



Hazardous Materials and Waste Management Division

Annual Report

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Director of
the Hazardous
Materials and Waste
Management Division

2020 was an unprecedented year that tested each and every Coloradan. As the division director of the Hazardous Materials and Waste Management Division (HMWMD), I am pleased to share this annual report. It demonstrates our division's flexibility and commitment to upholding the community's health and safety as we confronted the COVID-19 pandemic head on. Specifically, it features a variety of accomplishments including the Environmental Justice Initiative, treating mine impacted water, and low-income radon mitigation assistance.

Our division mission, "to improve the quality of the environment and public health for the citizens of Colorado by continuously improving our efforts to ensure proper management of hazardous materials and waste," fuels our work each and every day in the HMWMD.

Below you will find division highlights from state fiscal year 2019-2020, followed by relevant statistics for each program within the division. These statistics are a reflection of the continued innovation, dedication, and development of our staff, stakeholders, and partners as we work towards safeguarding public health and the environment for generations to come.

Environmental Justice Initiative

The division is committed to systematically addressing health equity and environmental justice through the administration of its programs and meaningful decisions impacting the environment are made with the participation of affected citizens. The division partnered with other Environmental Program divisions to create the Commerce City/North Denver website. This website looks at some of the connections between the environment and health in Commerce City - North Denver neighborhoods. We hope it is a starting point for community conversations and decision-making. The website is: <https://cdphe.colorado.gov/cc-nd>

Waste tire program update

There are a series of notable updates for the Waste Tire Program in 2020. First, the End Users Fund started issuing rebates for the fourth quarter of 2020. This program provides rebates to in-state end users of tire-derived products and retailers that sell tire-derived products. Another notable program, the Waste Tire Market Development Grant Program started in 2020. This program provides funding for research and development and pilot projects to help expand the use and markets for tire-derived products.

The Waste Tire Inspection Program continued to provide funding for local partners to conduct inspections of waste tire facilities.

Additionally, in 2020, ten illegal waste tire sites were abated, removing a total of 23,340 waste tires. The waste tire program continues to move forward on several other properties to cleanup in 2021 and beyond.

Hazardous waste federal rule changes

In 2020, Colorado adopted rules that correspond to the federal Pharmaceutical Rule. The EPA promoted the rule to create new management standards for hazardous waste pharmaceuticals in lieu of the hazardous waste generator regulations. The rule prohibits disposing of hazardous waste pharmaceuticals down the drain and eliminates the dual regulation of RCRA hazardous waste pharmaceuticals that are also Drug Enforcement Administration (DEA) controlled substances.

The revisions maintain the household hazardous waste exemption for pharmaceuticals collected during pharmaceutical take-back programs and events, while ensuring their proper disposal. Containers that held hazardous waste pharmaceuticals are considered "RCRA empty", and the P075 hazardous waste listing for nicotine found in (FDA)-approved over-the-counter (OTC) nicotine replacement therapies will no longer be considered hazardous waste when discarded. E-cigarettes, e-liquids, and prescription NRTS continue to be listed hazardous waste under the new rules.

The new regulations apply to healthcare facilities that generate, accumulate, or handle hazardous waste pharmaceuticals and to reverse distributors who manage prescription hazardous waste pharmaceuticals. The new regulations are more stringent, and therefore, there are several amendments to the Colorado Hazardous Waste Regulations. The changes became effective on June 30, 2020.

TENORM Regulatory Initiative

On November 18th, 2020, the State Board of Health adopted a new proposed residual management rule titled Part 20, “Registration and licensing of Technologically Enhanced Naturally Occurring Radioactive Material (TENORM)”, as required by Senate Bill 18-245.

TENORM is naturally occurring radioactive material whose radionuclide concentrations are increased by or as a result of past or present human practices. TENORM may be found in the residuals created by drinking and waste water treatment, oil and gas exploration and production, and other processes that have the potential to concentrate metals or other constituents.

This new rule advances Colorado’s health and establishes protections for the places we live, learn, work and play by ensuring that the handling, transportation, beneficial use, and disposal of TENORM is conducted in a safe and consistent manner that protects workers, members of the public, and the environment.

