

**BEFORE THE ALASKA OFFICE OF ADMINISTRATIVE HEARINGS ON REFERRAL
BY THE COMMISSIONER OF COMMERCE, COMMUNITY & ECONOMIC
DEVELOPMENT**

IN THE MATTER OF)
)
 DAVID BOHART)
)
 _____)

Case No. OAH-06-0350-MEC
Agency Case No. 2050-06-001

DECISION & ORDER

I. Introduction

The Division of Corporations, Business and Professional Licensing (“the division,” previously called the Division of Occupational Licensing) denied the application of David Bohart for a mechanical administrator license in the heating, cooling and process piping category. Mr. Bohart requested a hearing. Administrative Law Judge Dale Whitney heard the appeal on August 8, 2006. Mr. Bohart appeared by telephone. Assistant Attorney General Gayle Horetski represented the division. Upon review of the evidence, the administrative law judge finds that Mr. Bohart does qualify for a mechanical administrator’s license in heating, cooling and process piping.

II. Facts

Mr. Bohart entered the field of mechanical heating and cooling systems at a very young age in 1964, when he began assisting his father in a family mechanical heating service and repair business. Mr. Bohart worked with his father through 1969. Despite having worked with his father, Mr. Bohart considers his actual training in the field to have started in September 1983 when he began working for Paul’s Heating in Fairbanks during the winter heating season. In October 1984 Mr. Bohart went to work as Center Director for Teen Challenge of Alaska. In this position Mr. Bohart was responsible for maintenance and repairs of two facilities in Palmer and for several vehicles. This job was not exclusively a mechanical job, but in this position Mr. Bohart was responsible for maintaining the mechanical systems of the buildings, and he participated in the installation of a new boiler in one of the facilities.

From 1986 until September of 1993 Mr. Bohart was self-employed. Mr. Bohart’s business license classified the business as a handyman business, and Mr. Bohart did heating and cooling maintenance and repairs. A substantial portion of this work involved retrofitting heating systems with modern burners. Mr. Bohart did install one new system during this time, but most

of the work involved upgrading of older systems, repairing manifolds, and installing newer and more efficient burners.

In 1993 Mr. Bohart went to work for a company called Altrol in Fairbanks. He started as a heating and cooling technician, but within six months worked his way up to a supervisor of four other journeyman workers in the heating department. During this period Mr. Bohart averaged working fifty hours per month, more in the winter and less in the summer. Mr. Bohart estimates that 80-90 percent of his time with Altrol was spent in installation and retrofitting as opposed to maintenance work, with the balance being service calls to repair faulty systems.

From 1995 to 2002 Mr. Bohart worked for a firm called Interior Fuels. In an affidavit, his supervisor stated that Mr. Bohart “took on the responsibility of doing most all of our new boiler installation & retrofit work. With the majority of systems consisting of an entire rebuild of piping and manifold systems.” Mr. Bohart’s supervisor at Interior Fuels praised Mr. Bohart for being intelligent and motivated, bringing projects in on time and under budget, and being “more than capable of managing a small group of people.”¹

From May of 2002 until the time he applied for his administrator’s license in January of 2006, Mr. Bohart was self-employed as the sole proprietor of a company called ‘D’ Company. In his initial application, Mr. Bohart did not detail the work he did on his own, because he erroneously believed that he should have had an administrator’s license to do that work and he feared liability for not being properly licensed. After consulting with an attorney, he learned that it was legal for him to do the work he had been doing so long as the work was not being done on a building that was being offered for sale. The attorney advised Mr. Bohart to file an amended application disclosing the work he had been doing. In the initial application, Mr. Bohart described his self-employment work as “heating, cooling & ventilation consultant. In this position I design, provide a detailed plan, all parts needed to build the system and as many hours of consulting as need for the customer to build their own system.” Mr. Bohart did not check the boxes on the application that indicated whether he was a journeyman, foreman, supervisor, contractor, owner/builder or other, he did not indicate whether the work was full time or part time, he did not indicate the hours per week, and although he did indicate that the position had lasted from May of 2002 until February of 2006, he did not fill in the total number of years and months.

¹ Exhibit F (affidavit of Andrew Kjera).

In an amended application submitted in April of 2006, Mr. Bohart wrote, “in this position I functioned as a journeyman and supervisor installing and repairing heating cooling and process piping mechanical systems. I was also involved in consulting in heating cooling and process piping.” On this application form, Mr. Bohart checked boxes indicating that he worked in the capacities of journeyman, foreman, supervisor and contractor, but he did not check boxes indicating whether he was full or part time, and he did not indicate the hours per week that he worked. It was Mr. Bohart who observed these omissions at the hearing. When asked about them, he explained that he filled out the second application with the help of an attorney, who was willing to provide him with one hour of services for free. To hire the attorney to represent him at the hearing would have required a \$10,000 retainer, so Mr. Bohart tried to put together his amended application entirely within the one hour he had with the lawyer.

