerosol liquids into the collection drum.

Clean the machine after each use to prevent the buildup of dried paint or debris.

For maintenance, change the hydraulic oil filter every 500 hours. Change the hydraulic oil every 5,000 hours (or every 5 years of operation, whichever comes first). Change the air particulate filter when the filter gets dirty (use your best judgement,).

As each accumulation drum becomes full, before starting a new drum, the drum will be labeled with the accumulation start date and manifested to the field's hazardous waste central accumulation area (CAA) using an internal waste manifest. The SAA volume shall not be allowed to exceed 55 gallons.

All punctured and drained aerosol cans will be placed into a metal recycle bin and recycled as scrap metal.

If any aerosol cans cannot be punctured and drained (e.g., expanding foam aerosols), they will be collected separately in a drum in the CAA, manifested to the CAA for tracking purposes, and will be sent out with the next hazardous waste shipment. Any aerosol cans containing products banned from use in Kuparuk or WNS (such as chlorinated solvents), or otherwise determined by ACS or COPA to present an unknown exposure risk, will also be collected separately in a drum in the CAA and will be sent out with the next hazardous waste shipment. This drum will need to be properly labeled and assigned an Accumulation Start Date of the date the aerosol cans were originally delivered to the CD Warehouse and leave Kuparuk within the 90-day accumulation time limit.

RECORD KEEPING

A copy of the manufacturer's specification and instructions shall be maintained on-site within 25 feet of the device to be immediately available to the operator of the device. Additional copies may be kept in offices or record systems.

An internal waste manifest must accompany each load of waste delivered to the CAA, including unpunctured aerosol cans and fluids from the puncturing process.

A copy of each internal manifest is sent to the Field Environmental Coordinator (FEC), to be kept in the central files in accordance with CPA's Alaska Waste Management Plan.

The FEC, Waste Coordinator, or Hazardous Waste Technician will enter the data from manifests into a Hazardous Waste Tracking Spread Sheet. At Alpine, the weight of the cans is subtracted from the Monthly can-liquid total when the scrap metal is reclaimed so just the weight of the liquid is included in the yearly running totals to better track the total quantity of hazardous waste being accumulated on-site at any one time.

TRAINING

Personnel generating waste and completing a waste manifest must be trained. COPA Online SAA training is required for those responsible for managing SAAs or transferring waste to the CAA. Training records are kept by the contractors, though the FEC maintains a tracking spreadsheet.

Personnel performing the puncturing of the cans shall have specific on-the-job training on safe operation and maintenance of the puncturing device/equipment.

ANALYTICAL DATA

The FEC maintains sampling records, custody forms, analytical data, SDSs (if applicable), and other related documents for aerosol cans and the liquid portions shipped out as hazardous waste, as necessary.

Call Kuparuk FEC at x7212 or Alpine FEC at x4200
if you have any questions.