

COLORADO DEPARTMENT OF REGULATORY AGENCIES  
OFFICE OF POLICY AND RESEARCH

# COLORADO EXAMINING BOARD OF PLUMBERS

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## 1997 SUNSET REVIEW



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# *EXECUTIVE SUMMARY*

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The Department of Regulatory Agencies (DORA) has concluded it's 1997 Sunset Review of the regulation of the plumbers by the Examining Board of Plumbers (Board). DORA found there is a need for continued regulation of the industry and recommends continuing the regulation plumbers by the Board until the year 2005. In evaluating the operation of the Board against the Sunset Evaluation Criteria in §24-34-104 (9)(b), C.R.S., DORA found that regulation by a board was necessary to protect the public health, safety, or welfare. The report contains a total of 5 statutory recommendations.

Each recommendation is followed by a brief summary and an expanded discussion of the analysis and issues surrounding the recommendation. A single discussion section is used when several recommendations are on a single topic area. The recommendation section begins on page 29 of the report.

Besides continuing the regulation by the Board the report recommends the General Assembly require the Board to develop procedures and timelines for approving alternative materials and methods. The report found this to be an area of concern among local governments and building officials.

The report recommends the Board be authorized to develop more meaningful criteria for licensing plumbers. These criteria are to include standards for training and supervising apprentices, as well as documenting experience. This recommendation also includes authorizing the Board more discretion in accepting alternative education and experience for credit towards license qualification.

The report recommends eliminating outdated and unnecessary language from the statute. This includes provisions for temporary licenses, Senate approval of Board members, and language that the Board may employ inspectors.

The final recommendation of the report is to authorize the Board to issue cease and desist orders against non licensed individuals performing plumbing work in violation of the statute. The Board currently has no authority to enforce the prohibition against practicing plumbing without a license.

## BACKGROUND

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### The Sunset Process

The regulation of plumbers by the Examining Board of Plumbers, established in §12-58-101 et seq., C.R.S., is scheduled to terminate on July 1, 1998, unless continued by the General Assembly pursuant to §24-34-104, C.R.S. The purpose of the sunset report is to evaluate the performance of the Examining Board of Plumbers (Board) based on the statutory evaluation criteria which is attached as Appendix A of this report. The central question this report seeks to answer is whether the continuation of this program is necessary to protect the public health, safety, and welfare of the people of Colorado, and whether, if the function is continued, statutory or regulatory changes are necessary to improve agency operations and to enhance the public interest.

Research for this report consisted of a review of the relevant state statutes and regulations, a review of Board minutes, disciplinary actions, licensing procedures, application processing, and fee development. Interviews were conducted with Board members, staff of the Division of Registrations, individual plumbers, trade associations, building officials, and local government representatives. The regulation of the industry by other states was also considered. A comparison to other occupational licensing laws was made, as well as a literature search.

### History

The regulation of plumbers in Colorado began in 1893. Municipalities with populations over 50,000 and all counties were authorized to establish individual boards of plumbers and issue certificates of competency. It was illegal for a person to practice the trade of plumbing without a valid certificate of competency.

In 1917, plumbing became a state-regulated occupation and the Board was constituted in the Department of Health (DOH). The DOH was required to develop an examination for, and license, journeyman and master plumbers. The only licensing requirement was successful completion of the Department of Health examination. Each county health department was required to appoint licensed plumbers as inspectors. Municipalities were authorized to adopt regulations regarding plumbing materials, construction design, and inspection standards.

From 1917 to 1970, the Examining Board of Plumbers in the DOH consisted of three plumbing examiners, one master plumber, one journeyman plumber, and one representative of the DOH. A master plumber was defined as an

individual engaged in the planning, supervision, and installation of plumbing who was also an owner or supervisor of a plumbing business. A journeyman was defined as any person, other than a master plumber, who performed the installation, alteration, repair or renovation of plumbing.

In 1970, the composition of the Board was changed to one master plumber, one journeyman, one representative from the DOH, one plumbing contractor, and one public member. The administration of the Board was transferred to the Division of Registrations (Division) in DORA, and the Board was authorized to promulgate rules and regulations regarding the practice of plumbing. The inspection of plumbing work remained in the DOH.

In 1982, the authority of the DOH over plumbing inspections was transferred to the Division. The Board was required to adopt a state plumbing code; the registration of plumbing apprentices was adopted; and a new licensing class, residential plumber, was created. Municipalities and counties maintained the ability to adopt a plumbing code at least as strict as the state code and retained the ability to perform inspections. However, no local government may restrict the practice of a state-licensed plumber. The current seven member composition of the Board was adopted pursuant to a recommendation in the 1987 Sunset Review.

## SUMMARY OF STATUTE

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Authorization for the state regulation of the plumbing trade is contained in Article 58 of Title 12 of the Colorado Revised Statutes (C.R.S.). The plumbing statute is included in this report as Appendix B. The legislative declaration states that improper plumbing can adversely affect the health of the public. To protect the public, the General Assembly restricts the planning, installation, alteration, extension, repair, and maintenance of plumbing systems to individuals with proven skills.

The statute defines terms including the qualifications for master, journeyman, and residential plumbers as well as plumbing. The definition of plumbing exempts significant plumbing activities from the plumbing code, including: lawn sprinkling systems, water heating appliances, building heating appliances and systems, fire protection systems, indirect drainage systems not a part of the sanitary sewer system, and the installation of garbage disposals and dishwashers directly connected to the sanitary sewer system.

Installation and maintenance of water and sewer systems owned by local governments are exempt from the provisions of the plumbing code. Individual sewage disposal systems (septic tanks), are regulated by the health codes and therefore are not subject to regulation by the plumbing statute.

The Board was transferred to the Department of Regulatory Agencies (DORA) as a type 1 agency in 1970, to be co-administered with the Electrical Board. The Board has seven members designated in statute as one journeyman plumber, one master plumber, two plumbing contractors engaged in the construction of residential or commercial buildings, one general contractor, one member or employee of a local government agency conducting plumbing inspections, and one public member. One member of the Board must be from west of the Continental Divide. A representative of the Colorado Department of Public Health and Environment serves as an *ex officio* member of the Board.

All Board members are appointed by the Governor and confirmed by the Senate. The Governor may remove Board members for neglect of duty, misconduct, or incompetence. Political party affiliations are a consideration for appointment to the Board. A majority of the Board constitutes a quorum for the transaction of business.

The Board is authorized to elect officers and promulgate regulations necessary to carry out the provisions of the Plumbing Act (Act). The Board must adopt a plumbing code to be used in all areas of the state where local governments have not adopted a code that is at least as stringent as the code adopted by the Board.

The Board is to develop and administer an examination for master, journeyman and residential plumbers. The Director of the Division may appoint an administrator and inspectors to assist the Board in its duties. The Board is authorized to charge a fee for inspections of plumbing work in areas covered by the state code and where the local jurisdiction has requested the Board to conduct inspections.

The Act is both a practice act and a title protection act. The use of the title "licensed by the Board" is prohibited unless a valid license is held by the user of the title. The use of the title plumbing contractor is prohibited unless the contractor is, or employs, a master plumber. The Act does not otherwise authorize the regulation of plumbing contractors.

The statute establishes the maximum experience the Board may require before qualified applicants become eligible to take the examination for the various licenses. Each licensing category has a separate experience and examination requirement. The maximum experience the Board may require is two years or 3,400 hours for a residential license, four years or 6,800 hours for a journeyman license, and five years for a master license. The Board may adopt regulations requiring fewer hours of experience.

The Board is required to substitute one year of experience for an applicant with a degree in the plumbing field from a community college or trade school approved by the Board. The Board is required to adopt regulations to accept military and other experience gained under the supervision of someone not a licensed plumber.

The Act allows the Board to deny, suspend, revoke, or refuse to renew the license of any applicant or licensee based on specific grounds in the statute or violations of the Act or regulations promulgated under the Act. Any licensee whose license has been revoked may not apply for relicensure for two years from the date of revocation.

The Board may grant a license to a plumber licensed in another state if the license is in good standing in the other state, and the licensing requirements are substantially similar to those in Colorado. The Board may issue temporary permits for journeyman and residential plumbers if there is satisfactory evidence that the applicant meets the experience requirements to qualify for the appropriate examination.

A homeowner performing work on his or her private residence is exempt from the licensing requirements of the Act. All plumbing work on commercial buildings and private property intended for rental must be performed by a licensed plumber. Routine maintenance of existing fixtures is not defined as plumbing work. Work on federal property is exempt from the provisions of the Act.

Any plumbing or gas piping installation in new construction, remodel, or repair of an existing building in a covered area must obtain a permit and is subject to a plumbing inspection. Local governments may adopt their own plumbing code, issue permits, and conduct inspections, or may request the state to conduct inspections based on the state code. Municipal governments may adopt licensing or other regulatory programs for plumbing contractors. All permitted plumbing work is required to be inspected.

All state inspections must be conducted within three working days of the request for inspection by the permit holder. All inspections of public schools are conducted by state inspectors using the Board adopted code, regardless of local code or inspection requirements. The statute provides penalties for violations of the Act, including the provision that performing plumbing work without a license is a class three misdemeanor.

Licensed plumbers may supervise an unlimited number of apprentices. Apprentices may not perform work which requires a license except under the direct supervision of a licensed plumber. The licensed plumber is responsible for the work of supervised apprentices and improper work by an apprentice may result in disciplinary action against the licensed plumber.



## REGULATION IN OTHER STATES

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The practice of plumbing is regulated at some level in all 50 states. The level of regulation varies greatly. Qualifications for licensure are inconsistent, at best. Not all states have a state plumbing code or a state inspection program. Many states require local governments to develop and administer licensing and inspections programs.

Those with state licensing programs are also inconsistent as far as organizational placement of the programs. Some are in departments of health because of the waterborne disease concern. Other states place the program in a department of labor because of the apprenticeship training aspect of the occupation. A few states locate the program in an equivalent of the Division of Registrations.

The Board is authorized to adopt a state plumbing code. The Board has traditionally adopted the Uniform Plumbing Code (UPC). This code is developed by the International Association of Plumbing and Mechanical Officials (IAPMO), an organization of plumbers, contractors, plumbing inspectors, engineers, architects, manufacturers, suppliers and other construction related businesses. The code was first published in 1945 and is updated every three years.

The current UPC in force in Colorado is approximately 400 pages long. It details procedures for installing plumbing in a wide variety of conditions and construction designs. It also lists approved materials and methods for use in plumbing installations. The Board may modify any provision of the UPC when it is adopted in Colorado, or allow for variances to the UPC on a case-by-case basis. There are several other national plumbing codes in use by other states. Different codes vary slightly in content. Some are more restrictive than others in the listing of products, materials, or methods.

The International Conference of Building Officials (ICBO) has developed a plumbing code based on the International Building Code (IBC), a common building code used throughout the country. The Colorado Chapter of ICBO has been promoting, without success, the adoption of their plumbing code in Colorado. Building officials favor the ICBO code because they believe it is more consistent with other building requirements. Plumbing industry representatives believe the ICBO code is not as stringent as the UPC and are also concerned that the plumbing industry does not participate in the development of the code. Plumbing industry representatives also point out that Colorado does not have a state building code, therefore consistency with the IBC is not relevant.

