CHAPTER 2

Department efforts to ensure code compliance are hampered by insufficient data and a lack of written policy

Enforcing compliance with codes is necessary to protect both lives and property. Citizens are entitled to expect that they will be safe when entering public buildings such as schools, hotels, and daycare facilities. DFPES carries out a variety of functions essential to the public's safety, and in most of its fire maintenance and electrical inspections, finds code violations. Some violations could start a fire, cause electrocution, or make it difficult for people to escape a building in an emergency.

Data is not helpful in identifying whether priorities are met.

Because DFPES does not have enough staff to conduct all code compliance inspections allowed in statute, the Fire Prevention and Electrical Safety Divisions set priorities for inspections on buildings in their jurisdiction. Department officials believe both Divisions generally are inspecting their top priorities. However, current information systems are often unhelpful and state managers have difficulty extracting data that, for example, identifies projects which should be inspected but are being missed. We identified a potentially serious problem with timely fire inspections of some schools.

As DFPES builds a new data analysis system, managers need to ensure it provides comprehensive information about inspections and plan reviews of the buildings under the state's jurisdiction. We also recommend that DFPES in general, and the Electrical Division in particular, put more emphasis on issuing written policy to guide field staff.

Increased workloads at DFPES require setting priorities

Wyoming's economic boom and associated rise in building construction have caused increased activity for all DFPES functions. Ensuring that buildings are safe for the public involves many different activities by state agency staff, who are conducting

more plan reviews and inspections and issuing more permits and licenses than before, especially in areas with energy development that have associated construction of housing and infrastructure.

The building boom increases workload for DFPES staff.

Statute requires a plan review for construction of public buildings, certain remodels, and aboveground fuel storage tanks. Increasing numbers of plan review projects and electrical permits are an indication of the economic boom and rise in construction. From 1998 through 2007, plan reviews increased by 80 percent, from 216 to 390 annually; electrical wiring permits rose by 32 percent, from 3,428 to 4,535. In that decade, DFPES staff positions increased from 25 to 36, going from three to five fire inspectors and from five to eight electrical inspectors. Inspectors are based around the state, with each covering multiple counties.

Plan review inspections are the top priority

DFPES can't inspect all projects under state jurisdiction.

Because extensive travel time is necessary to reach many project sites, inspectors cannot inspect every building under state jurisdiction and must be selective about projects they visit. Both Divisions, Fire Prevention and Electrical Safety, have either written or understood priorities for the order of inspection importance, and we found these priorities to be reasonable.

- For both Divisions, plan review projects (public building projects under construction, certain remodels, and above-ground storage tanks) are the top priority.

- The Fire Prevention Division's second priority is to conduct school building maintenance inspections every 18 months. Other priorities, carried out as time allows, are: hotels, places of assembly, daycare facilities, other state owned/leased buildings, flammable storage tanks, other businesses, and then inspections as requested.

- Electrical Safety Division priorities are unwritten. According to officials, the second priority is electrical permits on which an inspection is requested and paid for. Other permits are inspected as time allows, based on the inspector's determination of job complexity and of the contractor or homeowner's level of competence.

DFPES reviews plans in a timely manner

Plan reviewers from both Divisions have 21 days after receipt to approve a plan; otherwise, according to W.S. 35-9-108(b)), it is deemed approved. From the data available, it appears that plan reviews are completed in a timely manner, most within 8 to 17 days. About half of the plan reviews in FY '08 were for new construction, additions, or remodels, and half were for categories such as aboveground tanks, hood systems, or electrical work only. Plans range from hand-drawn sketches to several-volume rolls of architectural drawings.

DFPES carries out inspections of plan review projects

Plan review projects receive DFPES inspections, usually by both a fire and an electrical inspector; the number of inspections depends in part on a project's size and complexity. Many plan review projects require more than one inspection before the site is "finaled" (found to meet code) and a certificate of occupancy can be issued.

Plan review projects usually require several inspections.

We reviewed data by calendar year for 2006 and 2007, since the fiscal year starts and ends in the middle of construction season. During this period, fire inspectors averaged five inspections per plan review project, with 73 of 553 projects receiving 10 or more inspections and 2 projects receiving 30 inspections.

Data is insufficient for determining if inspectors meet other Division priorities

We found it difficult to get complete information from the separate fire and electrical and plan review data systems on what projects do not get inspected. Due to data entry incompleteness, inconsistencies, and other limitations, we could use data from the two Divisions selectively in our analysis; in some cases we could use it only to identify general problem aspects. The following three examples show conclusions we could reach, given the data limitations and our time constraints.

