

# STATE OF COLORADO

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Colorado Department  
of Public Health  
and Environment

**9th Annual Report to the Colorado General Assembly  
on the  
Status of the Hazardous Waste Control Program  
in Colorado**

Submitted to the Colorado Legislature  
by the Hazardous Materials and Waste Management Division  
Colorado Department of Public Health and Environment  
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Principal Author: Joe Schieffelin, Hazardous Materials and Waste Management Division, Solid and Hazardous Waste Program Manager

Contributing Authors/  
Technical Assistance: Hazardous Materials and Waste Management Division:  
Walter Avramenko, Hazardous Waste Corrective Action Unit Leader  
Joyce Williams, Hazardous Waste Compliance and Enforcement Unit Leader  
Doug Knappe, Hazardous Waste Permitting and Compliance Assistance Unit Leader

Subject: The report describes the status of the Hazardous Waste Control Program and efforts to implement the program at the lowest possible cost without jeopardizing the statutory intent.

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For additional information or copies:

Joe Schieffelin, Solid and Hazardous Waste Program Manager  
Hazardous Materials and Waste Management Division  
Colorado Department of Public Health and Environment  
4300 Cherry Creek Drive South  
Denver, Colorado 80246-1530  
(303) 692-3356

# **9th Annual Report to the Colorado General Assembly on the Status of the Hazardous Waste Control Program in Colorado**

## **INTRODUCTION**

Colorado's Hazardous Waste Control Program is responsible for ensuring compliance with laws and regulations pertaining to the management of hazardous waste. The authority for this program is in the Colorado Hazardous Waste Act, 25-15-101 et seq., C.R.S., and the federal Resource Conservation and Recovery Act (RCRA). The U.S. Environmental Protection Agency (EPA) has authorized Colorado to implement the program, and by doing so, the authority to implement requirements for the management of hazardous waste in Colorado rests primarily with the state. Colorado was authorized for the base hazardous waste regulatory program in November 1984. In July 1989, federal authorization was granted to Colorado for significant additions to the base program. One major element of that added authority was hazardous waste corrective action, which provided authority to investigate and clean up releases of hazardous waste constituents into the soil, surface water, or ground water at hazardous waste facilities.

Primary elements of the Hazardous Waste Control Program (the Program) include compliance assistance; compliance monitoring and enforcement; corrective action; permitting; and information management. Each of these program elements is discussed in the following sections. In addition, this report includes sections discussing ongoing program authorization by EPA and the status of program funding.

As of December 2009, the Hazardous Waste Control Program regulates 9 active and permitted treatment, storage, and/or disposal facilities (TSDs), and 15 closed TSDs with hazardous waste remaining buried on-site which needs post-closure monitoring and/or maintenance. In addition, the Program regulates about 120 large quantity generators, about 725 small quantity generators, about 90 transporters and at least 3,300 conditionally exempt small quantity generators of hazardous waste. The true number of conditionally exempt small quantity generators is not known, as most are not required to provide any notification to the state - those known are a result of voluntary notifications, complaint inspections, and a 2007 rule change that requires conditionally exempt generators of four particular waste types to submit a notification. Finally, the Program regulates about 400 facilities at which corrective action (remediation of environmental contamination) is required.

The Colorado Hazardous Waste Act originally provided authority to assess cash fees only to the facilities that were required to have permits, which included all active treatment, storage and disposal facilities. The revenue from these fees, combined with grant money from EPA, provided adequate funding for the Hazardous Waste Control Program for many years. Colorado's only commercial hazardous waste disposal facility paid a large portion of these fees. However, as waste receipts at this facility declined substantially beginning in 1998, the resulting decrease in revenue to the Hazardous Waste Control Program created a serious funding shortfall.

To resolve the shortfall, the Hazardous Materials and Waste Management Division analyzed the functions and structure of the program, convened a task force of stakeholders to obtain input on options to resolve the problem and pursued legislation concerning the authority to assess additional fees. One result of those efforts was passage by the General Assembly of Senate Bill 00-177. This legislation modified the Colorado Hazardous Waste Act by 1) allowing the

assessment of cash fees to generators of hazardous waste, not just treatment, storage and disposal facilities, and 2) clarifying the legislative intent regarding implementation of the program. The following report is submitted to comply with one provision of the legislation: SB 00-177 requires an annual report to the General Assembly beginning on February 1, 2002, describing the status of the Hazardous Waste Control Program and the efforts of the Colorado Department of Public Health and Environment to carry out its statutory responsibilities at the lowest possible cost without jeopardizing the intent of the statute.

## **ACCOMPLISHMENTS, IMPROVEMENTS, AND INNOVATIONS**

The Colorado Department of Public Health and Environment's Hazardous Materials and Waste Management Division (the Division) continues to streamline processes and develop innovative ways to improve the Hazardous Waste Control Program. The Program goal is to be "Efficient and Effective". Each of our Program elements is asked to demonstrate its efficiency and effectiveness through a series of metrics, some of which are reported in the following sections.

### **Compliance Assistance**

A goal of the Hazardous Waste Control Program is for all regulated facilities to be in compliance with state law and regulations. The traditional inspection and enforcement program serves as one primary mechanism for reaching that goal. However, compliance assistance is another integral element for obtaining and maintaining compliance. The General Assembly recognized the value and importance of compliance assistance in that one of the expectations set out in SB 00-177, at Section 25-15-301.5(2)(g), C.R.S., is for the department to "establish a preference for compliance assistance with at least 10% of the annual budget amount being allocated to compliance assistance efforts." During Fiscal Years (FY) 2001 through 2008, the program devoted over 18% of regulatory staff time to compliance assistance. In FY 2009, 16% of staff time was devoted to compliance assistance.

The Program has developed a broad range of compliance assistance services to assist the regulated community in managing hazardous waste. These compliance assistance services include the following activities:

- A part-time customer assistance and technical assistance phone line (303-692-3320);
- A wide range of hazardous waste guidance documents and compliance bulletins;
- An extensive, useful and informative Website - [www.cdphe.state.co.us/hm/index.htm](http://www.cdphe.state.co.us/hm/index.htm);
- Compliance assistance site visits through the Generator Assistance Program (GAP); and
- Hazardous waste management training to industry provided by our staff.

Program staff continues to develop additional services as more effective compliance tools are identified. For instance, we put considerable effort into developing useful and easily searched information on our website. Besides the normal access to regulations, guidance documents and policies, the website now offers up-to-date information on household hazardous waste, hazardous chemicals used around the home, data mapping capabilities that show where hazardous waste facilities are located in Colorado, compliance information about facilities, and information on upcoming hazardous waste trainings being offered by Program staff. During FY 2009, the Hazardous Materials and Waste Management Division's Internet homepage received 2,505,486 hits, an 81% increase in the number from last year.

During FY 2009, the Division provided 35 compliance-assistance training sessions to industry around the state, which reached 2,060 people. The training sessions covered a variety of topics, and included a focus on hazardous waste and other environmental regulations. These trainings included presentations by Program and local agency staff, as well as members of the regulated community. The program will be expanding its electronic materials to include training modules that can be adapted for either computer-based training or classroom presentations.

Program inspectors routinely incorporate compliance assistance and pollution prevention into the approximately 250 compliance inspections performed each year. Inspectors provide guidance documents to facilities during inspections as well as person-to-person advice and consultation. In FY 2009, the program conducted 24 site visits (discussed later under the Generator Assistance Program) that had compliance assistance as the single major focus.

The Division maintains a system of guidance information for regulated parties through both print and electronic media. This includes an automated technical assistance telephone line for common waste management questions and a technical assistance phone line staffed part-time during business hours to provide information for more complex or detailed regulatory guidance. Through the technical assistance phone line, Division technical assistance staff responded directly to 3,013 calls and 587 e-mails during FY 2009.

During FY 2009, compliance assistance staff found, through feedback at the trainings they conducted, that the help they provided on universal wastes, generator requirements, and hazardous waste identification was timely and helpful.