While working for D Company, Mr. Bohart works an average of 40 hours per week. At times he works very long hours, and other times he reduces his workload to take classes at UAF. Mr. Bohart estimates that 90 percent of his work for D Company consists of installation, alteration and retrofitting. In his testimony, Mr. Bohart described in great detail what it is he actually does in his own company. In his own business, Mr. Bohart has worked exclusively on individual residential buildings. He has not been able to work on multiple-house developments or commercial buildings, because he lacks the administrator’s license that he now seeks. Working either with individual owners or with contractors, Mr. Bohart starts by developing a system plan for the subject building. Mr. Bohart buys all the parts and materials wholesale, and provides them to the customer at a certain marked up price. In many cases, the customer installs the system with Mr. Bohart’s oversight. In some cases Mr. Bohart will install the more difficult parts of the system, such as the boiler, and then provide oversight as the customer performs the less difficult but more laborious part of installing the system, such as installing hydronic piping around the house. If the customer is incapable of installing the system, or if problems develop, Mr. Bohart steps in and completes the installation on an hourly basis, or he instructs the customer on an hourly basis. When the installation is complete, Mr. Bohart fires up the system for the first time, ensures that it is functioning properly, and makes any needed final adjustments. Mr. Bohart testified that his service has been very popular in the Fairbanks area, because people with some mechanical aptitude can do a lot of the work on a new or retrofitted system themselves and save thousands of dollars in labor, but still be confident they are receiving a correctly installed system.

III. Discussion

In order to protect the safety of people and property in Alaska from the dangers of improperly installed or modified mechanical systems, AS 08.40.210-490 provides a procedure to assure that persons responsible for making mechanical installations are qualified, and that there are a sufficient number of persons qualified in the state.² These statutes provide that the department may create regulations establishing specific categories of mechanical administrators, and specific qualifications for licensure in each category.³ A mechanical administrator is a person who is responsible for:

(A) installing or modifying mechanical piping and systems, devices, fixtures, equipment, or other mechanical materials subject to the Uniform Plumbing Code, Uniform Swimming Pool, Spa, and Hot Tub Code, Uniform Solar Energy Code, and the Uniform Mechanical Code as published by the International Association of Plumbing and Mechanical Officials and the International Conference of Building Officials; or

(B) certifying that an installation or modification described in (A) above complies with the applicable codes.⁴

One of the specific categories of mechanical administrators that has been established by the department is a mechanical administrator in the field of “heating, cooling and process piping,” and this the category for which Mr. Bohart applied for a mechanical administrator’s license. A person licensed as a mechanical administrator in this category is entitled to supervise the installation, alteration and retrofitting of

(1) hydronic heating, cooling, and process piping systems, including steam and hot water systems of any temperature-pressure range, chilled water systems, condensing water systems, pressure vessels, heat exchangers, boilers, refrigeration water chillers, cooling towers, fuel oil tanks and piping, and fuel gas piping; and

(2) steam and hot water boilers, including chimney connections, flues, refractories, burners, fittings, valves, thermal insulation, controls, accessories, and incidental piping.⁵

A mechanical administrator licensed in the heating, cooling, and process piping category may also supervise the installation or retrofitting of all pneumatic or electric controls and the retrofitting of all control wiring of 48 volts or less necessary for the operation of heating, cooling, and process piping equipment and systems so long as those modifications do not alter

² AS 08.40.210.

³ AS 08.40.230.

⁴ AS 08.40.490(3).

⁵ 12 AAC 39.232.

the electrical characteristics of the mechanical system or controls. An administrator in this category may not perform the original installation of control wiring, or the alteration or retrofitting of controls and control wiring that alters the electrical characteristics of the mechanical system.⁶

There are approximately 500 licensed mechanical administrators in the State of Alaska. Of these, only about 24 are licensed in the heating, cooling, and process piping category.⁷ Typically, several people apply for a license in this category per year, and no applications have been denied, at least in recent years.⁸

Generally, a person may not perform work as a mechanical administrator unless the person has an administrator's license. However, a person may do such work if the work is performed on single-family or duplex residences that are not for sale, or if the work is valued at less than \$50,000 and is performed in certain small or remote communities, or if the person is working as an employee of the owner of a commercial building, but not offering his services to the general public, or if the work involves the installation, maintenance and repair of fire extinguishing systems.⁹ Thus, there is a range of mechanical administrator's work that Mr. Bohart could do without taking the test or meeting any experience requirements at all. Mr. Bohart testified that his reason for pursuing a license is that he would be able to expand his current work beyond serving individual homeowners to bidding on jobs involving housing projects that could be much more profitable, and he could also work on commercial buildings.

