

FIFTY YEARS OF FIRE PROTECTION
TRAINING AT OKLAHOMA
STATE UNIVERSITY

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Bachelor of Arts

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1966

Submitted to the Faculty of the
Graduate College of the
Oklahoma State University
in partial fulfillment of
the requirements for
the Degree of
MASTER OF ARTS
December, 1981



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PREFACE

Few people besides those in the fire service or in related fields are aware that Oklahoma State University is the home of one of the oldest and most prestigious schools of fire protection in the United States. In the 1930's Oklahoma Agricultural and Mechanical College (as it was then known) began to offer firemanship training through its extension program for both paid and unpaid firefighters while its Department of Firemanship Training offered a two-year program leading to an associate degree. Equally important was the publication of fire service training manuals, the now legendary "Oklahoma Redbook" series, begun at the same time. Through leadership in these three areas, the fire protection training program at Oklahoma State University has earned the nickname, "the West Point of the Fire Service."

Historically, Oklahoma State University has been a pioneer in the education of firefighters. It was the first college to offer academic credit for fire protection courses and still is one of the few publishers of training materials in the United States. Graduates of the program have established similar schools at other universities and provide leadership in related fields. With the changing times and increasing demands, the program widened its scope to

provide fire protection and safety engineering experts first to insurance firms and industry and most recently to the energy field.

That so much has been achieved at Oklahoma State University may be laid to several factors: a growing demand for training in fire protection, a favorable academic environment, and a unique cooperation between the city of Stillwater and the university. But the most important factor as this thesis will demonstrate, was the leadership of the program's founders. When that leadership was removed abruptly in the 1960's the program faltered and nearly died. But with some rearrangement and redirection, the program endured and overcame its difficulties so that now, fifty years after its beginning, the fire protection training program at Oklahoma State University deserves and enjoys an international reputation.

ACKNOWLEDGMENTS

Many people have had a part in the preparation of this thesis because, fortunately, many people are interested in the tradition of fire protection training at Oklahoma State University. Specifically I would like to acknowledge the help of Larry Borgelt, Harold Mace, Gene Carlson, Bill Vandevort and Carolyn Laverde, who answered questions and opened their files for me. I also appreciate the help and encouragement of my chairman, Dr. Joe Stout, and my committee members Dr. Bernard Eissenstat and Dr. James Smallwood. My husband Bill gave his expert advice as a statistician and took on extra responsibilities at home. I could not have done it without him. I want to thank my friend and typist, Donetta Bantle, as well as my parents for their encouragement. Especially, I want to thank my father, Chief Buster Williams of the Martin, Tennessee, Fire Department, for his life-long example of dedication to the fire service.

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CHAPTER I

A GOOD PLACE TO START

Due to the peculiar nature of the settlement of Oklahoma Territory, a land run with towns mushrooming on the prairie overnight, Oklahoma pioneers fell prey to the hazard of fire both as their contemporaries experienced it in the urban centers of the day and also as their ancestors had experienced it in more than two hundred years of frontier development. The hastily-built, ramshackle structures of a populace impatient to get on with the making of fortunes in a new land created an instant fire hazard. And with the rapid growth in population accompanied by the influx of industry--particularly the petroleum industry--the danger to life and property from fire constituted a major problem. In response, Oklahomans, as had other American pioneers before them, gave the organization of fire protection a high priority.¹

Most Oklahoma towns provided some form of fire protection as soon as they were able. Oklahoma City organized a fire department in 1889; Shawnee, in 1892; Stillwater, in 1894; Woodward, in 1895; and Kingfisher, in 1898. Their equipment consisted of whatever the town could afford or obtain. Woodward's firefighters had only buckets and fire

helmets while Chickasha's men were proud of their \$2,500 chemical engine. In El Reno the Pabst, Anheiser Busch, and Lemps brewing companies donated either money or equipment to outfit the town's fire department. But equipment meant little without the men to operate it; and, crossroads hamlet or booming city, the new towns were fortunate to count a few experienced men on the fire department roll.²

Firefighters then as now might be either paid or volunteer. The older category was the volunteer, in existence in America since the days of the English and Dutch colonists, when every able-bodied citizen was expected to participate in the bucket brigade. Later volunteer fire companies which owned, maintained, and operated their own equipment had formed and in time evolved into a peculiar American institution. Since participation in the volunteer company necessitated some expenditure and the ability to leave one's occupation whenever the alarm sounded, membership came to be limited and was reserved to the professional and upper classes. Thus the volunteer fire company developed into a type of social club, and as the volunteer firefighters tended to vote as a bloc they began to take on some political significance as well. But Oklahomans could not afford to be so elitist in their attitudes and so broke with that tradition to form more open volunteer companies.³

Some Oklahoma towns employed full-time firefighters if they could afford them. Paid men shared some of the glamour and excitement of the occupation (as well as the hard work)

but enjoyed less respect. Too often, in those days before civil service examinations, paid firefighters fell under the jurisdiction of the local party machinery and thus obtained --or were suspected to have obtained--their jobs through political influence. One writer remarked that some towns chose their firefighters with less care than they chose their fire horses.⁴

But, be he paid or volunteer, every firefighter learned to do his job in the same way--through experience. At the time Oklahoma was opened for settlement, few schools for firefighters existed; and few writers had ever set down any principles to guide the firefighter in his work. But fortunately some changes were beginning to occur.⁵

One can hardly underestimate the influence of the insurance business on the fire service. Modern firefighting, as we know it, began in the aftermath of the Great Fire of London in 1666. That fire, which ravaged the city for five days, left 373 acres of ashes on which had stood thirteen thousand homes and eighty-seven churches as well as other structures. Dr. Nicholas Barton, who rebuilt many of those homes, guaranteed to replace a house of his construction destroyed by fire. In that manner was born the Phoenix Fire Insurance Company. Other cities, especially those in the American colonies, learned from London's disaster and began to organize companies of firefighters, to experiment with firefighting equipment and to pass and enforce fire prevention laws. In 1752 Benjamin Franklin founded the

first successful fire insurance company in America, the Philadelphia Contributorship, known from its fire mark as the Hand-in-Hand company.⁶

The fire insurance companies had a vested interest in public safety. As early as 1839 they hired men to patrol the deserted high-value areas of New York at night. Later these patrolmen received equipment and instructions to answer fire alarms in order to protect property from water damage. Other companies in other cities followed their example, and in time most large cities had insurance company-supported salvage patrols that accompanied the city firefighters on their calls. In 1866 the American fire insurance companies created the National Board of Fire Underwriters. After a sluggish start this non-profit association began in 1888 a long career in public service and public relations. Eventually the NBFU supported the training of firefighters as a means of cutting fire losses and began to sponsor non-academic training schools.⁷

In those days before the proliferation of the automobile, fire insurance formed a major share of the total insurance business, second only to life insurance. One can easily understand the alarm of the industry as the rate of loss due to fire mounted steadily near the turn of the century. In 1905 losses amounted to less than \$200 million, but the San Francisco earthquake and resultant fire threw losses over \$500 million in 1906. Losses remained at a plateau of approximately \$200 million through 1915 but rose

sharply to \$350 million in 1916. Following World War I losses shot upward again to a high of \$560 million in 1926.⁸

About the same time fire losses peaked in 1926, a major change occurred in fire protection with the large-scale acceptance of the motorized apparatus. Sometime near the turn of the century--opinions differ as to the exact year--fire engines powered by gasoline or electricity went into service. Several versions of the motorized apparatus appeared; some were more successful than others. A few firefighters quickly adopted the new equipment, but others were slow to accept a substitute for dependable horses. Characteristically conservative, firefighters at that time believed with some reason that too much was at stake in terms of life and property to risk the breakdown or failure of a piece of unproved machinery. But as apparatus companies improved their new product, firefighters slowly phased out the horses, which had to be fed, watered, trained, and kept healthy, and phased in new trucks and pumpers that were cheaper to maintain and faster to arrive at the site of an alarm. Even so, many fire horses made their last runs as late as 1925.⁹

According to at least one fire protection historian, this change from horse-drawn to motorized apparatus brought about a new desire among firefighters for more professionalism in the fire service. Everett Hudiburg, retired fire chief, fire protection instructor, and editor of the Oklahoma Redbook training manuals, asserted that

firefighters saw in the coming of more sophisticated apparatus a need for correspondingly better training; otherwise, they would never amount to anything more than the sometimes derogatory public image of them as "a bunch of checker players."¹⁰

On the other hand, Harold Mace, Supervisor of Fire Service Extension at Oklahoma State University, believed the coming of the motorized apparatus was incidental to the new interest in improved standards and professionalism. According to Mace, the key to better training in those days was the availability of money and support supplied by an aroused fire insurance industry.

Oklahoma may have been a frontier when some of these changes were taking place, but Oklahoma firefighters were well aware of the advances being made and adopted a progressive attitude toward them. Being interested in improvement, in 1894 the firefighters of the territory organized the Oklahoma Territorial Firemen's Association at Oklahoma City. The ten founding fathers of the association aimed toward cooperation of the territorial fire departments; encouragement of skill and efficiency; uniformity of dress, equipment, and drills; relief of those disabled and their widows; and the general benefit and usefulness of member departments. Eventually, the association would work toward improved working conditions, equipment, and salaries with resulting better service and declining losses. The association historian, a veteran firefighter himself, admitted that fire houses in those days rated socially about the same as

poolhalls and that most people believed a fireman only needed a pair of red suspenders and a pint of whiskey to qualify for his job. But what, he asked, could one expect of a man paid only fifty dollars per month for a twenty-four hour day, seven days a week?¹¹

After its founding in 1894, the association convened annually except in 1918. In 1901 it expanded and took a new name, Oklahoma and Indian Territory Firemen's Association. In 1907 in recognition of statehood, it became the Oklahoma State Firemen's Association. At the early annual conventions, the delegates held business meetings and left ample time for visiting and entertainment. An indication of the general mood of the convention of 1894 was that in the absence of a gavel, the chairman used the cowbell decorating a delegate from Guthrie to call the meeting to order. In time the cowbell became the honored token of the association.¹²

Not all was levity, of course. The convention delegates and Oklahoma firefighters in general exhibited a pioneering spirit toward their occupation. One of the first items of business that the association addressed was the creation of a pension bill for disabled firefighters and their widows. George P. Gelder of Stillwater, using an Ohio bill as a guide, drafted the bill that established the Fireman's Pension Fund in Oklahoma. Basically the Fireman's Pension Bill that received association approval in 1908 assessed the insurance companies operating in Oklahoma one percent of their total premiums sold in the state to provide

a pension fund for disabled firemen.¹³ Later in 1918 the association's legislative committee helped gain passage of the Two-Platoon Law for cities with a population over 10,000.¹⁴ The leader of the national campaign for the law, the Fireman's Herald of New York, cited the Oklahoma version as the only truly satisfactory version enacted.¹⁵

In other aspects of fire protection Oklahoma firefighters demonstrated a pioneering spirit and a willingness to change with the times. In 1909 Woodward bought a motorized fire truck and thus claimed to be the second city in the country to use the automobile, the first being Kansas City. Tulsa in 1913 sold the last of its horses and became the first completely motorized department west of the Mississippi. Woodward's Chief Ed Snow also gained recognition as an authority on fire prevention when few at that time gave attention to the subject.¹⁶