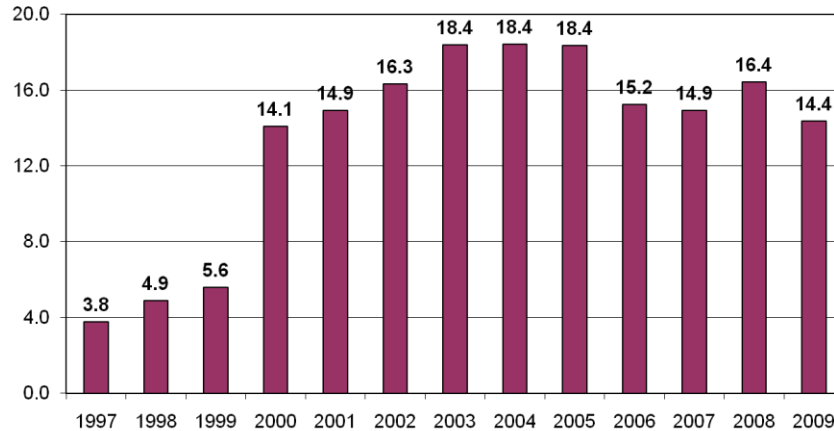
### **Compliance Monitoring and Enforcement**

Efficiency and effectiveness are very important in compliance monitoring (inspections) and enforcement. Efficiency allows adequate coverage of the regulated universe - compliance assessments can be completed and deterrence of non-compliance occurs. Efficiency measures include such items as work output per employee and timeliness of inspection and enforcement activities. Effectiveness ensures that inspection and enforcement activities protect public health and the environment. Effectiveness measures include improving compliance rates within the regulated community.

An example of the improvements made in staff efficiency is presented in Figure 1 on the next page. This graph illustrates the large gains in staff inspection efficiency that occurred in years just before and after SB 00-177, and the maintenance of those high levels in recent years. The performance plans for each inspector define the number of inspections that need to be completed to achieve an outstanding, commendable, or satisfactory performance rating. We have found that, to perform at a sustainable level, inspectors should be expected to conduct 12 inspections/quarter for a commendable rating and 15/qtr for an outstanding rating. The high rates of inspections performed in 2003 – 2005, as shown on Figure 1, caused significant staff burn-out. In 2006, 2 of our inspectors left our division for other opportunities. This was 2 of only 3.6 inspectors (or 56%) and was a significant loss of expertise that had to be re-established.

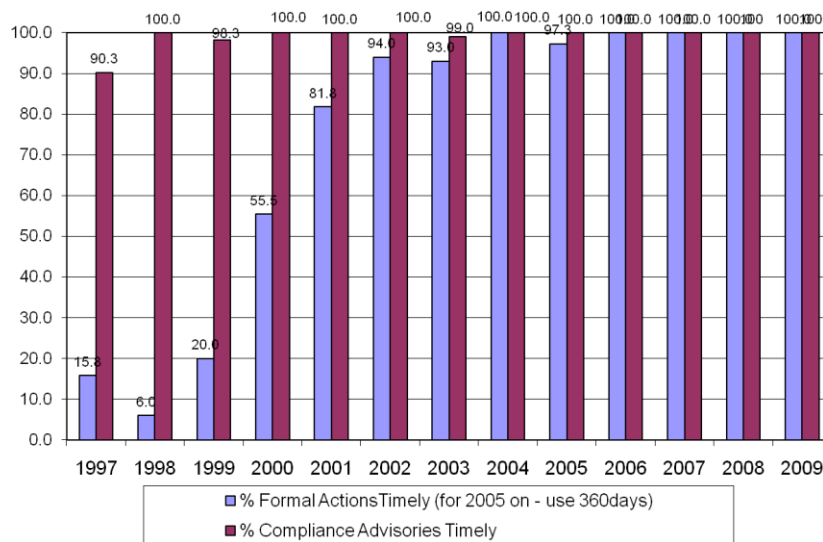
It should be noted that every inspection carries administrative responsibilities, such as preparation of a report, tracking the return-to-compliance activities and accomplishments at the facility, and data entry, all of which are also being performed on time and effectively.<sup>1</sup>

**FIGURE 1**  
**Inspector Efficiency**



The high number of inspections continues to result in the issuance of quite a number of formal and informal enforcement actions. Yet, as illustrated in Figure 2, even with more enforcement actions, the timeliness of formal enforcement actions, as measured against standards established by EPA and adopted by the Colorado program, has improved significantly and has been maintained at a very high level. This graph shows that timeliness for informal actions (Compliance Advisories) has remained high and that timeliness for formal actions (Compliance Orders) has improved substantially. This is an example of significant improvements made in both staff efficiency and process efficiency.

**FIGURE 2**  
**Enforcement Timeliness**



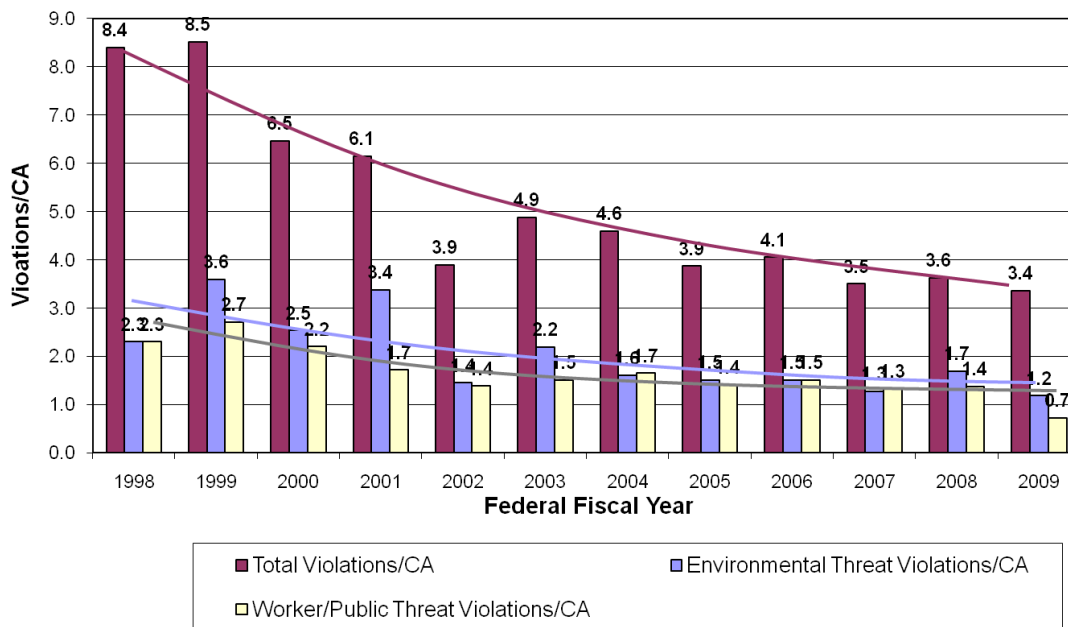
<sup>1</sup> As judged by EPA in their oversight role and recorded in their 1999 - 2008 End-of-Year Reports reviewing Colorado's Hazardous Waste Program.

Program inspectors perform between 250 and 300 on-site inspections each year. In FY 2009, 301 inspections were conducted. This included 20 inspections at facilities that treat, store, or dispose (TSDs) of hazardous waste, inspections at 47 of the 120 Large Quantity Generators (LQGs) of hazardous waste, inspections at 82 of the 725 Small Quantity Generators (SQGs), and 73 inspections that resulted from citizen complaints.

The compliance monitoring and enforcement program can also show that it is effective. SB 00-177 requires that the Program’s inspections “focus on major violations of regulations that pose an immediate and significant threat to human health and the environment.” To accomplish this, an annually updated inspection priority system has been developed and is being used to schedule inspections for the 120 large quantity generators of hazardous waste. As can be seen in Figure 3, this prioritized emphasis on Colorado’s LQGs is having a demonstrable effect. Figure 3 shows that, for those LQG facilities where violations are discovered, the total number of violations has steadily decreased over the last several years. We are finding fewer problems at these important facilities. In addition, Figure 4 demonstrates that violations of regulatory requirements that have a direct relationship to environmental impacts and/or worker and public health impacts have also declined on a per-inspection basis.