In order to qualify for a license as a mechanical administrator in the category of heating, cooling and process piping, the applicant must first pass an exam required of all mechanical administrator applicants. Passing this exam demonstrates that the applicant has:

- (1) the ability to understand plans, design specifications, and engineering terms commonly used in the mechanical field;
- (2) knowledge of mechanical installations and piping;
- (3) familiarity with the requirements of the Uniform Plumbing Code, Uniform Swimming Pool, Spa, and Hot Tub Code, Uniform Solar Energy Code, and the Uniform Mechanical Code currently in effect in the state;
- (4) personal skill and ability.¹⁰

⁶ 12 AAC 39.232(c).

⁷ Testimony of Licensing Supervisor Judy Weske.

⁸ *Id.*

⁹ AS 08.40.390.

¹⁰ AS 08.40.270.

Mr. Bohart successfully passed this examination, thereby demonstrating his academic fitness to be a mechanical administrator.

In addition to passing the administrator's examination, an applicant for a mechanical administrator license in the heating, cooling, and process piping category must also furnish proof satisfactory to the department that the applicant has met one of the four following requirements:

(1) practical experience as a journeyman in heating, cooling, and process piping work for at least four of the six years immediately before the date of application;

(2) construction management experience in heating, cooling, and process piping work as a field superintendent or similar position for at least four of the six years immediately before the date of application;

(3) a degree in mechanical engineering from a nationally or regionally accredited college or university plus practical experience as a journeyman pipefitter or field engineer in heating, cooling, and process piping work for at least one of the three years immediately before the date of application; or

(4) a registration in the state as a professional mechanical engineer plus management experience in the mechanical contracting industry as a field engineer or similar engineering position for at least one of the three years immediately before the date of application.¹¹

Mr. Bohart has submitted his application based on option (1) above, asserting that he has “practical experience as a journeyman in heating, cooling, and process piping work for at least four of the six years immediately before the date of application.” The division does not directly deny that Mr. Bohart has obtained this experience, but because of the importance of protecting the public from incompetent work in this field, it presents the available evidence and calls on Mr. Bohart to meet his burden of proof, and refers the matter to the administrative law judge for a recommendation to the commissioner. Whether Mr. Bohart has obtained “practical experience as a journeyman in heating, cooling, and process piping work for at least four of the six years immediately before the date of application” thus forms the sole issue and question to be considered in this case.

The required experience to qualify as an administrator must be journeyman level work. The word “journeyman” is defined in a regulation that applies to all mechanical administrator categories. According to the regulation, the term means “an individual who holds a certificate of fitness issued by the Department of Labor and Workforce Development under AS 18.62 or an

¹¹ 12 AAC 39.222.
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equivalent certificate issued by another licensing jurisdiction.”¹² Mr. Bohart correctly points out that the Department of Labor and Workforce Development issues certificates of fitness for journeyman plumbers and electricians, but not for mechanical technicians. Thus, it is theoretically impossible to qualify for a mechanical administrator’s license by obtaining practical experience as a journeyman, because there is no way one can meet the regulatory definition of “journeyman” in this field. The division concedes an internal problem in the regulation, but correctly argues that the remedy is not to just allow anyone with some experience to be a self-proclaimed journeyman.

When interpreting laws, words are construed according to the rules of grammar and according to their common and approved usage; technical words and phrases and those which have acquired a peculiar and appropriate meaning, whether by legislative definition or otherwise, are construed according to the peculiar and appropriate meaning.¹³ Dictionary definitions of “journeyman” are not particularly helpful in this case: “a worker who has learned a trade and works for another person, usu. by the day.”¹⁴ The division relied on a construction dictionary that defined a journeyman as “a skilled worker, competent in a trade, who has usually served as an apprentice to learn his skill.”¹⁵ Unfortunately, these definitions beg the question, and do not provide a basis to measure whether Mr. Bohart is a skilled or competent worker in the heating and cooling trade. Mr. Bohart’s testimony supported his written statement that “in the heating and cooling industry an individual is considered a journeyman when they are competent, i.e. they do not need supervision in the installation, diagnosis, or repair [of] any kind of mechanical problem related to a heating or cooling system.” The division agrees that “a journeyman is someone who does not need direct oversight, such as someone who’s an apprentice would need.”¹⁶

Mr. Bohart is qualified as a journeyman in accordance with the customs of his trade. In a field that does not have an official “journeyman card” available, it is difficult to identify the precise point at which a person is competent and recognized as a journeyman. By the time he finished working for Altrol in 1995 it is clear that Mr. Bohart was competent to not only service and maintain, but also to install, alter and retrofit mechanical heating systems without any

¹² 12 AAC 39.992(4).