Eventually Oklahoma firemen also began to call for better training. As early as the second convention in 1895, delegates at the meeting of the state association heard a series of lectures on subjects useful to firefighters: cooperation within the department; politics and the fire department; techniques for putting out fires in baled hay and cotton; the uses of electricity; and the usefulness of schools for firemen. At succeeding conventions members devoted time to instructive lectures, inviting guest speakers from Oklahoma and other states and from related spheres such as the insurance industry, the

apparatus industry, and state government departments. But even these educational aspects of the convention did not satisfy what some saw as a growing need for better training.¹⁷

One of those who was most dissatisfied was Charles Slemp. Slemp had been a fireman since 1901 and became chief at Anadarko in 1909. In 1920 he moved to Yale and served as chief there. That he was interested in advancing the quality of his occupation was shown in his many years of service in firemen's associations on the national as well as the state level. He was a delegate to several conventions of the International Association of Fire Chiefs and was a vice-president representing Oklahoma. He served as treasurer for the National Firemen's Association. Slemp's service to the Oklahoma State Fireman's Association totaled 34 years. In 1916 he was elected secretary and in 1937 his title was amended to secretary-for-life. His interest was shared by his wife, who was elected the first women life member of the association in 1922. According to the association historian, Slemp deserved more credit than any other man for the growth and success of the association.¹⁸

At the convention in Cushing in 1916, the organizers asked Slemp to prepare an address on the question of whether or not to have a tournament at the state meetings. At that time the tournament, a competition among the city departments in several categories--foot racing, ladder climbing, bunk-out racing, hose racing, and other events thought to

represent a fireman's skills--formed a substantial and highly enjoyable part of the program. Initially winners received token prizes but later received substantial cash awards in each category. But by 1916 delegates had begun to question the value of the tournament with regard to more valuable educational sessions. Slemp in his address agreed that the tournament had become too expensive an event for the host city to sponsor; he also questioned the worth of the "skills" demonstrated in the tournament. He asked instead that the association use the money that would have been spent for a tournament to hire the best instructors available to teach the delegates new methods of fire protection and prevention. He said,

These are the things that should interest the modern fireman; these are the things that go to make the efficient fireman, and efficiency is what raises us to the top of our chosen profession. . . . When I say efficiency, I mean efficiency which knows how and when to inspect buildings; which knows how and does enforce the ordinances, regulating the cleaning up of buildings and premises; efficiency that uses every safeguard to prevent fire and insures the proper handling of it, once it is started; efficiency which knows when to use water and when to use chemicals; which knows when to use a large stream and when to use a small one. No matter from what angle you look¹⁹ at this matter, it is efficiency that counts.

Perhaps the delegates agreed with Slemp that the day of the red-suspended, whiskey-drinking, checker-playing firefighter was past. At the convention of 1917 delegates heard twelve lectures besides the addresses and saw a curtailed tournament that awarded no cash prizes. At the next

meeting in 1919 the delegates listened to twenty instructional sessions with such enthusiasm that the historian commented on the new serious spirit of the convention. And because most departments had switched to motorized apparatus by that time, the organizers dropped the tournament after 1919.²⁰

Even these training opportunities did not satisfy everyone. At Tulsa in 1922 delegates heard Chief George Goff of the Oklahoma City Fire Department deliver a paper on "The Advantages of Having a Fire School." The following speaker, C. T. Ingalls of the Oklahoma Inspection Bureau, seconded Goff's favorable point of view. Three years later J. E. Taplin, a former school teacher and at that time fire chief from Blackwell, suggested the association hold a school for firemen in connection with the state conventions. The organizational committee arranged for such a school to begin at the next meeting in 1926 at Enid under the direction of Taplin himself.²¹

Two hundred fifty delegates attended this four-day meeting, the first in the United States to combine training school and convention. The association postponed its business meeting until after the school which took up the afternoon of the first day and all the second day. The organizers arranged three schools--A, B, and C--with three separate topics divided into three sessions each. Instructors included officers of Oklahoma fire departments as well as supervisors of the Oklahoma Inspection Bureau; a

department drill master from Cincinnati, Ohio; a fire alarm company representative; and Colonel Clarence Goldsmith, Chief Engineer of the National Board of Fire Underwriters. With the three-school arrangement delegates had the opportunity to attend each school at some time during the training period.²²

For the next four years Taplin continued to direct the convention-based training schools and also wrote a manual, The Essentials of Firemanship, in cooperation with the state vocational education office. The state association, the University of Oklahoma, Oklahoma Agricultural and Mechanical College, the Oklahoma Municipal League, and the State Board of Vocational Education all sponsored the book while the National Board of Fire Underwriters endorsed it. The book as well as the training program had gained national attention by 1931. Other states copied the program and, as few training materials existed other than some mimeographed efforts by some of the larger city departments, orders for The Essentials of Firemanship flooded in.²³

But Taplin had still larger ambitions for firefighter training in Oklahoma. Because of complaints that the conventions had become too long and that many could not take advantage of the training offered, Taplin proposed in 1929 a state-wide school to be held separate from the convention. Because of growing professionalism in the fire service, many now recognized that training was essential and would soon be necessary to set and meet standards for promotion. Taplin,

with the help of Chief Goff of Oklahoma City, Chief J. Ray Pence of Healdton, Chief John O. Slack, and Bill Allison of Stillwater, moved that the state school transfer to Oklahoma Agricultural and Mechanical College under its Vocational Education Department. Charles Briles, State Supervisor for Vocational Education at the college, strongly supported the move. In the summer of 1932 the Vocational Education Department of Oklahoma A and M held its first firefighters' training school at the Stillwater Fire Station with Professor Harold R. Brayton of Texas A & M University, later Director of Firemen's Training, as the speaker.²⁴

The success of that school encouraged those interested in training for firefighters to take one more step. At the next state firefighters' association convention L. Keith Covelle, State Superintendent of Trade and Industrial Education, informed the delegates that Oklahoma A and M might be willing to begin academic courses in fire protection if state firefighters gave the idea enough support.²⁵

Was the support there? The issue remained somewhat unclear as the official association history ended in 1934 with the question unanswered. The fact that the association never as a unit endorsed the college program or funded it implied Oklahoma firefighters did not support the school. However, Hudiburg remembered no opposition from state firefighters even if their attitude was somewhat tepid at first. And, in a very few years, the publicity and national recognition of the program became a source of pride to

them.²⁶

If they did not actively support the college program as an association, they still contributed to its success by providing a favorable environment for such an innovation and they continued to support the short course training schools. Oklahoma firefighters had shown themselves, whether volunteer or paid men, to be progressive and serious about raising fire protection to the status of a profession. Their willingness to share ideas had won them the enthusiastic approval of firefighters from other states as well as professionals in fire protection-related fields. Harry K. Rogers of the Western Actuarial Bureau, a subdivision of the National Board of Fire Underwriters, said of Oklahoma firefighters and their training program that they stood "head and shoulders above any other fire organization in the United States."²⁷

NOTES

¹Paul C. Ditzel, Fire Engines, Firefighters: The Men, Equipment and Machines, from Colonial Days to the Present (New York: Crown Publishers, 1976), pp. 6-7.

²Oklahoma State Firefighters Association, comp., The First 40 Years: A History of the Early Day Fire Service in Oklahoma (Oklahoma City: Oklahoma State Firefighters Association, n.d.), pp. 23, 50-51, 53, 85, 91.

³Ditzel, Fire Engines, Firefighters, pp. 20, 74-78; John V. Morris, Fires and Firefighters (Boston and Toronto: Little, Brown and Company, 1955), pp. 56-57.

⁴Ditzel, Fire Engines, Firefighters, pp. 135-136.

⁵Everett E. Hudiburg, Beside the Still-water: A Fire Protection Chronicle, 1885-1977 (Oklahoma City: Metro Press, 1977), pp. 41-42.

⁶Morris, Fires and Firefighters, pp. 18-19; Ditzel, Fire Engines, Firefighters, p. 36.

⁷Ditzel, Fire Engines, Firefighters, p. 94; Bob Considine, Man Against Fire: Fire Insurance-Protection from Disaster (Garden City, New York: Doubleday and Company, 1955), pp. 20-22.

⁸Everett E. Hudiburg, personal interview, Stillwater, Oklahoma, September 11, 1981; Orin F. Nolting, How Municipal Fire Defenses Affect Insurance Rates (Chicago: International City Managers' Association, 1939), p. 13.

⁹Ditzel, Fire Engines, Firefighters, pp. 190-191, 194.

¹⁰Everett E. Hudiburg, personal interview, Stillwater, Oklahoma, September 11, 1981.

¹¹Oklahoma State Firefighters Association, The First 40 Years, p. 9.

¹²Ibid., pp. 3-8, 17.

¹³Ibid., pp. 42-43.

¹⁴The two-platoon system involved two separate units of men working alternating shifts.

¹⁵Oklahoma State Firefighters Association, The First 40 Years, p. 80.

¹⁶Ibid., pp. 88, 53.

¹⁷Ibid., pp. 25, 71, 81.

¹⁸Ibid., pp. 103.

¹⁹Ibid., pp. 75-76.

²⁰Ibid., pp. 78-82.

²¹Ibid., p. 86; Hudiburg, Beside the Still-water, p. 31; Oklahoma State Firefighters Association, The First 40 Years, p. 93.

²²Oklahoma State Firefighters Association, The First 40 Years, p. 100.

²³Hudiburg, Beside the Still-water, pp. 41-42; Oklahoma State Firefighters Association, The First 40 Years p. 112; Hudiburg, Beside the Still-water, p. 42.

²⁴Oklahoma State Firefighters Association, The First 40 Years, pp. 108-109; Hudiburg, Beside the Still-water, pp. 31-32, 42.

²⁵Oklahoma State Firefighters Association, The First 40 Years, p. 113.

²⁶Everette Hudiburg, personal interview, Stillwater, Oklahoma, September 11, 1981.

²⁷Oklahoma State Firefighters Association, The First 40 Years, p. 120.

CHAPTER II

RAY PENCE: THAT FIGHTING, DRIVING SPIRIT

Oklahoma's state fire protection education program moved to Stillwater in the summer of 1932. By 1937 it had evolved into three phases all under the same administration in the School of Technical Training at Oklahoma Agricultural and Mechanical College. It maintained that status until the 1960s when circumstances forced a division of the program into three separate units. But during that period one important factor remained unchanged: the dedication and effectiveness of its leadership.

