

Department of Fire Prevention and Electrical Safety 2007 Annual Report

Agency Name: *Department of Fire Prevention & Electrical Safety (DFPES)*

Director's Name and Official Title: *Lanny Applegate, State Fire Marshal- Director*

Agency Contact Person: *Lanny Applegate*

Agency Contact Phone: *(307) 777-6385*

Mailing Address: *122 West 25th Street, Herschler Building 1 West, Cheyenne, Wyoming 82002.*

Web Address (URL): <http://wyofire.state.wy.us>

Other Locations: *Our main office is located in Cheyenne with field offices in Riverton, Douglas, Green River, Sheridan, Afton, and Worland.*

Statutory References: *Our statutory references are W.S. 35-9-101 through 35-9-130.*

Clients Served: *The clients served by our agency include the Fire Service, Law Enforcement, Architects, Engineers, Building and Fire Code Officials, Federal/State/County agencies, Building and Electrical Contractors, Electrical Industry, Media, Child Care Providers, and the General Public.*

Budget Information: *The total operating budget for the department for FY07-08 is \$6,044,333.00. Of this amount \$5,567,379.00 are General Funds, and \$476,954.00 are Other Funds (electrical licenses and permits).*

Division Budgets: **Administration:** \$1,506,203.00 **Fire Prevention:** \$1,595,857.00

Electrical Safety: \$1,752,319.00 **Training:** \$1,189,954.00 **Wyoming Fire Academy:** \$899,218.00

Boards & Commissions: *The State Electrical Board reports to the Department of Fire Prevention and Electrical Safety, and has five members who are appointed by the Governor. The State Electrical Board meets twice a year to meet the statutory mandated requirement.*

The Council on Fire Prevention and Electrical Safety reports to the Department of Fire Prevention and Electrical Safety, and has five members who are appointed by the Governor. The Council on Fire Prevention meets twice a year to meet the statutory mandated requirement.

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Plan Period: FY2007 (July 1, 2006 through June 20, 2007)

Results Statement:

- ✦ Wyoming families and individuals living in a stable, safe, supportive, nurturing, healthy environment.
- ✦ A diverse and stable economy that provides a livable income and ensures wage equality.

Our Contribution to Wyoming Quality of Life:

Through aggressive and effective electrical and fire prevention programs we can:

- ✦ Ensure Wyoming children; families, and the public are safe from fire and electrical hazards.
- ✦ Protect the stability of our economic base through effective fire prevention and firefighter training programs.
- ✦ Be responsible as a steward of state assets and effectively responds to the needs of residents and guests.

Department Facts:

The Director/State Fire Marshal of the agency is Lanny Applegate. The contact person for the agency is Lanny Applegate, 122. West 25th Street, Herschler Building, 1 West, Cheyenne, WY 82002; our web address is <http://wyofire.state.wy.us>, and our phone number is 307-777-6385. Our agency's statutory references are W.S. 35-9-101 through 35-9-130.

The Department of Fire Prevention and Electrical Safety consists of 36 personnel in 5 divisions: Administration (4), Fire Prevention (10), Electrical Safety (11), and Training (11). Our main office is located in Cheyenne with field offices in Riverton, Douglas, Green River, Sheridan, Afton, and Worland.

The clients that are served by our agency include the following: Fire Service, Law Enforcement, Architects, Engineers, Building & Fire Code Officials, Federal/State/County agencies, Building & Electrical Contractors, Electrical Industry, Media, Child Care Providers, and the General Public.

Funding: The total operating budget for the department for FY 07-08 is \$6,044,333.00. Of this amount \$5,567,379.00 are General Funds, and \$476,954.00 are Other Funds (electrical licenses and permits).

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Six primary functions of our Department:

1. ***Conduct Fire and Life Safety, and Electrical Inspections*** in public buildings such as hotels/motels, schools, day cares, restaurants, and institutions.
2. ***Train Firefighters*** from across Wyoming in all aspects of fire suppression and fire prevention.
3. ***Provide Fire and Safety Education Programs*** to the children, families and general public in Wyoming.
4. ***Collect and Analyze Fire Data*** to identify fire problems and trends so resources are accurately directed towards their mitigation.
5. ***Conduct Non-Structural Plan Reviews*** for compliance with fire and life safety and electrical codes on public buildings being constructed or remodeled.
6. ***License*** all electricians working in the state and ***issue permits*** for electrical work being conducted across the state.

