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# CHAPTER 1

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## Background

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***DFPES has a wide range of duties.***

The Department of Fire Prevention and Electrical Safety's (DFPES, or "Department") mission is to protect life and property from fire and electrical hazards. DFPES duties are highly varied. They include conducting fire and electrical inspections; conducting plan reviews for public buildings before their construction or remodel; issuing permits for electrical work; licensing electricians; training local firefighters; and investigating fires (see Appendix A for selected statutes).

DFPES performs some duties statewide and others only in certain parts of the state. Statewide duties include licensing electricians, training firefighters, and delivering public education programs. The Department carries out code enforcement activities (fire and electrical plan reviews and inspections, and electrical permitting) only in areas that have not taken local enforcement authority.

***Most Department funding is from the General Fund.***

For the '09-'10 biennium, the Legislature appropriated just under \$7.7 million for the Department. Over 90 percent, or almost \$7.2 million, is from the General Fund while the remainder comes from electrical licenses and permit fees.

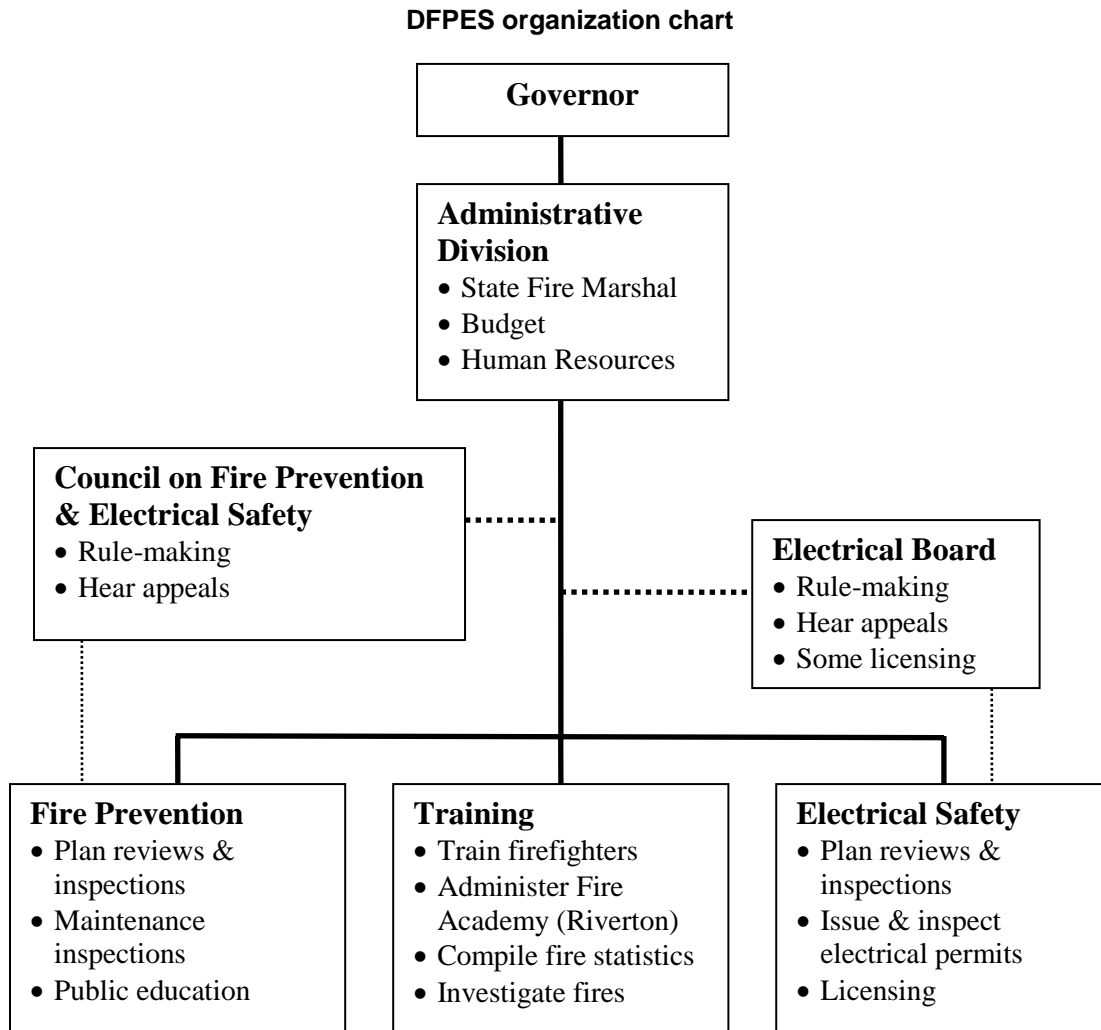
### **DFPES is a small agency with two boards**