¹³ AS 01.10.040(a).

¹⁴ Merriam-Webster’s Collegiate Dictionary at p. 676 (11th ed. 2003).

¹⁵ Testimony of Licensing Supervisor Judy Weske; Exhibit E.

¹⁶ Testimony of Licensing Examiner Sher Zinn.

supervision. When he began working at Interior Fuels in 1995 Mr. Bohart was employed as a journeyman working independently without supervision. In his self-employed capacity at D Company, Mr. Bohart has been working full-time in the heating and cooling trade without supervision. There has been absolutely no evidence, or even suggestion or hint, that any work ever performed by Mr. Bohart may have been substandard or demonstrated a lack of competence. The evidence shows it is more likely than not during the entire six-year period before his application, Mr. Bohart was competently working as a journeyman.

The division raises the possibility that some of Mr. Bohart's experience during the last six years might have been at a journeyman level, while some of it might not. This argument really goes to the next issue, that of whether the experience constituted installation, alteration, or retrofitting as opposed to mere service, repair and maintenance work. But even if a particular job was mere service work, Mr. Bohart was nevertheless working competently without supervision in the trade. If a customer called him out to inspect a malfunctioning heating system, Mr. Bohart would use his journeyman expertise to advise the homeowner whether the system needed mere cleaning and adjustment, or repairs, i.e. replacement of faulty parts, or to be retrofitted with newer technology or otherwise altered in some way, or whether the entire system should be decommissioned and replaced with an entirely new system. Regardless of the particular solution called for on a given job, Mr. Bohart's ability to advise the customer on these options and then perform whichever of them is appropriate constitutes journeyman level work. While a non-journeyman could perform some service and maintenance or possibly repair work, the fact that a journeyman occasionally does some work that does not require maximum usage of his skills does not relegate his employment to non-journeyman level. With a varied caseload, a lawyer might occasionally do work that could be done by a paralegal, and a doctor might occasionally do work that could be performed by a nurse or physician's assistant when doing so is efficient and serves the particular needs of the client or patient. This does not mean that the attorney or physician was only partially employed as such for the period. The same should be true for heating and cooling technicians.

The required experience for this category of mechanical administrator must be "practical experience in heating, cooling, and process piping work." By regulation, "heating, cooling, and process piping work" includes the "installation, alteration, or retrofitting" of the various types of

systems.¹⁷ While it could be argued that the inclusion of these kinds of work in the regulation might not be intended to exclude other kinds of work, the definitions of “retrofit” and “repair” in 12 AAC 39.992 suggest that the kind of experience required must involve the actual changing of the way a system works, not merely replacing faulty parts with identical new parts or adjusting a system to work as it was originally intended:

(7) "repair" means replacing mechanical system components, parts, or controls with like items having closely similar operating characteristics and making the adjustments required to return the mechanical system to operation as it was originally designed;

(8) "retrofit" means a change in design, construction, or equipment already in service in order to incorporate later improvements;

An applicant need not have experience in all kinds of heating, cooling, and process piping work in order to qualify for an administrator’s license. An applicant with four years of experience installing systems, but no experience altering or retrofitting, would qualify. An applicant who has spent the last four years retrofitting a cooling tower in a nuclear power plant would qualify, even if the person had no experience in the kinds of hydronic heating systems that an administrator in Alaska is likely to encounter.

The division has concluded that Mr. Bohart’s experience as a “consultant” does not qualify as “practical” experience, because it was not “hands on” type of work.¹⁸ This conclusion is incorrect. It should first be noted that the term “consultant” as used here is Mr. Bohart’s. Mr. Bohart testified that what he means by “consulting” is that he meets with the homeowner and inspects the building, develops a specific plan for a heating system in the building, develops a complete parts list, and then either partially installs the system himself or oversees the work of the homeowner. Mr. Bohart inspects and fires the system when it is complete, ensuring that it functions safely as intended.

If by “consulting” Mr. Bohart meant that he gave general advice on heating systems, such as advising the homeowner on whether to install an oil-fired boiler or a gas-fired one, whether to install a hydronic or forced air system, what the relative merits of electric resistance heat versus a carbon-burning system or a groundwater heat pump might be, I would agree with the division that this kind of consulting does not constitute practical experience in installation or retrofitting.