## SUNSET ANALYSIS

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The plumbing program is one of the few professional or occupational licensing programs in the state that contains three regulatory components. The Board grants licenses to plumbers who meet the appropriate experience requirements and perform satisfactorily on an examination. Before plumbing work can be performed, the Board or local government agency, must issue a permit. The work must then be inspected to verify that it was performed in compliance with the code adopted by the Board or local government.

It is unusual for a regulatory program to contain licensing, permitting, and inspection components. Permitting and inspections are generally considered lesser forms of government regulation. These forms of regulation are usually associated with activity, such as the use of a park or an occupancy permit for a building, not with an occupation. When the unregulated practice of an occupation is deemed to present a significant potential harm to the public, licensing usually replaces rather than supplements lesser forms of regulation.

The plumbing statute provides many exemptions from the requirement that work shall be performed by a licensed plumber. The permitting process is used to establish who is performing what work. It is also used to trigger an inspection to verify that the work was performed to the code adopted by the Board.

### **Board Composition And Activities**

The Board is composed of seven members, one journeyman and one master plumber, two plumbing contractors, one member representing a local government inspection department, one general contractor, and one public member. Plumbing contractors are not licensed, usually they are owned by licensed master plumbers, however, the owner may employ a master plumber and not be a licensed tradesperson. One member must be an employee or member of a local government agency conducting plumbing inspections. This member does not have to be a plumber, or even an plumbing inspector. This member could be a county commissioner, city council person or an administrator of a local building department. The general contractor should be experienced in subcontracting plumbing work, however specific plumbing experience is not required. One member of the Board represents the general public. This member is not required to have any specific knowledge or experience in the plumbing trade. A representative of the Colorado Department of Public Health and Environment (CDPHE) serves as an *ex officio*, nonvoting member.

The Board meets monthly for approximately one full day. Board meetings are generally well attended by voting members. The CDPHE member representative retired prior to the beginning of this review and a replacement has not been appointed during the review period. Attendance by parties not having a personal issue before the Board is rare. Interested parties such as trade groups, building officials and professional associations often participate in rule-making hearings. Public participation in Board meetings or hearings is nonexistent. The Board has delegated broad authority to the program administrator for routine licensing and administrative matters.

Board meetings follow a fairly standardized format. Each meeting starts with a report by the administrator of license applications and examination results. Any comments received from applicants during the examination process are distributed and discussed. Any license applications that have questionable experience, or documentation of experience, are presented to the Board by the administrator, with a recommended action. The Board may approve the applicant to sit for the examination, deny such approval, or request more information.

The Board may request applicants to provide additional information in person. When the Board denies an application, the applicant may request a personal appearance before the Board to provide additional information or ask for reconsideration. A portion of each Board meeting is set aside for personal appearances by license applicants.

The Board then considers variance requests. The Board has the ability to approve variances to the plumbing code when requested by a permit holder. The party requesting the variance must submit the request in writing to the Board, as well as the justification and any supporting documentation. The requesting party is not required to appear before the Board personally, but may make a presentation if he or she believes it is necessary to explain the variance.

Board members interviewed for this report believe the Board is objective and fair in granting variance requests. The statute authorizes the Board to grant variance requests only when the public health and safety will not be compromised.

A portion of each Board meeting is devoted to reviewing complaints. Complaints can be generated by a licensee, a consumer, or by an inspector. In reviewing complaints, the Board first determines whether it has jurisdiction over the actions alleged in the complaint. Once jurisdiction is established, the Board determines whether, if true, the allegations in the complaint would be a regulatory violation.

When the Board determines that a complaint, if verified, would be a violation, it may either open a formal investigation, by referring the complaint to the investigations unit of the Division, or the Board may request a response from the individual being complained against. In extreme cases, where the Board believes there may be imminent harm to the public, the Board may request the Attorney General to issue a cease and desist order or seek an injunction.

The Division currently employs 8.7 full-time employees (FTE) to assist the Board in administration and inspection activities. The program is supervised by a .5 FTE program administrator. The Complaints and Investigations (C&I) unit of the Division provides investigatory support. The Department of Law is required to provide legal support to the Board and the administrator as necessary.

The Board is required to adopt fees for licensing, permitting, and inspections. All fees are remitted to the Division cash fund and credited to the Plumbing Board. All fees are subject to the appropriations process of the General Assembly. Fees are reviewed and adjusted annually. Historically, the Fund has operated at a surplus. However, the recent increase in construction in Colorado has resulted in an increase in the number of inspections. The General Assembly authorized the addition of two FTE for inspections to address the concern that inspections were not being conducted in a timely manner in rural areas of the state. The program has operated at a slight deficit for the past several years. Table A details the fund for the past five fiscal years.

TABLE A  
Plumbing Board Fiscal Information

Fiscal Year	Revenue	Expenditures	Allocation
1992/93	\$531,614	\$496,780	\$520,765
1993/94	\$586,606	\$550,780	\$555,522
1994/95	\$522,663	\$593,122	\$594,941
1995/96	\$638,330	\$711,838	\$717,961
1996/97	\$622,683	\$666,350	\$736,173

## Licensing

The Act specifies that plumbing work must be performed by a licensed plumber. A registered apprentice may perform plumbing work under the direct supervision of a licensed master, journeyman or residential plumber. The Act does not limit the number of apprentices a licensee may supervise. Apprentices are not required to participate in a formal training or educational program. Many plumbing contractors and plumbing unions require formal training as a condition of employment or membership. The Board does not review or approve training programs. There are no requirements beyond licensure for the supervision of an apprentice.

A registered apprentice must obtain four years of experience under a master or journeyman plumber before being qualified to take the journeyman examination. An apprentice has the option of obtaining a residential plumbing license with only two years of experience. Residential plumbers are limited to installation, alteration, and maintenance of residential plumbing systems on one, two, three and four family dwellings.

An applicant for a master license must have five years of experience. Master applicants do not have to be licensed as a journeyman or residential plumber prior to becoming a master, however, most are. If the master applicant is not licensed as a journeyman or residential plumber, the practical examination must be successfully completed prior to taking the written examination.

The Board is required by statute to grant one year of experience for a degree in an approved program from a recognized community college or trade school. The Board is required to promulgate regulations for the approval of experience not received under a licensed journeyman or master. Alternative experience is limited to one-half of the credit necessary for licensure. Board regulation 5.1 (d) currently allows for one month of experience credit for each six months of experience not obtained under licensed supervision, up to a maximum of one year of experience. This means that a retired military veteran with 25 years of experience in plumbing may only receive one year of experience, since most military applications of plumbing are exempt from licensing requirements.

The examination to become a licensed plumber is a two-step process. First, the applicant must successfully compete a practical examination. Next, the applicant must successfully complete a written examination. If the applicant passes both examination, a license is issued.

Once an individual qualifies to take either the residential or journeyman examination, he or she must submit an application with the appropriate fees to the Board for approval. Once approved, the applicant submits an

additional fee and is scheduled for the examination. The journeyman and residential examinations are scheduled at least monthly and are available at various sites around the state.

The practical examination is designed to be an evaluation of the applicant's ability to complete a specific project. Applicants are required to bring their own tools and supplies to the examination site. The applicant is given a description of the project and assigned space to complete the assignment. A copy of the examination project information sent to applicants is included as Appendix C. Projects consist of the construction of a typical section of a plumbing system and involve cutting copper pipe and soldering joints. All examinations are timed.

At the end of the allotted time, the examinee gives the project to a team of evaluators. The applicant may request permission to observe the evaluation of the project. The evaluators first check the measurements of the project to ensure compliance with the prescribed specifications. The project is then cut apart so the quality of the soldered joints can be evaluated. All projects are evaluated the day of the examination, and results are mailed to the applicant within one week. Applicants who do not achieve a passing evaluation may apply to retake the examination at the next date. Sites for the examination are rotated throughout the state. Examinations are generally offered during day, evening and weekend hours, using the facilities of community colleges or public high schools with vocational education programs.

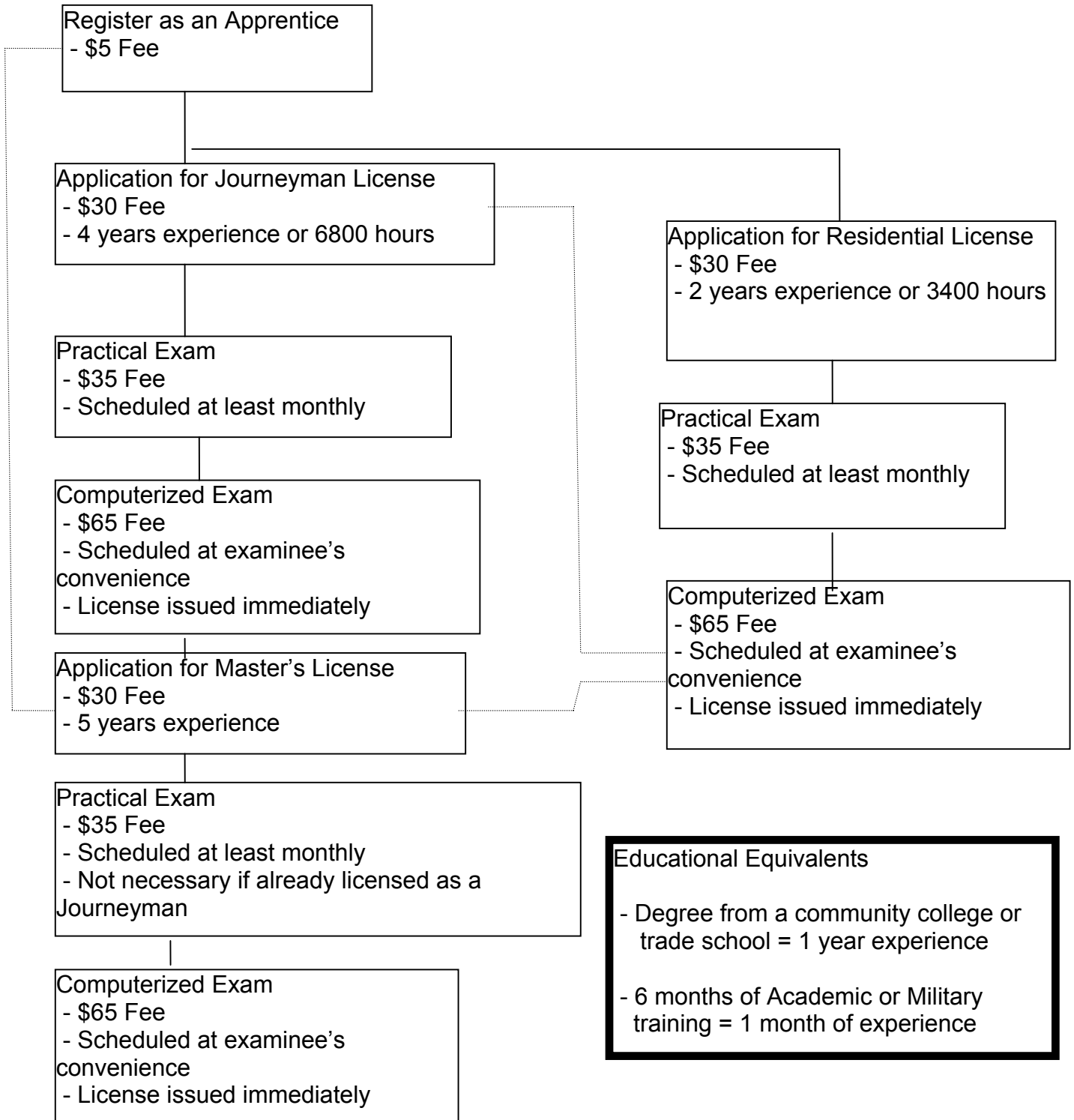
Administration of the written examinations have been contracted to a private company. The Board has developed a computerized examination that can be offered at a variety of sites statewide. Once an application has been received and approved by the Board, an authorization notice is sent to the private company. The applicant may then schedule time to take the exam at his or her convenience. Examinations are graded immediately. If a passing score is achieved, a license is issued at the exam site. In fiscal year 1992/93, the Board had a total of 4,426 licensees. This number has steadily increased every year. The recent licensing activity of the Board is detailed in Table B below.