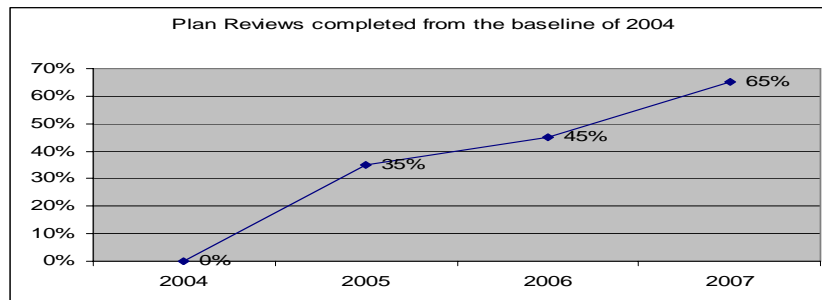
Performance Measures:

Updated performance measures to reflect our work of the previous year follow.

All of our major business processes are interconnected in some way. If a fire occurs and an investigator is dispatched to help determine the origin and cause as part of their investigation, they need access to plan reviews for the property as well as any fire or electrical inspections that have taken place. Currently, information is stored in numerous systems, none of which are connected and easily accessible. In FY2007-2008, a business case was submitted for the purpose of re-engineering our 5 major business processes in order to increase efficiencies within the department and increase service to our constituency. The monies appropriated were to begin the first phase of the process with an understanding that additional monies would be requested to finish the project during FY2008-2010.

Performance Measure #1

Percentage increase in construction plans reviewed.



Story behind the Performance Measure #1:

We cannot control the number of project plans we review for code compliance, but the trend has been, and continues to be increasing. Construction across the state is projected to continue to increase which directly impacts us in carrying out our responsibilities. Plan reviews increased by 35% in 2005. We cannot, in a meaningful way, alter the time it takes to complete any of the processes without integrating technology into them. Without streamlining the process and employing a system where we reduce redundant data entry, manual record searches, and staff time “triaging” via phone and mail our service will be decreased.

The current business processes we use are labor-intensive with each requiring manual processing by staff, extensive use of phone and letters, and manual searches of numerous databases and hard files for application accuracy and information. Statute allows for 21 days to complete the initial phase of a plan review. Currently our average runs about 15 days during peak review times, but we believe with available technologies, we can dramatically shorten the process; resulting in better service to our constituents. With the current process’ we cannot accurately measure our effectiveness because the information is housed in unconnected databases and paper files.

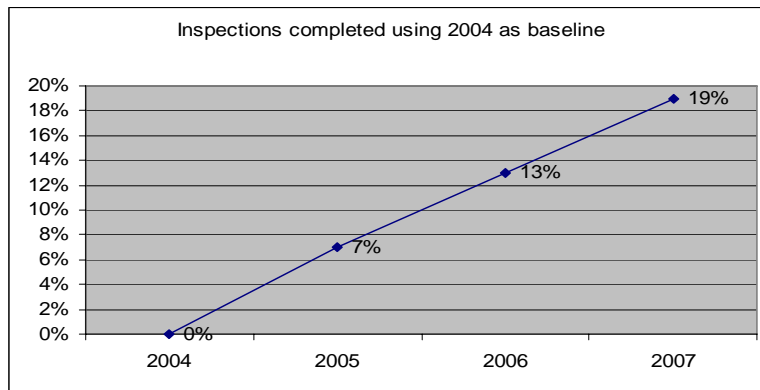
What has been accomplished:

We are requesting monies in the FY2009-2010 budget to complete the business case, enabling us to re-engineer our 5 major business processes in order to increase efficiencies within the department and increase service to our constituency.

In 2006/2007, we completed 312 plan reviews: 161 building reviews, 98 sprinkler and alarm system reviews, and 55 above ground tanks and hood suppression system reviews.

Performance Measure #2:

Percentage of Fire Inspections Being Completed.