The Department is currently working with stakeholders by hosting bi-weekly forums to develop guidance for compliance with the new rule.

Low-income Radon Mitigation Assistance program

The division launched the Low-income Radon Mitigation Assistance Program in early 2018, providing free radon mitigation systems for individuals meeting certain income limits based on county of residence. Funding for this program comes from Colorado Revised Statute 25-11-114, passed in 2016 to provide mitigation assistance to nearly 100 low income families annually.

As of March, 2021, 27 contractors have qualified to participate in the program. We have received 442 applications and 184 homeowners have qualified. 167 homes have been mitigated and 17 are in process. The program has saved participating residents between \$495 and \$3,800 on mitigation systems, improved indoor air quality and reduced exposure to potentially harmful levels of radon gas.

Treatment of mine impacted water

Colorado is home to hundreds of abandoned gold and silver mines. Many of Colorado’s abandoned mines discharge metals-contaminated water, resulting in significant environmental impacts to the streams and rivers that receive contaminated water from abandoned mines. Since the 1990s, the Remediation Program has worked with the EPA to address some of those abandoned mines that cause the most severe environmental impacts.

In 1998, CDPHE completed construction and began operating the Argo Water Treatment Plant in Idaho Springs. In 2011, the Summitville Water Treatment plant came on line, and the North Clear Creek Water Treatment Plant was completed in 2016. CDPHE Remediation Program is responsible for the ongoing operation of these facilities, which provide significant water quality improvements in the Clear Creek and Alamosa River basins. In 2020, the Argo Tunnel and North Clear Creek facilities treated approximately 156 million gallons of metals-contaminated water, while approximately 203 million gallons were treated at the Summitville Water Treatment Plant. Treatment of mining-impacted water results not only in improved water quality and biological density and diversity in receiving streams, but in the case of the Argo and North Clear Creek facilities, protects the drinking water supply for approximately 350,000 people in the Denver metro area.

Peterson Airforce Base

The Peterson AFB Expanded Site Inspection for PFAS chemicals in firefighting foam used at the base was initiated by the Air Force in fall 2017. The primary intent of the Expanded Site Inspection was to gain a better understanding of how groundwater flows in this region, and to understand how and where contaminants are getting from the source areas off of the installation. The Remediation Program was integrally involved in planning both phase 1 and phase 2 of the Expanded Site Inspection fieldwork, to include working with the Air Force to determine appropriate sampling locations. During the first phase, test borings were completed to confirm the locations of paleo channels in which we are interested (i.e. those with contamination). During the second phase, which took place in 2019, over 145 wells, both on and off the installation, were sampled. The results of this sampling effort were used to scope the follow-on Remedial Investigation, which was initiated in 2020. Additionally, pilot studies have been initiated to test a number of innovative technologies to remove PFAS from soil and groundwater.

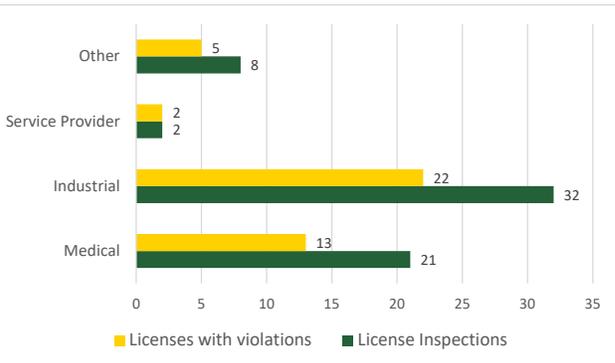
Further, in 2019, Peterson AFB received a large amount of funding, approximately \$50M, from the FY18 National Defense Authorization Act. That money was used in 2020 to design, purchase, and install longer-term mitigation measures for the affected public water systems in El Paso County, to supplement the short-term mitigation measures installed in 2017.

Radiation Program

The Radiation Program regulates the possession, use, management and disposal of radioactive materials. It also regulates radiation-producing machinery, such as X-ray machines. The program works with local agencies to provide information regarding radon levels in homes and other buildings. The following information is from 2020.