No one remembered exactly who first suggested the removal of the state fire protection education program to Stillwater, so several men usually shared the credit. J. E. Taplin, George Goff, J. Ray Pence, John Slack, and Bill Allison all campaigned for the placement of the program under the Vocational Education Department of Oklahoma A and M College. They had considered the University of Oklahoma, but it had demonstrated little enthusiasm for the idea. Charles Briles, state supervisor for vocational education at Oklahoma A and M College, also favored the idea as did his successor, L. Keith Covelle. But the person most often named

as having originated the idea was J. Ray Pence.¹

John Raymond Pence was born in Globe, Arizona, December 2, 1893, the son of John Raymond and Dr. Sara Higdon Pence. At age twelve he began a rather colorful and adventurous career by going alone to Alaska, where he supported himself for eighteen months by doing odd jobs. After that time he returned to the United States and four years later entered the world of automobile racing, an episode that left him with some scars and a few missing teeth. For some months he worked as a mechanic in Chile for a gold-mining firm and at another time allegedly he joined Francisco "Pancho" Villa's revolutionary army in Mexico. According to one story told about Pence, this last experience left him with an abiding distaste for poor equipment. Pence, so the story went, belonged to a unit that had only one field piece which had to have its left wheel jacked up with a brick in order to shoot straight. Pence's assignment was to carry the brick.²

Eventually, Pence moved on to Healdton, Oklahoma, then in its oil boom period. There in 1923 he married Margaret Forte and with her had one daughter, Evelyn. In Healdton, Pence operated a machine shop; but then something happened one night which caused him to adopt a different career. A new hotel which had only opened that day burned to the ground because Healdton had no fire department or fire equipment. Pay Pence was an aggressive and imaginative man. In the hotel fire he perceived a need in the booming town

and an opportunity for himself. That same night Pence decided to organize a fire department for Healdton.³

Pence went to the oil companies then operating in Healdton with a proposition: If the companies would buy him a fire truck, he would house it in his machine shop and organize a volunteer fire department to operate it. The oil companies already had suffered enough fire losses in Healdton to appreciate the idea, so they bought him the truck and equipment he requested.⁴

The Pencses stayed in Healdton until 1925; then they spent a year in California for the sake of Mrs. Pence's health. With her improvement they returned to Healdton where Pence resumed his duties as fire chief, this time in a city-financed department. As a firefighter Pence became active in the state and national firefighters' organizations. In 1932 he became state vice-president in the International Association of Fire Chiefs. At the same time he held offices in the Oklahoma State Firefighters Association and held the presidency in 1934. He was president of the Oklahoma Fire Chiefs' Association in 1933-34 and continued to serve that association as secretary-treasurer from 1934 to 1937. He held offices in the Southwest Association of Fire Chiefs after 1933 and became president in 1936. At the same time Pence demonstrated an enthusiasm for fire protection education. He attended the Los Angeles Fire School in 1930, where he was president of his class, and again in 1935. From 1926 until his death he was a member of the

Board of Supervisors of the Oklahoma Fire School and often attended and taught at other fire schools. By 1931 Ray Pence was earning a reputation for himself as one of Oklahoma's leading firefighters.⁵

In that year Pence accepted an offer to move to Stillwater to replace Chief John O. Slack. He took up his duties on July 15, 1931, and answered his first alarm in Stillwater that same day. Pence had not yet met all his company when the alarm sounded, but Pence followed the engine to the location. The timing of the alarm and the fact that no fire was apparent led to some confusion. Pence suspected his firefighters had turned in the alarm in order to have a look at him while the men thought he had called a drill to check their response. Fortunately they soon discovered there was indeed a small fire and proceeded to extinguish it. Somewhat prophetically in light of Pence's later activities in Stillwater, the fire was in the Oklahoma A and M administration building.⁶

Pence quickly established himself with the Stillwater Fire Department as a chief who would tolerate no slackness. One of his first acts was to take out the fire station pool table; thereafter his men occupied themselves with city fire hazards and making up deficiencies in their equipment. Pence was ambitious for himself and his department, and he intended to make it the best for its size in the state.⁷

Pence immediately inaugurated a series of new programs for his department, the first of which was his training

program for Oklahoma A and M students. He enlisted a number of young men whom he trained and made members of the fire department. These "sleepers" stayed at the fire station at night. In 1932 Everett Hudiburg joined the student firefighters to help finance another semester's work at Oklahoma A and M. The next year Pence took Hudiburg and three of his other student firefighters to Chicago to study salvage operations; there they spent a week learning to use salvage equipment and answering alarms with a unit of the Chicago Fire Insurance Patrol. One writer commented that Pence's students--in fact, all his men--seemed to absorb his dedication to the fire service as well as his "fighting, driving spirit."⁸

Also in his first year in Stillwater, Pence began a program of training in first aid and rescue. In January of 1932 he invited a personal friend, Jack B. Hynal, senior instructor of the United States Bureau of Mines, to teach a course of first aid in the city. Members of the fire department as well as 142 interested citizens and engineering students from Oklahoma A and M took that first course. It was such a success that Hynal returned year after year to repeat it, so that by 1943, 2,427 people had received certificates for completing the five nights of intensive training. To complement the training, Pence in 1936 called on the civic clubs for help in purchasing rescue equipment. His popularity with them was so great that the Junior Chamber of Commerce and the Stillwater newspapers helped acquire

an H. and H. Inhalator and an E. and J. Resuscitator. The Stillwater Fire Department began in 1932 to answer emergency calls other than fire alarms so that in seven years the fire-fighters believed they had saved 87 out of 121 cases in life-threatening circumstances.⁹

Behind this training and acquisition of equipment lay Pence's concern for the city of Stillwater, but he was also aware of responsibility for protecting the campus of Oklahoma A and M College. With the aid of the Oklahoma Inspection Bureau, Pence surveyed the campus and compiled a report on campus fire hazards with suggestions for improvements. Pence then entered the report in a Fire Prevention Week contest organized by the National Fire Protection Association. The report took first prize for towns of its size in Oklahoma and established a precedent: for nine successive years Stillwater won the award to the chagrin of the other contestants.¹⁰

Within a short time Pence's activities became a source of pride to Stillwater and earned him the community's approval. On his recommendations the city improved its water lines and thus obtained a decrease in insurance rates. He had other plans in mind as well which required the cooperation of the city government. Not all city governments might be expected to regard favorably such a progressive (and possibly expensive) program. But Pence had a penchant for obtaining the best as cheaply as possible. A skilled mechanic, he was accustomed to working with his hands and

turned his experience toward acquiring the extra apparatus he believed he needed to improve the city's ratings. When possible Pence encouraged the city commission to buy a commercial chassis and let him finish it to fit the department's needs. When in the depths of the Depression the city could not afford to buy a chassis for a ladder truck, Pence bought a used delivery truck, lengthened it, and remodeled it, taking a contract to haul construction steel on it in order to pay for the project. Skilled men in the fire department, having absorbed Pence's philosophies and enthusiasm, supplied the labor for his project.¹¹

Pence also had a good working relationship with the administration of Oklahoma A and M College. When the city could not afford to buy ladders or the lumber to build them, Pence went to the campus for the balance of the money he needed. He then borrowed power tools from the high school manual arts department and produced a set of ladders that, like all his products, met and exceeded specifications.¹²

In spite of these time-consuming projects, Pence never lost his enthusiasm for the state firefighters' association training program. Their first short-term school under the direction of the Oklahoma A and M Trade and Industrial Education Department met at the Stillwater Fire Station in the summer of 1932. Pence acted as host and invited as instructor Professor H. R. Brayton of Texas A and M College. A frequent speaker at Oklahoma fire schools, Brayton was at that time a member of the inorganic chemistry faculty and

later headed that university's fire protection program.

Again in 1933 the school convened at the Stillwater Fire Station. The concensus of those attending was that the existing training programs in the state were still inadequate. Firefighters needed not only more schools but also training manuals that could be used at home by local departments. At a series of conferences some of the most respected men in the area of fire protection considered the problems. Among them was Colonel Clarence Goldsmith of the National Board of Fire Underwriters, Harry K. "Smokey" Rogers of the Western Actuarial Bureau, H. J. Clark of the Oklahoma Inspection Bureau, and Professor Brayton. Their attempts to write a job description for the firefighter led them to identify ten basic skills in firefighting: (1) forcible entry, rope and portable extinguisher practices; (2) ladder practices; (3) hose practices; (4) salvage and overhaul practices; (5) fire stream practices; (6) fire apparatus practices; (7) ventilation practices; (8) rescue practices; (9) first aid practices; and (10) inspection practices. They believed that no one knew a firefighter's job so well as a firefighter, therefore firefighters must be the logical source of information if one wished to write a firefighter's training manual. On their recommendation, then, representatives of Oklahoma fire departments came to Stillwater for a two-week conference. During these two weeks the representatives discussed all aspects of firefighting with its tools, techniques, and terminology.

The product of these recommendations was a manual introduced in 1934 as An Introductory Course. It, like its second volume produced in 1935, was a mimeographed, 8 1/2 by 11 inch, hand-bound effort sold to the firefighters at cost. Members of the conference also decreed that no one might teach the manual until he had first had it taught to him.¹³

The man assigned the responsibility for compiling the information and writing these first manuals was William Fred Heisler. Born in 1887, Heisler had lived in Indiana and Kansas before moving to Ponca City, Oklahoma, as a high school teacher. In 1933 Oklahoma A and M College hired him as an itinerant teacher-trainer and also asked him to prepare training materials for the petroleum industry. At that first fire school at the Stillwater Fire Station, Heisler replaced the intended speaker when the latter was called away unexpectedly. Heisler was so successful a committee of Pence, Taplin and Edward Haley of Ada asked him to develop a course of training for the state vocational training program. Thus Heisler found himself working with and for firefighters.¹⁴

Meanwhile, Chief Pence and other interested persons continued to lobby for academic courses in fire protection at Oklahoma A and M College. They were fortunate in their campaign in that President Henry G. Bennett and Dean Philip S. Donnell of the Division of Engineering both favored the idea. Some members of the academic community adopted a cool

attitude toward the idea, but others felt it fit the philosophy of a land-grant institution.¹⁵

The plan was to offer two years training on completion of which the student would receive an associate degree. The proposed department of firemanship training would form a part of the School of Technical Training under the Division of Engineering. The purpose of the School of Technical Training was to provide education for the high school graduate who did not choose to be an engineer, yet had the ability to be more than a craftsman. He would receive technical training with enough extra work in the sciences and mathematics to help him understand not only the job he would do but also the processes behind it. Training for firefighters, the administration believed, should fall into this category. The justification Fred Heisler wrote and presented to Dean Donnell was later incorporated into the college catalogue. Heisler explained:

Firemanship has come to be a highly technical job due to the development of commodities involving flammable and explosive materials, modern building construction and occupancy, and the scientific means of fighting fires. One who learns this service must be a technician and yet be skilled in the various phases of fire protection and prevention. It being an emergency job, he must be able to think quickly and accurately. To do this his mind must be trained as well as his hands and he must have a store of information for immediate use at all times. The curriculum in Firemanship Training is designed to supplement actual practices with directly and indirectly related technical and academic information. A part of each term is spent in actual practice in a modern fire station with modern equipment. This is

supplemented directly with technical courses in firemanship, science, mathematics, shop work, and drawing. In addition, courses in English and government round out a planned general curriculum that leads toward employment in the fire fighting service.¹⁶