Story behind Performance Measure #2:

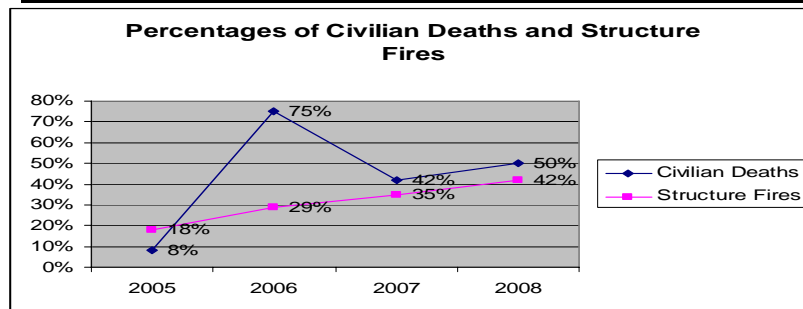
Fire Prevention – Fire inspections are generated from primarily 2 sources. First, priority plan review inspections come from any buildings newly constructed or remodeled that go through the plan review process of the agency. Second, maintenance inspections are prioritized and conducted using the following general criteria; educational facilities, hotels/motels/senior centers, State owned/public leased buildings, assembly occupancies, day care centers, business occupancies, and above ground storage facilities.

What has been accomplished:

Inspection numbers have consistently increased since 2004, with the exception of a spike in numbers for 2006. For 2006, the number of inspections used for the baseline was 2106. The number of inspections in 2007 is 2408. Construction activity in Wyoming looks very positive for the foreseeable future: as such, demand for plan review, life and fire safety inspections will increase each year.

Over the past few years, a significant pay disparity has developed in the field offices between electrical and fire inspectors. In order to ensure a highly motivated work force amongst the fire inspectors, it is proposed to develop some degree of parity with regard to pay. There is a request in the FY2009-2010 budget to address this issue.

Performance Measure #3: Percentage of fire departments engaged in fire prevention and public education programs through our Department.



Story Behind the Performance Measure #3:

There is a great deal of data that supports the idea that fire prevention measures, specifically, fire fatalities/injuries and property loss can be significantly reduced through public education programs.

Center for Disease Control (CDC) Fire Deaths and Injuries: Fact Sheet Overview

Deaths from fires and burns are the fifth most common cause of unintentional injury deaths in the United States (CDC 2005) and the third leading cause of fatal home injury (Runyan 2004). The United State's mortality rate from fires ranks sixth among the 25 developed countries for which statistics are available (International Association for the Study of Insurance Economics 2003).

Although the number of fatalities and injuries caused by residential fires has declined gradually over the past several decades, many residential fire-related deaths remain preventable and continue to pose a significant public health problem.

Occurrence and Consequences

- On average in the United States in 2005, someone died in a fire about every 2 hours (143 minutes), and someone was injured every 29 minutes (Karter 2006).
- Four out of five U.S. fire deaths in 2005 occurred in homes (Karter 2006).
- In 2005, fire departments responded to 396,000 home fires in the United States, which claimed the lives of 3,030 people (not including firefighters) and injured another 13,825, not including firefighters (Karter 2006).
- Most victims of fires die from smoke or toxic gases and not from burns (Hall 2001).

“Smoke Detectors Saves Lives” – National Fire Protection Association

What has been accomplished:

We expanded the Smoke Alarm Placement Program to include more communities concentrating on homes of the elderly and low income families with children. We continue to seek partnering with state and local agencies, as well as community fire departments, to identify households needing adequate protection provided by working smoke alarms and grant funding sources to acquire additional funding.