**FIGURE 3**

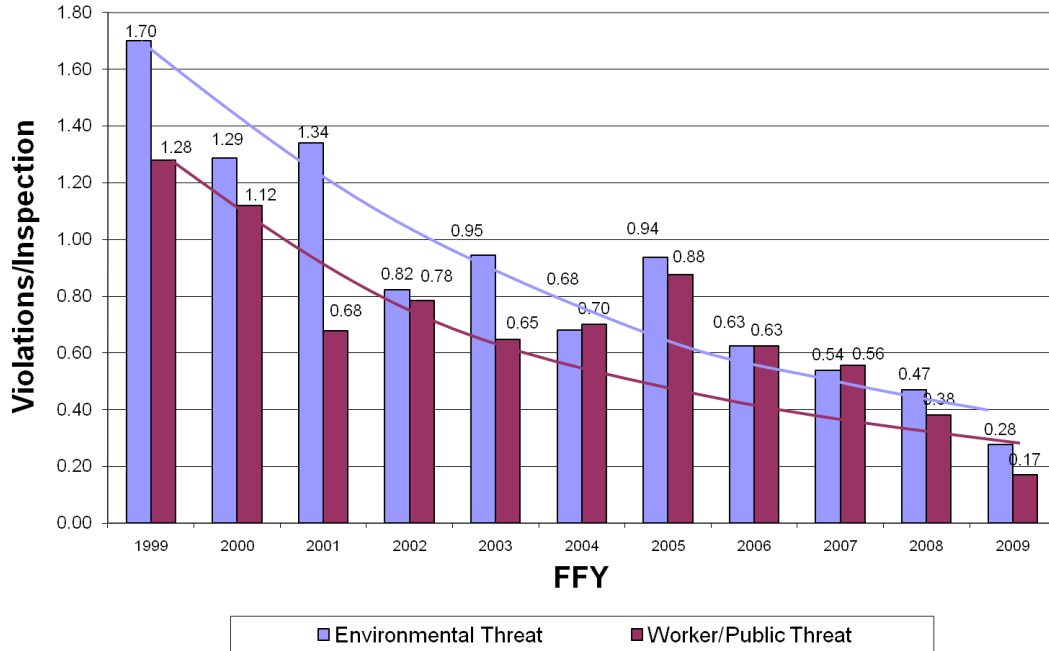
**LQGs - # of Violations Per Compliance Advisory**



**FIGURE 4**

**Environmental Threat Violations and  
Public/Worker Health Threat  
Violations per Inspection**

**at LQGs - 1999 to 2009**



For the 725 Small Quantity Generators of hazardous waste in Colorado, we cannot show a similar improvement in compliance rates. We believe the reason for this is that we have been regulating these facilities in an ineffective manner. There are too many facilities in the universe to be effectively regulated in an inspection/enforcement mode with a small inspector staff. To solve this problem, we implemented two pilot projects to test potentially better regulatory methods. The first of these projects was called the Compass Project, undertaken in 2002. Within the Compass Project, the Division tested whether direct mailings to facilities of a comprehensive and facility-specific set of compliance assistance materials had any measurable effect on improving compliance rates. The results of the Compass Project show that, with very few exceptions, direct mailings were *ineffective*.

The second project, called SCORE, undertaken in 2003 and 2004, was much more successful. The SCORE project tested whether self-inspection and reporting of compliance by Small Quantity Generators to the Division through a self-certification was an effective and accurate method of measuring and improving compliance. Participants in the SCORE project were asked to fill out a compliance checklist, certify its accuracy, and submit it to the Division. Within 30 to 45 days of receiving a facility's self-certification, the Division sent its inspectors to the facility and they completed an identical checklist. The facility's responses and the inspectors' responses were compared and suggest that there was a very high level of agreement between the responses. In cases where the facility reported they were compliant, but the Division did not, the primary reason seems to be a misunderstanding of the regulatory requirement, not purposeful mis-reporting.



Because of the success of the SCORE project, the Division developed and implemented a “SCORE 2” Project in 2005 that expanded the self-certification program. The SCORE 2 Program, also called the Self-Certification Pilot Program, required self-certification of Denver-area Small Quantity Generators in the auto-body repair business sector – 65 small businesses around the metro area. The Division performed 15 follow-up inspections of these facilities. The results of this program showed that businesses that self-certify their compliance had a significantly better compliance rate than those that did not.

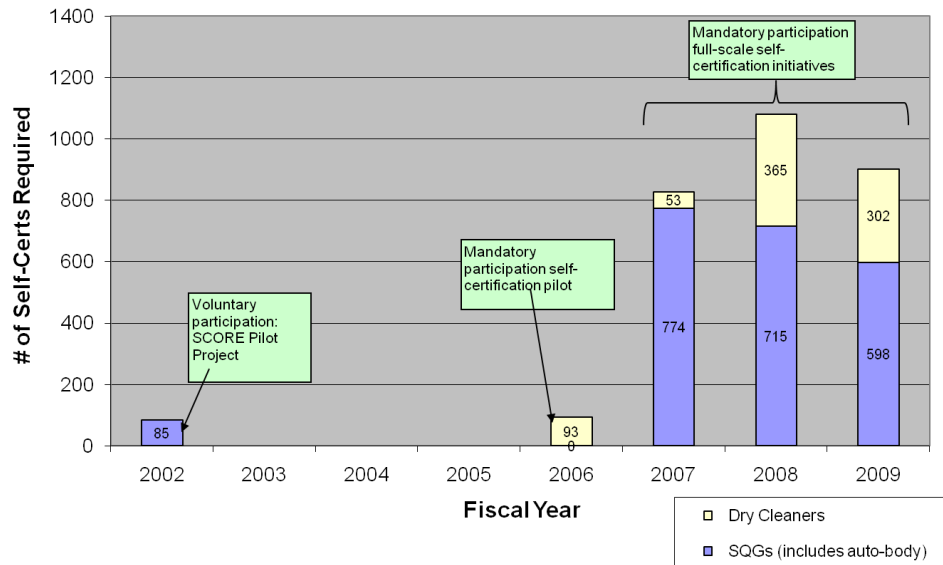
Because of this success, the Division expanded the Self-Certification Program into another business sector in FY 2006. Early in FY 2006, we ran a small Denver-area self-certification program for dry cleaners. In FY 2007, we expanded that effort and undertook a major self-certification expansion to all remaining Small Quantity Generators that were not already included in the dry-cleaner and auto-body sectors – about 700 additional facilities. This represented a huge step forward. The FY 2007 self-certifications have all been returned to the Division and we have put those responses into a database. In FY 2008, we performed follow-up inspections at these facilities to statistically check several items: 1) how accurately and honestly the facilities are completing their self-certification checklists; 2) whether we can measure an improved compliance rate in these sectors; and 3) whether we can isolate problematic regulations and target assistance for those requirements to the regulated community. We are currently evaluating these results. Also, in FY 2008, we asked these same facilities to self-certify again. Figure 5, below, presents the history and expansion of our use of the self-certification mechanism.

In February of 2009, dry cleaners were again required to certify they were in compliance with the hazardous waste and air regulations. However, the certification requirement was limited only to those dry cleaners who use perchloroethylene (aka, PCE or Perc) as their cleaning solvent. The previous certifications included hydrocarbon and perchloroethylene solvent users. The reason the hydrocarbon solvent users were dropped from the program is because they generally do not generate any hazardous waste and they do not have a history of contaminating ground water. Therefore, 302 perc-using dry cleaners were sent a notification to certify they were in compliance with the air and hazardous waste regulations. Approximately 80 random follow up inspections will be completed by the end December 2009. The next annual certification for dry cleaners will begin again in January 2010.

In July of 2009, small quantity generators were required to certify they were in compliance with the Colorado Hazardous Waste regulations for the third time. There were 598 small quantity generators who were sent a notification to certify.

The growth of our Self-Certification Program can be seen in the following Figure 5. The feedback inspectors received in follow up inspections was favorable. Most facilities felt that the checklist was helpful in understanding the regulations and beneficial in implementing training for their employees.

**FIGURE 5**  
**Self-Certification Program**



As a side-note: the self-certification process is now entirely internet-based and electronic for those facilities that want to self-certify over the internet. This is a time saver for them, and allows us to directly download their submittals into our database.

The advantages of the Self-Certification program are that 1) we get 100% coverage of those groups that are required to participate rather than the ~14% coverage we get through traditional inspections, 2) each facility in that group gets “re-trained” and re-acquainted with the regulatory requirements each time they certify their compliance (and lack of familiarity with the regulations has been a major problem), 3) we can target compliance assistance to problem areas, and 4) compliance rates improve.