TABLE B  
Plumbing Board Licensing Statistics

Fiscal Year	Master	Journeyman	Residential	Total
1995/96	2,520	2,053	247	4,971
1996/97	2,874	2,234	328	5,436

The licensing procedures of the Board are detailed in the following flow chart:

**LICENSING PROCEDURE FOR PLUMBERS**



## Complaints

The Board averages approximately 48 complaints each year. Of these, eight are dismissed for lack of jurisdiction. Another 16 are dismissed because the Board finds that even if the allegations were true, they would not be violations. Table C below details the disposition of complaints since 1992.

TABLE C  
COMPLAINTS RECEIVED BY THE PLUMBING BOARD

Fiscal Year	Complaints	No jurisdiction	No violation	Refer AG	Refer DA	Refer C&I	LOA	Stips	Injunction	Caution letter
92/93	41	5	16	0	2	2	7	0	0	9
93/94	53	8	15	1	2	4	7	0	0	15
94/95	48	13	17	1	7	2	5	0	0	3
95/96	52	7	16	4	2	7	6	0	0	10
96/97	32	6	9	3	3	1	2	2	1	4
<b>Total</b>	<b>226</b>	<b>39</b>	<b>58</b>	<b>9</b>	<b>15</b>	<b>16</b>	<b>27</b>	<b>2</b>	<b>1</b>	<b>41</b>

Under the provision of §12-58-116.5, C.R.S., the Board has the ability to fine licensees. This authority is rarely used. Most complaints against licensees are generated by consumers. Some of these complaints are related to fee disputes or contractual issues over which the Board has no jurisdiction.

The Board also receives numerous complaints against nonlicensees for practicing plumbing without a license. These complaints are usually generated by licensees or inspectors. Some of these complaints are based on advertisements for plumbing services by nonlicensed individuals. This has led some industry representatives to promote a statutory requirement that all advertisements include the license number of the master plumber.

There are a variety of ways nonlicensed individuals may perform plumbing work in violation of the statute. Every jurisdiction allows homeowners to obtain permits for work to be performed on their own residence or private property. A common method nonlicensed individuals use is to request the homeowner to obtain the permit, then have the unlicensed contractor perform the work. Many homeowners are happy to do this to obtain plumbing work at a lower cost than using a licensed plumber. The homeowner has a degree of comfort in using a nonlicensed person because an inspection will be performed to ensure all work was done properly.



Many jurisdictions allow a general contractor to obtain all necessary permits for a construction project. This is convenient for the developer or client because it allows for a single point of contact. In most situations, this practice is not a problem. However, a common method used to circumvent the Act is for the general contractor to obtain a permit then perform the work using employees of the construction firm, instead of using a licensed plumber. Many times this is discovered during the inspection process and a complaint is initiated by the inspector.

Another situation which concerns the Board is the practice by some master plumbers of “selling” their license. A master plumber may obtain any number of permits. Some master plumbers have been known to charge a fee to general contractors to obtain a plumbing permit, then not supervise the work. These cases are difficult to prove, since the plumber is not required to be onsite when an inspection is performed.

When the Board receives a complaint on unlicensed activity, it may investigate the complaint on its own or refer it to a local district attorney. Prosecution of these types of complaints can be resource intensive. There is frequently a lack of cooperation by the consumer or contractor in question because of the perceived financial benefit of having the work performed by a nonlicensed person. Because of this, some district attorney offices are reluctant to pursue these types of complaints.

The Board frequently writes letters to unlicensed individuals advertising plumbing services to advise them of the licensing requirements. Unless the individual voluntarily complies with the Board request to stop the activity, there is little the Board may do. The Board may request the Attorney General to seek an injunction against the individual. However, because of resource issues, this option is not pursued unless the activity is widespread or presents a significant harm to the public.

## **Permit And Inspection**

There are many exemptions to the requirement that plumbing work be performed by a licensed plumber. Members of the Board and industry maintain that this is one reason the inspections are necessary to protect the public. State inspectors find code violations in approximately 40% of the inspections they conduct. Figures were not available to determine the variance between violations on work performed by licensed plumbers and homeowners. However, anecdotally, inspectors report that homeowner permits generally have more problems.

There are two major concerns on plumbing installations. The first concerns contamination of potable water. There are several ways drinking water can become contaminated. A direct cross connection of water and sewer lines is possible and is occasionally discovered during an inspection. A more common occurrence is failing to install backflow preventers.

A backflow preventer is a type of valve placed on a water system to separate potential sources of contamination from drinking water. Typical sources of potential contamination are: sprinkler systems, refrigeration systems, boilers, and solar heating systems. Under certain conditions, water from these sources can be drained into the drinking water system if a backflow preventer is not properly installed.

In 1989, eight Brighton, Colorado, school children were treated for ethylene glycol poisoning. The lack of a backflow allowed anti freeze from a building heating system to contaminate the building drinking water. A similar situation occurred at the Air Force Academy in Colorado Springs. In this instance, a strong cleaning solution was released into the cafeteria water system when a hose left in a bucket containing the solution siphoned during a sudden drop in water pressure. Injuries in these incidents were minor, because the systems were large enough to dilute the chemicals. These same situations in a residential system could result in brain damage or death.

Other problems commonly discovered during inspections include: improper bedding material for underground piping, which could cause a leak; improper spacing of hangers and supports, which could allow pipes to sag and break; improper glue on joints, potential joint failure; improper venting, which could result in odor problems, or in severe cases, a sewer gas explosion; lack of shut off valves, which could allow excessive water damage in the event of a leak; and improper venting of gas appliances which could result in explosions or asphyxiation.

The Act requires that plumbing work in commercial construction, public buildings, and residences intended for sale or rent be performed by licensed plumbers. Homeowners may perform plumbing work on their own property provided the property is not intended to be occupied by tenants for either long- or short-term rentals.

All plumbing work must be performed according to the standard in the plumbing code adopted by the appropriate jurisdiction. Local jurisdictions may adopt a code different from the state code, provided it is at least as stringent. State inspectors perform inspections in all areas of the state where the local government has not adopted a code and has requested the state to conduct inspections. State inspectors also perform inspections on all public schools and state buildings, regardless of local government inspection programs. All state inspectors are licensed plumbers.

Because inspections are optional to local governments, several areas of the state, including 14 counties, do not have inspection programs. An attempt was made to compare health conditions related to plumbing installations in areas with inspection programs to those without. Documentation of variations was not significant. However, because of the difficulty in attributing illnesses to plumbing installation, this data is not considered meaningful. The Act does not require local governments to employ licensed plumbers as inspectors.

For purposes of this review, all discussion of the permit and inspection program are intended to describe conditions in those portions of the state under the jurisdiction of the Board unless otherwise noted. Prior to any contractor or homeowner beginning work on a plumbing project a permit must be obtained. A sample of the permit application is attached as Appendix D.

Permit fees vary according to the cost of the project. Permits are valid for 12 months and may be extended by requesting an extension prior to the expiration of the permit. If a project does not receive a final inspection prior to the expiration of the permit, an additional permit may be required. Permit applications may be requested by mail, phone, or picked up in person at any state inspection office. Some local building departments that do not perform inspections also stock permit applications. Permit applications are generally processed and mailed within 24 hours of being received. Walk in applications are also accepted at the Denver office of the Board.

Large or complex projects require multiple inspections and a corresponding increase in expenses to the program. A small project will require at least one final inspection and possibly a rough-in and one or more additional inspections. A large commercial project or school is usually completed in stages. It is common for an inspector to combine a rough inspection on one portion of the project with another inspection on a portion of the project further along. A project such as a large high school or a midsized hospital will require several inspections before the project is completed.

The plumbing inspection portion of the program employs one chief inspector and seven FTE inspectors. Inspectors are strategically located throughout the state to reduce travel time on inspections. Even by decentralizing the inspectors, some areas of the state argue they are underserved. To minimize delays and inspection expenses, inspectors designate specific days of the week they will be in certain areas. These days are communicated to contractors to attempt to consolidate a number of inspections into one trip. Homeowners are informed of the inspection days when they obtain their permit. Regional inspection offices are located in: Alamosa, Bailey, Denver, Canon City, Durango, Montrose, Sterling, and Walsenburg. There are 14 counties in Colorado, mostly on the eastern plains, that do not have a local program and do not request inspections from the state. The only inspections in these counties are for public schools and state buildings.

Plumbing inspections are governed by §12-58-114.5, C.R.S. Any plumbing or gas piping installation or repair permitted by the Board must be inspected by a state inspector within three working days of receipt of the request. If the inspection is not conducted within five working days, construction work may resume. Plumbing inspectors check installations to ensure compliance with the UPC, as adopted by the Board, and to verify the work was performed by a licensed plumber, if applicable. Although gas installations are not required to be performed by a licensed plumber, installations are inspected by plumbing inspectors.

There is some concern on gas installations about the lack of inspections on certain gas lines. The utility company is responsible for gas line maintenance up to the point of service, which is generally considered to be the gas meter. Plumbing inspections cover the inside gas lines and the main line to the meter, or five feet from the foundation of the building, whichever comes first. This may leave a section of underground gas pipe uninspected.

There is a trend in new utility installations to place the gas meter at the property line, near the street. This placement makes it easier for the utility to read the meter and reduces impositions on the building owner should the meter need servicing. However, this leaves a significant gap in the inspection and maintenance process. In some cases, a significant length of underground gas piping will have little or no inspection on installation, or post installation leak detection service. Some utility companies voluntarily conduct regular leak detection inspections on the underground lines on private property. All utility companies are required to notify the property owner that the underground lines on private property are the responsibility of the property owner.

Any increase in building activity results in a corresponding increase in permits and inspections. Regional offices are occasionally relocated to accommodate

areas of the state experiencing a building boom. The number of permits issued and inspections performed has increased dramatically since the last sunset review. Table D details the permits issued and inspections conducted since 1992. On large projects, it is not uncommon for inspections to be conducted years after the original permit was issued.