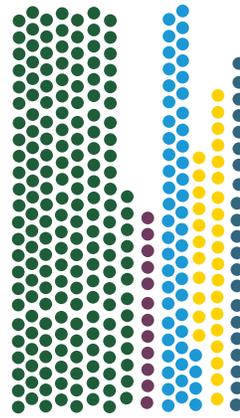
Licenses, actions and inspections

Inspections and violations by facility type:



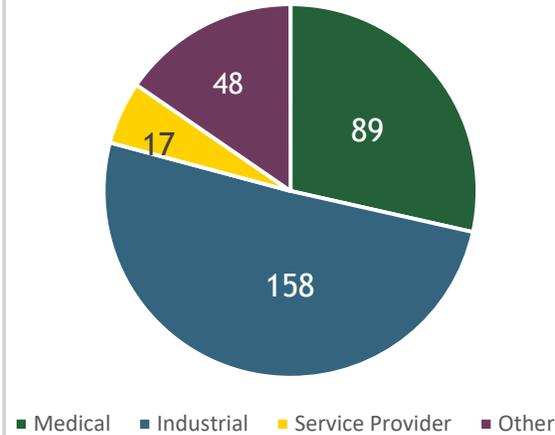
This figure captures both minor and major violations. Most violations are minor.

295 total license actions:



181 Amendments
12 New
52 Renewals
30 Document reviews
20 Terminations

Radioactive Materials Licenses by facility type:



Radon Program



Granted approximately:
\$171,312
to 20 recipients



9,300
homes, schools and
other buildings installed
radon mitigation.



5,000
free radon
test kits were
distributed.



15 builders built approximately:
3,000
homes, schools and other
buildings with radon-
resistant features.



37,000
homes, schools and other
buildings were tested.

X-ray Program



18,667
radiation-producing
machines are
registered in Colorado.

56%
are in dental facilities.



5,393
facilities are registered
by the X-ray Program.



7,834 inspections
were performed in FY 2020.

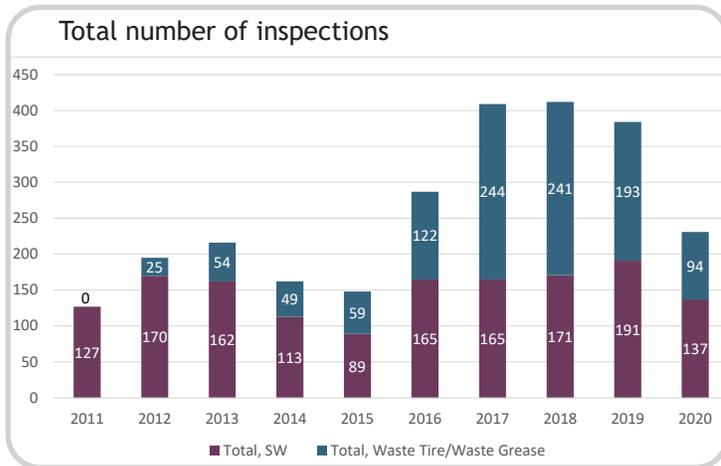


2,815 at hospitals and hospital clinics
& **3,357** at dental facilities.

Solid Waste and Materials Management Program

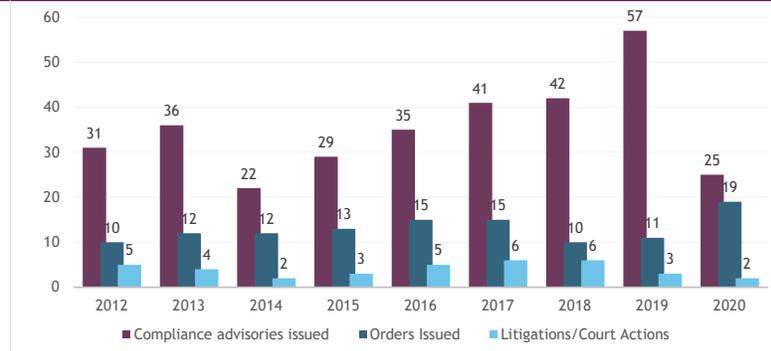
Colorado's Solid Waste and Materials Management Program (the program) is responsible for ensuring compliance with laws and regulations concerning the management of solid waste. The authority for this program is in the Colorado Solid Waste Act, 30-20-100.5, et seq., C.R.S. The U.S. Environmental Protection Agency (EPA) has approved Colorado's solid waste management program. With that approval, the authority to implement requirements for management of solid waste in Colorado rests completely with the state.