Subsequently, the Department of Firemanship Training at Oklahoma A and M opened in the fall of 1937. The courses planned for the firemanship student in his first year included English, military science, industrial algebra, trigonometry for technicians, general chemistry, mechanics and heat, engineering, drawing, shop woodwork, forging and heat welding, machine shop practice, oxy-acetylene and electric welding, engineering lectures, and auto mechanics as well as such specially designed courses as firefighting practices, fire hazards and fire causes, and fire protection. In the second year the student would study elementary physiology, electricity, sound and light, psychology, more military science, more general chemistry and the chemistry of engineering materials, elementary hydraulics, electricity and materials of building construction with public speaking and state and municipal government. Fire prevention, firefighting practices and firefighting tactics courses provided specialized training in the second year. The plan, according to the catalogue, was to have the student serve at least a part of each term in "actual practice in a modern fire station with modern equipment."¹⁷

Despite the advertisement in the college catalogue, the new department was not quite so well prepared to receive students as it appeared in the fall of 1937. Its curriculum

was still under discussion, it had not yet acquired a permanent instructor, and the students who enrolled would have to crowd into Stillwater's only fire station downtown at Ninth and Lewis streets. Even so, classes began in 1937, one year ahead of schedule, because five men had already enrolled as the department's first students.¹⁸

To act as instructor on a temporary basis, the School of Technology called on one of Chief Pence's former student firefighters, Everett Hudiburg, who had since worked two years as a state instructor of Oklahoma fire departments. While he began holding classes in the Industrial Arts Building, the college administration and the city of Stillwater devised a scheme to house the department to their mutual advantage.¹⁹

By 1936 Stillwater's winter population stood at 12,000. The city commissioners--Mayor Harry Jones, H. J. Nestor, O. V. Mullendore, Val Schatt, and C. B. Sherwood--realized as well as Chief Pence that they must build a second fire station in order to protect the city and the campus adequately. For that purpose they set aside a sum of \$10,000.²⁰

On September 27, 1937, Dean Donnell appeared before the city commissioners to ask that they consider placing the proposed fire station on the campus. He added that the college would like to help with the project. Apparently the commissioners passed the suggestion on to Chief Pence, for he then submitted a letter with recommendations to the meeting on October 4 meeting "as requested".²¹ He recommended:

(1) The station should be built on the corner of Knoblock and College (later University) avenues if an easement could be obtained. The building would serve as a city fire station as well as a laboratory for the Department of Firemanship Training. (2) The easement should be 200 by 135 feet. (3) The plans should be drawn up by the college's Department of Architecture.

Pence further suggested the building be built in stages with the needs of the fire department taking first consideration; the final stages of building should be completed as funds became available. Pence's recommendations met with the approval of the commissioners, for on Commissioner Mullendore's motion they voted unanimously to petition the State Board of Agriculture (which acted as regent for the college at that time) for the easement on which to build a fire station and drill tower to be used jointly by the city and college.²²

Mayor Jones immediately transmitted Stillwater's plan to the State Board of Agriculture; and his letter was included in the minutes of the board's meeting October 6. On January 15, 1938, the State Board of Agriculture passed a resolution drawn up by Dean Donnell which granted the easement as requested. The two parties then drew up a contract with Dean Donnell acting as intermediary. By the terms of the contract, the city of Stillwater would use its allocation of \$10,000 to begin construction of the fire station according to plans devised by the college's Department of

Architecture. The city would equip, man, and supply materials, janitorial services, and water for the station at no charge to the college. The college would then complete construction of the proposed \$60,000 building and would heat it, landscape it, care for the grounds, and maintain the rooms used for classes and laboratories without charge to the city. In recognition of the city's agreement to the contract, the State Board of Agriculture granted the proposed easement on the corner of Knoblock and College avenues for the sum of one dollar for the period of ninety-nine years. The contract, signed by representatives of both parties on April 6, 1938, could be terminated by mutual consent before the expiration of ninety-nine years. (See Appendix A.)²³

At the time the two parties agreed to the contract, both Oklahoma A and M and the city of Stillwater were busy with construction work. Both President Henry G. Bennett and the city commissioners had taken advantage of the Roosevelt administration's New Deal programs to acquire the funds for necessary projects. Works Progress Administration money modernized some buildings on campus, including Lewis Stadium and the power plant, and paid for numerous smaller projects involving sidewalks, curbing, guttering, and athletic courts. Combined with state funds, total construction on campus in those years reached millions of dollars. Meanwhile, the city also received federal funds for several major projects: a library, power plant, hospital, municipal

building, and community and educational building among others. Thus construction of a fire station and drill tower was for either party only one aspect of a continuing process of federally-funded improvement.²⁴

Apparently both parties were eager to begin construction, for a month before the formal signing, the city commissioners voted unanimously to accept the contract presented to them by Dean Donnell; one week later on March 21 Chief Pence announced to the city commission that plans for the building were now ready. Advertisizing for materials began and the commissioners opened bids for materials on May 2. On May 9 bids were awarded.²⁵

Philip A. Wilber, head of the college's Department of Architecture, designed a three-story building, 77 feet by 82 feet, with a five-story drill tower all in the Georgian style prevalent on the campus. Construction on the first two floors began in 1938. In the typical Pence style the city's firefighters furnished common labor for the building to cut costs while masons, plumbers, and electricians completed the more specialized work. Pence himself operated the construction elevator, and Hudiburg worked with the others on weekends. Of course, part of the labor force disappeared abruptly whenever the fire alarm sounded.²⁶

By the fall of 1938, though the building was still incomplete, the curriculum had been approved and the second year of classes began. Of the first five students, four had remained: Glen Boughton, Oscar Williams, Robert Courtney and

Woodrow Wilson. The fifth had departed when he realized his eventual destination was the fire station and not the railroad depot.²⁷

When the second year's classes began, enrollment stood at twelve. This posed a problem of sorts: the city of Stillwater, which had the responsibility for furnishing the building, had only supplied ten beds for the second floor dormitory. Pence took the problem in hand and, using his network of fire service contacts in the state, acquired the extra beds. He let his friends in other fire departments know that if they would supply a bed, they would have a place reserved for any young man they wished to enroll in the Department of Firemanship Training. When the beds arrived the name of each donating town was stenciled on the headboard. Eventually the dormitory included beds donated by individuals and companies as well, so that in 1944, the list included from Stillwater, 12; Madill, 1; Ada, 1; Woodward, 1; Waynoka, 2; Enid, 1; Claremore, 1; Tulsa, 2; Sallisaw, 1; Guthrie, 1; Sulphur, 1; and Cushing, 1. In addition beds had been donated by retired Chief George B. Goff of Oklahoma City; retired Chief S. C. Boaz; Emmett T. Cox, a fire service pioneer from Indiana; and the 1940 short course class in memory of H. J. Clark of the Oklahoma Inspection Bureau.²⁸

Fortunately the college had less difficulty keeping its share of the contract. The college first appropriated an amount equal to that invested by the city of Stillwater and

then applied to the Public Works Administration for the balance needed. Once the PWA granted the money, construction resumed and the building was completed in 1939. According to the city/college contract, the building was to have had a value of \$60,000; but estimates current with its completion usually stood at \$100,000.²⁹

The completed building was a source of pride to the city and the college as well as to the department. The first floor, an open space eighty feet square, housed the trucks and equipment and had four doors for access to Knoblock Avenue. The second floor provided living quarters for the students and the Stillwater Fire Department officers who supervised them. The dormitory could hold as many as forty beds; and lockers, showers, and a day storage room for bunkers (the firefighter's rubber boots and pants) were nearby. A favorite spot in the northeast corner was the kitchen, dining area, and recreation room. A study room and quarters for the chief, assistant chief, and overnight guests filled the rest of the second floor. The third floor accommodated the classes. Chemistry and physics laboratories, a drafting room, and a dark room for developing photographs helped the students carry out experiments and assignments. A machine shop at the rear of the building held all kinds of tools for maintenance and repair. Beyond it was a five story drill tower for practice with ladders, ropes, and hose. Constructed throughout of fire proof materials and equipped with

three types of sprinkler systems, the building itself was a laboratory in fire protection and prevention.³⁰

On November 4, 1939, city and college officials dedicated the new fire station in a ceremony chaired by W. Fred Heisler, director of the technical training school. Joe C. Scott, president of the State Board of Agriculture, presented the building to Dean Philip S. Donnell, who accepted it on behalf of President Henry G. Bennett. Donnell then presented the building to Chief Raymond Granger of Tulsa, who represented the state firefighter's association. An indication of the state-wide appeal of the new fire protection program represented by the building was the presence at the ceremony of members of fifty different Oklahoma fire departments. Several who had worked hard for the foundation of the program attended: L. Keith Covel, Philip Wilber, H. J. Clark, Ray Pence, and the widow of Stillwater's late Mayor Harry Jones. Out-of-state guests included Emmett T. Cox, director of education of the Indiana state fire marshal's office, and Colonel Clarence Goldsmith of the National Board of Fire Underwriters, who delivered the dedicatory address. Goldsmith traced the development of fire protection training and called the program at Oklahoma A and M its greatest step forward. To that point efforts at training on the state and regional level had been able to cover only the basic points and were very limited in scope, but the new 'West Point' offered completeness and continuity, according to Goldsmith.³¹

One reason why the fire service had such hopes for the new program was the fact that a permanent instructor for the Department of Firemanship Training was finally in residence. That man was Raymond J. Douglas, who with Pence would have more influence on the program than any other person.

Douglas was born in 1902 in Grafton, West Virginia, where he grew up and received his education first at Davis and Elkins College, a small Presbyterian school, and later at the University of West Virginia, where he attained a master's degree in chemistry. Like Pence, Douglas came into the fire service from an entirely different sphere. From 1927 to 1937 he taught science and mathematics at Morefield High School in Morefield, West Virginia, and coached football. His initial impetus into the fire service was also much like that of Pence: he was forced to stand and watch a home burn to the ground for lack of any kind of fire protection organization. Shortly after that occurrence a local group organized a volunteer fire department and elected Douglas as chief. As he knew nothing about firefighting, he began to read what information he could find on the subject and to attend area fire schools. Firefighting quickly became a hobby for him. His interest in and growing knowledge of the subject soon began to earn him invitations to act as an instructor at the West Virginia training schools. Thus Douglas was able to combine two of the things he loved most, firefighting and teaching.³²

By 1937 Douglas's reputation as a fire protection

instructor was such that Dean Philip Donnell telephoned to offer him the vacant position of instructor in the new Department of Firemanship Training. At the time neither Douglas nor his wife Sallie had ever heard of Stillwater, Oklahoma; and he also had a recent offer from the University of Maryland to consider. But eventually they decided to accept Dean Donnell's offer.³³

While Douglas acquainted the students with the academic material pertaining to fire protection, Ray Pence provided them with practical experience. At the old fire station (now Number 1) the students used a 1000-gallon pumper and a salvage and rescue squad car. At the campus station (now Number 2) they operated a new 600-gallon pumper bought by the city and a 750-gallon pumper bought by the state especially for their training. After one semester's training, the students answered fire alarms with the city firefighters. By late 1939 the students were answering one hundred alarms annually, thus adding substantially to the city's fire protection coverage.³⁴

Pence must have taken an interest in the student's character development as well as firefighting skills because between each of the long windows down the sides of the first floor, he put up wise sayings, several of which reflected a preoccupation with work and learning:

No one can do anything well who does not esteem his work to be of importance.