The State Fire Marshal directs the Department's 36 staff organized in four divisions: Administration, Fire Prevention, Electrical Safety, and Training; Figure 1.1 shows the Department's organization chart. The main office is in Cheyenne, with field offices in Afton, Douglas, Green River, Laramie, Riverton, Sheridan, and Worland. Figure 1.2 shows which DFPES offices have fire inspectors, electrical inspectors, and trainers (see Appendix B for region maps).

DFPES acts sometimes in an enforcement role, as when ensuring that electricians are properly licensed, and other times in a support or service mode, as when delivering requested training to local fire departments. Firefighters can receive training at the Fire

Academy in Riverton, or from the Training Division staff who travel the state to deliver training (see Appendix C). This report focuses on the Department's enforcement roles in the Fire Prevention and Electrical Safety Divisions.

Figure 1.1



Source: LSO summary of DFPES documents

**Figure 1.2****DFPES field staff by job and location  
2008**

	<b>Electrical Inspectors</b>	<b>Fire Inspectors</b>	<b>Trainers</b>
Afton	1		
Cheyenne	1		1
Douglas	1	1	
Green River	1	1	1
Laramie	1		
Riverton	1	1	2
Sheridan	1	1	1
Worland	1	1	

Source: LSO summary of DFPES documents

***The Council and Board adopt rules and hear appeals.***

Statute places two boards within the Department: the Council on Fire Prevention and Electrical Safety in Buildings (“Council”), and the Electrical Board (“Board”). These two bodies – not the State Fire Marshal and Department – are responsible for adopting rules and regulations. Statute requires both to hear appeals about the suitability of alternative materials and types of construction, and to interpret and grant variances from rules and regulations. The Board also hears appeals of licensing decisions.

Certain of their responsibilities differ: the Council adopts fire and life safety codes that apply statewide and recommends minimum qualifications for local inspectors, while the Board suspends or cancels electrical licenses for flagrant violations of statute, rules, or regulations. The Board does not need to adopt the electrical code; W.S. 35-9-120 requires electrical work done in the state to comply with the National Electrical Code.

**DFPES activities generate fees**

***Most fee revenues go to the General Fund.***

In FY '08 the Department collected \$1.16 million in fee revenues, nearly half of which came from electrical license fees. Seventy percent of that amount, or almost \$820,000, went to the General Fund, with the Department keeping the remainder. Prior to 1999, all fees went to the General Fund; since 1999, the Legislature has

directed plan review fees to the General Fund, while allowing the Department to keep half of the electrical fees from permits, inspections, and licensing. This fee income supports three of the Division's eight electrical inspector positions.

## **DFPES staff enforce code throughout the state, with two major exceptions: local enforcement jurisdictions and exempt industries**

### ***Statute requires DFPES to conduct certain types of inspection.***

Statute gives DFPES a mix of mandatory and discretionary duties related to code enforcement. It directs that the Department *shall* conduct plan review and fire maintenance inspections on state buildings, while it *may* conduct other fire maintenance and electrical permit inspections. The Department's enforcement authority is also mixed: many industries are exempt from DFPES oversight, and local jurisdictions can opt for local enforcement authority.