¹⁷ 12 AAC 39.232(b).

¹⁸ Licensing Supervisor Judy Weske testified that “we did not believe that consulting work rose to the level of journeyman. We did not believe that it rose to the level of ‘practical experience.’ ‘Practical experience’ to us means actively engaged in the trade in the field; hands-on experience. And consulting work, in our opinion, did not meet that definition.”

But the kind of consulting that Mr. Bohart describes is different. It involves development of a specific system, including choosing the major components, identifying precisely all of the parts to be used, and planning exactly how the parts will fit together and the arrangement of piping. This is the more difficult part of the job for an administrator, as opposed to merely installing a system that somebody else has planned. Mr. Bohart would perform fewer hours of work, because the homeowner completes most of the time-consuming work that does not require too much skill. But the hours that Mr. Bohart does spend on this type of “consulting” is practical, hands-on experience. So long as Mr. Bohart has accumulated enough of these hours, they qualify as practical experience for purposes of a license application.

While Mr. Bohart could have met the requirement for practical experience by spending large amounts of time on installation labor, such as sweating together hydronic pipes throughout a home, it is the ability to perform the kind of work that requires knowledge and thought that distinguishes the administrator from the technician. Planning, overseeing and inspecting are the kinds of work that administrators do. The division argues that supervising the installation of a system by a homeowner is not practical, hands-on experience. To the contrary, it should be noted that *supervising* the installation, alteration, or retrofitting of systems is precisely what an administrator’s license permits a person to do.¹⁹ Mr. Bohart’s experience in supervising the installation of systems by homeowners in residences that are not for sale is directly relevant to the question of whether he is now ready to supervise the installation of such systems by contractors in developments of houses that are for sale and in commercial buildings. Finally, correctly planning a specific system, instructing somebody else to correctly install it, inspecting the person’s work, and then confirming that the installed system functions safely and properly can fairly be regarded as higher-level and more concentrated practical experience than if Mr. Bohart had performed all aspects of the system installation, including hours of work that could fairly be regarded as mere labor.

The division largely based its decision to deny Mr. Bohart’s license on a finding by its investigator that Mr. Bohart’s experience during the six-year period before the application did not meet the standards of work required for a mechanical administrator in the heating, cooling and process piping category.

¹⁹ 12 AAC 39.232(a).
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In order to determine whether Mr. Bohart's experience was adequate to support his application, the investigator contacted ten people who are former customers of Mr. Bohart's and questioned them about Mr. Bohart's work. In this inquiry, the investigator made two critical mistakes. First, the investigator testified that Mr. Bohart's experience was not acceptable because it did not meet the requirements of 12 AAC 39.232. This is the regulation that specifies the scope of work for which a license is required. However, it is 12 AAC 39.222(1) that defines the kinds of experience that an applicant can use to qualify for an administrator. Mr. Bohart's experience should not have been evaluated to see if it is qualifying work for an administrator's license, not to see if it was the kind of work for which a license is required. In order to qualify for a license, 12 AAC 39.222(1) requires the applicant to have obtained "practical experience as a journeyman in heating, cooling, and process piping work for at least four of the six years immediately before the date of application." As noted above, there are many kinds of heating, cooling, and process piping work that a person can do without an administrator's license. The investigator erroneously evaluated Mr. Bohart's experience for consistency with the higher standard in 12 AAC 39.232; the correct standard is found in 12 AAC 39.222(1).

The second error is that in determining whether Mr. Bohart's experience met the standard for heating, cooling, and process piping work, the investigator incorrectly determined that work on commercial buildings would qualify, and that residential experience would not. Heating, cooling and process piping work is made up of the installation, alteration or retrofitting of hydronic systems and steam and hot water boilers.²⁰ The investigator talked to ten people for whom Mr. Bohart had performed work to determine whether the type of work done would qualify as experience for purposes of the license application. The investigator determined that "hydronic" systems are systems in commercial buildings exclusively, and that any work that Mr. Bohart may have performed in residential buildings would not meet the experience requirement. The investigator explained his conclusion that "it does not appear that Mr. Bohart has the necessary experience as a journeyman to apply for licensure as a mechanical administrator" in the following line of questioning:

Q. What did you find from these individuals regarding the nature of the work that Mr. Bohart had performed for them?

A. Well, it appeared that Mr. Bohart had done residential work, that was exempt from the mechanical administrator law, in that it was a lot of service and maintenance. The

²⁰ 12 AAC 39.232(b).
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license under the scope of work is commercial work, and it just doesn't fit, in my opinion.