Inspections and compliance



Program staff completed less total inspections over FY 2020 due to the COVID-19 pandemic prohibiting field staff from entering facilities during the height of the inspection season.

In FY 2020, the program received 32 complaints. Of those, 7 were investigated and/or inspected by our staff and 17 were referred to local governments or other agencies. In addition, we received 119 spill reports. The program reviewed 80 of those spills to ensure appropriate cleanup actions were completed, and the remaining 39 spills were referred to local governments or other agencies.



13% of staff time devoted to meeting regulatory entities' requests for compliance assistance

In FY2020 the Solid Waste Program completed inspections of solid waste sites **384**



In FY2020 each waste inspector performed **26** inspections

Small Landfill Initiative

The division conducted groundwater quality monitoring at the small landfills that remain operating. We will continue monitoring groundwater quality at small landfills through 2022. We are also providing assistance to small landfills that have compliance orders to help them rectify the deficiencies with their site plans and financial assurance.

Program highlights

729,010 gallons of used paint was processed by PaintCare in 2019

PaintCare was established to keep paint from damaging the environment. PaintCare now has over 1 drop-off sites in Colorado that accept unwanted latex and oil-based paints for free. Fees on new paint sales fund the paint take-back program.

Since July 2015, Paintcare has collected almost **3 million gallons**

83% new tires generated/imported were recycled or salvaged

15 The waste tire program issued 15 compliance advisories for non-compliance with waste tire laws and regulations

Remediation Program

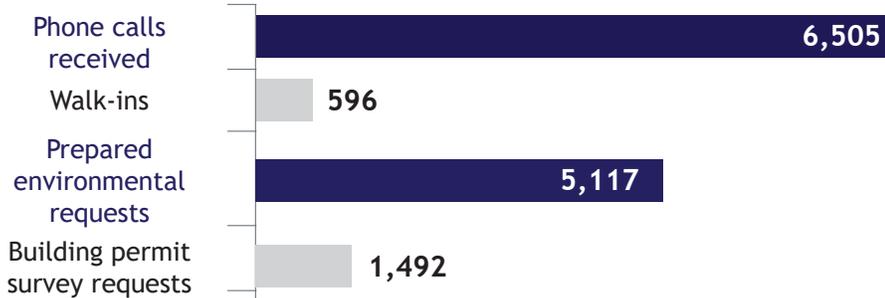
The Remediation Program performs preliminary assessments and site investigations of potentially contaminated sites to determine whether they should be included on the National Priorities List for Superfund designation. The program also oversees remediation activities at Superfund and federal sites, encourages the voluntary remediation and redevelopment of historically contaminated sites and assures cleanup of sites contaminated by uranium mill tailings.

UMTRA Program

The UMTRA program provides guidance and outlines resources for building contractors, private citizens, utility companies, and local governments when faced with newly discovered radioactive uranium mill tailings.

Public Interaction

FY 2019 to 2020



Radioactive uranium mill tailings found on **19%** of properties surveyed

Treatment of mine impacted water:

Many of Colorado's abandoned mines discharge metals-contaminated water, which creates significant environmental impacts for streams and rivers. Since the 1990s, the Remediation Program has worked with EPA to address the abandoned mines that cause the most severe environmental impacts.

- The Remediation Program is responsible for the operation of the Summitville and the North Clear Creek Water Treatment Plants which provide significant water quality improvements in the Clear Creek and Alamosa River basins.
- In 2020, the Argo Tunnel and North Clear Creek facilities in Idaho Springs treated approximately 156 gallons of metals-contaminated water, while the Summitville Water Treatment Plant treated approximately 203 million gallons

Treating mine-impacted water in the Argo and North Clear Creek facilities protects the drinking supply for approximately 350,000 in the Denver metro area.