TABLE D  
Plumbing Permits and Inspections

<b>Fiscal Year</b>	<b>Permits issued</b>	<b>Inspections</b>	<b>Ratio</b>
1992/93	3,841	7,834	2.0
1993/94	4,818	9,188	1.9
1994/95	5,502	10,723	1.9
1995/96	4,683	12,688	2.7
1996/97	6,336	13,339	2.1

Most large metropolitan areas of the state have adopted their own plumbing code and perform their own inspections. Many counties have codes and inspection programs for zoned areas of the county. A few municipalities and counties have formed regional building departments that perform all construction permitting and inspection services from a single agency. This leaves the more remote areas of the state for the state inspectors.

The efficiency of the inspection program has been called to question in recent years. The Act requires inspections to be performed within three days of being requested. In most cases, this is not a problem. However, there are occasions when this does not occur, usually in more remote parts of the state. In 1994, the General Assembly authorized two additional inspectors to alleviate some of the delays.

Complaints about inspection delays have declined since the additional inspectors assumed duties. However, there are still some complaints of delays, particularly in winter months, when accessibility is an issue. Issues regarding timeliness and the amount of travel time by inspectors have been discussed in a variety of settings.

The Program Administrator for the Board has located regional offices around the state to minimize travel by inspectors. However, when development slows in one area and increases in another, it is not always cost effective to move an office until it is evident the trends are not an anomaly. Inspectors attempt to work with permit holders in more remote parts of the state to consolidate inspections. In most cases this is an effective tool to reduce travel time to remote areas of the state. However, it occasionally causes delays for some constructions projects.

The actual inspection on a small project, such as a residential remodel, or even a residential new construction project, may take as little as 15 minutes to complete. Because of the distances between projects in some areas of the state, inspectors may only be able to complete fewer than six inspections in a single day.

Currently Colorado local governments have three options regarding plumbing inspections, maintain local control over inspections, request the state perform inspections, or opt for no inspections at all. As previously mentioned, there are large areas of the state that do not have inspection programs. It is reasonable to assume that absent the option of state inspections, many local jurisdictions would eliminate the inspection requirement.

The Sunset Review considered several options to increase efficiency in the inspection program:

Eliminate State Inspections

One option is to eliminate the state inspection program entirely. Many states do not have a state inspection program. States without inspection programs vary between requiring local jurisdictions to conduct inspections and allowing local jurisdictions the option of conducting inspections.

The fact that areas of the state do not have inspections, and do not appear to have negative health impacts may persuade the General Assembly to consider this option. However, the potential danger of not conducting inspections is significant. It is unusual for public health issues related to drinking water to be publicized unless a potentially catastrophic incident like those in Brighton or Colorado Springs occurs since it is difficult to determine identify the source of some outbreaks of disease or illnesses, this may result in an underreporting of incidents.

The General Assembly could eliminate the state inspection program and mandate that local governments implement inspection programs. This has the potential to increase public protection statewide. However, the potential is tempered by the reality that consistency could suffer in some jurisdictions. The General Assembly has supported local control in many regulatory programs, but requiring an inspection program may be viewed as an unfunded mandate. In addition, industry representatives indicate variations in the interpretation of the UPC is already an issue for plumbers doing business in several jurisdictions, increasing the number of jurisdictions would not be supported by the industry.

There are several regulatory programs that contain a self audit or inspection component. These programs have met with mixed results and support from the regulated industries and consumer advocates. Self inspection or audit programs are more practical in ongoing operations, such as monitoring control equipment on a factory and reporting excess releases of pollutants. Once the control equipment has been identified and permit levels are established, self monitoring with periodic state inspections is practical. Environmental programs that use self monitoring contain substantial penalties to the responsible party for falsifying data.

In plumbing situations every installation is different. It would be possible to have a master plumber certify on each permit that the work was completed to code. However, because of the nature of construction once the work is completed, it is difficult if not impossible to go back later to inspect the work without causing damage to the finished construction.

In most environmental situations concern exists for the effects of long term exposure to pollutants over a certain level. While excess releases are a concern, there is seldom major immediate impact from short term releases exceeding permit levels. If a plumber neglects to install a backflow device, the situation it is designed to prevent may not occur for years. However, when it does, the lack of the device can cause significant short term and long term health problems.

#### Risk Based Inspections

Another option is to develop a risk based approach to inspections and only routinely perform inspections on those permits with high risk. On the surface, there is much appeal to this option. If there is low risk for public harm, there should be a lower need to devote resources to an inspection. The problem is in defining risk.

If risk is defined in terms of those projects that could impact the highest number of people, then large projects would be subject to the highest level of scrutiny. Projects such as large hotels, office complexes or apartment complexes, which serve large concentrations of people, would be subject to state inspections. However, most large projects are in metropolitan areas with local inspection programs, so this approach would leave most of the state with the same inspection dilemma currently being discussed. In addition, most large projects have internal quality control programs, so code violations are not as common as those in smaller projects.

According to inspectors, the projects most likely to have public safety concerns are small homeowner projects. If a large concentration of people is used as the risk criteria to trigger an inspection, the projects most likely to have health concerns would be least likely to be inspected. If on the other hand the probability of finding health concerns is the risk factor used, small projects in remote areas of the state would be the most likely projects to be inspected. Using this risk criteria, inspections are most needed in areas of the state that are inefficient to serve.

#### Encourage Regional Building Departments

A final option to be considered is the regional building department model. Several areas of the state, most notably El Paso and Pueblo Counties have regional building departments. These departments are a cooperative venture between local governments at the municipal and county level. The regional department issues all construction related permits and conducts all inspections for the zoned areas of the county and the individual municipalities participating in the program. The use of a regional building department may allow enough efficiencies for some areas of the state to conduct inspection programs that could not be justified on an individual basis.

If the General Assembly provided some type of incentive to rural areas of the state to develop regional inspection programs, the potential exists to reduce the resource allocation at the state level. The problem is that there is generally not enough building activity in the remote areas of the state to justify the expense of a full time inspector. Unless the state some how subsidized the program, it is unlikely local governments could justify the expense of a regional inspection program.



## Issues

In researching for this Sunset Review, interviews were conducted with Board members, Division staff, state and local inspectors, local government representatives and various trade organizations. Issues identified by individuals and organizations are identified by statutory cite and summarized below:

### **§12-25-102, C.R.S.**

The statute defines plumbing contractor but does not require the licensing or registration of plumbing contractors. County governments would like the ability to license contractors. This would allow them more control over who may obtain a permit in the local jurisdiction.

The Board supports the licensing or registration of contractors for two distinct reasons. The licensing of contractors will provide greater regulatory control over the permit process, by identifying the master plumber authorized to obtain permits for the contractor. This would reduce the incidents of a master obtaining permits for several contractors. If this were combined with a requirement that all advertisements contain the contractor license number, the Board believes it would reduce the volume of unlicensed practice complaints.

It is unclear what real public protection would result from the licensing of contractors. It can be argued that homeowners who hire the services of unlicensed plumbers know what they are doing. Licensing contractors is not going to stop this practice. In addition, this may create an unnecessary barrier to the market. It is true that some unethical masters obtain permits for a project and do not perform or supervise the work, a practice known as "selling the license". However, there are also situations where a master working for a contractor obtains permits for projects not related to the contractor's business. These may be jobs the contractor does not want or could be jobs the master obtained with the intent of starting an independent contractor business. Limiting who may obtain a permit may prevent some masters from starting their own contractor business.

**§12-58-104.5, C.R.S.**

The Act allows local jurisdictions to adopt a plumbing code provided it is at least as stringent as the code adopted by the Board. The Board has traditionally adopted the UPC, with certain modifications. Local jurisdictions have been reluctant to adopt alternate codes because of virtual impossibility of defending the restrictiveness of one 400 page document over another. Each code can be more restrictive than another on a particular point, but the overall code is too difficult to evaluate.

This is perhaps one of the more contentious issues in the plumbing program, Board authority over local control. The Board is authorized to permit the use of materials and methods not specifically contained in the state code. The Board has not adopted any standards for the approval of alternatives, instead evaluating each on a case by case basis. This has caused controversy in several local jurisdictions.

Opponents of exclusive Board control over approvals of alternative products claim that the Board does not make timely decisions when evaluating proposals. They also cite inconsistency in Board decisions, claiming that case by case approvals have resulted in the same product being approved in some situations and not others for no apparent reason. They use the approval of a venting system known as a sovent system as an example. The Board has routinely approved variances to use sovent for over fifteen years. However, the Board has not approved or even proposed amending the code to allow for general usage. The Board recently ceased allowing variances for sovent after a failure in a Denver metro hotel that had been in place for over 10 years.

Developers, manufacturers, and local building officials frequently disagree with the Board on the approval of certain products. The Board consistently resists approving products not listed in the UPC, a document that is updated only every three years. There is not universally recognized testing standards for plumbing products like there is for some other products, such as Underwriters Laboratory for electrical components.

It is a slow process for a new product to become listed in the UPC. Some manufacturers and developers have charged that the reason for this is that most new products are lower cost or labor saving. They believe the reason for not approving these products is to protect jobs in the plumbing industry.

Board members, and some industry representatives counter that a traditional plumbing system has been proven to last a lifetime. Most new products come with limited warranties and could expose the user to liabilities in the future. Once a building is completed, there is no cost effective method to determine what materials were used in the construction. Even if the initial purchaser of the product was aware of the risk, future owners of the building may not be informed that alternative materials or methods were used in the construction process.

There have been several instances around the country where unlisted products have been approved by local or state authorities with disastrous results. A frequently discussed example is the approval of poly butal pipe in Texas. This low cost pipe was approved for residential use statewide several years ago. After a few years, houses plumbed with the product experienced massive leaks and significant property damage. The end result was a multi million dollar class action suit, disapproval of the product, and a requirement to retrofit existing structures plumbed with the product.

The General Assembly should clarify whether local governments can adopt an alternative plumbing code. The standard for a local code that is at least as restrictive as the state standard, is not meaningful. There are several nationally recognized plumbing codes that have been adopted by various states. An argument could be made that portions of any of these codes is more restrictive than another code. If the General Assembly decides local governments may adopt a separate code, a decision must also be made on product approval. The Board should either be required to develop standard guidelines for approval, or allow local governments to approve products for the local jurisdiction.

**§12-58-105, C.R.S.**

Control and supervision of apprentices is an issue raised by some Board members, inspectors, and plumbing contractors. There is currently no mandatory ratio for the number of apprentices a licensee may supervise. There is certainly the potential for abuse under this system. Inspectors report that on some jobs a single licensee may be supervising several apprentices on a multi story project. It is not physically possible to have direct supervision under this scenario. Some licensees claim that contractors use apprentices as a source of cheap labor, with no intention of developing them into licensed plumbers.

The issue of apprentices has valid points on both sides. Colorado does not have a formal apprenticeship program. To be licensed as a journeyman, an applicant must serve four years under a licensee as an apprentice. Some contractors have formal classroom training programs for apprentices in addition to the on the job experience. Apprentices in union operated training programs have the actual experience monitored to ensure the apprentice is exposed to a variety of projects and situations.

There may be some validity to the contention that an apprentice ratio would benefit the apprentice. The fewer apprentices a licensee supervises, the better training the apprentice receives, at least in theory. However, this assumes that all licensees are qualified trainers. Just because a plumber has experience and has passed an examination does not necessarily mean he or she is a good teacher. Without further qualifications on the supervisor, a mandatory ratio has little benefit to the public.