Q. Okay, when you're saying under the scope of work, which regulation are you considering?

A. Under 12 AAC 39.232.

Q. And that talks about heating, cooling and process piping work including installation, alteration or retrofittings of hydronic heating, cooling and process piping systems.

A. Right.

Q. Can you tell [the administrative law judge] what does "hydronic" mean?

A. Um, I think this is the uh, the, the like forced, forced air, or not forced air, forced fluid heating systems.

Q. So "hydronic" means forced fluid?

A. I believe it does. I'm, I didn't look it up, but....

Q. Well, it includes, if we can go by the regulation here, and this is section 232 paragraph b as in boy, includes steam and hot water systems, chilled water systems, condensing water systems, pressure vessels, heat exchangers, boilers, cooling towers, is that a description of commercial-type facilities?

A. It is, particularly when you take into consideration it says systems of any temperature-pressure range, it's definitely an indicator that this is commercial work, it doesn't come out and say "commercial" but it does not limit this as other categories limit the scope of work, as opposed to residential versus commercial.

Q. Okay, so in your view, although it doesn't say "commercial" in the regulations, the description of the scope of work for this category is largely commercial work.

A. Yes it is. Because we do have scopes of work that specifically address residential work.

Q. And where are those found sir?

A. 12 AAC 39.350 defines the scope of residential plumbing and hydronic heating category.

The investigator was correct to observe that there is no written distinction between residential and commercial work in the current regulation, but incorrect to assume that such a distinction is implied. The fact that the kinds of systems listed in 12 AAC 39.232 include hydronic systems of all temperature and pressure ranges cannot be considered to be indicative of intent to exclude residential systems. To the contrary, one could just as easily read the regulation to mean that it is specifically intended to include lower temperature or pressure systems. There is no evidence in the record from which it can be concluded that residential systems present limited or lower ranges of temperature and pressure; possibly, some residential systems might present higher temperatures and pressures than would be found in a typical commercial system.

The record does not tell. The investigator's conclusion that residential hydronic systems are

intended to be covered only by 12 AAC 39.350, which defined a category for residential plumbing and hydronic systems, is complicated by the fact that the regulations attorney deleted that particular regulation as obsolete in 1995 because it had been adopted by the Board of Mechanical Examiners, which ceased to exist in 1993.

“Hydronic” means “of, relating to, or being a system of heating or cooling that involves transfer of heat by a circulating fluid (as water or vapor) in a closed system of pipes.”²¹ While the record does not establish the fact, it would be unsurprising to find that the vast majority of centrally-heated homes in Alaska have hot water, or hydronic, heating systems. It would be equally unsurprising to find that the vast majority of hydronic systems in Alaska are in residential not commercial buildings. There is nothing about any of the regulations that would suggest that experience installing or retrofitting a residential hydronic system is inferior experience.

The division’s assumption that the word “hydronic” was intended to exclude residential heating systems is unfounded. The investigator’s affirmative answer to a question asking whether “steam and hot water systems, chilled water systems, condensing water systems, pressure vessels, heat exchangers, boilers, cooling towers, is...a description of commercial-type facilities” lacks evidentiary support in the record, and is not supported by an adequate demonstration of expertise. While such systems are no doubt found in many commercial buildings, the evidence does not lead one to conclude that there are few homes equipped with hot water heating systems and associated boilers, or even some homes with steam systems. There is no basis to conclude that heat exchangers are an exclusive feature of commercial buildings. It is not apparent that the reference to pressure vessels was intended to exclude home water heaters, propane tanks, or expansion tanks; the fact that commercial buildings might also have pressure vessels, or for that matter the fact that submarines, commercial jets, and spaceships are themselves pressure vessels, does not mean that the regulation was intended to exclude experience working on residential pressure vessels. While it is reasonable to conclude that commercial buildings are likely to present a wider range of systems because of the varying sizes and needs of commercial buildings, there is an unsupported leap in the testimony that results in all residential work being regarded as “a lot of service and maintenance” because the systems were in homes and not commercial buildings.

²¹ Merriam-Webster’s Collegiate Dictionary at p. 609 (11th ed. 2003).
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Mr. Bohart persuasively established himself as a credible expert in the field of hydronic heating. He has worked on many different kinds of hydronic systems over the years, including the years prior to the six-year period in question for his application, and he is well-regarded by his professional peers for his competence.²² Mr. Bohart presented substantial evidence showing that his residential experience includes work on hot water systems, pressure vessels, boilers and associated piping, including a number of instances in which he designed and installed or supervised installation of entire systems.²³ This experience should not be disregarded because the hydronic systems were not in commercial buildings or in homes that are for sale.