Brownfields Program:

The Colorado Brownfields Program continues to work with local governments and non-profits across Colorado to identify and remediate environmentally distressed properties. Highlights for the year include:

- Completed Targeted Brownfields Assessment for four local governments.
- Provided \$190,000 of cleanup grant funding to local governments and non-profits.
- Conducted workshops, webinars, and technical assistance meetings to support the efforts of local governments to address and redevelop brownfields properties.

The Colorado Brownfields Revolving Loan fund provides low interest, flexible term loans to help offset the cost of property redevelopment caused by environmental contamination. Loans are available to both public and private entities. In 2020, the fund is actively administering eight loans that provide almost \$10 million in funding for contaminated sites.

Voluntary Cleanup Program

The Voluntary Cleanup Program aims to facilitate the redevelopment and transfer of contaminated properties.

483 acres

were cleaned up through the program

5,041

jobs were created*



3,507

houses and condos were built

VCUP received eight applications for tax credits pursuant to the Colorado Tax Credit for Remediation of Contaminated Land. The program anticipates approving \$2,968,360 of tax credits in 2020. Cleanup and redevelopment of properties receiving tax credits resulted in \$1,277,908,929 of capital improvements

*Jobs created were through retail, restaurants, property management and business which have either been created here or have grown and hired new people. We did not include any temporary construction jobs.

Hazardous Waste Program

Colorado's Hazardous Waste Program is responsible for ensuring compliance with laws and regulations pertaining to the management of hazardous waste. Primary elements of the program include compliance assistance, compliance monitoring and enforcement, corrective action, permitting, and information management. The corrective action staff oversee the remediation and cleanup of more than 200 individual facilities ranging in size and complexity, from the Denver Federal Center and Lockheed-Martin to facilities like neighborhood dry cleaners and plating shops.

Total inspections



- Small quantity generators (SQGs)
- Treat, store, or dispose facilities
- Very small quantity generators (VSQGs)
- Large Quantity Generators (LQGs)

Corrective action

319 > **76**
corrective action reviews reviews per full time employee

The program had high numbers of corrective action reviews to complete this year and fewer people on staff to do so. Staff were able to complete more than 76 reviews per full time employee in FY2020

5,247 facilities are in the regulated universe of the Hazardous Waste Program.

Fast facts

The hazardous waste program surpasses EPA goals at all high-priority facilities for the four EPA indicators:

October
2020 Training

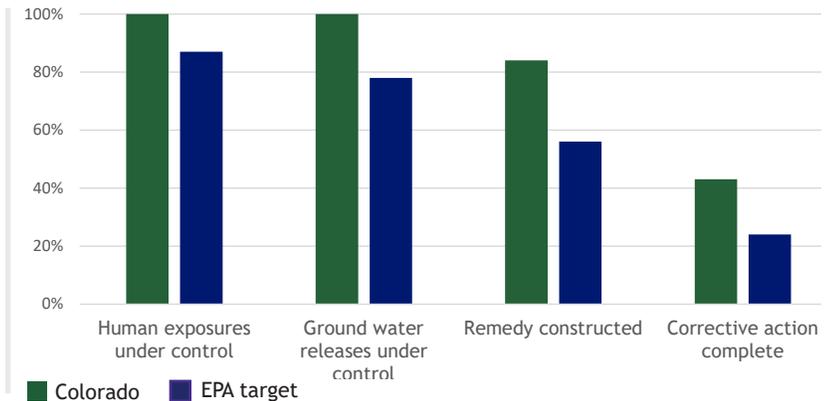
Converted hazardous waste training to an online platform, training

389

attendees over three days.

Compliance assistance

Staff spent 13.3 percent of their time on compliance assistance in 2020, surpassing the 10 percent standard in SB 00-177.



Pueblo Chemical Depot

The Pueblo Chemical Agent-Destruction Pilot Plant (PCAPP) is one of Colorado's permitted facilities. The plant transitions to a Part B operating permit in FY20 and processed all the mustard agent filled 155 mm projectiles stored at the facility. The plant recently restarted processing the remaining 105 mm chemical weapons in the stockpile.

At the end of 2020, the plant destroyed approximately **300,000** munitions, or **39.6%** of the chemical weapons stockpile, representing **67.6%** of the chemical agent.



cdphe.colorado.gov/hazwaste 7,500 web hits for the site in FY2020





COLORADO
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