The man who never makes a mistake loses a great many chances to learn something.

Using what one learns, to get what one wants, is the fruit of learning.

Pence had hoped to have an inscription by McAuliffe engraved on the ornamental shield on the front of the station:

Mid summer rains and winter snows
 Through portals these which never close
 Speed loyal hearts and willing₅ arms
 For duty bound to fire alarms

However, the Department of Architecture did not appreciate his choice and chose the more classical quotation from Cicero: "Men resemble gods in nothing so much as in doing good to their fellow creatures."

The students lived in a style that was almost military. They rose at 6:00 A.M., dressed, and reported for roll call, following which they received and completed duty assignments. Classes occupied mornings and afternoons. The group was divided into four squads, one of which remained on duty all night one night in four. When in class a student was not expected to answer fire alarms, but a two-alarm fire automatically excused him from class. When not on duty the student had free time and might leave the station, but he had to return before 10:30 P.M.³⁷

Living in the station gave the student experience and also provided him with housing at the city's expense. Students formed a "Firemen's Club" which charged a monthly fee (\$15 at the beginning) for meals. Sometimes the students cooked for themselves; at other times they paid a cook to provide meals under the oversight of the home economics department. The Firemen's Club also performed an

educational and social function. New students, "rookies," endured "Hell Week" during which they had to learn facts pertaining to their new duties and equipment and be able to answer correctly any question asked by an upperclassman. Each rookie carried a paddle with which punishment was administered should he fail to answer correctly. At a later date "Hell Week" metamorphized to "Help Week". The club also sponsored dances and other social events with the Douglasses and other school or fire department members as sponsors. In fact, the close living conditions and involvement of the small faculty group and fire department members created a family spirit which fostered strong alumni ties to the fire protection program as a whole.³⁸

Beginning in 1940 the Department of Firemanship Training began to graduate students from the two-year program. One student received his certificate in 1940, one in 1941, and two in 1942. The Daily Oklahoman took note of the first graduates in a somewhat skeptical article entitled "Fireman, Go to School." At the end of their training at "Blazing Manor," the writer said,

they get a certificate attesting their efficiency on the business end of a brass nozzle hooked up to a high pressure line. Maybe the certificate will impress a fire chief somewhere³⁹ and maybe it won't. Anyhow, they get it.

Though the Department of Firemanship Training appeared to have made a good start, circumstances almost forced its early demise. The entrance of the United States into World War II caused profound changes on the campus as it did in

the whole country. Both students and faculty left the college to take up arms or war work while trainees from several branches of the services inundated the campus and town. Students continued to enroll, but the armed forces drafted them so quickly a class might have thirteen students at its first meeting, eight at its second. With so few students the School of Technical Training could not afford to keep R. J. Douglas on, so he accepted a position as fire marshal for Beech Aircraft Corporation in Wichita in September, 1942. To instruct the handful of students who remained, the school reemployed Everett Hudiburg as a half-time instructor while he continued to work half-time for the Stillwater Fire Department. He, Pence, the student firefighters, and city firefighters coped as well as they could with the constant turnover and shortage of manpower; the increased fire dangers in the crowded, disjointed town; and the waves of armed forces personnel who took up temporary quarters in the campus fire station.⁴⁰

Most of these happenings Hudiburg chronicled in The Booster Line, a news sheet he wrote to help maintain contact with the department's absent students. In August, 1942, he sent out the first number, two pages of station news, addresses, and breezy gossip. However, over the next three years The Booster Line grew in size, content, and mailing list. Hudiburg listed the fire alarms answered, commented on national policy toward the fire services, included technical items, transmitted news, and published

addresses a cautionary letter from the censors curtailed that practice). By the war's end Hudiburg's little newsletter was travelling wherever the American forces went with a mailing list of more than 150. Letters from its grateful recipients attested to The Booster Line's success in raising morale and maintaining ties with the Number 2 Station.⁴¹

At least once, probably at Pence's instigation, a Booster Line article found its way into a national fire service journal. On a sub-zero morning in the winter of 1943, an Oklahoma A and M hog barn caught on fire when an employee tried to thaw frozen pipes with a blow torch. Hudiburg included an account of the fire and the tactics the firefighters had employed against it in "An Experimental Hog Barn Fire" in a later issue of The Booster Line. A few months later Volunteer Fireman, a journal of the National Fire Protection Association, asked for and received permission to reprint the article (although they did inquire whether it was an "experimental hog barn" or an experimental fire). Hudiburg later surmised that Pence had passed the original article to his contacts at the NFPA.⁴²

Over the years Pence had acquired a network of contacts in the fire service through such organizations as with the NFPA and the National Board of Fire Underwriters; and its subsidiary, the Western Actuarial Bureau. His habit was to send copies of each number of The Booster Line to those contacts which helped publicize the fire protection

training program at Oklahoma A and M.⁴³

Pence's ties with the NFPA were especially beneficial to the program for the publicity they generated. Several articles by and about Pence appeared in Volunteer Firemen (or in the same journal under its various names), including a laudatory article from The Booster Line's first anniversary issue published by The Daily O'Collegian. In one year, 1943, at least four articles kept Pence, Stillwater, and the fire protection training program at Oklahoma A and M before the national eye of the fire service. One of Pence's personal friends was Horatio Bond, Chief Engineer of the NFPA and the first editor of Volunteer Firemen. During World War II Bond made an extensive trip to England to study fire bombing, fire storms, and the British fire service's attempts to cope with them (a trip Pence had wanted to undertake himself). On his return he found the hectic pace at the NFPA's Boston headquarters too distracting and chose to spend some time in Pence's quieter domain. Consequently, he moved into a room at Station Number 2 and spent a summer sitting at a typewriter in his underwear compiling his findings from his British tour. Bond was thus well acquainted with the program and was the one who first nicknamed the school the "West Point of the Fire Service".⁴⁴

Pence loved the publicity he generated both for the program and for himself, and he courted the limelight. He always planned events for Fire Prevention Week and held a

yearly fish fry to acknowledge friends of his projects. In June, 1939, before its dedication, he showed off the new campus station when five hundred guests, including the lieutenant-governor, state fire marshal, and several out-of-town visitors attended a Junior Chamber of Commerce function on the campus. One project he undertook that earned some dubious publicity was the training of his co-ed firefighters.⁴⁵

During the war years the acute manpower shortage in Stillwater's fire department gave him the idea of recruiting female students to replace their absent male counterparts. The girls undertook a ten-week, part-time, no-credit course totalling about thirty hours of training in civil defense and fire protection. Nineteen girls took part in the first course, which required all the basic techniques of firefighting including tower-drills. On its completion they received certificates for the hours completed. Their "chief", Betty Jo Kerby, even accompanied Pence, Mrs. Pence, and Hudiburg to the annual Fire Department Instructors Conference in Memphis in 1944 as its first female delegate. Some grumbles accompanied that invasion of a traditionally male bastion. The Daily Oklahoman and campus alumni magazine both took the co-ed firefighters very seriously; the magazine even used them as its February, 1944, cover photograph. But Hudiburg, who served as their instructor, felt the whole idea was just another of Pence's stunts and the girls never performed any actual firefighting

service.⁴⁶

Meanwhile, another of Pence's attempts to ease the manpower shortage succeeded quite well. Pence canvassed the civic clubs and advertised in the newspapers for volunteers among the businessmen and faculty to help ease the crisis. About forty answered Pence's request and, having been divided into ten units, spent every fourth night on duty at the stations. As might be expected of Pence, he had them spend their first hour on duty in classwork and training. With that volunteer help and a campaign to prevent fires, Stillwater survived the crisis and even enjoyed a decline in the number of alarms.⁴⁷

The Pence era ended abruptly in January, 1945, with Pence's death. For months the fifty-one-year-old chief had spent twenty-four hours per day on duty coping with the multiple problems of a town swollen with trainees and the mushrooming facilities needed to house them. At the same time he had continued work developing an improved fog nozzle and had traveled to Kansas, Nebraska, and New Mexico to speak at fire schools. His deteriorating health prompted friends to advise him to slowdown, but Pence forged ahead. At 6:00 A. M. on a January morning Hudiburg and another firefighter found him dead in his bed at the Number 2 Station.⁴⁸

His death shocked and grieved his friends both locally and nationally. Among those assisting at his funeral in the Oklahoma A and M College auditorium was President Henry G. Bennett. The NFPA carried his picture and obituary on the

editorial page of Volunteer Firemen. The 20th State Legislature passed a resolution in his memory as "the founder and guiding light of the West Point of the Fire Service".⁴⁹

NOTES

- ¹ Everett E. Hudiburg, Beside the Still-water: A Fire Protection Chronicle, 1885-1977 (Oklahoma City: Metro Press, 1977), pp.31-32.
- ² Stillwater Daily News-Press, January 17, 1945, Booster Line, August 1, 1943.
- ³ Booster Line, August 1, 1943, p.1.
- ⁴ Ibid.
- ⁵ Ibid., Stillwater Daily News-Press, January 17, 1945.
- ⁶ Booster Line, August 1, 1943.
- ⁷ Ibid.
- ⁸ Hudiburg, Beside the Still-water, pp.40-41; Booster Line, August 1, 1943.
- ⁹ Booster Line, August 1, 1943.
- ¹⁰ Ibid.
- ¹¹ Hudiburg, Beside the Still-water, pp.46-47.
- ¹² Ibid.
- ¹³ Ibid., pp.42,45-46.
- ¹⁴ Ibid.; Thomas William Dawson, "An Analysis of the Historical Development of a Fire Protection Technology Program with Implications for Program Planning". (master's thesis, Oklahoma State University, 1970), p.21.
- ¹⁵ Hudiburg, Beside the Still-water, pp.53-54.
- ¹⁶ Oklahoma Agricultural and Mechanical College, Forty-Seventh General Catalogue Issue, 35:177.
- ¹⁷ Ibid., p.179.
- ¹⁸ Hudiburg, Beside the Still-water, p.54.