**§12-58-106, C.R.S.**

The Plumbing Act restricts the use of the title “plumber” by anyone not licensed as a plumber. Some individuals interviewed believe this needs to be clarified and that the restriction is not only title protection, but a prohibition on the unlicensed practice of plumbing as well.

The Act in §12-58-105(1), C.R.S., provides that no person shall engage in the work of the various licensing categories without first obtaining a license from the Board. In addition, §12-58-116, C.R.S., makes violations of the provision a class three misdemeanor. It appears the statute is clear on the restrictions on both the title and practice of plumbing.

**§§12-17-107 and 107.5, C.R.S.**

These sections provide the guidelines, requirements, and equivalencies, for experience necessary to qualify to take the journeyman examination. Examination applicants are limited to a maximum credit of one year experience for a degree from an approved community college or trade school, regardless of the length or quality of the program. The Board is authorized to promulgate regulations for alternative academic military experience obtained by applicants. The Board has promulgated a regulation allowing a maximum of one half of the experience necessary for the licensing category. This regulation is consistent with the provision in section 107.5 for experience obtained that is not required to be under the supervision of a licensed plumber.

This provision appears to be unnecessarily restrictive. An extreme example of the restrictiveness would be a military plumber with 25 years of service.

Even if all of the work performed was substantially equivalent to experience an apprentice or journeyman in Colorado would perform, only two years credit would be given towards qualification for a masters or journeyman license in Colorado. This provision is unnecessarily restrictive to protect the public.

**§12-58-111, C.R.S.**

The Board is authorized to issue licenses by endorsement to individuals licensed in another jurisdiction, provided the qualifications for licensure in that jurisdiction are equivalent to those in this state at the time of licensure. Applicants for licensure by endorsement must submit an application to the Board and undergo a review.

Some individuals believe the Board should have the ability to enter into reciprocal agreements with other jurisdictions. In a reciprocal arrangement, a licenses of one jurisdiction are recognized by the state without an individual review, provided the other jurisdiction accepts a Colorado license in return. Reciprocal agreements are not necessary to protect the public. If an applicant is qualified for licensure, the applicant should be licensed as soon as possible regardless of the acceptance of the Colorado license in another jurisdiction.

**§12-58-112, C.R.S.**

The Act authorizes the Board to issue temporary permits to applicants eligible to sit for the journeyman or masters examination who have paid the appropriate fees. The Act provides that the temporary permit is valid for 30 days and may be renewed once.

The Board recently adopted an electronic masters examination that can be scheduled six days a week at sites around the state. The 30 day provision was enacted to allow temporary permits for those applicants who waiting for the next scheduled Board examination which were only required to be held four time each year. The 30 day period is unnecessarily generous given the frequency of examinations now.

**§12-58-114.2, C.R.S.**

The Director of the Division is authorized to employ qualified individuals as plumbing inspectors. The term qualified is not defined. All state inspectors are currently licensed plumbers. However, there is no requirement that they be licensed. There are also no restrictions on the local level for plumbing inspection qualifications. Some Board members and industry representatives believe that strict standards for all inspectors are necessary to protect the public. Local jurisdictions do not believe this is necessary.

It is logical to assume that a licensed plumber knows more about plumbing than a layperson. Industry representatives point out that a local jurisdiction could employ someone with little or no plumbing background to inspect plumbing work. Many local jurisdictions use a single inspector to perform multiple inspections. Usually this inspectors are not licensed in a particular trade. Licensed tradespeople generally command a higher salary than non-licensed individuals. Placing additional requirements on local jurisdictions may raise the cost to these programs. Any increase in expenses may result in some jurisdictions eliminating inspection programs.

If the General Assembly wants to encourage local jurisdictions to perform inspections, increasing costs does not provide an incentive to do so. However, from a public protection standpoint, a more qualified inspector may result in a higher quality plumbing installation. At the very least, requiring licensing for all inspectors should result in more consistency of code interpretation. The goal of providing an incentive for increased local inspection programs may be countered by establishing licensure as the minimum qualification for inspectors. This is a public policy decision that must be discussed and decided by the General Assembly.

## RECOMMENDATIONS

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**Recommendation 1: Continue the licensing of Plumbers by the Board of Examiners of Plumbers until the year 2005, with modifications to the composition to the Board.**

Summary: Improperly installed plumbing has the potential to cause significant public harm. Ensuring the qualifications of individuals installing plumbing is a cost effective method of providing public protection. The current composition of the Board is dominated by members of the profession being regulated. Giving the appearance and potential of being self serving to the trade.

Discussion: In a Sunset Review the agency being reviewed is required to provide information to justify the continuation of the regulatory program. One justification is that the unregulated practice of the trade or occupation presents a potential harm to the public. In reviewing the regulation of plumbing documentation was provided to demonstrate harm to the public when plumbing is not correctly installed and maintained.

Once the potential harm to the public is documented, the level of regulation must be determined. The potential harm in plumbing is both health and welfare related. Improper installations can have severe negative health impacts. These negative impacts can range from short-term flu like symptoms to severe permanent problems or death. Welfare considerations range from occasional unpleasant odors to economic damage from sewer backups and broken water pipes.

In the present case, this review is convinced that licensing is the appropriate level of regulation. A licensing program with the proper standards ensures the qualifications of individuals practicing the occupation. A regulatory program with sufficient enforcement powers serves to protect the public.

In considering continuing the licensing by the Board several options were considered. For instance, the Plumbing Board could be combined with the State Electrical Board. However, while both professions are engaged in construction related trades, the differences in the two trades do not lend themselves to regulation by a single entity. In reviewing other state programs, only one (Hawaii) was found to use a combined electrical and plumbing board.

Several states do not have state licensing programs. These states allow or require local jurisdictions to implement local licensing programs. In some of these states local licensing programs are supplemented by a strong state inspection program. In others, local jurisdictions not only license, they perform the inspections as well.

Repealing regulation by the Board and allowing, or requiring, local jurisdictions to implement licensing programs lends itself to problems with consistency and effectiveness of the licensing program. Industry representatives expressed concern that local licensing programs could result in individuals and contractors being forced to pay excessive fees to obtain licenses in several jurisdictions. Concerns were also expressed that licensing standards in various jurisdictions would not be set at a minimum standard to protect the public but instead could be set at a level to prevent entry to the market. No documentation was presented to support this argument, however a review of general contractor licensing programs in various municipalities did reveal wide discrepancies in fees and qualifications required. If this discrepancy was repeated in the licensing of plumbers it is doubtful if minimum standards would be maintained statewide.

An additional factor to consider is that not all jurisdictions would chose to adopt a licensing program. Fourteen counties already do not have programs, exposing the public in those areas to potential harm.

The current Board composition is dominated by members who have an economic interest in how the profession is regulated. The Board has been criticized for refusing to approve changes to the code that could negatively impact the economics of the profession. These refusals have all been based on strict a interpretation of the UPC, a code developed by members of the profession. There is no evidence that the Board has acted inappropriately in making decisions regarding code changes. However, when a board is dominated by members of the profession, it can give the appearance of impropriety.

The national trend in regulatory boards is to increase representation by public members. Public members are usually, but not always considered to be consumers of the services of the profession regulated by the board. A major component of the regulation of plumbers by the Board is the state inspection program. There is no representation of a major customer of that service, local governments electing to use the state inspection program.



The General Assembly should replace a contractor member of the Board with a representative from a local government that uses the services of state inspectors. This change serves two purposes, first, it eliminates any appearance that the Board is self serving, or resists new technology to protect jobs. The second benefit is better representation of the customer base of the Board.

The General Assembly may want to consider changing the CDPHE representative to an additional public member. No other DORA licensing board has an *ex officio* non voting member. A non voting member may participate in discussions and provide expert opinions. Since all Board meetings are public meetings, public health are welcome to attend and provide input without being members of the Board. The public may be better served by a voting public member than a non voting public health member on the Board.

The Board would have representation from industry, customers using the Board adopted code to implement a local program, customers using the services of state inspectors, a general contractor using the services of the licensed profession, and the public. This would result in a more balanced Board, and reduce some of the controversy surrounding Board decisions.

**Recommendation 2: The General Assembly should require the Board to adopt clear guidelines, procedures and timeframes for the approval of alternative materials and methods.**

Summary: The Board has been criticized for apparent arbitrariness in approving alternative materials and methods. There are no standards for documentation, and no time limits for the Board to respond to a request for approval.

Discussion: The Board has traditionally adopted the UPC as the state plumbing code. The UPC is updated and published every three years by an organization of plumbers, building officials, manufacturers and distributors of plumbing supplies, and various building trades organizations. Another code is published by the ICBO. Members of the plumbing trade are reluctant to endorse the ICBO code because plumbers have less input on the development of this code.

Local jurisdictions have the authority to adopt and enforce a local plumbing code, provided it is at least as stringent as the code adopted by the Board. There are several nationally recognized codes used in various parts of the country. Each code has provisions that could be considered more stringent than another on a particular issue, including materials or methods approved for a particular plumbing application. Determining whether a code is more restrictive than other is highly subjective.

One of the most emotional issues in the plumbing trade is the use of alternative materials and methods. Under the current statute, the Board is allowed to authorize the use of materials or methods not approved by the state code. Some local building officials have been critical of the Board for either not responding to requests for approval in a timely manner or rejecting alternatives the local officials believe to be reasonable requests.

In the view of the Board, UPC approved methods and materials have been time tested to be effective. The Board is reluctant to approve alternatives unless detailed information is provided to document the alternative does not present a potential risk to public health or safety. There is no universally accepted independent testing agency for plumbing materials.

Board members have expressed doubts about testing data provided with some requests for approval, particularly when the requests are for mechanical alternatives to traditional venting systems, such as the studor valve. A traditional venting system requires metal pipe to be connected from a plumbing fixture and extended above the rooftop. The vent releases gases to the atmosphere and at the same time allows air to flow into the plumbing system to prevent a vacuum or siphoning of the trap.

A studor valve is a mechanical system that replaces the vent pipe with a one-way check valve. The valve permits fresh air into the plumbing system to allow water to flow through the system but prevents gases from entering the living quarters. Manufacturers maintain the valve is a safe, cost effective alternative to traditional venting. Developers lobby local governments for approval to use the valves because of the cost savings.

The Board has not approved the valves because of concerns that no matter how well made, mechanical systems fail. No testing data is available to demonstrate the expected life of the mechanical valve. They point out that the manufacturers warranty is only for one year, and even then will only replace a defective valve. Traditional systems on buildings over 100 years old are still effective.

The cost of the valve is only slightly less than cost of the materials necessary to install a traditional system. However, a traditional system may take hours of labor, by an apprentice and journeyman, where a valve can be installed by one person in a relatively short time. Advocates of the valve assert that the Board is protecting plumbing jobs at the expense of development.

The mechanical valve example is one of many disputes between manufacturers, local governments, and the Board. Developers frequently try to influence local governments to adopt a code that allows the valves. If a local government did so, the Board may have authority to rule the code is not as stringent as the state code. This could result in lengthy and expensive legal battles.