It should also be noted here that, while we believe self-certification will allow us to better regulate all of our facilities, it has required a significant investment of our very limited resources. We have assigned 2 FTE to the self-certification projects. This is equivalent to a 43% reduction in the number of inspectors performing inspections in the traditional enforcement mode, but we believe this adjustment will result in higher rates of compliance which is the effect we are looking for within the regulated community.

In addition to the self-certification program, the Division has continued the Generator Assistance Program, or GAP. This program is aimed at small businesses, although any business may participate. GAP offers businesses an on-site evaluation of their hazardous waste management practices and suggests ways to improve and/or come in to compliance. In addition, GAP offers assistance with waste minimization and pollution prevention opportunities. Any findings of non-compliance during a GAP site visit are given enforcement amnesty so long as the facility expeditiously corrects the problems and no immediate danger to human health or the environment is being caused by the violations. This program is popular with the regulated community, as it becomes more widely known. The Division performed 24 GAP compliance assistance site visits in FY2009. The GAP program has its own website:

[www.cdphe.state.co.us/hm/gap/gaphom.asp](http://www.cdphe.state.co.us/hm/gap/gaphom.asp)

## **Corrective Action**

Corrective action, which is the environmental remediation and clean up arm of the Hazardous Waste Program, continues to be a substantial part of the Program's workload. Many improvements in efficiency and effectiveness have been implemented in the corrective action portion of the program since 2000. These improvements include: 1) regulatory changes implementing Corrective Action Plans, or CAPs, which are much more expeditious cleanup plans than traditional corrective action plans, 2) development of new guidance, 3) improvements in the accountability of staff performance plans, and 4) increased management emphasis on internal process times. The result of these improvements has been a very tightly managed program that has performed significantly better than the national average.

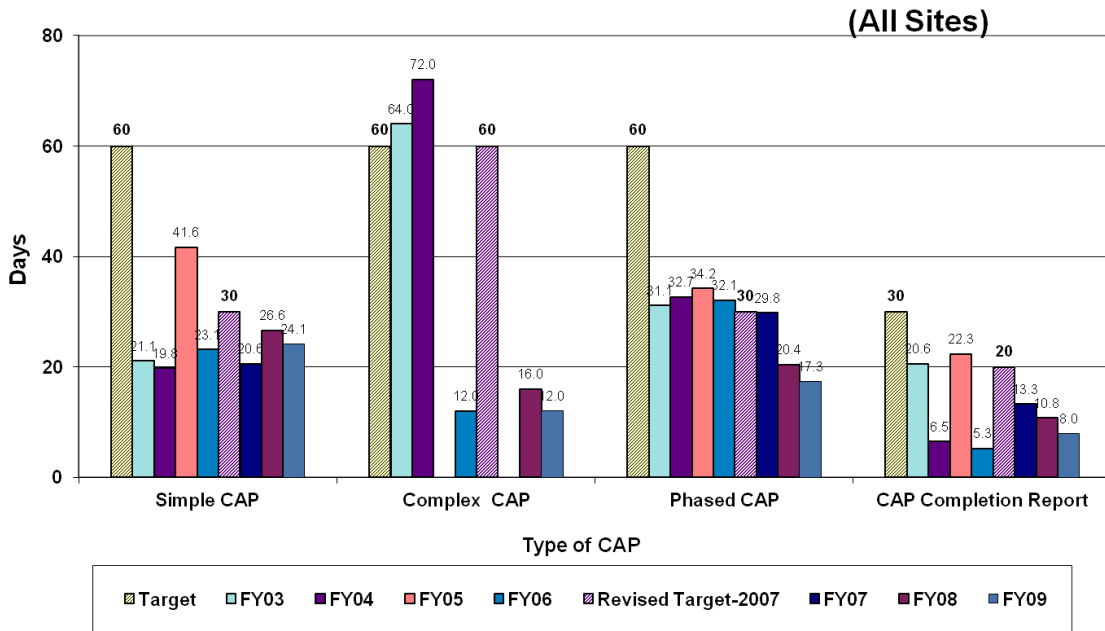
The most significant process improvement continues to be the use of the Corrective Action Plan process, a regulatory mechanism for initiating corrective action at facilities where it is needed without the need for extensive enforcement. Previously, oversight of environmental clean-up activities under the corrective action program required either a hazardous waste permit or a compliance order. Both of these processes are lengthy and resource-intensive for facilities that only need to conduct clean-up activities. Under the new provision, a facility may submit a "Corrective Action Plan" to the Hazardous Waste Control Program. Once approved, the Corrective Action Plan works very much like, and is enforceable as, either a permit or an order. However, since using this approach is voluntary for the facility, it can be implemented much more quickly than either of the other mechanisms, and requires fewer resources. It continues to be a popular mechanism among industries that are regulated by the department and it has streamlined the program substantially.

In conjunction with the Corrective Action Plan (CAP) mechanism, guidelines were put in place for level of effort and total elapsed time associated with reviewing documents submitted under Corrective Action Plans. These guidelines have been useful to both managers and staff in assessing our efficiency and the program has been successful in meeting its targets. Figure 6 shows the average total elapsed time (from document submittal by a facility to Division review and feedback to a facility) as compared to the target levels for various types of documents. Figure 7 shows similar information for the actual review time (actual hours spent by Division staff reviewing each document).

The FY 2009 data on Figures 6 and 7 show that Program staff continue to perform at high efficiency – both compared to the targets in each category, and when compared to past years. In fact, on both of these graphs, we have presented revised targets for FY 2007 and beyond. Most of these revised targets are substantially less than the original targets. In FY 2004 and FY 2005 the corrective action staffing decreased faster than the workload decreased, causing a temporary increase in workloads and response time for remaining staff.