### **DFPES inspectors and plan reviewers check for code compliance**

The two divisions on which this report focuses, Fire Prevention and Electrical Safety, work to ensure that buildings in the state's jurisdiction comply with applicable code.

### ***Both the Fire Prevention and Electrical Safety Divisions enforce code.***

- The Fire Prevention Division enforces the fire and life safety codes adopted by the Council. These standards are the international codes for building, fire, mechanical, and fuel gas. The Department is responsible for enforcing only the fire and life safety sections of these codes; statute does not direct it to enforce other sections of those codes, such as the structural requirements in the International Building Code.
- The Electrical Safety Division enforces the National Electrical Code developed by the National Fire Protection Association.

The International Code Council and the National Fire Protection Association update codes every three years and as a result, the state's codes also change every three years. These associations

develop codes reactively, meaning they tend to develop and revise them after a problem occurs.

***The Electrical Safety Division licenses electricians, issues permits for electrical work.***

Both divisions ensure code compliance by conducting plan reviews and inspections, but beyond that, their responsibilities differ somewhat. Only fire inspectors conduct maintenance inspections of completed buildings; only the Electrical Safety Division licenses electricians and requires permits for electrical work. Figure 1.3 shows the number of inspections carried out in FY '08.

**Figure 1.3**

**Inspections conducted by DFPES  
FY '08**

<b>Inspection Type</b>	<b>Fire</b>	<b>Electrical</b>
Plan review inspections	987	2,646
Fire maintenance inspections	1,456	-
Electrical permit inspections	-	3,403

Source: LSO analysis of DFPES data

**DFPES delegates code enforcement to some local jurisdictions**

***Local jurisdictions can choose to adopt and enforce code.***

Statute directs the State Fire Marshal to delegate authority for plan reviews, inspections, and permits to those municipalities and counties that apply to enforce code. Local jurisdictions can choose which codes to enforce, but W.S. 35-9-121 requires them to adopt code that is equal to or more stringent than the code adopted by the Council. DFPES retains jurisdiction over the parts of code and the geographic areas that local jurisdictions do not take (see Appendix D for map and table showing which jurisdictions have local enforcement authority.)

**Some industries are exempt**

DFPES' code enforcement activities do not apply to all individuals and industries. Fire maintenance inspections and plan reviews are limited to public buildings, with the exception of aboveground fuel dispensing tanks which must receive a plan review if they dispense to the public, regardless of whether the tank is public or private. Electrical permit and licensing

requirements cover more than just public buildings. Permits are required for any type of work that requires a utility to connect or reconnect power; licenses are required to do any type of electrical work. However, statute exempts some industries from these requirements, including oil and gas field operations, mines, and railroads (see Appendix E for list of exemptions).

### **DFPES plan reviews are required for public buildings**

#### ***Plans are reviewed for compliance with fire, life safety, and electrical codes.***

DFPES has plan reviewers in both the Fire Prevention and Electrical Safety Divisions who, in areas over which the state has jurisdiction, review building plans for compliance with fire and life safety and electrical codes. Construction should not begin until plans are approved, but before that, reviewers often require submitters to make corrections or provide more information.

According to W.S. 35-9-108, certain public buildings must receive a plan review before beginning construction or undergoing remodeling, if the remodel costs more than \$25,000 or affects a built-in fire protection system:

- State and local government owned or leased buildings
- Public buildings over 5,000 square feet
- Multi-story public buildings
- Child care centers for more than ten children
- Public bars, lounges, restaurants, night clubs, lodge halls, theaters, churches or public meeting places regardless of size
- Aboveground fuel dispensing facilities (public and private)

#### ***Fire and electrical inspectors inspect plan review projects during construction.***

Fire and electrical inspectors often inspect a project several times during construction to verify compliance with approved plans and code. The number of inspections can range from one to ensure a high school grandstand is safe, to over 100, as with the state's largest construction project, the medium security correctional institution in Torrington. As of July 2008, that project had received at least 116 electrical and 19 fire inspections.