There are some instances where Board decisions can be called to question. For years the Board has granted variances for the installation of a venting system known as a Sovent system. The Board could amend the state code to allow installations, however it has chosen not to. Instead, these variances are granted on a case by case basis. This could be interpreted as being self-serving to the industry. The installation of Sovent systems involve a reduction of materials and labor over the installation of a traditional system. In approving variances for these systems, the Board requires documentation that the installation will not compromise public safety. Even though the Board routinely grants the variance requests for Sovent systems, the variance process is a deterrent to the installation of these systems.

The Board recently decided to discontinue granting variances for Sovent systems because of the recent failure of a Sovent system in a Metro Denver hotel. While the system did fail, the cause of the failure has not been determined, and may not be related to a flaw in the Sovent design or concept.

The Board should conduct a formal rule making hearing to adopt procedures for the approval of alternative materials and methods. The procedures should include what specific information the Board requires, including independent testing laboratory reports, and the testing standards to be used. All decisions on requests for approval should be made after a public hearing and based on documentation received in the application and public testimony or evidence presented during the hearing. The Board should have the ability to disapprove the use of a specific laboratory for testing purposes if the laboratory does not meet the standards established by the Board in regulation.

The Board should have 30 days from the time a complete application for approval is received to schedule a public hearing. The 30 day time limit may be waived by mutual agreement of the Board and the applicant.

**Recommendation 3: Establish a more meaningful criteria for licensure, including apprenticeship ratios, verification of practical experience, instructor certification, and expanded standards for alternative education and experience.**

Summary: Apprentices in Colorado must be registered within 30 days of starting an apprenticeship with a master plumber. Once registered, the state

does not verify what type of experience an apprentice receives. It is possible for an apprentice to spend several years doing routine maintenance and repairs. When the minimum number of hours are achieved, the apprentice may apply to take the journeyman examination.

Discussion: The current experienced requirements may allow for the licensing of some applicants that are less qualified than others. The requirements for residential and journeyman licensure consist of a minimum number of hours of experience and the written and practical examinations. There is no requirement for formal education and little credit is given for those who obtain education in addition to experience.

Apprentices are usually paid a much lower wage than a licensed residential or journeyman plumber. There is no mandatory limit on the number of apprentices a plumber may supervise. This allows apprentices to obtain the required number of years of experience without receiving proper training. Without a mandatory supervisory ratio, the training of an apprentice can be neglected in the interest of decreasing overhead for a particular project.

There are no qualifications for a licensee to supervise an apprentice, other than obtaining a license. The Board should be authorized to establish criteria for the number of apprentices supervised based on the experience of the licensee and the apprentice(s). Consideration must be given to the project under construction as well. Licensees who have had disciplinary actions against their license by the Board should have additional restrictions on apprenticeship supervision.

Apprentices are required to have experience in a variety of job types in order to qualify for the journeyman examination. There is no requirement for the employer to document the experience. The Board should be authorized to establish experience documentation requirements for licensees supervising apprentices.

**Recommendation 4: Remove outdated and unnecessary language from the statute.**

Summary: The plumbing statute contains several outdated and unnecessary provisions that should be eliminated.

Discussion: Section 12-58-104 (1)(f) and (2)(b), C.R.S., gives the Board the authority to employ inspectors and charge fees, for making various inspections. This provision conflicts the Colorado Constitution, the State Personnel Act, and §12-58-114.2, C.R.S., of the plumbing statute which says the Director of the Division may employ inspectors. Section 12-58-104(1)(f) should be repealed, or amended to read “The Board may direct inspectors employed by the Division, to conduct and charge fees for..”.

Section 12-58-112, C.R.S., authorizes the Board to issue temporary permits to applicants for the journeyman or residential plumbers examination who have submitted satisfactory evidence to the Board of qualifications to take the appropriate examination. Paragraph three of this section allows temporary permits to be valid for a period of thirty days. This 30 day period was established to allow applicants to work as a licensee while waiting to take the examination. The Board now offers electronic examinations more frequently than every 30 days, rendering this provision unnecessary.

Section 12-58-103 (2)(a), C.R.S., requires that appointments to the Board be approved by the Senate. Provisions for Senate approval has been removed from most licensing board appointments. To be consistent, Senate approval should be eliminated for appointments to the Plumbing Board.

**Recommendation 5: The Board should be authorized to issue cease and desist orders to individuals practicing plumbing without a license.**

Summary: The Act prohibits individuals from performing plumbing work without a license, unless the activity is addressed by one of the exemptions. The Board has no authority to discipline violators of this provision.

Discussion: Individuals practicing plumbing without a license can endanger the public. The Board should be allowed to issue cease and desist orders to non licensees who are found to be holding out, or practicing plumbing with out a license. If an individual ignores an order of the Board, it establishes some degree of intent to defraud the public and increases the likelihood of prosecution by a district attorney, as well as enhancing the civil option of the consumer.

## *APPENDICES*

## Sunset Statutory Evaluation Criteria

- (I) Whether regulation by the agency is necessary to protect the public health, safety and welfare; whether the conditions which led to the initial regulation have changed; and whether other conditions have arisen which would warrant more, less or the same degree of regulation;
- (II) If regulation is necessary, whether the existing statutes and regulations establish the least restrictive form of regulation consistent with the public interest, considering other available regulatory mechanisms and whether agency rules enhance the public interest and are within the scope of legislative intent;
- (III) Whether the agency operates in the public interest and whether its operation is impeded or enhanced by existing statutes, rules, procedures and practices and any other circumstances, including budgetary, resource and personnel matters;
- (IV) Whether an analysis of agency operations indicates that the agency performs its statutory duties efficiently and effectively;
- (V) Whether the composition of the agency's board or commission adequately represents the public interest and whether the agency encourages public participation in its decisions rather than participation only by the people it regulates;
- (VI) The economic impact of regulation and, if national economic information is available, whether the agency stimulates or restricts competition;
- (VII) Whether complaint, investigation and disciplinary procedures adequately protect the public and whether final dispositions of complaints are in the public interest or self-serving to the profession;
- (VIII) Whether the scope of practice of the regulated occupation contributes to the optimum utilization of personnel and whether entry requirements encourage affirmative action;
- (IX) Whether administrative and statutory changes are necessary to improve agency operations to enhance public interest.

## Statute

### **12-58-101. Legislative declaration.**

(1) The general assembly hereby finds that:

(a) Improper plumbing can adversely affect the health of the public and that faulty plumbing is potentially lethal and can cause widespread disease and an epidemic of disastrous consequences;

(b) To protect the health of the public, it is essential that plumbing be installed by persons who have proven their knowledge of the sciences of pneumatics and hydraulics and their skill in installing plumbing.

(2) Consistent with its duty to safeguard the health of the people of this state, the general assembly hereby declares that individuals who plan, install, alter, extend, repair, and maintain plumbing systems should be individuals of proven skill. To provide standards of skill for those in the plumbing trade and to authoritatively establish what shall be good plumbing practice, the general assembly hereby provides for the licensing of plumbers and for the promulgation of a model plumbing code of standards by the examining board of plumbers, and this article is therefore declared to be essential to the public interest.

### **12-58-102. Definitions.**

As used in this article, unless the context otherwise requires:

(1) "Board" means the examining board of plumbers.

(1.5) "Gas piping" means any arrangement of piping used to convey fuel gas, supplied by one meter, and each arrangement of gas piping serving a building, structure, or premises, whether individually metered or not. "Gas piping" or "gas piping system" does not include the installation of gas appliances where existing service connections are already installed, nor does such term include the installations, alterations, or maintenance of gas utilities owned by a public utility certified pursuant to article 5 of title 40, C.R.S., or a public utility owned or acquired by a city or town pursuant to article 32 of title 31, C.R.S.

(2) "Journeyman plumber" means any person other than a master plumber, residential plumber, or plumber's apprentice who engages in or works at the actual installation, alteration, repair, and renovation of plumbing in accordance with the standards, rules, and regulations established by the board.



(3) "Master plumber" means a person who has the necessary qualifications, training, experience, and technical knowledge to properly plan, lay out, and install and repair plumbing apparatus and equipment including the supervision of such in accordance with the standards, rules, and regulations established by the board.

(4) "Colorado plumbing code" means a code established by the board which consists of standards for plumbing installation, plumbing materials, and solar plumbing which could directly affect the potable water supply.

(5) (a) "Plumbing" includes the following items located within the building or extending five feet from the building foundation to the first joint, excluding any service line extending from the first joint to the property line: All potable water supply and distribution pipes and piping, all plumbing fixtures and traps, all drainage and vent pipes, all building drains, including their respective joints and connections, devices, receptacles, and appurtenances, and all medical gas and vacuum systems in health care facilities. "Plumbing" does not include: The installation, extension, alteration, or maintenance, including the related water piping and the indirect waste piping therefrom, of domestic appliances equipped with backflow preventers, including lawn sprinkling systems, residential ice makers, humidifiers, electrostatic filter washers, water heating appliances, water conditioning appliances not directly connected to the sanitary sewer system, building heating appliances and systems, fire protection systems, air conditioning installations, process and industrial equipment and piping systems, or indirect drainage systems not a part of a sanitary sewer system or the repair and replacement of garbage disposal units and dishwashers directly connected to the sanitary sewer system, including the necessary replacement of all tail pipes and traps, or the repair, maintenance, and replacement of sinks, faucets, drains, showers, tubs, and toilets.

(b) Notwithstanding the provisions of paragraph (a) of this subsection (5), the following shall not be included within the definition of "plumbing":

(I) Installations, extensions, improvements, remodeling, additions, and alterations in water and sewer systems owned or acquired by counties pursuant to article 20 of title 30, C.R.S., cities and towns pursuant to article 35 of title 31, C.R.S., or water and sanitation districts pursuant to article 1 or article 4 of title 32, C.R.S.; or

(II) Installations, extensions, improvements, remodeling, additions, and alterations performed by contractors employed by counties, cities, towns, or water and sewer districts which connect to the plumbing system within a property line; or

(III) Performance, location, construction, alteration, installation, and use of individual sewage disposal systems pursuant to article 10 of title 25, C.R.S., which are located within a property line.

(6) "Plumbing apprentice" means any person other than a master, journeyman, or residential plumber who, as his principal occupation, is engaged in learning and assisting in the installation of plumbing.

(7) "Plumbing contractor" means any person, firm, partnership, corporation, association, or other organization who undertakes or offers to undertake for another the planning, laying out, supervising, installing, or making of additions, alterations, and repairs in the installation of plumbing. In order to act as a plumbing contractor, the person, firm, partnership, corporation, association, or other organization must either be or employ full-time a master plumber.

(8) "Potable water" means water which is safe for drinking, culinary, and domestic purposes and which meets the requirements of the department of health.

(9) "Residential plumber" means any person other than a master or journeyman plumber or plumbing apprentice who has the necessary qualifications, training, experience, and technical knowledge, as specified by the board, to install plumbing and equipment in one-, two-, three-, and four-family dwellings, which shall not extend more than two stories aboveground.

**12-58-103. Examining board of plumbers - repeal of article.**

(1) There is hereby established within the division of registrations of the department of regulatory agencies the examining board of plumbers. The board shall exercise its powers and perform its duties and functions in the department of regulatory agencies as if it were transferred to the department by a type 1 transfer, as such transfer is defined in the "Administrative Organization Act of 1968", article 1 of title 24, C.R.S.