DFPES managers cannot be sure all schools get fire maintenance inspections

The Fire Prevention Division's second priority is to conduct a fire maintenance inspection on each school under the State Fire Marshal's jurisdiction at least every 18 months. Working backwards from July 31, 2008 to 2005 (when Fire Prevention Division data begins), we looked for documentation of the last DFPES fire maintenance inspection for the 140 school building sites that we determined were due for a maintenance inspection (see Appendix G for methodology). We concluded that these inspections are not always completed at 18 month intervals.

For some schools, we found no record of inspection.

During the period we reviewed, Division data shows that fire inspectors conducted timely maintenance inspections at 106 schools. For the other 34 schools, we found either no record of an inspection in that 18-month period, or no documentation of when the last inspection occurred. We identified a range among inspectors: from inspecting less than one-fourth of the school buildings to inspecting all school buildings.

Particularly in an area as sensitive as the safety of school buildings, DFPES managers need information such as we compiled to know what work inspectors in the field are doing and what may still need attention. Inspectors, some of whom have devised personal systems to identify important deadlines, also need a better way to identify which schools are in their region and when they are due for inspection.

Not all permitted wiring projects are inspected, but electrical inspectors are doing more inspections than estimated

Permits that include a *requested* inspection are the second priority for Electrical Safety Division inspectors; they inspect other standard permit projects as they have time. Electrical inspectors told us they do not have time to inspect many of the standard projects, but the data shows they cover a good portion of permitted projects. In FY '08, electrical inspectors visited 1,782 of 5,107 permit sites, or slightly more than one-third, at least one

time. However, Electrical Division data is unreliable to identify the most common types of violations or which sites were violation-free, not ready, or had minor problems. Such knowledge could help inspectors target specific types of work for inspections or educational efforts.

Analysis of licensing information requires review of paper records

Our review of the Electrical Division's databases for permits and inspections shows that not all work done in the state is completed by licensed electricians and contractors. Data on complaints filed and warnings issued, although incomplete, shows that despite statutory requirements, some work is done by unlicensed electricians and unsupervised apprentices. Licensing data provided the number of licensed electricians and contractors, but not the more in-depth information we sought.

Answering basic questions is labor-intensive.

For example, determining who is the master of record for a contracting company would involve going through individual license applications. Similarly, determining how many apprentices are in which education programs, or obtaining their exam scores, requires going through files manually. When the Board recently asked about licensing exam pass/fail rates, it took Department staff a month to compile the answer; other basic questions will most likely require the same manual process.

DFPES expects to launch a new data system in 2009

Current data systems do not readily support basic management analysis. We believe that because so many inspections take place around the state on varying shifts and without close supervision, Department managers should be analyzing data to determine how well inspectors are meeting agency priorities. Recognizing the deficiencies of current systems and the need for better data, the Department contracted for and expects to roll out a new, integrated system in early 2009.

One Division has policies, the other does not

Inspectors vary as to whether they follow-up on violations.

Nearly 70 percent of the Department's fire maintenance inspections find violations, but inspector practices vary as to whether they conduct follow-up visits after citing a violation. One inspector said he always follows up on violations, while others had different practices ranging from not re-visiting on minor issues, to only if he suspects the problem will not be fixed, to maybe, depending on the history of the building and the people involved.

Although inspectors in both Divisions are experienced, they occasionally encounter complex situations in which guidance would be helpful. However, we learned that cell phone service is unavailable or unreliable in many of the areas inspectors cover, making consultation with the Cheyenne office or other inspectors difficult. The Fire Prevention Division assigns code and computer data consultant duties to one inspector. The Electrical Safety Division does not have a similar resource for code issues, and since the Chief Electrical Inspector spends most of his time on licensing matters, he may not be readily available to answer questions from the field.

Policies can help ensure consistency.

Under these circumstances, written policies are needed to help new staff understand what to do in unexpected situations, and to help ensure more consistent practice throughout the state. The Fire Prevention Division is close to issuing policies that will guide inspector practices such as follow-up visits. We did not see similar progress in the Electrical Safety Division.

Recommendation: DFPES should ensure the new data system provides guidance to managers and inspectors.

DFPES needs better tools and systems to inform management, Council, and Board decisions, and to fulfill its education mission. The Department is taking an important step in creating a new data

system, and it needs to ensure that the system provides comprehensive, reliable data to document how it meets stated priorities, and to target areas of non-compliance with code. Operational improvements at the state level can help both to minimize recurring problems and eliminate hazards; a reliable data system would provide a good foundation.

Recommendation: The Electrical Safety Division should develop policies to guide staff practices.

DFPES has a laudable goal, to protect life and property from fire and electrical hazards. Fire inspections at regular intervals and proper licensing of electricians make sense as a benefit to public safety, but Department staff cannot inspect every project within the state's jurisdiction. Given limited authority and resources, DFPES managers must prioritize and target staff efforts to ensure the most important projects and issues are covered. Written policies, perhaps available to inspectors online, can help achieve this important goal.


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