About the Authors

J. Craig Erickson is a project manager for Management and Engineering Services, L.L.C. (MES). He received his bachelor's degree in aeronautical engineering from Wichita State University in 1969 and was a staff member of New Mexico State University for 18 years. Craig was instrumental in establishing a new business in progressive environmental management in the late 1980s and now owns that business, MES. He has worked with the USDA Forest Service to develop environmental management reference materials and conduct field surveys at forests, ranger districts, and work centers in the Rocky Mountain Region.

William H. McMullen is senior engineer and project manager for Management and Engineering Services, L.L.C. He received his bachelor's degree in engineering from the U.S. Air Force Academy in 1972 and has spent more than 20 years in environmental project activities and senior management of a midsized business supporting the nuclear industry and U.S. Department of Energy. Since joining MES in 1999, Bill has supported field surveys within the Rocky Mountain Region of the USDA Forest Service. He continues to support MES in developing computer-based tools for green purchasing and compliance auditing.

Wes Throop is a project engineer at the Missoula Technology and Development Center (MTDC). He received his bachelor's degree in mechanical engineering from the University of Idaho in 1983. Wes has worked as a smokechaser, hotshot, and engine foreman for the USDA Forest Service and as a civilian mechanical engineer for the U.S. Department of the Navy. Before coming to MTDC in 1999, he worked as a mechanical engineer at the test reactor area of the Idaho National Engineering and Environmental Laboratory near Idaho Falls, ID.

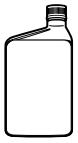
Appendix—Checklists and Recordkeeping Forms

We have prepared checklists and recordkeeping forms for five different types of hazardous materials: used oil, used antifreeze, Ni-Cd batteries, aerosol cans, and mercury (old fluorescent) lamps.

The checklists should serve as a summary of the important items to remember if you are responsible for these materials. The recordkeeping forms should help you keep records that show you have followed the required procedures.

Feel free to modify these checklists or forms in any way that is useful to you. We provide them as a convenience.

Used Oil Management Checklist

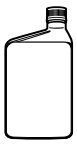


USDA Forest Service Unit _____ Location _____

- ❑ New, unused lubricants (such as oils) are *not* a hazardous waste. Used oils *may* be a hazardous waste if they have picked up heavy metals or similar constituents through use. Used oils, if you assume they are hazardous, and if treated as outlined below, do *not* count towards your unit's hazardous waste generator size. If your used oil is contaminated beyond certain levels, it must be managed as a hazardous waste.
- ❑ Centralize your used oil collection. Try to limit used oil to one location on your unit.
- ❑ Mark all containers with the words, *USED OIL*, and keep all containers closed at all times except when adding or removing used oil. Secondary containment is recommended. Do not use glass containers.
- ❑ If possible, use a lock with restricted access to ensure that no one adds anything that could contaminate your used oil and make it a hazardous waste. Make sure that all used oil added to your collection container has not been contaminated.
- ❑ Use containers sized for your operation (5-, 25-, or 30-gallon drums). Do not use large collection tanks unless there is a specific need. Using small containers will minimize the volume of used oil at risk of becoming contaminated.
- ❑ Accepting minor amounts of used oil from USDA Forest Service employees whose residences are on the forest or unit is acceptable. Count this oil as generated by your unit.
- ❑ Accepting used oil from another forest or unit usually is not allowed by most States without a special permit. Except in special circumstances, do not accept another generator's used oil. If you do, be sure to keep a record of dates, volumes, and sources on the Used Oil Recycling Record.
- ❑ You can transport *no more* than 55 gallons of used oil to a local recycling center at a time.
- ❑ If you have a transporter pick up your used oil, be sure to record the transporter's name and EPA identification number, and the destination facility name and EPA identification number. In some States, transporters and recycling facilities require special permits, so record the permit information as well. Be sure to keep a record of dates, volumes, and sources on the Used Oil Recycling Record.
- ❑ If you choose *not* to manage your used oil as described above, or if your used oil is contaminated, you must relocate it to your hazardous waste accumulation area. Follow all hazardous waste management, transport, and disposal requirements.

Any questions? Contact your forest or area hazardous waste coordinator for assistance.

Used Oil Recycling Record[1]



USDA Forest Service Unit _____ Location _____

Date	Volume of Used Oil	Where Was It Recycled? (Name/Location, EPA ID)[2][3]

Notes

1. Keep this information on file with your area environmental recordkeeping custodian.
2. If you had a transporter pick up your used oil, note the transporter's name and EPA identification number, the destination of the used oil, and the destination facility's EPA identification number.
3. If you take your used oil to a recycling center, remember, you can transport *no more* than 55 gallons at one time. Record where you took the used oil for recycling.