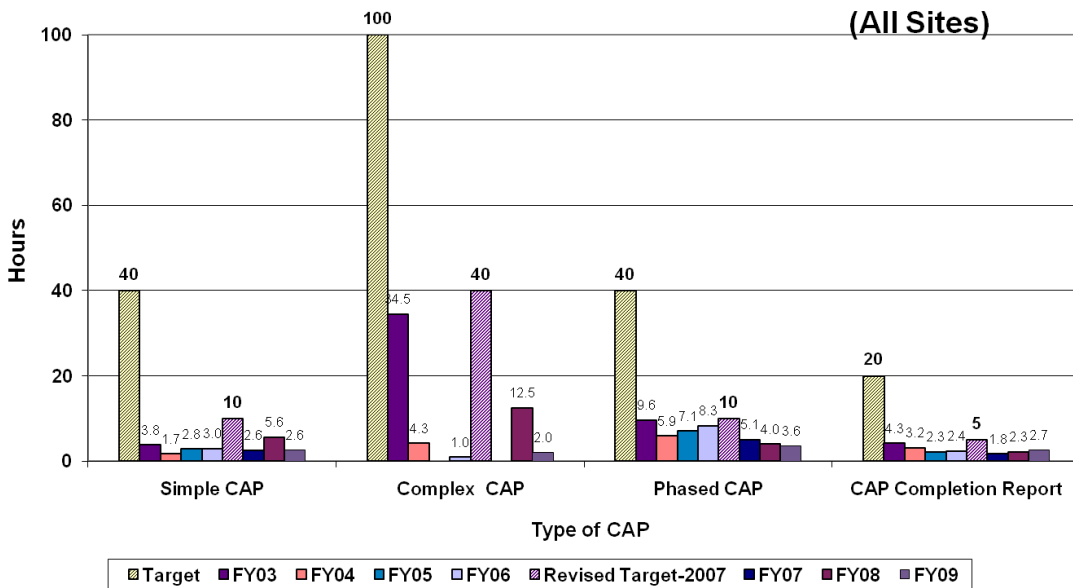
**FIGURE 6**

**Corrective Action Plan Processing  
Average Elapsed Time in Days**



**FIGURE 7**

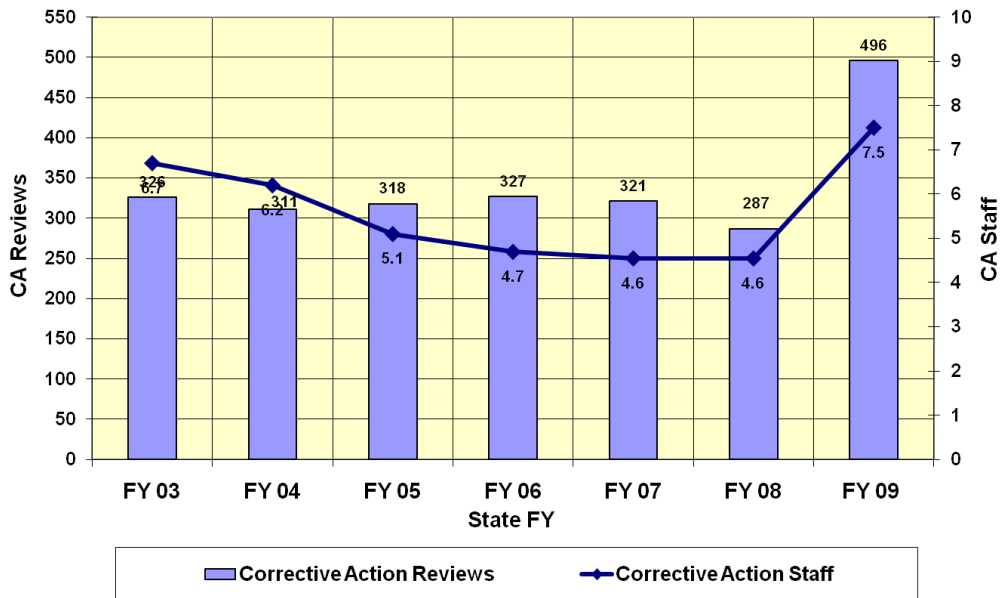
**Corrective Action Plan Processing  
Average Completion Time in Hours**



Workload and staffing peaked in FY 2003, and a decline in staffing began in FY 2004 and continued up through FY 2009. Figure 8 compares the number of corrective action reviews completed with the number of corrective action staff, and Figure 9 shows the number of plan or report approvals per FTE over several years. When Figures 8 and 9 are considered together, the information demonstrates that staff efficiency continues to be very high. The apparent staffing increase that shows up in FY 2009 on Figure 8 represents a reclassification of 2.9 FTE from staff that were funded by federal grants to staff that are working on the same projects as before, but are now billing their time to the federal agencies. Therefore, there was no new staff added. Overall, the workload seems to have leveled out and is no longer declining. In fact, many facilities have taken the economic downturn as an opportunity to submit workplans for our review and approval ahead of time – so our workload has actually increased somewhat. In fact, in FY 2010, we are going to backfill a position we had been holding vacant for about the last 18 months.

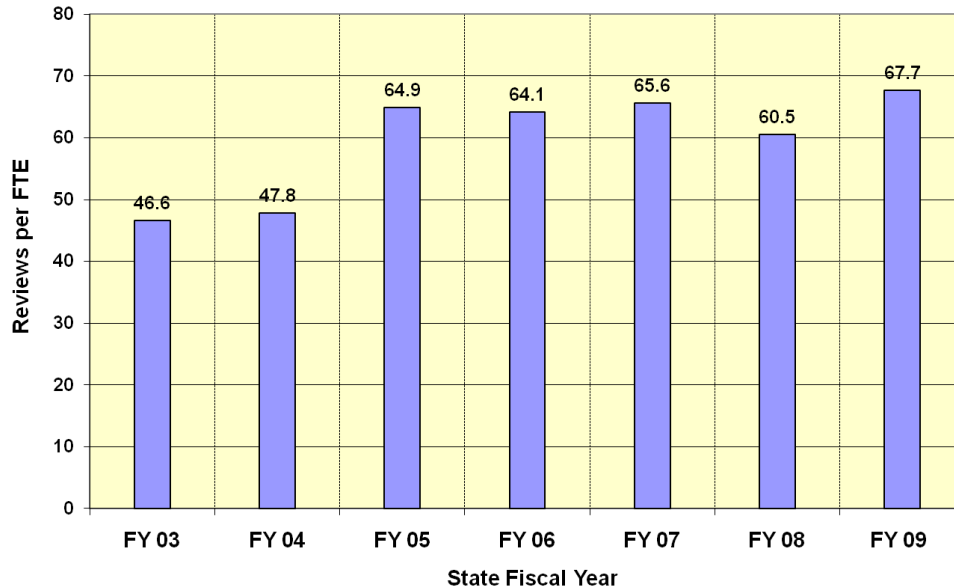
**FIGURE 8**

**Corrective Action Reviews and Staff Levels**



**FIGURE 9**

**Corrective Action Reviews per FTE**



A significant factor in the time that it takes staff to review a clean-up document is the overall quality of the document that is submitted for review. This appears to be dependent on several factors. The first is the regulated community's use of the Department's Corrective Action Guidance Document in which clear corrective action goals, expectations, and strategies that focus on flexibility and environmental results are presented. One of the most often used elements of this guidance is a description of a process whereby risk-based methods allow for the reclassification of contaminated media from a hazardous waste to a solid waste, thereby reducing disposal costs and promoting more thorough cleanups. The second improvement involves early and more frequent communication between Program staff and the regulated community, resulting in the resolution of difficult issues before they have the opportunity to become obstacles that stand in the way of completing necessary work. Improved communication leads to a trust relationship that promotes a collaborative approach to cleaning up sites. Striving for common objectives leads to the development of work plans that are more easily approved.

One of the expectations expressed by the General Assembly in SB 00-177, as part of streamlining the corrective action process, was that the Hazardous Waste Control Program should use enforceable institutional controls and consider such controls in determining clean-up standards. A serious concern for the program at the time was lack of an authority to enforce institutional controls. That problem was resolved with the passage of Senate Bill 01-145. This bill created an environmental covenant, which provides a mechanism for property owners to establish certain restrictions or conditions for their properties, and for those restrictions or conditions to be enforceable by the Colorado Department of Public Health and Environment. Since then, the Hazardous Materials and Waste Management Division has begun to approve long-term clean-up plans that rely on environmental covenants to manage risks associated with residual contamination, thereby avoiding the difficulty and expense of remediating sites down to unrestricted use levels. To date, accomplishments include:

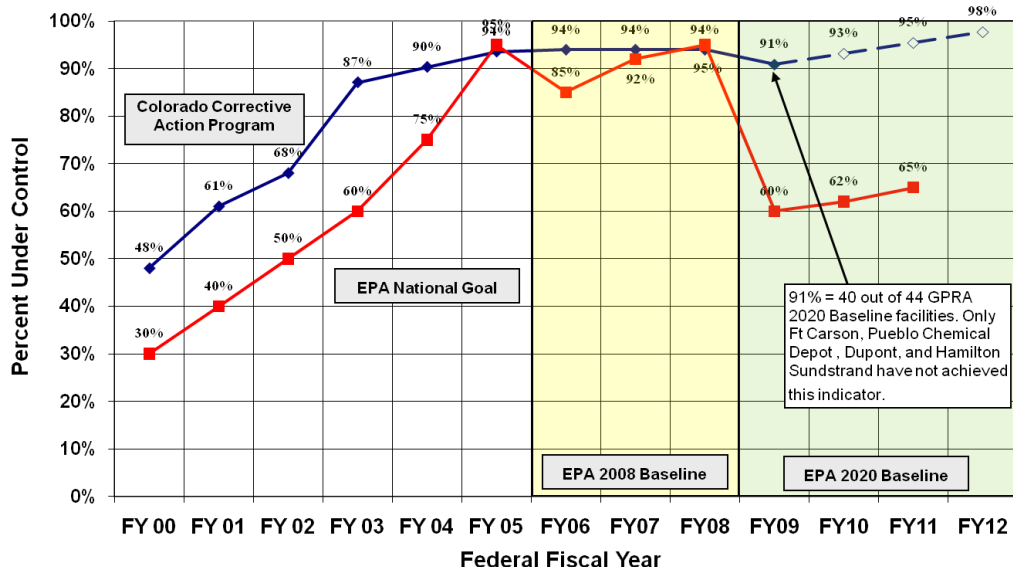
- A registry of sites has been created as required by the statute; currently, there are 66 sites on the registry, with 21 of those being hazardous waste sites, and several others are likely to be added soon.
- Staff of the Colorado Attorney General's Office has developed model covenant language.
- The Hazardous Materials and Waste Management Division's Geographic Information System (GIS)-based map Web page has been implemented, the sites with covenants have been included, with a link to the covenant. This allows the public to have access to the information.
- After meeting with several local governments to discuss communication and implementation issues, the Hazardous Materials and Waste Management Division has drafted and made available to the public a guidance document on what covenants are, the opportunities they offer, what is needed to create a covenant, and the tracking and notification responsibilities of the State and local governments. This guidance document, along with other covenant related support documents, is presently available on the Division's Web site.
- In 2006, Program staff and staff from the Attorney General's Office (AGO) developed a policy describing when the covenant should be finalized within the cleanup process so that remedies cannot be compromised through subsequent property transactions.
- In 2008, via passage of SB08-037, the environmental use restriction, was added to the statute as a second mechanism that ensured long-term control. Federal facilities throughout Colorado were unwilling to enter into Environmental Covenants because the federal government feared the Covenants represented interest in real property. Rather than litigate the issue, Colorado worked with the federal entities to develop the environmental use restriction as a mechanism that federal entities could agree to and accomplished equivalent long-term control of contaminated sites.