(2) (a) The board shall consist of seven appointed members as follows, one a journeyman plumber, one a master plumber, two engaged in the construction of residential or commercial buildings as plumbing contractors, one engaged in the construction of residential or commercial buildings as a general contractor, one a member or employee of a local government agency conducting plumbing inspections, and one appointed from the public at large. A representative of the department of public health and environment shall serve as an ex officio nonvoting member. At least one member shall be a resident of the western slope of the state, defined as that western part of the state separated from the eastern part of the state by the continental divide.

(b) A majority of the board shall constitute a quorum for the transaction of all business.

(3) (a) The governor, with power of removal, shall appoint the members of the board, subject to confirmation by the senate; except that the five members serving on June 30, 1982, shall continue to serve until the expiration of their respective terms of office. The governor shall appoint one additional member to serve until July 1, 1983, and another additional member to serve until July 1, 1986. Thereafter, members shall be appointed for four-year terms. Any vacancy occurring in the membership of the board shall be filled by the governor by appointment for the unexpired term of such member.

(b) The governor may remove any member of the board for misconduct, incompetence, or neglect of duty.

(4) No major political party shall be represented on the board by more than one member more than the other major political party.

(5) This article is repealed, effective July 1, 1998. Prior to such repeal, the examining board of plumbers shall be reviewed as provided for in section 24-34-104, C.R.S.

**12-58-104. Powers of board.**

(1) In addition to all other powers and duties conferred or imposed upon the board by this article, the board is authorized and empowered to:

(a) Elect its own officers and prescribe their duties;

(b) Conduct examinations as required by this article;

(c) Grant the licenses of duly qualified applicants for residential plumbers, journeymen plumbers, and master plumbers as provided in this article and pursuant to the provisions of article 4 of title 24, C.R.S.;

(d) Promulgate, adopt, amend, and repeal such rules and regulations, not inconsistent with the laws of this state, as may be necessary for the orderly conduct of its affairs and for the administration of this article, pursuant to the provisions of article 4 of title 24, C.R.S., and with the approval of the executive director of the department of regulatory agencies;

(e) In accordance with the provisions of article 4 of title 24, C.R.S., prescribe, enforce, amend, and repeal rules and regulations governing the plumbing, drainage, sewerage, and plumbing ventilation of all buildings in this state;

(f) Employ inspectors and charge fees for making inspections of plumbing work covered by the Colorado plumbing code in those areas where the local jurisdiction has not adopted its own plumbing code and where that jurisdiction has requested such inspections.

(g) Subpoena records and documents and compel the attendance of witnesses pursuant to an investigation or a hearing of the board;

(h) Conduct hearings in accordance with the provisions of section 24-4-105, C.R.S.; except that the board may appoint an administrative law judge pursuant to part 10 of article 30 of title 24, C.R.S., to conduct such hearings;

(i) Cause the enjoinder, in any court of competent jurisdiction, of all persons violating this article. When seeking an injunction, the board shall not be required to prove that an adequate remedy at law does not exist or that substantial or irreparable damages would result if an injunction is not granted.

(j) Inspect gas piping installations pursuant to the provisions of section 12-58-114.5.

(2) Notwithstanding any other provisions to the contrary, the board may, with regard to manufactured housing which is subject to part 7 of article 32 of title 24, C.R.S.:

(a) Promulgate, adopt, amend, and repeal such rules and regulations pursuant to the provisions of article 4 of title 24, C.R.S., as may be necessary for the inspection of manufactured housing water and sewer hookups;

(b) Employ inspectors and charge fees for making inspections of manufactured housing water and sewer hookups.

**12-58-104.5. Colorado plumbing code - amendments - variances.**

(1) In accordance with the provisions of article 4 of title 24, C.R.S., the board shall establish a Colorado plumbing code, as defined in section 12-58-102 (4). Such code shall represent the minimum standards for installation, alteration, and repair of plumbing equipment and systems throughout the state.

(2) Local governments shall be permitted to amend the code when adopting a plumbing code for their jurisdictions as long as such amendments are at least equal to the minimum requirements set forth in the Colorado plumbing code.

(3) If petitioned, the board shall annually hold public hearings to consider amendments to the Colorado plumbing code.

(4) The board is authorized to review and approve or disapprove requests for exceptions to the code in unique construction situations where a strict interpretation of the code would result in unreasonable operational conditions or unreasonable economic burdens as long as public safety is not compromised.

**12-58-104.6. Program administrator.**

The director of the division of registrations may appoint a program administrator pursuant to section 13 of article XII of the state constitution to work with the board in carrying out its duties under this article.

**12-58-105. Plumber must have license - control and supervision.**

(1) No person shall engage in or work at the business, trade, or calling of a residential, journeyman, or master plumber in this state until he has received a license from the division of registrations, upon written notice from the board or its authorized agent, or a temporary permit from the board or its authorized agent.

(2) (a) All plumbing apprentices working for plumbing contractors pursuant to this article and all apprentices working under the supervision of any licensed plumber pursuant to section 12-58-117 shall, within thirty days after the date of initial employment, be registered with the board.

(b) The employer of a plumbing apprentice shall be responsible for such apprentice's registration with the board.

(c) No apprentice shall be registered until payment of a registration or registration renewal fee, as determined by the board, has been made.

**12-58-106. Unauthorized use of title of plumber.**

No person shall advertise in any manner or use the title or designation of master plumber, journeyman plumber, or residential plumber unless he is qualified and licensed under this article.

**12-58-106.5. Unauthorized use of title of plumbing contractor.**

No person shall advertise in any manner that such person is a plumbing contractor or use the title or designation of plumbing contractor unless such person meets the definition of plumbing contractor set out in section 12-58-102 (7).

**12-58-107. License issuance - examination.**

(1) (a) The board shall issue licenses to persons who have by examination and experience shown themselves competent and qualified to engage in the business, trade, or calling of a residential plumber, journeyman plumber, or master plumber. The board shall establish the minimum level of experience required for an applicant to receive a residential, journeyman, or master plumber's license. The maximum experience the board may require for an applicant to qualify to receive a residential plumber's license is two years or three thousand four hundred hours of practical experience. The maximum experience the board may require for an applicant to qualify to receive a journeyman plumber's license is four years or six thousand eight hundred hours of practical experience. An applicant for a master plumber's license shall furnish evidence that he has five years of practical experience.

(b) Any applicant for such license shall be permitted to substitute for required practical experience evidence of academic training in the plumbing field, which shall be credited as follows:

(I) If he is a graduate of a community college or trade school plumbing program approved by the board, he shall receive one year of work experience credit.

(II) If he has academic training, including military training, in the plumbing field which is not sufficient to qualify under subparagraph (I) of this paragraph (b), the board shall provide work experience credit for such training according to a uniform ratio established by rule and regulation.

(c) No license shall be issued until the applicant has paid a license fee set by the board pursuant to section 24-34-105, C.R.S.

(2) An applicant for a license under this section shall file an application on forms prepared and furnished by the board, together with the examination fee. The time and place of examination shall be designated in advance by the board, and examinations shall be held at least four times each calendar year and at such other times as, in the opinion of the board, the number of applicants warrants.

(3) The contents of the examinations provided for in this section shall be determined by the board. The examination shall be administered by the board or its authorized agent pursuant to rules prescribed by the board. Each examination shall be designed and given in such a manner as to fairly test the applicant's knowledge of plumbing and rules and regulations governing plumbing. Examinations may include written tests and applied tests of the practices which the license will qualify the applicant to perform and such related studies or subjects as the board may determine are necessary for the proper and efficient performance of such practices. Such examinations shall be consistent with current practical and theoretical requirements of the practice of plumbing and shall be reviewed, revised, and updated on an annual basis by the board. The board shall ensure that the examination passing grade reflects a minimum level of competency.

**12-58-107.5. Credit for experience not subject to supervision of a licensed plumber.**

For all applicants seeking work experience credit toward licensure, the board shall give credit for plumbing work that is not required to be performed by or under the supervision of a licensed plumber if the applicant can show that the particular experience received or the supervision under which the work has been performed is adequate. Work experience credit awarded under this section shall not exceed one-half of the applicable experience requirement for a license issued under this article.

**12-58-108. License renewal - reinstatement.**

(1) All license renewal and renewal fees shall be in accordance with the provisions of sections 24-34-102 and 24-34-105, C.R.S.

(2) Any license that has lapsed shall be deemed to have expired. Prior to reinstatement, the board is authorized to require the licensee to demonstrate competency after two years if the board determines that such a showing is necessary and to require the payment of the appropriate fee.

**12-58-109. License reinstatement.**

(Repealed)

**12-58-110. Disciplinary action by board - licenses or registrations denied, suspended, or revoked.**

(1) The board may deny, suspend, revoke, or refuse to renew any license or registration issued or applied for under the provisions of this article or place a licensee on probation for any of the following reasons:

(a) Violation of any of the provisions of this article;

(b) Violation of the rules and regulations or orders promulgated by the board in conformity with the provisions of this article or aiding or abetting in such violation;

(c) Failure or refusal to remove within a reasonable time the cause for disapproval of any plumbing installation as reported on the notice of disapproval, but such reasonable time shall include time for appeal to and a hearing before the board;

(d) Any cause for which the issuance of the license could have been refused had it then existed and been known to the board;

(e) Commitment of any act or omission that does not meet generally accepted standards of plumbing practice;

(f) Conviction of or acceptance of a plea of guilty or nolo contendere by a court to a felony. In considering the disciplinary action, the board shall be governed by the provisions of section 24-5-101, C.R.S.

(g) Advertising by any licensee or registrant which is false or misleading;

(h) Deception, misrepresentation, or fraud in obtaining or attempting to obtain a license;

(i) Failure of any such licensee to adequately supervise an apprentice who is working at the trade pursuant to section 12-58-117;

(j) Failure of any licensee to report to the board:

(I) Known violations of this article;

(II) Civil judgments and settlements which arose from such licensee's work performance;

(k) Employment of any person required by this article to be licensed or to obtain a permit who has not obtained such license or permit;

(l) Habitual intemperance with respect to or excessive use of any habit-forming drug, as defined in section 12-22-102 (13), any controlled substance, as defined in section 12-22-303 (7), or any alcoholic beverage;

(m) Any use of a schedule I controlled substance, as defined in section 18-18-203, C.R.S.;

(n) Disciplinary action against a plumber's license in another jurisdiction. Evidence of such disciplinary action shall be prima facie evidence for denial of licensure or other disciplinary action if the violation would be grounds for such disciplinary action in this state.

(2) When a complaint or an investigation discloses an instance of misconduct which, in the opinion of the board, does not warrant formal action by the board but which should not be dismissed as being without merit, a letter of admonition may be sent by certified mail to the licensee or registrant against whom a complaint was made and a copy thereof to the person making the complaint, but, when a letter of admonition is sent by



certified mail by the board to a licensee or registrant complained against, such person shall be advised that he has the right to request in writing, within twenty days after proven receipt of the letter, that formal disciplinary proceedings be initiated against him to adjudicate the propriety of the conduct upon which the letter of admonition is based. If such request is timely made, the letter of admonition shall be deemed vacated, and the matter shall be processed by means of formal disciplinary proceedings.

(3) Any disciplinary action taken by the board and judicial review of such action shall be in accordance with the provisions of article 4 of title 24, C.R.S., and the hearing and opportunity for review shall be conducted pursuant to said article by the board or an administrative law judge at the board's discretion.