When the examples of Mr. Bohart's work reported by the investigator in Exhibit B are correctly viewed to determine whether the experience constitutes installation, alteration or retrofitting, as opposed to whether the work is residential or commercial, it can be seen that a significant amount of the experience does qualify on its face as installation, alteration or retrofitting. The investigator spoke with ten individuals for whom Mr. Bohart had worked. Below are excerpts from his report for seven of the individuals:

- “he was building a new residence and Bohart put in the heating system.”
- “on one occasion Bohart changed out the furnace.”
- “Bohart was hired to put in a complete heating system for a 3,000 square foot house. After installation he came back and turned [*sic*] the heating system up. The work took most of two weeks to complete. He also did the gas piping. She estimates that he spent around 80 hours working on her house;”
- “Bohart did some rebuilding of the system with different components. The work was in a residence....;”
- “Bohart helped design and install the heating system for a house he was building;”
- “Bohart had consulted on the design of systems for several houses he (Gitschel) built and had installed the system in one house. Told Gitschel that Bohart did not have a license as a mechanical administrator and that he could not install mechanical systems on residence[s] Gitschel was building as a general contractor.”
- “Bohart worked on her residence—put in a forced air furnace and later took that out and put in a boiler system.”²⁴

²² Besides the affidavits in his prehearing submission attesting to Mr. Bohart's competence, the investigator's testimony reveals that the professional peers Mr. Bohart listed as references were familiar with Mr. Bohart's work and had always found it be competent.

²³ Testimony of Mr. Bohart; photographs in Exhibit G and explanatory testimony; affidavits accompanying Mr. Bohart's prehearing submission of July 7, 2006.

²⁴ Exhibit B, p. 2.

From these ten conversations, the investigator concluded that “from those I contacted it does not appear that Bohart has the necessary experience as a journeyman to apply for licensure as a mechanical administrator.”

In his testimony, Mr. Bohart went through each of the ten examples, and explained that in some cases what a customer might think of as “service” work would be properly termed “alteration” or “retrofitting” work. Mr. Bohart described in detail the work he did for each of the ten individuals in the investigator’s report. For the three jobs not listed above, Mr. Bohart described the work as follows: according to the report, one customer stated that “Bohart had done some service work for him. He worked on some pressure switches on the pump.” Mr. Bohart testified that he installed a new furnace in a greenhouse for this customer, and he provided a photograph that clearly shows a furnace installed in what appears to be new construction, a building constructed of concrete masonry units, wooden I-beams and clear panels. In another example, the report shows that, “Bohart put in a new burner unit in his oil furnace. He estimates that Bohart has spent around 20 to 22 hours working on his residence. All work was repair and maintenance.” Mr. Bohart testified that this work consisted of replacing an older style oil burner with a newer flame retention burner, and that this work is properly regarded as a retrofit. Mr. Bohart testified that he has extensive experience in replacing older burners in this manner, and that all of this work should be regarded as retrofitting. Mr. Bohart explained how the installation of a burner with newer technology alters and improves the functioning of a system, and is not merely replacement of a faulty part with an identical new part. Mr. Bohart’s testimony on this point was credible. This type of work is properly regarded as retrofitting not repair.²⁵ For the final customer, Mr. Bohart stated that his work for that person was purely service work and should not be regarded as installation, alteration or retrofitting. Mr. Bohart also discussed work he had done for three people the investigator had not been able to contact, and described installation work he had done for each of these people.

²⁵ Mr. Bohart’s testimony on this point is supported by a U.S. Department of Energy website that advises:

A number of retrofits are possible for oil-fired furnaces and boilers, but before pursuing any retrofits you should consider the potential added benefits you could receive by simply replacing the furnace. The following retrofits are possible...If you have an old, inefficient burner...you may want to replace the whole burner. A flame retention burner will block airflow up the chimney when the unit isn't running, saving up to 20% on fuel costs at a cost of about \$500.

http://www.eere.energy.gov/consumer/your_home/space_heating_cooling/index.cfm/mytopic=12540 (accessed 12/19/2006).