The Hazardous Waste Control Program also continues to be a leading contributor to national efforts to streamline the corrective action process through active participation in the Interstate Technology and Regulatory Cooperation Work Group. This is a national organization led by state regulators with the purpose of streamlining the regulatory process associated with approving the use of innovative technologies in cleaning up environmental contamination.

To measure corrective action effectiveness, the U.S. Environmental Protection Agency established two national environmental indicators in FY 1999. These indicators measure progress of the hazardous waste corrective action program toward risk containment at contaminated facilities. This approach was established as part of the Government Performance Results Act (GPRA), and measures "Human Exposures Under Control," and "Ground Water Releases Under Control" at a defined group of high priority facilities around the country. In Colorado, there are currently 44 of these high priority facilities. Figures 10 and 11 show the Department's efforts and progress. Because these indicators are useful for showing risk mitigation at our sites, our program will continue to measure progress on these indicators. It is useful to point out that there were only 31 facilities in the tracking group from FY 2000 through FY 2005. EPA added 2 facilities in FY 2006 bringing Colorado's total to 33 facilities. Again in FY 2009, EPA added another 11 facilities bringing Colorado's total to 44 facilities. The EPA addition of facilities in Colorado and around the nation accounts for the dip in EPA's national goals in FY 2006 and FY 2009.

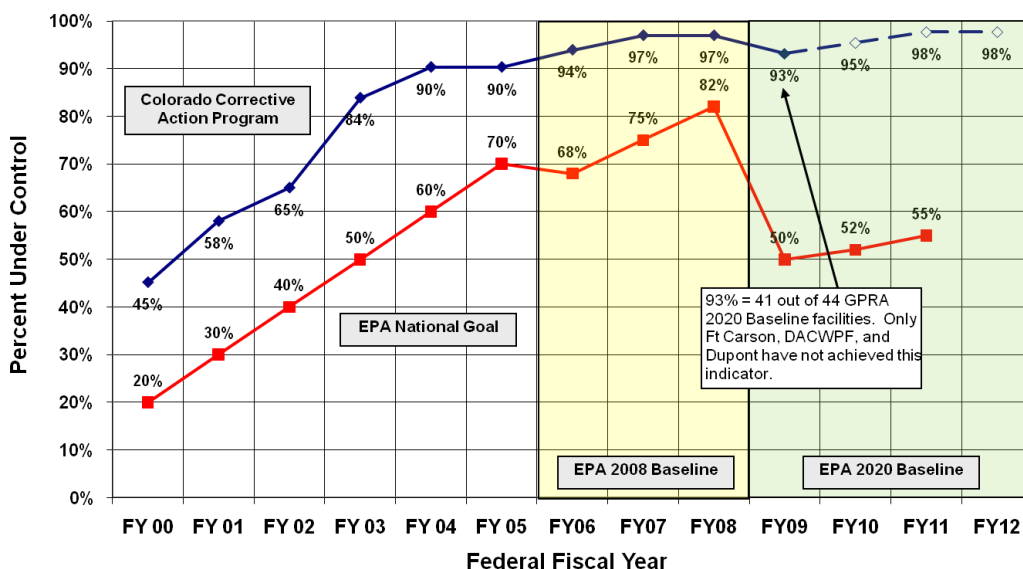
**FIGURE 10**

**Human Exposures Under Control - CA725**



**FIGURE 11**

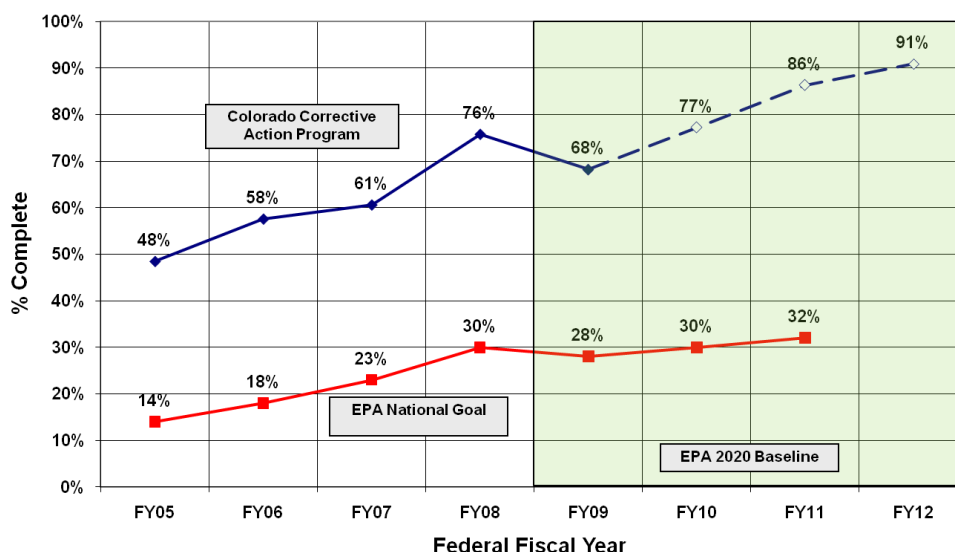
**Ground Water Releases Under Control - CA750**



Beginning in FY 2006, EPA has established an additional GPRA indicator to measure progress toward completing cleanups: the percent of high priority sites where the final remedy has been completely constructed. As shown in Figure 12, our Corrective Action program is running well ahead, and is projected to remain well ahead, of the national targets for this measure because of the good work that staff and management has performed over the last few years.



**FIGURE 12**  
**Remedy Constructed - CA550**



In the first part of FY 2006, our staff worked with EPA to develop a baseline of high priority facilities that we will track toward completion of cleanup by the year 2020. This is a national effort by EPA called the “2020 Baseline.” Colorado’s 2020 Baseline consists of 44 facilities and became the official baseline for EPA oversight purposes on October 1, 2008. Figures 10, 11, 12, and 13 already include projected information for FY 2009 through FY 2012 showing that we expect to make good progress on these metrics and remain ahead of EPA’s target, particularly for the new CA400 and CA550 indicators.

### Permitting

Facilities that manage hazardous wastes in a manner that requires permitting by the Colorado Hazardous Waste Program are referred to as treatment, storage or disposal facilities (TSDs). At present, there are 24 of these facilities in Colorado, but only 9 of the 24 are active and required to have an operating permit. Colorado has operating permits in place for all 9 of these facilities (100%) and for all 49 individual sites on those facilities (100%) – see Table 1 below. The last unpermitted unit was at Fort Carson and is an Open Detonation unit used for treatment and disposal of unusable conventional munitions for which a permit modification was completed in FY2009. Because of the addition of a new unit at the Pueblo Chemical Depot (the 94 chemical weapon storage igloos), which we do not plan to permit but rather regulate under a compliance order until they are closed, we will revert to a 98% permitted status in FY 2010.

The other 15 TSD facilities in Colorado are no longer actively managing hazardous waste, but have left waste or contamination in the ground. These facilities require post-closure care or monitoring controls. The Division has taken advantage of some flexibility afforded by EPA nationally by adopting a provision that allows certain compliance orders to substitute for post-closure permits. For those facilities that do not require permits for any other aspects of the facility, the “post-closure order” is a more efficient approach. Colorado has post-closure controls in place at 14 of the 15 facilities (93%) and 24 of 25 individual sites on those facilities

(96%) – see Table 1. Only one facility with one unit remains without an enforceable post-closure mechanism – the Rockwool site in Pueblo. This is an abandoned site with no viable owner or operator. The Division inspects the site periodically to ensure that the contaminated soil left at the site, which has been consolidated and covered with a soil cap, remains inaccessible to the public and is not impacting ground water.