***12-58-110.1. Reapplication after revocation of licensure.***

No person whose license has been revoked shall be allowed to reapply for licensure earlier than two years from the effective date of the revocation.

***12-58-110.2. Reconsideration and review of board action.***

The board, on its own motion or upon application, at any time after the imposition of any discipline as provided for in section 12-58-110, may reconsider its prior action and reinstate or restore such license or terminate probation or reduce the severity of its prior disciplinary action. The taking of any such further action or the holding of a hearing with respect thereto shall rest in the sole discretion of the board.

***12-58-110.3. Immunity.***

Any member of the board and any witness appearing before the board or in any criminal proceeding involving the person who is the subject of disciplinary action shall be immune from suit in any civil action brought by the person who is the subject of the disciplinary action if such member or witness acts in good faith. The immunity provided by this section shall also extend to any person, including consultants and complainants, participating in good faith in any investigative proceeding pursuant to this article.

**12-58-110.4. Judicial review.**

The court of appeals shall have initial jurisdiction to review all final actions and orders that are subject to judicial review of the board. Such proceedings shall be conducted in accordance with section 24-4-106 (11), C.R.S.

**12-58-111. License by endorsement.**

The board may issue a plumber's license by endorsement in this state to any person who is licensed to practice in another jurisdiction if such person presents proof satisfactory to the board that, at the time of application for a Colorado license by endorsement, the person possesses credentials and qualifications which are substantially equivalent to requirements in Colorado for licensure by examination. The board may specify by rule and regulation what shall constitute substantially equivalent credentials and qualifications and may further require a waiting period of six months after the issuance of a license in another state before issuing a license in Colorado.

**12-58-112. Temporary permits.**

(1) The board or its authorized agent may issue a temporary permit to engage in the work of a journeyman plumber or a residential plumber to any applicant who has furnished satisfactory evidence to the board that he has the required experience to qualify for the examination, as provided in the rules and regulations promulgated by the board, and who has applied for an examination to entitle him to such license.

(2) Such permits shall be issued only upon payment of a fee established by the board and may be revoked by the board at any time.

(3) Any permit issued pursuant to this section shall expire no later than thirty days after the date of the examination for which the applicant has applied or upon written notice by the board of the results of the examination, whichever date is earlier. No permit shall be issued pursuant to this section to any person who has twice previously failed an examination or who has received two temporary permits.

(4) Notwithstanding the requirements set forth in section 12-58-107 (1), a temporary master permit may be issued to an existing plumbing contractor who has lost the services of his master plumber for completion of a current project underway as long as he has a journeyman plumber in his full-time employ. This shall only be valid until the next regularly scheduled examination.

**12-58-113. Exemptions.**

(1) Any person selling or dealing in plumbing materials or supplies, but not engaged in the installation, alteration, repairing, or removal of plumbing, shall not be required to employ or have a licensed plumber in charge.

(2) Nothing in this article shall be construed to require any individual to hold a license to perform plumbing work on his own property or residence, nor shall it prevent a person from employing an individual on either a full- or a part-time basis to do routine repair, maintenance, and replacement of sinks, faucets, drains, showers, tubs, toilets, and domestic appliances and equipment equipped with backflow preventers; except that, if such property or residence is intended for sale or resale by a person engaged in the business of constructing or remodeling such facilities or structures or is rental property which is occupied or is to be occupied by tenants for lodging, either transient or permanent, or is a commercial or industrial building, the owner shall be responsible for and the property shall be subject to all of the provisions of this article pertaining to licensing, unless specifically exempted therein.

(3) Nothing in this article shall be construed to apply to the manufacture of housing which is subject to the provisions of part 7 of article 32 of title 24, C.R.S., or the installation of individual residential or temporary construction units of manufactured housing water and sewer hookups inspected pursuant to section 12-58-104.

(4) Persons who are engaged in the business of inspecting, testing, and repairing backflow prevention devices shall be exempt from licensure under this article, except when such persons engage in the installation and removal of such devices.

(5) Nothing in this article shall be construed to require either that employees of the federal government who perform plumbing work on federal property shall be required to be licensed before doing plumbing work on such property or that the plumbing work performed on such property shall be regulated pursuant to this article.

**12-58-114. Disposition of fees.**

All fees shall be transmitted to the state treasurer, who shall credit the same pursuant to section 24-34-105, C.R.S., and the general assembly shall make annual appropriations pursuant to said section for the expenditures of the board incurred in the performance of its duties under this article, which expenditures shall be made out of such appropriations upon vouchers and warrants drawn pursuant to law.

**12-58-114.2. State plumbing inspectors.**

(1) The director of the division of registrations is authorized to appoint or employ competent persons as state plumbing inspectors.

(2) Such inspectors may be employed either on a full-time or on a part-time basis as the circumstances in each case warrant. State plumbing inspectors have the right of ingress and egress to and from all public and private premises during reasonable working hours where this article applies for the purpose of making plumbing inspections or otherwise determining compliance with the provisions of this article.

**12-58-114.5. Inspection - application - standards.**

(1) Any plumbing or gas piping installation in any new construction or remodeling or repair, other than manufactured units inspected in accordance with the provisions of part 7 of article 32 of title 24, C.R.S., except in any incorporated town or city, any county, or any city and county having its own plumbing code equal to the minimum standards provided in this article, shall be inspected by a state plumbing inspector in those areas where a local jurisdiction has requested such inspections. A state plumbing inspector shall inspect any new construction, remodeling, or repair subject to the provisions of this subsection (1) within three working days after the receipt of the application for inspection. If the inspection is not performed within five working days, work may resume on any such construction, repair, or remodeling. Prior to the commencement of any such plumbing or gas piping installation, the person making such installation shall make application for inspection and pay the required fee therefor. Every mobile home or movable structure owner shall have the plumbing and gas piping hookup for such mobile home or movable structure inspected prior to obtaining new or different plumbing or gas service.

(2) A state plumbing inspector shall inspect the work performed, and, if such work meets the minimum standards set forth in the Colorado plumbing code referred to in section 12-58-104.5, a certificate of approval shall be issued by the inspector. If such installation is disapproved, written notice thereof together with the reasons for such disapproval shall be given by the inspector to the applicant. If such installation is hazardous to life or property, the inspector disapproving it may order the plumbing or gas service thereto discontinued until such installation is rendered safe. The applicant may appeal such disapproval to the board and shall be granted a hearing by the board within seven days after notice of appeal is filed with the board. After removal of the cause of such disapproval, the applicant shall make application for reinspection in the same manner as for the original inspection and pay the required reinspection fee.

(3) (a) All inspection permits issued by the board shall be valid for a period of twelve months, and the board shall cancel the permit and remove it from its files at the end of the twelve-month period, except in the following circumstances:

(l) If an applicant makes a showing at the time of application for a permit that the plumbing or gas piping work is substantial and is likely to take longer than twelve months, the board may issue a permit to be valid for a period longer than twelve months, but not exceeding three years.

(II) If the applicant notifies the board prior to the expiration of the twelve-month period of extenuating circumstances, as determined by the board, during the twelve-month period, the board may extend the validity of the permit for a period not to exceed six months.

(b) If an inspection is requested by an applicant after a permit has expired or has been cancelled, a new permit must be applied for and granted before an inspection is performed.

(4) Each application, certificate of approval, and notice of disapproval shall contain the name of the property owner, if known, the location and a brief description of the installation, the name of the general contractor if any, the name of the plumbing contractor or licensed plumber and state license number in the case of any plumbing installation, the name of the installer in the case of any liquefied petroleum gas piping installation, the state plumbing inspector, and the inspection fee charged for the inspection. The original of a notice of disapproval and written reasons for disapproval and corrective actions to be taken shall be mailed to the board, and a copy of such notice shall be mailed to the plumbing contractor in the case of any plumbing installation or the installer in the case of any liquefied petroleum gas piping installation, within two working days after the date of inspection, and a copy of the notice shall be posted at the installation site. Such forms shall be furnished by the board, and a copy of each application, certificate, and notice made or issued shall be filed with the board.

(5) Notwithstanding the fact that any incorporated town or city, any county, or any city and county in which a public school is located or is to be located has its own plumbing code and inspection authority, any plumbing or gas piping installation in any new construction or remodeling or repair of a public school shall be inspected by a state plumbing inspector.

(6) In the event that any incorporated town or city, any county, or any city and county intends to commence or cease performing plumbing or gas piping inspections in its respective jurisdiction, written notice of such intent shall be given to the board.

(7) (a) Any person claiming to be aggrieved by the failure of a state plumbing inspector to inspect his property after proper application or by notice of disapproval without setting forth the reasons for denying the inspection permit may request the program administrator to review the actions of the plumbing inspector or the manner of the inspection. Such request may be made by his authorized representative and shall be in writing.

(b) Upon the filing of such a request, the program administrator shall cause a copy thereof to be served upon the state plumbing inspector complained of, together with an order requiring such inspector to answer the allegations of said request within a time fixed by the program administrator.

(c) If the request is not granted within ten days after it is filed, it may be treated as rejected. Any person aggrieved by the action of the program administrator in refusing the review requested or in failing or refusing to grant all or part of the relief requested may file a written complaint and request for a hearing with the board, specifying the grounds relied upon.

(d) Any hearing before the board shall be held pursuant to the provisions of section 24-4-105, C.R.S.

**12-58-115. *Municipal and county regulations.***

(1) Any city, town, county, or city and county of this state may provide for the licensing of plumbing contractors.

(2) No local government agency may promulgate rules or regulations or provide for licenses which would preclude the holder of a valid license issued under this article from practicing his trade.

**12-58-116. *Violations - penalty.***

(1) It is unlawful for any person:

(a) To violate the provisions of section 12-58-105, unless practicing pursuant to section 12-58-106 or 12-58-113;

(b) To practice as a residential, journeyman, or master plumber during a period when his license has been suspended or revoked;

(c) To sell or fraudulently obtain or furnish a license to practice as a residential, journeyman, or master plumber or to aid or abet therein.

(2) Any person who violates any provision of this section commits a class 3 misdemeanor and shall be punished as provided in section 18-1-106, C.R.S.

**12-58-116.5. Violation - fines.**

(1) Notwithstanding the provisions of section 12-58-116, the board shall have authority to assess a fine for any violation of the provisions of this article or any standard, rule, or regulation adopted by the board.

(2) Such fine shall not be less than five hundred dollars or greater than one thousand dollars and shall be transmitted to the state treasurer, who shall credit the same to the general fund.

(3) All fines shall be imposed in accordance with the provisions of section 24-4-105, C.R.S.

**12-58-117. Apprentices.**

(1) Any person may work as a plumbing apprentice for a licensed plumber but shall not do any plumbing work for which a license is required pursuant to this article except under the supervision of a licensed plumber. Supervision requires that the licensed plumber supervise apprentices at the jobsite.

(2) Any master, journeyman, or residential plumber who is the supervisor of any plumbing apprentice shall be responsible for the work performed by such apprentice. The license of any plumber may be revoked, suspended, or denied under the provisions of section 12-58-110 for any improper work performed by a plumbing apprentice while under the supervision of such licensee.

## Examination Materials List





## Permit Application