Any questions? Contact your forest or area hazardous waste coordinator for assistance.

Used Antifreeze Management Checklist

USDA Forest Service Unit _____ Location _____

- ❑ New, unused antifreeze is *not* a hazardous waste. Antifreeze *may* be a hazardous waste if it has picked up heavy metals or similar constituents through use. Used antifreeze, if you assume it is hazardous, and if it is treated as outlined below, does not count towards your unit's hazardous waste generator size.
- ❑ If you generate a considerable volume of used antifreeze from vehicles, consider using an antifreeze recycler. These units remove antifreeze from a vehicle, clean and restore it to proper specifications, and return it to the vehicle. If you use an antifreeze recycler, you do *not* have to decide if your used antifreeze is hazardous and it does *not* count towards your unit's hazardous waste generator size.
- ❑ If you do not recycle your used antifreeze onsite, you should collect it in sound and tightly closed containers; secondary containment is recommended.
- ❑ Mark all containers with the words, *USED ANTIFREEZE*, and keep containers closed at all times except when adding or removing used antifreeze. Do not use glass containers.
- ❑ Accepting minor amounts of used antifreeze from USDA Forest Service employees whose residences are on the forest or unit is acceptable; count this antifreeze as generated by your unit.
- ❑ If you have a transporter pick up your used antifreeze for recycling, be sure to record the transporter's name and EPA identification number, the destination facility's name, and its EPA identification number. Be sure to keep a record of dates, volumes, and sources on the Used Antifreeze Recycling Record.
- ❑ If you choose *not* to manage your used antifreeze as described above, you must relocate it to your hazardous waste accumulation area. Follow all hazardous waste management, transport, and disposal requirements.

Any questions? Contact your forest or area hazardous waste coordinator for assistance.

Used Antifreeze Recycling Record[1]

USDA Forest Service Unit _____ Location _____

Date	Volume of Antifreeze	Where Was It Recycled? (Name/Location, EPA ID)[2][3]

Notes

1. Keep this information on file with your area environmental recordkeeping custodian.
2. If you had a transporter pick up your used antifreeze, note the transporter's name and EPA identification number, the destination of the used antifreeze, and the destination facility's EPA identification number.
3. If you take your used antifreeze to a recycling center, record the destination.

Any questions? Contact your forest or area hazardous waste coordinator for assistance.

Ni-Cd Battery Management Checklist

USDA Forest Service Unit _____ Location _____

- ❑ Alkaline batteries can be discarded in the trash. Most lithium batteries used at USDA Forest Service units also can be discarded in the trash, but first check the battery's Material Safety Data Sheet. All forms of spent nickel-cadmium (Ni-Cd) batteries *must* be considered a hazardous waste and managed separately.

- ❑ Centralize your spent Ni-Cd battery collection in managed areas. Try to limit the collection areas to one location on your unit.

- ❑ Mark all collection containers with the words, *SPENT NI-CD BATTERIES*. You can use any form of container that protects the batteries from damage and contains any leakage.

- ❑ Spent Ni-Cd batteries can be considered a *Universal Waste*. If you manage your spent Ni-Cd batteries as a universal waste, you do *not* have to count them against your unit's hazardous waste generator size. Consider using the *Waste Ni-Cd Battery Recycling Record* for proper recordkeeping.

- ❑ You can transport, ship, or make arrangements for pickup of your spent Ni-Cd batteries. They must be transported to an authorized Ni-Cd battery recycler if you are managing them as a universal waste.

- ❑ If you choose *not* to manage your spent Ni-Cd batteries as a universal waste, you *must* locate your spent Ni-Cd battery collection area in your hazardous waste accumulation area. Follow all hazardous waste management, transport, and disposal requirements.

Any questions? Contact your forest or area hazardous waste coordinator for assistance.

Waste Ni-Cd Battery Recycling Record[1]

USDA Forest Service Unit _____ Location _____

Date	Volume	Where Was It Recycled? (Name/Location, EPA ID)[2][3]

Notes

1. Keep this information on file with your area environmental recordkeeping custodian.
2. If you had a transporter pick up your waste Ni-Cd batteries, note the transporter's name and EPA identification number, the destination of the batteries, and the destination facility's EPA identification number.
3. If you take your waste Ni-Cd batteries to an authorized recycling center, record the destination.

Any questions? Contact your forest or area hazardous waste coordinator for assistance.