The division's concern in this matter is well-placed. Improper work by a heating, cooling and process piping mechanical administrator could be reasonably expected to result in exploding boilers and pressurized piping, exploding gasoline vapors in garages, and carbon monoxide poisoning, all of which could result in serious injuries and deaths in addition to expensive property damage. The division's conclusion that Mr. Bohart lacks the requisite experience is the result of a combination of circumstances. On his applications, Mr. Bohart did not detail with adequate specificity the kinds of work he has done during his period of self-employment; he failed to include dates and numbers of hours worked; and he used vague terms, such as "consulting" that did not adequately inform the division of the specific kinds of work he had done. The investigator examining Mr. Bohart's work experience applied incorrect standards in evaluating Mr. Bohart's experience, and improperly discounted experience that should have counted towards Mr. Bohart's qualification. Finally, a drafting problem in a regulation made it difficult for the division to determine whether Mr. Bohart's experience qualified as "journeyman" level experience.

Mr. Bohart's burden of proving his eligibility by a preponderance of the evidence is made heavier by the fact that, as a self-employed individual, Mr. Bohart has not kept detailed records of his hours worked and the precise nature of the work he has done over the last six years, and he cannot simply call a supervisor or produce company records. This is not a criticism of Mr. Bohart, who did not foresee a need to keep such records, but it does make it harder to prove his case. Nevertheless, a preponderance of the evidence presented shows it is more likely than not that Mr. Bohart has obtained practical experience as a journeyman in heating, cooling, and process piping work for at least four of the six years immediately before his date of application as required by 12 AAC 39.222(1). Mr. Bohart testified that he has worked full-time in his self-employed capacity for an average of forty hours per week, and that eighty to ninety percent of this work involved installation, alteration or retrofitting of hydronic heating and cooling systems. Mr. Bohart was a credible witness, and the evidence presented by the division supports Mr. Bohart's testimony, when evaluated under the correct standards. For the time he was working at Interior Fuels, Mr. Bohart worked full-time doing almost exclusively new installation, retrofitting, and alteration work. Mr. Bohart testified that in the six-year period before his application he took very few vacations, and worked longer hours in the winter. A 40-hour work week for all 52 weeks of a year would result in 2,080 hours worked. For purposes of an application, a "year of experience" means that in a 12-month period, the applicant worked in the

required field for at least 1,500 hours.²⁶ It is more likely than not during each of the six years preceding his license application Mr. Bohart gained more than 1,500 hours of practical experience in heating, cooling and process piping work. There is no dispute that Mr. Bohart has met all other qualifications for a license as a mechanical administrator in the category of heating, cooling and process piping, including passing the mechanical administrator's test. His application should be granted.

The above discussion concludes this matter from a legal standpoint. As a final note, it should be stated that Mr. Bohart was a particularly credible witness. He successfully conveyed an impression of being intelligent, knowledgeable and ethical. Though he is not legally required to make such a promise, the apparent sincerity of Mr. Bohart's statement that he has not and will not undertake a job that exceeds his ability without obtaining the assistance of appropriate experts was reassuring. Evidence that was presented by the division established that Mr. Bohart enjoys a good reputation in his trade for competence and ethical standards. There is not one item of evidence in the record that would cast a doubt on Mr. Bohart's competence or professional judgment; the only issue is the number of hours of practical experience he has obtained. Mr. Bohart's application is endorsed by many in the trade, including several engineers and a boiler inspector.²⁷ Issuance of a mechanical administrator's license to Mr. Bohart will bestow a substantial benefit on the community without undue risk to the safety of the public.

IV. Conclusion

A preponderance of the evidence in this case shows it is more likely than not that Mr. Bohart has obtained at least four years of practical experience as a journeyman in heating, cooling, and process piping work during the six years immediately before his date of application as required by 12 AAC 39.222(1). There is no dispute that Mr. Bohart has met all other qualifications for a license as a mechanical administrator in the category of heating, cooling and process piping. Upon adoption of this decision as a final administrative decision in this matter, the division shall issue Mr. Bohart a license as a mechanical administrator in the heating, cooling and process piping category.

DATED this 22nd day of December, 2006.

By: Signed
DALE WHITNEY
Administrative Law Judge

²⁶ 12 AAC 39.950.

²⁷ Affidavits attached to Mr. Bohart's prehearing submission of July 7, 2006.

Adoption

This Order is issued under the authority of AS 44.62.500, AS 44.17.010 and AS 44.33.010. The undersigned, on behalf of the Commissioner of Commerce, Community and Economic Development and in accordance with AS 44.64.060, adopts this Decision and Order as the final administrative determination in this matter.

Judicial review of this decision may be obtained by filing an appeal in the Alaska Superior Court in accordance with Alaska R. App. P. 602(a)(2) within 30 days after the date of this decision.

DATED this 22nd day of January, 2007.

By: Signed
Signature
Richard K. Urion
Name
Director
Title

[This document has been modified to conform to the technical standards for publication.]