**TABLE 1**

<b>Table 1 - Permit Status for Colorado TSDFs Needing Controls</b>			
<b>TSDF and Unit Categories</b>	<b>Post-Closure Controls</b>	<b>Operating Permits</b>	<b>Totals<sup>1</sup></b>
<b>Facility Level measures for Baseline Universe:</b>			
TSDs	15	9	24
TSDs with all units controlled at start of 2009	14	9	23
TSDs with all units controlled in 2009	0	0	0
TSDs with all units controlled at end of 2009	14	9	24
Facility Level Percentage	<b>93%</b>	<b>100%</b>	<b>96%</b>
<b>Unit Level measures for Baseline Universe:</b>			
Units	25	49	74
Units with controls in place at start of 2009	24	49	72
Units with controls placed during 2009	0	0	0
Units with controls in place at end of 2009	24	49	73
Unit Level Percentage	<b>96%</b>	<b>100%</b>	<b>99%</b>

<sup>1</sup>Total numbers may differ from the sum of the 3 columns because some facilities have more than one type of unit.

The Program has several staff assigned to one project that requires extensive hazardous waste permitting – the Chemical Demilitarization facility being built at the Pueblo Chemical Depot for the destruction of the chemical weapons in storage there. This is a very significant project for the Program and will remain so for about the next 10 years. Significantly, construction began on this project in FY 2008 and the final construction permit for the facility was issued by HMWMD in early FY 2009. Further permitting will be needed before the facility can commence operations – expected in 2014.

The Program continued its participation in the national Interstate Technology and Regulatory Council (ITRC). This group supports streamlining the permitting process to reduce regulatory barriers associated with innovative technologies. The approval of these technologies typically involves some version of a permitting process.

### **Information Management**

The Division continues to make a substantial effort to improve data evaluation and turn it into useful information. Some of the data presentations in this report are a continuing part of that effort. Internally, the Division has been able to develop a data management system that has enabled effective tracking of all inspections and any following enforcement actions; and to retrieve reports that provide managers with an up-to-date overview of cases. This information allows the Division to be more effective in the use of program resources and accomplish the highest priority activities.

The Division also is able to track how much time and effort is spent on different aspects of work. Improvements in the billing system allow tracking of staff time spent on review of a specific document. This improves managers' ability to identify areas that are consuming significant amounts of time, and allows decisions to be made to make appropriate improvements. It also improves the Division's ability to be accountable to those paying fees by better identifying how the money they pay is used.

Management of data is an important issue for EPA in the national hazardous waste program. Because most states are authorized to implement most of the hazardous waste program, EPA's management of national data is very complex. Colorado has advanced beyond many states in our ability to manage such information and, as such, Colorado was invited to participate on the National Design Team for EPA's national hazardous waste data system (RCRAInfo). Program staff has been participating on two national workgroups associated with this effort.

Of note, in FY 2009, we embarked on a significant data system and database upgrade. This upgrade will move us to a Microsoft Sharepoint interface and an SQL database. This enables us to migrate our data to current platforms and leave behind old Foxpro platforms that are no longer supported by the Department or by industry. This upgrade will cost the Hazardous Waste Program about \$240,000, of which \$200,000 will have to come from fee-funded accounts.

### **Maintaining Authorization**

One of the key values held by the regulated community, and one of the legislative directives from SB 00-177, was that Colorado "maintains program authorization by the federal government." When EPA goes through the process of authorizing a state for the hazardous waste program, it carefully reviews two aspects of the state program: 1) the state's statutory authorities, funding and staffing, both quantitatively and qualitatively; and 2) the state's regulations. Once the state is authorized, EPA monitors the state program to ensure that it is being implemented in a manner that satisfies the federal program requirements.

As mentioned early in this report, Colorado was authorized for the base hazardous waste regulatory program in November 1984. In July 1989, federal authorization was granted to Colorado for significant additions to the base program. One major element of that added authority was hazardous waste corrective action, which provided authority to investigate and clean up releases of hazardous waste constituents into the soil, surface water, or ground water at hazardous waste facilities. The basis for EPA's program authorization was adequate statutory authorities (CRS 25-15-101, et seq), adequate funding provided by federal EPA funds and by fees paid by the regulated community, and adequate numbers of staff with adequate expertise.

The other aspect of authorization is EPA approval of our regulations. Currently, the Hazardous Waste Control Program has adopted 100% of the necessary EPA regulations; however, EPA has only authorized 87% of the regulations. We have no control over the length of time it takes EPA to review and approve our regulations. However, it does not affect how we implement the program because we implement state regulations even when EPA has not authorized us for equivalency with federal regulations. The Division has submitted new authorization information to EPA for changes made in our regulations in 2003 through 2007. When these additions are authorized by EPA (expected now in 2010), the Program should become 100% authorized.

## Program Funding

Cash fees and an annual grant from EPA fund the Colorado Hazardous Waste Control Program. Initially, the cash fees were paid by permitted hazardous waste treatment, storage, and disposal facilities. This fee structure was adequate for many years, but in 1998, the only commercial hazardous waste landfill in Colorado experienced a significant decline in business, which resulted in a marked decline in fees to the program. This caused a significant funding shortfall and gave rise to passage of SB 00-177, which changed and stabilized the fee structure. The annual grant from EPA has continued; however, the amount of funding remained essentially unchanged from 1995 until 2001, when it was increased by about 15%. Since 2001, it has again remained flat.

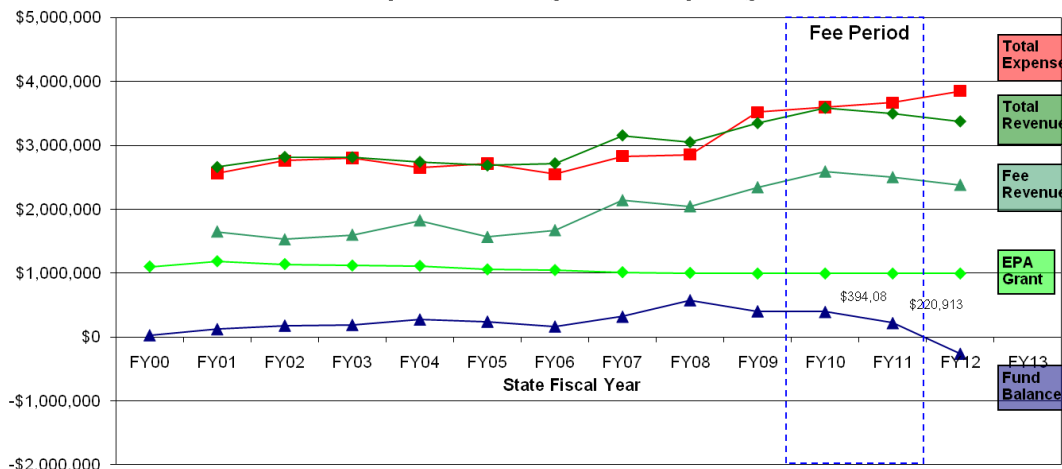
SB 00-177 created a generator fee to broaden the funding base for the program. Those changes, together with modifications to the program's fee structure approved by the Colorado Hazardous Waste Commission in February 2003, May 2006, and again in May 2009, have provided adequate funding for the program.

Figure 14 illustrates the cash revenue, the cash spending, and the cash balance in the Hazardous Waste Service Fund from 2000 through 2011. This figure shows that the program is striving to balance revenues and expenditures and maintain a small fund balance. The present fee structure is expected to fund the program adequately through FY 2011, which was the objective of the fee changes made in May 2009. We will need additional revenue in FY 2012 and beyond and expect to ask the Solid and Hazardous Waste Commission in May 2011 to increase fees effective July 1, 2011.

The Division's successes in improving efficiency are clearly presented in this report. Significant improvement has occurred and is continuing to occur in an effort to further improve efficiency and reduce costs. However, increases in costs have occurred and are projected to continue as a result of inflation. The projections presented in Figure 14 do account for inflationary cost increases, though the existing fee structure does not automatically compensate for cost increases as a result of inflation.