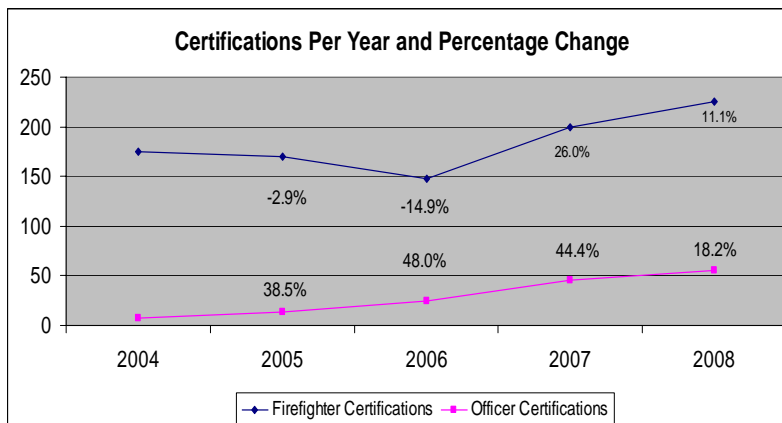
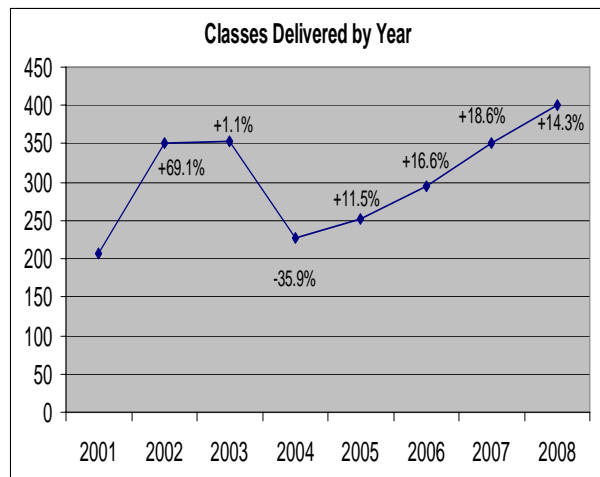
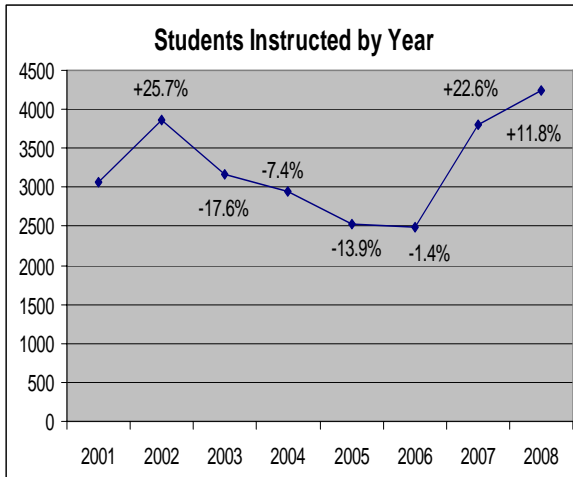
We continued the grant funded Juvenile Firesetter Intervention Program (initiated June 2004), providing education on juvenile firesetter problem to mental health providers, law enforcement personnel and the Wyoming fire service to provide opportunities for early intervention and education.

In partnership with local fire departments, continue to target occupancy types that are showing the highest frequency of fires, property loss and lives lost for increased education and assist the local fire departments organize and implement an educational program that addresses this.

Continue to utilize new and exciting methods of providing fire prevention and fire safety education.

Expanded and developed new relationships with other State agencies and other likeminded agencies outside of State government to provide additional avenues for fire prevention education.

Performance Measure #4: Monitoring Trends In Training/Education



Story behind the Last Year of Performance:

In 2006 the Training Division of the Department of Fire Prevention and Electrical Safety taught 295 classes to 2,495 students. This represents a 16.6% increase in classes from 2005 and a 1.4% decrease in students. Additionally, we experienced a 48% increase in officer certifications while experiencing a 14.9% decrease in firefighter certifications.

While some of these numbers may seem contradictory, they are a direct result of the division's mission to deliver firefighter training. This means going to the small fire departments with small numbers of firefighters and ensuring they receive whatever training they need. Additionally, we rolled out a number of new programs in 2006 including an on-line training program. Initially the fire service was hesitant to take advantage of these classes, but once they were proven to work attendance skyrocketed. By December of 2006 there were over 200 students a week enrolled in these programs.

Lastly, many of these new comprehensive basic firefighter programs will not be completed in 2006, thus the decrease in firefighter certifications in 2006. At the same time, however, by focusing on offering fire officer and basic training at small local fire departments, we increased the number of fire officer certifications being completed.

What has been accomplished:

Already the initiatives begun in 2006 are showing results. In the fourth quarter of 2006, all numbers are ahead of projection, and more requests for training are coming in. This year promises to be a record year for training delivery from the agency, and with the future acquisition of the Wyoming Fire Academy, it is looking to get even busier.

Supplemental Budget Implications:

The division will submit a supplemental budget request of \$31,189.45.

As a requirement to meet the National Fire Protection Association (NFPA) standards, and due to an increased usage and increased wear and tear on existing Personal Protective Equipment (PPE), we are requesting an additional amount to meet safety standards.