- ¹⁹ Ibid., pp. 50-51.
- ²⁰ Payne County News, January 3, 1936.
- ²¹ Record of the Proceedings of the Board of Commissioners of the City of Stillwater, Payne County, Oklahoma, 4:1913.
- ²² Board of Commissioners of Stillwater, 4:1914.
- ²³ Minutes, Meeting of the State Board of Agriculture October 6-7, 1937, Box 13, Bennett Papers, Edmon Low Library, Oklahoma State University, Stillwater, Oklahoma; Contract between the City of Stillwater and the State Board of Agriculture, April 6, 1938, Box 57, Bennett Papers.
- ²⁴ Philip Reed Rulon, Oklahoma State University-Since 1890 (Stillwater: Oklahoma State University Press, 1975), p. 249; Board of Commissioners of Stillwater, 4:1935-1958.
- ²⁵ Board of Commissioners of Stillwater, 4:1944, 1946, 1950, 1952.
- ²⁶ Contract between Philip A. Wilbur and the State Board of Agriculture, October, 1938, Box 57, Bennett Papers; Rulon, Oklahoma State University-Since 1890, p. 250; Hudiburg, Beside the Still-water, pp. 54-55.
- ²⁷ Hudiburg, Beside the Still-water, p. 54.
- ²⁸ Everett Hudiburg, personal interview, Stillwater, Oklahoma, September 11, 1981; Howard A. Floyd, "Campus Fire Station in War Time," A and M College Magazine vol.16, no. 7 (February, 1944), p. 8.
- ²⁹ Hudiburg, Beside the Still-water, p. 54; Stillwater Daily News, November 5, 1939.
- ³⁰ Major Jesse Townshend, "Fire Protection Careers," A and M College Magazine vol. 26, no. 6 (January, 1954), p.10; Floyd, "Campus Fire Station in War Time", pp. 7,15; Daily O'Collegian, July 26, 1939.
- ³¹ Stillwater Daily Press, November 5, 1939.
- ³² Mrs. R. J. Douglas, personal interview, Stillwater, Oklahoma, October 6, 1981; R. J. Douglas, "Fire Protection Research Problem Number 1," Douglas research folder, Department of Fire Protection and Safety Engineering Technology, Oklahoma State University, Stillwater, Oklahoma.

³³Mrs. R. J. Douglas, personal interview, Stillwater, Oklahoma, October 6, 1981.

³⁴"Fire Service's 'West Point' Begins Second Year," Volunteer Firemen vol. 5, no. 10 (October, 1939), p. 1; Floyd, "Campus Fire Station in War Time", p. 8.

³⁵Floyd, "Campus Fire Station in War Time", p. 8; Everett Hudiburg, personal interview, Stillwater, Oklahoma, October 22, 1981; Hudiburg, Beside the Still-water, p. 52.

³⁶Hudiburg, Beside the Still-water, p. 52.

³⁷Phil Perdue, "Higher Education for Firemen at Oklahoma A and M College," Fire Engineering, 92:578.

³⁸Ibid.; Floyd, "Campus Fire Station in War Time," p. 15; Everett Hudiburg, personal interview, Stillwater, Oklahoma, September 11, 1981.

³⁹Daily Oklahoman, November 13, 1938.

⁴⁰Booster Line, June 1, 1943; R. J. Douglas, "Fire Protection Research Problem Number 1," Douglas research folder; Hudiburg, Beside the Still-water, p. 60.

⁴¹Booster Line, August 25, 1942; Hudiburg, Beside the Still-water, pp. 61-62; Everett Hudiburg, Stillwater, Oklahoma, personal interview, September 11, 1981.

⁴²Everett Hudiburg, "An Experimental Hog Barn Fire," Volunteer Firemen, vol. 10, no. 4 (April, 1943), p. 8; Everett Hudiburg, personal interview, Stillwater, Oklahoma, September 11, 1981.

⁴³Everett Hudiburg, personal interview, Stillwater, Oklahoma, September 11, 1981.

⁴⁴"Pence Rounds Out Twelfth Year With Stillwater Department", Volunteer Firemen vol. 10, number 10 (October, 1943), pp. 12-13, 23; "Tactical Defense for 'Williams Hall' Oklahoma A and M College, Volunteer Firemen vol. 10, no. 12 (December, 1943), p. 14; Booster Line, August 1, 1943; Everett Hudiburg, Stillwater, Oklahoma, personal interview, September 11, 1981.

⁴⁵Everett Hudiburg, Stillwater, Oklahoma, personal interview, September 11, 1981; Hudiburg, Beside the Still-water, pp. 47-48, Booster Line, August 1, 1943; Daily O'Collegian, June 20, 1939.

⁴⁶Daily Oklahoman, May 11, 1942; Betty Joe Kerby, "Co-ed Volunteer Firefighter", A and M College Magazine vol. 16, no. 7 (February, 1944), pp. 9-10, Everett Hudiburg, personal interview, Stillwater, Oklahoma, September 11, 1981.

⁴⁷Hudiburg, Beside the Still-water, p. 63.'

⁴⁸Stillwater News Press, January 17, 1945; Booster Line, February 1, 1945.

⁴⁹Stillwater News Press, January 18, 1945; Volunteer Firemen vol. 12, no. 2 (February, 1945), p. 5; Hudiburg, Beside the Still-water, pp. 64-65.

CHAPTER III

R. J. DOUGLAS: TOO BRIEF A TIME

With the death of Ray Pence, the fire protection program at Oklahoma Agricultural and Mechanical College lost both its chief city/college liaison and one of its strongest and most forceful supporters. With the dearth of students during the war years and the whole college being given over to war-time training programs, Dean Donnell considered abandoning the Department of Firemanship Training altogether. But fortunately for the department Pence's death came late in the war; by the end of January, 1945, Germany's last offensive against the Allies had ended. At last there was reason to hope the war might be over soon and the average citizen could get on with living. Everett Hudiburg, though grieving for his friend and mentor, began to look forward in The Booster Line to the return of the student firefighters. Now more than ever, he believed, the department and the program as a whole needed R. J. Douglas.¹

Douglas had been first marshal at Beech Aircraft in Wichita, Kansas, since September, 1942. His job there was a peace-time job and would not terminate with the end of the war. Knowing this and knowing how much the program

needed him, Hudiburg wrote Douglas a letter much appreciated by the Douglasses. Come home, he urged; this is your baby and it needs its diaper changed. Douglas could not resist the appeal or the chance to return to his first love, teaching. So in September of 1946 he resumed his duties at Oklahoma A and M--at one-half his salary at Beech Aircraft.²

Though the Department of Firemanship Training had virtually closed during the war years, the other two aspects of the program had not; in fact, the publication of training materials had settled into a period of slow but steady growth. Since that first conference in 1934 which produced the original manual, W. Fred Heisler had continued to coordinate the conferences, complete the material, and edit the finished works, which came to be called the "Red-books" because of the covers chosen for them. Within a very few years the Redbook publication program was an indisputable success.³

Within a year of the publication of the first manual, the idea had spread outside the boundaries of Oklahoma to become at least regional in scope. In the fall of 1934 the Western Actuarial Bureau called a conference of state directors of firefighter training to discuss the preparation of training materials. At Kansas City Ed Stewart of Kansas, H. J. Clark of Oklahoma, and Milt Parker of Missouri--all chief engineers of their respective rating bureaus--discussed Oklahoma's fledgling efforts and decided to form

a tri-state alliance to use the Oklahoma manual and methods of instruction. As these three states lay within the regional oversight of the Western Actuarial Bureau, the bureau supported the adoption of the Oklahoma manual. Quickly the news traveled through the circuit of the Mid-Western state rating bureaus so that by the next conference the membership in the alliance had increased from three states to sixteen, roughly the middle third of the United States. In 1955 two Canadian provinces joined as well so that the name of the alliance assumed its current form, the International Fire Service Training Association, IFSTA to those in fire protection circles.⁴

This unification meant the manuals produced could be wider in scope than those produced by one state; also the cooperative effort made production cheaper. With an experienced and talented writer such as Fred Heisler and a convenient geographical position near the centers of population to the north and east, Oklahoma was a natural headquarters for the publication of the Redbooks.⁵

The pattern for drafting and validating the Redbooks had been set at that first conference in 1934. The loosely-organized Fire Service Training Association had no policies for choosing delegates, so the men who came to Stillwater each summer came at their own expense as a result of their interest. Many came year after year to take part in the ritual of reviewing and revising the training manuals. Everett Hudiburg, who attended each validation

conference after the first Kansas City meeting described it graphically:

We met in a steaming hot upstairs recreation room of the downtown fire station in Stillwater, Oklahoma. For some reason, I have forgotten why, we always met during the second full week in July. The date has since become a tradition not subject to change. . . . Hot as it was, the scene and atmosphere were thrilling. . . . A heavy haze of fetid cigar and cigarette smoke hung suspended over the heads of a mere dozen delegates. Most of their shirts displayed great stains of sweat as badges of discomfort. Mostly, ties were undone and collars open. Jackets were a 'no-no', displaying an assortment of suspenders and bellies hanging over non-existing belts. This marked a beginning to validate someone's concept of a draft for a fire service training manual. Yes, only one manual was considered during those early conferences and every one participated as Fred Heisler would read aloud each sentence. I remember how no one seemed to be paying attention, then, all at once, someone would choose to take issue to an operation or technique. After an hour, more or less, of heated argument we would once again settle back to the simple crossing of 't's' and dotting of 'i's'.⁶

Hudiburg as a young man remembered a sense of excitement at participation in something so new and so vital to the fire service, but later delegates also shared what amounted to a revival spirit. At Stillwater each July one met the best known members of the fire service and leaders of related fields. Heisler, of course, directed the conference. Those attending might include Douglas; Emmet Cox, who attended every conference including the first in 1934; Keith Royer, head of Fire Service Extension at Iowa State University; fire chiefs; state fire marshals; and state training directors--men highly respected in their own fields. The Western Actuarial Bureau, represented by

Emmett Cox, continued its support; and, in time, manufacturers of apparatus and equipment also sent delegates.⁷

Information about the Redbooks spread quickly. Delegates to the first conferences probably assembled at the invitation of Pence, Heisler, and those involved in the initial drafting. But once having attended the conferences, they came back eagerly and brought their friends. Having had a part in creating the manuals, they publicized them and urged their adoption in their home states. The insurance industry, primarily through the Western Actuarial Bureau, also supported the Redbook program by encouraging cities to adopt the manuals for firefighter training, thus lowering their city insurance ratings. With such support, the Redbooks hardly needed advertising. In 1945 Heisler shipped two thousand copies to the army and navy at Pearl Harbor. A letter he received that same year from England offered a testimonial as to the usefulness of the publications. By 1953 an estimated one-half million copies were in use.⁸

So, in spite of the interruption of World War II, the publication of the Redbooks flourished. The conferences produced a manual on each of the ten basic skills identified at the meeting in 1933 and later added to the list as the need arose. Dr. Henry G. Bennett and the college administration gave the Redbooks some support by allowing the validation conferences to take place at Oklahoma A and M with the copyrights reserved to the college.⁹

Though the success of the extension program was less conspicuous, the program to train firefighters in short courses continued through the 1930s, 1940s, and 1950s. In 1947 the National Fire Protection Association commented in its monthly journal that Oklahoma was always the state to watch for an effective system of fire training. In the preceding fifteen years Oklahoma had tried almost every type of training program and thus demonstrated the possibilities to other states. First Oklahoma firefighters had attended short courses in connection with the state convention; then in 1931 instructors from the fire departments of Tulsa and Oklahoma City had visited other towns to give instruction. The Oklahoma State Firefighters Association had held short courses until 1938 when they relinquished control to Oklahoma A and M. For two years in the mid-1930's Everett Hudiburg had traveled the states as an itinerant instructor. With the drill masters in the state having completed special courses, they were also able to hold local and regional training courses. Most of these later state-wide programs fell under the general direction of Fred Heisler.¹⁰