For plan review inspections, fire and electrical inspectors sometimes coordinate their inspections. When construction conforms to approved plans, the Department issues a certificate of

occupancy for new buildings, or a letter of compliance for remodeled buildings and aboveground fuel storage tanks.

***Maintenance inspections look at the use of a building after construction.***

**Fire inspectors also conduct maintenance inspections**

In addition to inspecting plan review projects during construction, fire inspectors also conduct maintenance inspections of existing public buildings to ensure ongoing compliance with fire and life safety code. Inspectors look at things such as exits, sprinklers, and fire alarms. According to Department policy, schools should be inspected at least every 18 months; hotels, day care facilities, state buildings, bars, restaurants, churches, and other public buildings should be inspected every 12 months.

***Some electrical wiring work requires a DFPES permit.***

**Electrical Safety Division issues electrical permits**

Unless exempted by statute, persons performing electrical work as part of a construction or remodel project must obtain an electrical wiring permit for any work that requires a utility to connect power. Unlike plan reviews, which are required only for public buildings, electrical permits are required for any type of building, including houses. Some projects require two permits, one for temporary power during construction and another for the permanent wiring.

Electrical permits cost \$30 unless the purchaser also requests an inspection, in which case the permit cost is higher, depending on the ampere rating of the electrical service. Those who do not request and pay for an inspection may still receive an inspection, if an inspector has time, since W.S. 35-9-120 allows the Department to inspect any permitted project. However, because of limited staffing, the only guarantee of an inspection is to pay for it.

**DFPES licenses electricians**

The Electrical Safety Division licenses contractors and individual electricians and technicians. The purpose of licensing is to protect the public by excluding unqualified individuals from the electrical trade. The Division licenses contractors and two categories of individuals: electricians and technicians; both have a career path.

Electricians begin with an apprenticeship, during which they must be supervised by a journeyman or master electrician. Apprentices

***Electricians must pass a test, and have experience, training.***

register with the Department. After submitting proof of four years of on-the-job training and at least 576 hours of electrical education, an apprentice can test to become a journeyman electrician. After submitting proof of having worked four additional years, a journeyman can test to become a master electrician.

**Figure 1.4**

**Active licensed electricians  
July 31, 2008**

<b>License Type</b>	<b>Number</b>
Electrical contractors	556
Low-voltage and limited contractors	322
Master electricians	1,145
Journeyman electricians	3,300
Electrical apprentices	2,134
Low-voltage and limited technicians	1,419
Low-voltage and limited technician apprentices	412

Source: DFPES data

***DFPES also licenses technicians.***

DFPES also issues 11 types of low-voltage and limited technician licenses. Low-voltage technicians can work only with 90 volts or less, and can receive either a general low-voltage technician license or a license for electrical work on specific types of jobs such as alarms or sound systems. In contrast to low-voltage technicians, limited technicians do not have voltage limitations, but are limited to a specific type of work such as elevators or water well and irrigation systems.

Like electricians, low-voltage and limited technicians have a career path. Apprentice technicians must submit proof of two years on-the-job training before becoming eligible to take a technician exam. Apprentice technicians do not have any electrical education requirements.



## Report organization

This report focuses on the Fire Prevention and Electrical Safety Divisions in DFPES. A theme of the following chapters is that the Department, Council, and Board have undergone considerable change in the past two years. The Department's top management (State Fire Marshal, Assistant Fire Marshal, and Chief Electrical Inspector) left the agency in 2006, causing a loss of institutional memory at that level. However, the departures have allowed what we term a "new administration" to try different approaches.

The Legislative Service Office last evaluated DFPES in 1980, and nearly thirty years later we find ourselves examining some of the same issues as in the earlier report. Chapter 2 looks at the Department's activities to ensure code compliance. As in 1980, we find that a small staff limits the agency's ability to complete all the inspections outlined in statute and rules. Chapter 3 discusses statutory requirements and recommendations for local jurisdictions that take on enforcement authority, another issue that was of concern in the 1980 audit. Chapter 4 examines the role of the Council and the Board, and recommends that the Legislature clarify certain statutory language.