The NFPA 1971 standard for PPE has changed to require that all firefighter Personal Protective Equipment (PPE), manufactured be equipped with a Drag Rescue Device. Currently none of the agency's PPE meets this safety standard. This Drag Rescue Device allows other personnel to drag an injured firefighter to safety utilizing the harness woven into the PPE. PPE is the basic equipment that DFPEs personnel train firefighters to use. It keeps our firefighters protected during emergencies, and training. Typically, the Training Division would absorb the cost of maintaining and upgrading this equipment through its standard budget as needed. The current year (2006) is proving to be a record year for the number of classes taught by the Training Division of the DFPEs. As a result, our existing PPE is showing signs of additional wear and tear (such as fading points on knees and elbows) and will need to be replaced more frequently. Additionally, with a large number of fire departments receiving grants for PPE in the past years, and with the new standard, our cost has significantly increased.

Training Division - 2006

Train Firefighters

295 Classes delivered – up 16.6%

2,495 Students instructed – down 1.4%

148 Firefighter certifications issued – down 14.9%
 45 Fire officer certifications issued – up 48%

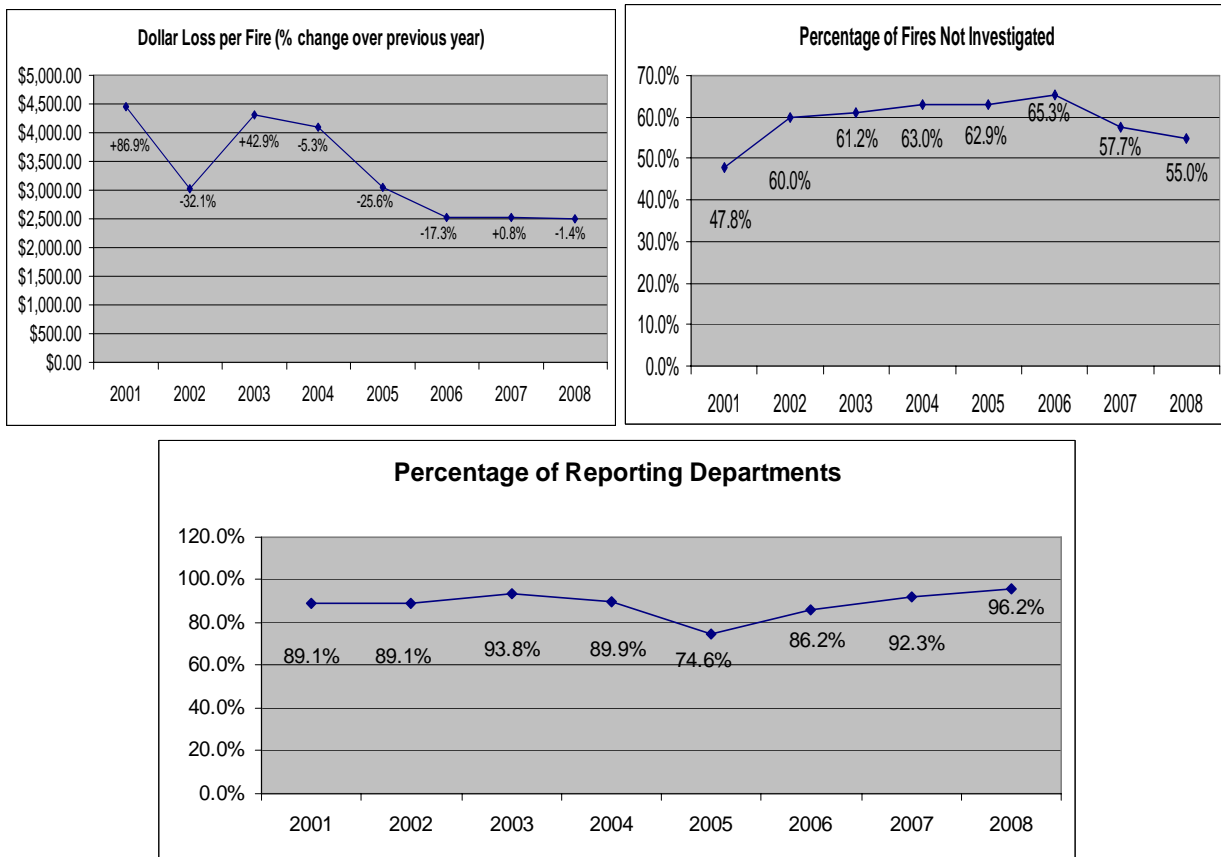
Critical analysis of the fire problem

32,259 Total Calls for service – up 7.6%
 4,846 Fire incidents reported – up 17.2% - 13.5% of the total calls
 18,498 Emergency Medical calls – 57.3% of the total calls
 3,180 Good Intent/Cancelled En-route – 9.9% of the total calls
 1,921 False Alarms/False reports – 6.0% of the total calls
 1,509 Fires properly documented – down 2.4%
 112 Fire departments reporting – up 11.6%
 \$2,515.71 Dollars lost per fire – down 17.3%