**FIGURE 14**

### Program Budget - FY2010 Fee Increase Option 1B: 2-year Adequacy



## SB 00-177 Summary of Requirements

The following table presents a summary of the requirements of SB 00-177 and the Program's efforts and activities to comply with each requirement. This table is intended to augment, but not replace, the presentation of information earlier in this report.

SB 00-177 Statutory Requirement Referenced section of the Colorado Revised Statutes (CRS)	Hazardous Waste Program Response
25-15-301.5(1)(a) Maintain authorization from EPA.	The program is currently 87% authorized by EPA, but has promulgated 100% of the required rules. The difference, 13%, represents rules that are currently under review by EPA. For the last several years, EPA has rated all aspects of the program very highly in their annual review. There is no concern at this point with maintaining program authorization from EPA.
25-15-301.5(1)(b) Promote community ethic to reduce or eliminate waste problems	The Program has worked hard on three fronts to accomplish this requirement: 1) our inspectors frequently work with hazardous waste generators to reduce their waste generation through process improvements, waste minimization, and better waste characterization; 2) the Program places a high priority on investigating citizen complaints; and 3) the Program makes itself available through the technical assistance telephone line and technical trainings provided around the state.
25-15-301.5(1)(c) Is credible and accountable to industry and the public	The Program endeavors to maintain credibility and accountability through 1) a high-volume, high-efficiency prioritized inspection program that maintains compliance and a level playing field and 2) a high-efficiency corrective action program that meets or exceeds its commitments to the regulated community.
25-15-301.5(1)(d) Is innovative and cost-effective	This report presents the Program's progress and accomplishments in becoming cost-effective and efficient. It also presents our commitment to, and implementation of, innovative approaches.
25-15-301.5(1)(e) Protects the environmental quality of life for impacted residents per the regulations	Our success in this requirement can be ascertained by considering our success in all of the other aspects of the Program.
25-15-301.5(2)(a) Develop, implement, and continuously improve policies and procedures for statutory responsibilities at lowest possible costs	After SB 00-177 passed, the Program set up numerous performance goals. This report presents our success in meeting those goals. In some cases, the Program has performed so well against the original metrics that they have been revised to push for continued improvement.
25-15-301.5(2)(b) Establish cost-effective level-of-effort guidelines for performing inspections that focus on major violations of regulatory requirements that pose risk to human health and the environment.	The Program has included goals in each inspector's performance plan for the number of inspections each inspector is expected to perform and for the timeliness of administrative duties associated with each inspection. These goals have been modified upwards several times over the last few years as inspector experience and efficiency improved. However, the Program now has 2 new inspectors which are still developing their skills. This report shows the Program's progress on violations associated with risks to human health and the environment.

<b>SB 00-177 Statutory Requirement Referenced section of the Colorado Revised Statutes (CRS)</b>	<b>Hazardous Waste Program Response</b>
25-15-301.5(2)(c)(I) Streamline the corrective action process through cost-effective level-of-effort guidelines for site investigations and remediation that focus on result-based outcomes and performance-based oversight by the Department.	After SB 00-177 passed, the Program set up numerous performance guidelines in the corrective action program. This report presents our success in meeting those goals. Part of the success in meeting these guidelines is the transition to performance-based corrective action. Cleanup targets – not numbers of samples, now define most of our cleanups.
25-15-301.5(2)(c)(II) Streamline the corrective action process through cost-effective level-of-effort guidelines for reviewing site investigation reports and corrective action plans.	See above response to 25-15-301.5(2)(c)(I)
25-15-301.5(2)(c)(III) Streamline the corrective action process through the use of enforceable institutional controls.	This requirement was significantly enhanced when the General Assembly passed SB 01-145, which established environmental covenants. Since passage of this bill, which the Program helped draft, the Program has utilized environmental covenants that enforce the institutional controls in every remedy where they are included to protect human health and the environment.
25-15-301.5(2)(c)(IV) Streamline the corrective action process through realistic clean-up standards that address actual risk to human health and the environment on a site-specific basis and account for institutional controls.	The Program has developed generic soil and ground water protection cleanup guidelines for the more common exposure scenarios, thereby relieving parties performing cleanups the expense of having to hire a risk assessor to perform this work for them. We are in the process of revising these tables, with the hope of making the risk equations employed available on the Department's website for interactive use so that individuals may calculate cleanup levels themselves. The Department has also allowed the use of risk-based soil cleanup numbers developed by other states or the EPA. Facilities have always had other options: 1) the flexibility to calculate site-specific cleanup standards of their own if they so choose, which factor in specific conditions and documented exposure assumptions; 2) using an environmental covenant to allow greater levels of contamination to remain behind following cleanup, achieving similar levels of protection through property use controls; or 3) seeking waivers to established State ground water standards through the Water Quality Control Commission, to allow for increased levels of contamination that can be left at a site.
25-15-301.5(2)(d) Establish cost-effective level-of-effort guidelines for enforcement activities.	The Program has significantly improved the efficiency and cost-effectiveness of enforcement activities over the last several years and we do operate under timeliness guidelines established in the Program's Enforcement Response Policy. However, because of the importance of quality workmanship in enforcement actions, and because each action is very site- and violation-dependant, the Program has not established firm level-of-effort guidelines. However, to meet our timeliness goals, level of staff effort on any given enforcement action has to remain at or below certain metrics.
25-15-301.5(2)(e) Establish schedules for timely completion of Department activities including submittal reviews, inspections, inspection reports, and corrective action activities.	The Program has established and is routinely meeting and exceeding the timeliness guidelines that have been established for these activities and other activities.

<b>SB 00-177 Statutory Requirement Referenced section of the Colorado Revised Statutes (CRS)</b>	<b>Hazardous Waste Program Response</b>
25-15-301.5(2)(f) Establish a prioritization methodology for completing activities that focuses on actual risk to human health and the environment.	The body of this report explains how priority schemes are used in setting inspection schedules. For corrective action, this report also presents results for the Government Performance and Results Act (GPRA) high priority clean-ups.
25-15-301.5(2)(g) Establish a preference for compliance assistance with at least 10% of the annual budget amount being allocated to compliance assistance efforts.	Earlier in this report, we present the percentage of staff time and budget that is spent on compliance assistance activities (16% in FY 2009). We also discuss all of the innovative work being done by the Program in the compliance assistance arena.
25-15-301.5(2)(h) Establish a preference for alternative dispute resolution mechanisms.	The Department already has established this preference. In recent years, the Program has not had many disputes.
25-15-301.5(2)(i) Establish a mechanism that continually values and provides incentives for further improvements in the Program's policies and procedures.	The Department and Division have vital rewards and recognition programs where process improvements or any innovative idea can be, and will be, rewarded.
25-15-301.5(3) Submit an annual report to the General Assembly by February 1 <sup>st</sup> of each year.	This report is the 9th annual installment of the Program's efforts to meet this requirement.

## CONCLUSIONS

As discussed in this report, the Hazardous Materials and Waste Management Division has implemented and is maintaining significant improvements to the Hazardous Waste Control Program to satisfy the expectations set out by SB 00-177 (Section 25-15-301.5, C.R.S). This report explains how each of these statutory expectations have been met:

- 1) maintaining program authorization by the federal government (EPA);
- 2) maintaining a program that is credible and accountable;
- 3) maintaining a program that is innovative and cost-effective;
- 4) developing level-of-effort guidelines for inspections, enforcement, and corrective action;
- 5) streamlining the corrective action process;
- 6) prioritizing activities based on risk; and
- 7) emphasizing compliance assistance efforts.

As a result of the efforts undertaken by the Hazardous Waste Control Program, both the efficiency and effectiveness of the Hazardous Waste Control Program have been significantly improved. Major program accomplishments include the following:

- continuing our emphasis on innovative compliance assistance projects;
- dramatically increasing inspection efficiency and corrective action efficiency since 1999;
- substantially improving timeliness of enforcement actions;
- streamlining the corrective action process using the Corrective Action Plan provision;
- developing and meeting level-of-effort and total time guidelines for reviewing corrective action submittals; and
- exceeding national goals set by the U.S. Environmental Protection Agency for corrective action, permitting, inspections, and enforcement.

Further efforts will continue in order to improve the Hazardous Waste Control Program. The generator fees authorized by SB 00-177, and adjusted by the Colorado Hazardous Waste Commission in 2003, 2006, and again in 2009, have stabilized revenue to the program. When combined with the efficiency improvements, these fees should provide adequate funding for the program through FY 2011.