By the late 1940s Oklahoma had developed a systematic approach to training which used the Redbook series. According to the time the firefighter had available for instruction, he might take from ten to sixty hours in several units of instruction. Other states such as Maryland, Oregon, Pennsylvania, Virginia, and Florida had their own

methods; but many other states copied Oklahoma's system.¹¹

Oklahoma also had a new state instructor in George Orgain, a high school shop teacher and veteran volunteer firefighter from Clinton, Oklahoma. He received an appointment to the Oklahoma Fire Service Training Program in May, 1943. His duty was mainly concerned with the instruction of small fire departments as units. Hudiburg used the Red-books to train Orgain so that after two months he was qualified to train state firefighters.¹²

Unlike the academic program the extension program continued to operate during the war years. Number 2 Station remained a center for training volunteer firefighters, civil defense workers, and industrial fire protection groups. During one incident the extension students took part in an unplanned exercise when in July, 1944, thirty of them helped control a potentially dangerous fire after a Douglas A-24 bomber crashed a few blocks southwest of campus on Seventh Avenue. Several notable members of the fire service, including Horatio Bond and Emmett Cox, attended the courses taught by Heisler and Hudiburg during the war years. Cox in fact was the first man from outside Oklahoma to earn his certificate of completion.¹³

The figures that were available from 1946 showed a variable attendance at the annual state fire school held at Oklahoma A and M; but the total number of men trained each year under the auspices of the extension program show a

steady rise, as did the figures for the nation as a whole. Perhaps interest remained high because the courses changed to meet the needs of the times. In 1961 the extension program added instruction in radiation hazards, metal, high energy fuel fires, and crude oil fires. In 1965 the men received instruction in the uses of aerial spraying for prairie and brush fires. The numbers also showed a large increase in 1967 when itinerant instructors and a special LP-gas unit reached more men. (See Table I.) Thus, when R. J. Douglas returned to the Oklahoma A and M campus in the fall of 1946, he found two divisions of the fire protection program still operative and in health. But the third, the academic program, needed his attention.¹⁴

On the surface conditions may not have appeared so bad. Those first post-war years brought about a boom in the student population as young veterans came to the campus to complete their interrupted education. Enrollment at the college increased to the point that an entire town, Veterans Village, was necessary to house the students and their families. In 1949 the village population stood at 5,000; to accomodate then, the college provided a maintenance shop, laundry, nursery, recreation center, post office, and fire station.¹⁶

TABLE I
 NUMBERS OF FIREFIGHTERS TRAINED
 THROUGH THE OKLAHOMA A AND M
 EXTENSION PROGRAM

Year	Men	Total State Programs	National Total
1946	221	--	55,000+
1947	168	--	57,000approx.
1948	165	--	35,000
1949	63	--	72,226
1950	100	--	88,581
1951	---	--	-----
1952	---	--	-----
1953	239	1,549	75,640
1954	---	--	-----
1955	240	1,571	83,742
1956	302	1,605	102,110
1957	209	2,359	112,708
1958	189	2,616	116,655
1959	180	2,992	129,086
1960	160	2,408	110,550
1961	266	2,612	-----
1962	257	2,791	100,188
1963	273	2,412	124,601
1964	215	3,362	110,406
1965	215	3,362	120,806
1966	277	1,907	124,658
1967	230	11,774	150,035
1968	162	10,290	168,731
1969	291	5,520	-----

Enrollment increased in the Department of Firemanship Training as well, but a need for change soon became apparent. By 1942 the department had granted certificates of completed course work to a total of four students; two more graduated in 1948, two years after the program resumed. According to the goals of the department, they should have found careers with fire departments; but they and Douglas soon realized that fire departments were less than eager to hire college-trained firefighters. Only one-third took jobs in the fire service, while the rest found positions in the related fields of insurance and industry. Later graduates also discovered that the insurance industry not only welcomed them, it offered better salaries and more job prestige than the fire service. Obviously, if the department wished to prepare its graduates adequately, it needed a new orientation.¹⁷

Heisler and Douglas had in 1938 developed six courses, labeled Tech A, which included Fire Fighting Practices I and II, Fire Hazards and Fire Courses, Fire Protection, Fire Prevention, and Fire Fighting Tactics. In 1939 they had added Fire Department Inspection Practices and Fire Prevention. In 1941 the addition of Inspection II, Fire Hydraulics, First Aid and Life Saving totalled eleven courses--all directed toward education of the municipal firefighter. (See Appendix B.)¹⁸

In 1949, however, the department changed its orientation and began to produce potential employees of the

insurance industry as well. The name of the department changed to Fire Protection (later in 1957 to Fire Protection Technology) and the introduction in the 1950 catalogue reflected the shift of emphasis:

The FIRE PROTECTION COURSE gives training in the detection and elimination of fire hazards; conducts year round fire prevention activities; teaches fire inspection technique; and includes installing, testing, adjusting, and maintaining the protection equipment and applying modern methods of industrial and municipal fire fighting.

Every effort is made to put the information gained in class and laboratory into actual use at some time during the training period. In addition to the specialized subjects, the curriculum includes directly related technical subjects such as English, mathematics, chemistry, physics, psychology and public speaking, as well as related technical subjects such as safety, air conditioning and heating equipment, electrical installation and insurance.

The student is guided into a well-balanced program of information and instruction that will qualify him for positions in the fields of insurance inspection, rating bureaus, fire protection equipment, installation and sales, fire prevention and industrial and municipal fire protection.¹⁹

With the addition of courses in Fire Extinguishers and Automatic Sprinkler Protection, the curriculum appealing to the insurance industry assumed the form it would hold for until 1963. (See Appendix C.)²⁰

At the same time Douglas advertised the Department of Fire Protection in the National Fire Protection Association's Firemen magazine with a listing of courses offered. He stated that the demand for students was greater than the department could supply and offered a list of positions then held by its graduates. They served as

officers in municipal and airport fire departments, in sprinkler installation, in industrial fire protection and safety, in fire protection equipment sales, as a fire insurance sales engineer, in a state department of fire safety, and with the Civil Aviation Administration Department of Safety.²¹

Apparently the advertising and revision of curriculum worked, for in 1952 the department reported an enrollment of thirty-two students from eighteen states. The department had received one hundred requests from prospective employers for its previous graduating class of twelve. An indication of the respect the department enjoyed was its accreditation in 1949 by the Engineer's Council for Professional Development, the first and only program so honored for several years.²²

Although the academic program had failed to meet the ultimate aim they had originally envisioned, Heisler and Douglas were not disappointed; instead, Douglas was pleased that his graduates were finding more desirable jobs in the insurance industry than the fire service could then offer. The failure lay not in their program; rather it implied that the fire service as a whole was not yet ready for the professionalization the program could offer. Thus they tailored the program to fit the existing needs.²³

Through the 1950s enrollment in the academic program continued to grow and reached a peak of seventy-three students in 1957. (See Table II.) In the same year, having

TABLE II
 ENROLLMENT IN FIRE PROTECTION
 TECHNOLOGY 1956-1981²⁴

Fall	Fresh	Soph Jr.	Sr.	Undergraduate Special	Total
1956	31	32			40
1957	44	29			63
1958	18	30			48
1959	29	25			54
1960	22	18			40
1961	26	19			45
1962	20	20			40
1963	22	21			43
1964	16	17			33
1965	24	22			46
1966	28	21			49
1967	18	20			38
1968	20	18		6	38
1969	32	22			54
1970	23	31			54
1971	3	9		3 7	23
1972	22	20		11 9	62
1973	28	29	20	7 1	85
1974	23	30	31	14 1	96
1975	35	26	30	41 1	133
1976	47	32	41	41	161
1977	34	35	31	57 3	160
1978	30	37	33	49	149
1979	22	40	38	48 1	149
1980	31	34	36	53	154
1980	31	28	28	52	139

solved a problem of history and political science requirements, the department finally began awarding its graduates the associate degree rather than a certificate of completion.²⁵

Several factors may have contributed to the increased enrollment during Douglas's tenure as department head. Recruitment occurred at several levels. Some learned of the program through articles in professional journals. James Robertson (1950), currently State Fire Marshal of Maryland, and John L. Bryan (1950), chairman of the Fire Protection Engineering Department at the University of Maryland, responded to recruiting articles in Fire Engineering. Others received encouragement to enroll from fire service professionals who knew of the school at Oklahoma A and M. Bill Westhoff (1963) of Firemanship Education at the University of Missouri learned about it from a Missouri state fire instructor; Horatio Bond of the National Fire Protection Association recommended the program to John Uliana (1951), now Senior Fire Protection Engineer at Bethlehem Steel. In some cases graduates of the program recruited others: graduates presenting a program at the Nebraska Fire School caught the attention of Roger Sweet (1962), now Chief Instructor of Fire Service Extension at Iowa State University.²⁶

Heisler and Douglas also kept the academic program before the public eye through speaking engagements and articles. Both were regular participants at the annual

Fire Department Instructors Conference in Memphis and they attended many fire schools as well. Douglas also appeared on the WKY television station in Oklahoma City to conduct a series of lectures on fire protection. Heisler especially was famous as a speaker (one writer referred to him as the "Will Rogers of the Fire Service") and was often on conference programs. Three of his speeches, "Forever Amber," "Ana Lyza," and "Tappin' Wheels," inspired many in the fire protection field. "Tappin' Wheels" dealt with the need of a man not only to know his job but also to know why he did it--part of the philosophy behind technical training as Heisler saw it.²⁷

Both Heisler and Douglas also served on national committees. Heisler served as chairman of the National Fire Protection Association's Committee on Fireman's Training. Douglas also served on that committee and the NFPA's Exploratory Committee on Water Application. In 1956 Douglas proudly accepted an appointment to the National Academy of Sciences Fire Research Conference, and he also visited the White House on President Truman's invitation to discuss fire safety.²⁸

The Redbooks edited by Heisler also did their share to enhance the prestige of the school. By 1962 fifty states used them, twenty-eight states and four Canadian provinces had officially adopted them, and the Army and Navy used them on bases all over the world. Larry Borgelt (1962), now chairman of the department, came to the school as the

result of the school advertisement then placed routinely on the back of each Redbook. With so much good publicity and with so much formal and informal recruitment, growth in enrollment was only natural in spite of the beginning of competition in the 1950's²⁹.