Investigate fires

35 Fires investigated by the DFPES – up 29.6%
 23 Fire investigation classes taught – up 228%
 156 Students instructed – up 29.5%
 3.9% of all Wyoming firefighters trained in fire investigation

Performance Measure #5:
Monitoring Trends In Fire Reporting



Story behind the last year of performance:

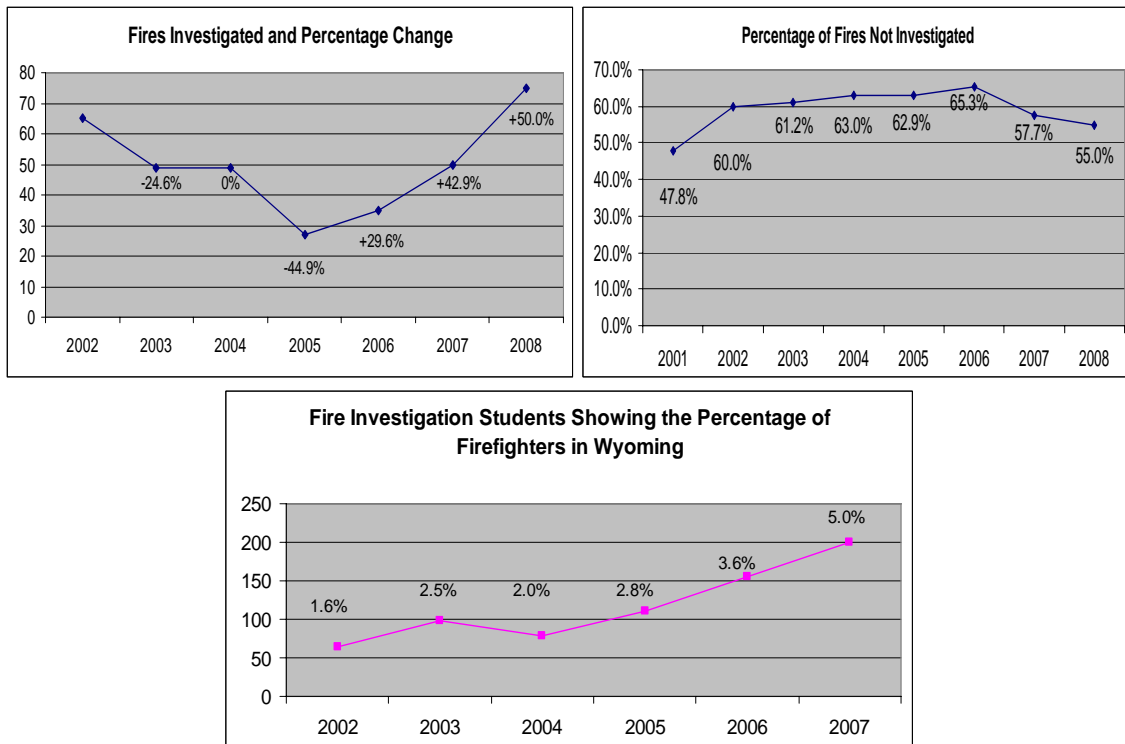
In 2006 the DFPES Training Division began to actively seek out fire departments that had not been reporting and see what corrective action could be taken. Additionally, we began to seriously look at ways to conduct valid quality control measures on the incident reports that were coming in (almost 33,000 of them). Some of our activities experienced difficulties, however, when 2006 proved to be a busy year for fires across Wyoming. This increased call volume across the state did affect report quality despite our new initiatives.

The end result is, in 2006 there was an 11.6% increase in the number of reporting fire departments, but the number of correctly reported fires also increased by 2.4%. Also, despite the increase in construction costs in a booming economy, the dollar loss per fire experienced a 17.3% decrease. This is a result of a combination of factors. Because of the increase in fires in 2006, and the increase in reporting departments, we were not able to quality control fire reports to the extent we would like; thus, while call volume and costs are increasing, the evidence points to fires actually causing less damage.