Aerosol Cans Management Checklist

USDA Forest Service Unit _____ Location _____

- ❑ Aerosol cans that do *not* contain hazardous substances (such as pesticides or flammable materials) *and* are at atmospheric pressure (no pressure left in the can), can be discarded in the trash. Otherwise, they are *hazardous* and must be managed as described below.
- ❑ Centralize your *hazardous* waste aerosol cans in one location on your unit. Be sure to keep incompatible products properly segregated.
- ❑ Mark all *hazardous* spent aerosol can collection areas as *SPENT AEROSOLS*. Keep all containers closed at all times except when adding or removing aerosol cans. Keep the collection container in an area for flammable materials if the content of the aerosol is flammable, or in area for pesticides if the can contains pesticides.
- ❑ If you have a *proper* aerosol can puncturer, puncture the can and collect the hazardous product. Be sure to collect and manage different product types separately.
- ❑ Dry aerosol cans that have been properly punctured and drained can be discarded in the trash. HOWEVER, if the product's Material Safety Data Sheet prescribes a different disposal method (as would be required for pesticides), follow those directions.
- ❑ Include the drained hazardous contents of aerosol cans in your hazardous waste accumulation area until it is time for proper disposal. Follow all hazardous waste management, transport, and disposal requirements.
- ❑ If you choose *not* to puncture aerosol cans that are pressurized or that contain hazardous materials, you can locate them in your hazardous waste accumulation area. Follow all hazardous waste management, transport, and disposal requirements.
- ❑ In some States (Colorado, for instance), spent aerosol cans that are pressurized or that contain hazardous materials can be considered a *Universal Waste*. If this is the case for your State, and you choose *not* to puncture your spent cans, you can collect them in a collection unit marked *SPENT AEROSOL CANS* in a proper storage location before sending them to an authorized aerosol can recycler. In this case, you do *not* have to count the waste hazardous materials content against your hazardous waste generator size. Consider using the *Waste Aerosol Can Recycling Record* for proper recordkeeping.

Any questions? Contact your forest or area hazardous waste coordinator for assistance.

Waste Aerosol Can Recycling Record[1]

USDA Forest Service Unit _____ Location _____

Date	Volume	Where Was It Recycled? (Name / Location, EPA ID)[2][3]

Notes

1. Keep this information on file with your area environmental recordkeeping custodian.
2. If you had a transporter pick up your waste aerosol cans, note the transporter's name and EPA identification number, the destination of the cans, and the destination facility's EPA identification number.
3. If you take your waste aerosol cans to an authorized recycling center, record the destination.

Any questions? Contact your forest or area hazardous waste coordinator for assistance.

Mercury Lamp Management Checklist

USDA Forest Service Unit _____ Location _____

- ❑ Lamps that do not contain mercury can be discarded in the trash. Traditional fluorescent lamps contain mercury and *must* be considered mercury-containing lamps. Newer fluorescent lamps that are produced as *low-mercury* lamps can be discarded in the trash. Check the lamp's Material Safety Data Sheet.

- ❑ Centralize your collection of spent lamps that contain mercury to managed areas. Try to limit the collection areas to one location on your unit.

- ❑ Mark all collection containers with the words, *SPENT MERCURY LAMPS*. You can use the original lamp's packaging if you wish, but be sure to use a container that prevents the lamps from being broken.

- ❑ Do not crush lamps that contain mercury at your unit because the lamps contain mercury vapor and mercury solids.

- ❑ Spent lamps that contain mercury can be considered a *Universal Waste*. If you manage your spent lamps that contain mercury as a universal waste, you do *not* have to count them against your unit's hazardous waste generator size. Consider using the *Waste Mercury Lamp Recycling Record* for proper recordkeeping.

- ❑ You can transport, ship, or make arrangements for pickup of your spent lamps that contain mercury. If you are managing them as a universal waste, they must be transported to an authorized recycler for lamps that contain mercury.

- ❑ If you choose *not* to manage your spent lamps that contain mercury as a universal waste, you *must* put your collection area for spent lamps that contain mercury in your hazardous waste accumulation area. Follow all hazardous waste management, transport, and disposal requirements.

Any questions? Contact your forest or area hazardous waste coordinator for assistance.

Waste Mercury Lamp Recycling Record[1]

USDA Forest Service Unit _____ Location _____

Date	Volume	Where Was It Recycled? (Name/Location, EPA ID)[2][3]

Notes

1. Keep this information on file with your area environmental recordkeeping custodian.
2. If you had a transporter pick up your spent lamps that contain mercury, note the transporter's name and EPA identification number, the destination of the lamps, and the destination facility's EPA identification number.
3. If you take your spent lamps that contain mercury to an authorized recycling center, record the destination.

Any questions? Contact your forest or area hazardous waste coordinator for assistance.