What has been accomplished:

In 2006 we did launch a program to improve the quality of fire reporting. This was in addition to providing fire report training not only at fire schools, but to the local fire department at their location. Despite the additional call volume that was experienced, some gains were made. At this point it is still too early to abandon or re-vamp these measures. Instead we will continue to offer more local training, continue our quality control efforts, and continue to get more voluntary compliance with incident reporting by fire departments.

**Performance Measure #6:
Monitoring Trends In Fire Investigations**



Story behind the last year of performance:

In 2006 we continue to overcome some misunderstandings with the Wyoming Fire Service about fire investigations. As a result of our efforts, fire investigation requests increased 29.6% over the previous year. Also, through our aggressive program of providing all types of training (firefighting, fire investigation, hazmat, etc.) to and at local fire departments, we managed to increase the number of students who attended fire investigation training.

Despite the increase in these two indicators, however, the number of incorrectly reported fires rose 2.4%. Although part of this can be attributed to what was a very busy year for fire calls in the state (over 4,400), it does not excuse the increase. Some remedial training will need to be conducted to educators so they emphasize the need for proper fire reports, when they conduct the fire investigation training.

Through a more “hands-on” communication approach with local fire departments, both through training, while conducting investigations, and while attending functions around the state, the agency has been able to continue the positive trends mentioned above and are working on reversing the trend of poor incident reporting. So far we are meeting the 2007 projections.

What has been accomplished:

Through more face to face communication with the fire service, and a more aggressive program of providing training at the local level we have increased the quality and quantity of fire investigations occurring in Wyoming. Now we need to work more on incident reporting to make certain the paperwork shows this improvement as well.

Performance Measure #7:

Electrical Inspections are a priority to ensure that the facilities in Wyoming are safe from electrical hazards and fire.

Plan Review	1786
Permits	2509
Other	1127

The table above depicts the types of electrical inspections and how many inspections were accomplished in 2007.

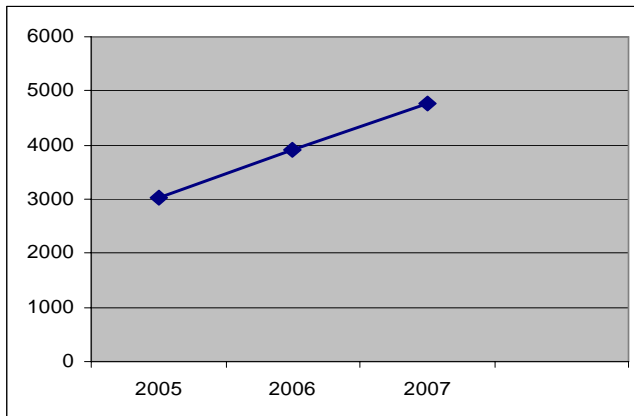
Below is a brief description of the types of inspections performed by our electrical inspectors.

- 1. Plan Review Inspections:** Our plan review division reviews plans sent in by professional engineers, architects and designers. Once the plans are approved they are assigned to the appropriate inspector. Since plan review projects are constructed in phases they are usually inspected more than once. In FY2007, the Electrical Plans Examiner reviewed **178 electrical plans**, which as you can see in the above **graph generated 1786 inspections**. Currently we inspect 100% of all electrical plan reviews.
- 2. Permit Inspections:** Electrical Wiring Permits are required by statute prior to electrical power being energized by the power company. In FY 2007, **4197** permits were processed in the office by the permit technicians and then assigned to the appropriate inspector for inspection. Out of the 4197 permits received, **2509** permit inspections were completed. Since electrical wiring is also done in phases, these can be inspected more than once. Due to the quantity of permits each

inspector receives monthly, permits get inspected in a priority manner. Paid inspections would come first with public facilities following compared to a simple residential re-model, etc.

- Other Inspections: Cease & Desist Orders, Safety, Complaint, License verification, Courtesy, public Assist and Warning Notices.** These are usually initiated by phone calls, in which we are notified of an electrical hazard, unlicensed electricians, or someone needing advice on their electrical installations. Warning notices are usually not issued on the first occurrence. However, if the contractor or electrician is sited a second time for a licensing violation, permit violation or a NEC violation, a warning notice is issued. If a third warning notice is issued, the contractor or electrician may appear in front of the Electrical Board for a possible revocation of his license.
- In the past fiscal period we performed 5,422 Inspections and drove 172,713 miles.

Performance Measure #8:
Professional Electrical Licenses' Issued 2005-2007



2005	3031
2006	3905
2007	4769

Story behind the last two years of electrical license issued:

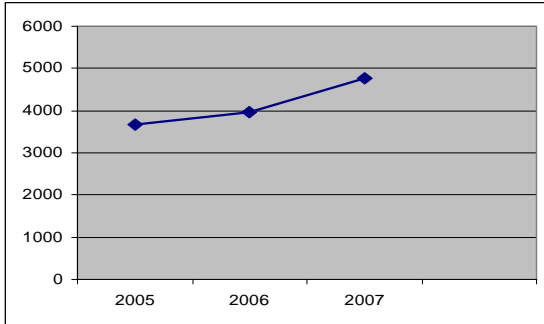
The Electrical Licensing Division has 13 different categories of professional license. Annual licenses include Electrical Contractor's and 11 categories of Limited/Low Voltage Contractors, Apprentice Electricians and 11 different categories of Apprentice Technicians. All of these licenses need to register or renew yearly.

Tri-annual licenses include Master, Journeyman and Low/Limited Technicians that were processed either by exam, reciprocity or by renewal, as these licenses are good for and renew every 3 years. Therefore, these numbers will vary from year to year depending on which year they received the tri annual license.

All licenses are considered a professional license. The Occupational Licensing Specialist reviews all applications and data required for licensing and examinations; including, verifying education, training, work experience, licensure in other states and the status of disciplinary actions. These must be verified before the issuance of a license or allowing an applicant to sit for an exam. This is very time consuming but as part of our new business case, the on-line application process for electrical licensing will improve this situation.

**Performance Measure #9:
Electrical Permits**

Electrical Wiring Permits Received For Processing 2005-2007



2005	3677
2006	3975
2007	4769

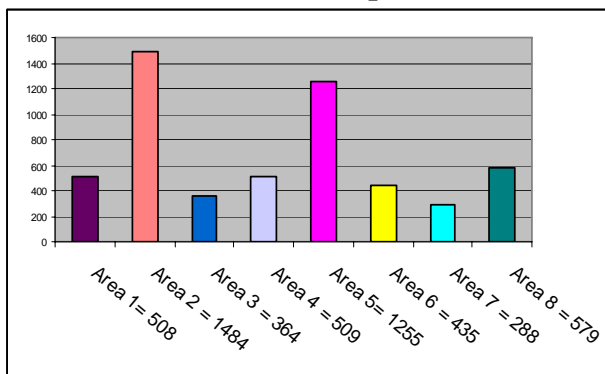
Story Behind the number of Electrical Permits received in this office in 2007?

The amount of electrical permits received (per statute) in this office keeps increasing by approximately 3%. It is obvious that there is a need to integrate faster technology and reduce redundant data entry by staff. Instead constituent should be able to enter on-line which will then alter the time it takes to complete the permit process and reduce the turn around time. The result is that we are slow in processing applications, which in turn negatively impacts our constituent's ability to conduct their business. However, the online permitting is expected to be online October 2007. This is going to speed up the permitting time and allow for 24 hour turn around time in the permit process.

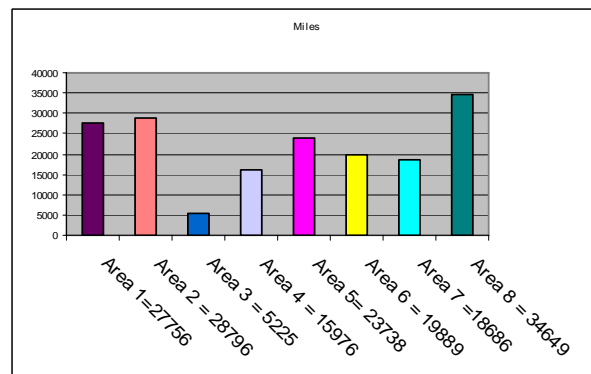
Performance Measure #10:

Electrical Inspection's By Area & Miles traveled in 2007

Area Inspections



Area Miles



The Department of Electrical Safety would like to measure the inspector's area of inspections. It is hard to predict the construction and growth Wyoming may experience in the next 3 years, but by tracking the miles and the amount of inspections in any one area, we can monitor what area needs help with code enforcement and inspections, if any. The 8th inspector is our licensing investigator who travels all over the state to conduct license checks and issue warning notices. Please note that the license investigator also assist the training division with requested fire investigations. Based on the projected inspection growth, we are foreseeing the need to hire an additional inspector to assist in vacations and inspections.

Department of Fire Prevention & Electrical Safety

Organizational Chart