By this time the school had been in operation nearly twenty years. During that time no other college had attempted to create an academic program like the one at Oklahoma A and M. Two universities had entered the field before Oklahoma A and M. Armour Institute of Technology (later Illinois Institute of Technology) had founded its Fire Protection Engineering Department in 1903, but that program had always aimed toward engineering students and its B.S. degree was an engineering degree. Iowa State University had begun a program at the request of the Iowa State Firemen's Association in 1923, but it was an extension program without degree until 1972. Therefore, Oklahoma A and M remained unique in its offering of academic credit for firemanship courses.³⁰

But in the 1950s other colleges and universities began academic programs, so many that each monthly issue of the professional journals seemed to announce yet one more. In the spring of 1956 Boston University announced a short course in fire administration, a preliminary to a full-semester course beginning that fall. Columbia University announced a single fire protection course in January, 1956. The University of Maryland began a four-year program in

fire protection engineering in September, 1956. Queen's College of New York offered a fire administration course in September, 1957.³¹ The University of Hawaii and the University of Southern California both announced fire administration courses in 1957. So many academic programs opened in the late 1950s that some career firefighters began to feel threatened by the sudden increase of college-educated firefighters. They began to murmur among themselves and wonder if their jobs were in jeopardy. Thus the graduates of the new schools faced a hostility early graduates of the Oklahoma A and M program had not encountered as their relative lack of numbers had not posed a threat then. Even with so much competition for students, the Department of Fire Protection of Oklahoma A and M, as the oldest and most prestigious school, received its share of new students.³²

If the increase in new schools provided competition for the academic program, it was a boon to Redbook sales as IFSTA had few competitors in the publication of training materials. Some states, municipal training schools, and colleges attempted to produce their own materials; but these were usually for their own consumption. Most left the larger market to IFSTA and the time-tested Redbooks. At least one private publisher attempted to buy the rights to the Redbooks, but Hudiburg made their representatives understand that the Redbook enterprise would not--could not--be sold. The Redbook tradition was beyond price.

Besides, the men who made the pilgrimage to Stillwater each July could not be expected to work involuntarily for a businessman as they did for ISFTA.³³

Fred Heisler continued to edit the Redbooks until his retirement in 1955; at that time Everett Hudiburg succeeded him as editor. Hudiburg had been closely associated with the entire fire protection program since its inception and had taught both its extension and audit courses. On Ray Pence's death Hudiburg had become Stillwater's fire chief, a position he held until his retirement in 1952. For twenty years he had taken part in the Redbook validation conferences and had also written parts of the manuals. At R. J. Douglas's suggestion Hudiburg became associate editor of Fire Protection Publications in 1952; and served a three-year apprenticeship under Heisler and Douglas before Heisler's retirement.³⁴

During that time distribution of the Redbooks changed to a new management at the instigation of Dean Melvin R. Lohmann of Engineering. The college bookstore, which had served for years as the distributor of the Redbooks did not care for the extra responsibility. As the new Dean of Engineering in 1955, Lohmann believed a change of distributors would encourage growth in the Redbook publications. To provide the necessary cash outlay for the new distributorship, Lohmann advanced funds from within his own department; and Douglas then assumed that responsibility along with his

teaching and administrative duties. The department repaid the loan within five years and totally fulfilled Lohmann's hopes.³⁵

Lohmann also affected the administration of the fire protection program as a whole. Lohmann placed all related fire programs under Professor Henry P. Adams, director of the Technical Training Institute. Under Adams, R. J. Douglas continued to serve as head of the Fire Protection Technology Department, a position he had held since 1946.³⁶

In R. J. Douglas the Department of Fire Protection Technology had a man loved by his students, admired by his colleagues, and honored by both. Douglas truly loved the young men he trained, and they returned his affection generously. He regarded his students as individuals and did his best to help them personally as well as professionally. Richard Giles (1953) remembered his "intense interest in his students helpfulness [and] encouragement."³⁷ Bill Westhoff remembered "his willingness to assist the young kid from Missouri who [was not] quite dry behind the ears"³⁸ He demanded hard work and attention to detail, according to Giles, and demonstrated a dedication the fire service that impressed students like John Uliana. Douglas was an innovative man whose philosophy, according to John Bryan, was "look for a better solution; don't accept the traditional concepts of the fire service".³⁹ Roger Sweet agreed that Douglas taught this

students "to take off their blinders and look at the complete problem."⁴⁰ Larry Borgelt may have best summed up the feelings of Douglas's students when he said, "we think he might have been able to walk on water. If he couldn't he could tell you how."⁴¹ Douglas kept his place in the respect and affection of his students long after they graduated. Borgelt remembered seeing Douglas walk into a crowded room at a Fire Department Instructor's Conference in Memphis; he was impressed that spontaneously everyone stood up to show respect for his former teacher.⁴²

Douglas's colleagues also respected him. He was one of the few faculty members in the Technical Institute to be promoted to full professor. Visitors frequently travelled to Stillwater to consult him. A modest man himself, he thought nothing of taking a visitor from Washington or New York home to dinner.⁴³

Though Douglas's students thought of him as a teacher, he was a researcher as well. In 1947 he submitted to Clark Dunn, Vice Director of the Engineering Experiment Station, a list of possible research projects in fire protection that might be carried out at Oklahoma A and M. The ten were:

1. To determine the possibilities of using supersonic vibrations to extinguish fire in Class A, B, and C materials.
2. To investigate the possibilities of using supersonic vibrations on flammable liquids to control vaporization and eliminate or reduce flammable vapors.
3. To develop fire extinguishing equipment that will more effectively utilize the heat absorbing capacity of water by the latent heat of

- fusion and vaporization.
4. To investigate the toxic gases given off during fires involving various common building and decorative materials.
 5. To investigate the seemingly added toxic effect of gases under fire conditions where the gases are heated.
 6. To determine the effect of weather conditions on the starting of fires in materials susceptible to spontaneous heating.
 7. To study the effect of weather conditions on operations to control fires such as ventilation, fire travel, back drafts, etc.
 8. To study the travel of super heated air under fire conditions.
 9. To determine the amount of heat the human lungs can endure without causing death.
 10. To develop better methods and mobile equipment for controlling gasoline transport fires, airplane crash, large flammable liquid storage tank fires and similar hard to handle industrial fires.⁴⁴

During the next year Douglas began two projects. Project Number 76 proposed "to develop an efficient, fire-resistive, vermin proof, block insulation using shavings, sawdust, and fire retardant chemicals as raw materials."⁴⁵ The basic procedure was to fabricate blocks from waste wood treated with flame-retardant chemicals, test them for thermal conductivity, paint them, and construct a wall of the blocks. With his students providing labor the project cost estimate was \$125. Another long-term project involved the campus landmark, "Old Central." The historic building was the first college structure in Oklahoma with a fire sprinkler system. The dry pipe system installed there was prone to form a corrosive scale which, should the system be activated, often broke loose and blocked the sprinkler heads, thus damaging the system's reliability. Existing methods for removing the scale were

very expensive. Douglas planned to substitute nitrogen for the compressed air usually used in the dry pipes and thus prevent corrosion. Weekly checks for two years followed by an examination of the pipes would provide sufficient proof for the experiment. In cooperation with Gregg-Wilson Fire Protection Company of Oklahoma City and Tulsa, a subsidiary of Star Sprinkler Corporation, Douglas ran his experiment through 1951 and 1952. He also involved his students in the automatic sprinkler course by using them to make the checks. Student labor he estimated at \$20; the cost to the college was \$10 per year for the nitrogen.⁴⁶

A third research project of Douglas begun about 1951 was entitled, "Case Studies of Fires in Storage and Industrial Buildings." Sponsored by the Robberson Steel Company of Oklahoma City, the aim of the study was to identify from actual fires the practices which led to fire hazards and losses. Twenty-seven Oklahoma Cities selected at random reported fires in industrial and storage buildings to Douglas, who immediately visited the site and made an on-the-spot estimate of damage, loss, and cause.⁴⁷

In spite of Douglas's reputation as a researcher, research actually made up only a small part of the total program at Oklahoma A and M. In Research on Fire, a 1957 work by Horatio Bond, the author described an experiment involving ignition caused by combustible solvents or solids brought into contact with oxydizing agents; but he commented that the research program was only minimal when

compared with similar work at Columbia, Purdue, Maryland, the University of California at Berkeley, and the Massachusetts Institute of Technology. On the other hand, none of those schools at the time offered anything like Oklahoma A and M's two-year academic program.⁴⁸

Some felt the lack of a large-scale research effort was a weakness of the program; others found problems in attempting to transfer credit to other institutions. Douglas always encouraged his students to continue their education beyond the two years offered at Oklahoma A and M. However, other institutions were often reluctant to accept the students' certificates of completion. This difficulty later affected the establishment of the academic fire protection program at Iowa State University. Keith Royer and those who helped set up the program at Ames knew of the difficulties Douglas's students faced and made very sure their credits were transferable.⁴⁹

Other graduates, looking back at their days at Oklahoma A and M, saw the lack of funding as a major problem of the fire protection program. After the college made its initial investment in building the campus fire station, it did little else to aid the program financially. President Bennett had supported the building of the campus fire station but gave little support to the program afterward. Neither did Dean Lohmann, head of the Division of Engineering, even though he personally was fond of Douglas. The sprinkler systems and other hardware the students used

in their practical courses had been contributed by the apparatus and equipment companies. Ansul Chemical Company gave the school extinguishers, Akron Brass contributed nozzles and hose, the Seagrave Corporation donated a fire pump, and the sprinkler companies donated their systems and helped maintain them. Though the insurance companies did not support the program financially, they offered constant encouragement, support, and manpower primarily through the Western Actuarial Bureau.⁵⁰

During the 1940s and 1950s Douglas operated on a budget of less than \$1,000 per year. In part the small amounts were the result of distribution arrangements within the School of Technology, and by the late 1950s the school changed its allotment system so that the Department of Fire Protection Technology received a larger operating allowance. Table III shows the operating budget for the years 1949 through 1981.

Nevertheless, Douglas's students found the department's academic program worthwhile both in its theoretical and practical aspects. They especially appreciated the chance to use and operate the equipment and apparatus at the Number 2 Station. After one semester's work, a student firefighter answered alarms with the rest of the department. As Hudiburg recalled, the fire department supervisors usually considered a rookie a liability for his first year. But the student's enjoyed the chance to be "real" firefighters. James Roberston remembered his sense of pleasure at being

TABLE III
 SAMPLE BUDGET FIGURES FOR THE DEPARTMENT
 OF FIRE PROTECTION TECHNOLOGY⁵¹

Year	Amount	Special Equipment
1949	\$600	
1953	\$650	
1959	\$750	
1962	\$1,000	
1967	\$1,500	
1973	\$3,000	
1976	\$4,230	
1978-79	\$8,865	\$9,000
1979-80	\$9,000	\$3,000
1980-81	\$10,885	\$2,000

In part, lack of funding for the department was the fault of the department head. Douglas, for all his good qualities, was not an aggressive man. Unlike Pence, he did not go out and ask for the money or equipment he needed; innately modest, he worked quietly to fulfill his responsibilities to the best of his ability and hoped someone would see and reward his efforts. Often someone did see; and because he had so many admirers people took up Douglas's cause and tried to assure he would get what he needed. But his lack of aggressiveness meant the department did not receive the strong financial backing from the college it

could have had.⁵²

Nevertheless, Douglas's students found the department's academic program worthwhile both in its theoretical and practical aspects. They especially appreciated the chance to use and operate the equipment and apparatus at the Number 2 Station. After one semester's work a student firefighter answered alarms with the rest of the department. As Hudiburg recalled, the fire department supervisors usually considered a rookie a liability for his first year. But the student enjoyed the chance to be "real" firefighters. James Robertson remembered his sense of pleasure at being allowed to handle the equipment as an eighteen-year old rookie; he also appreciated that Oklahoma firefighters accepted the students as full-fledged members of their community.⁵³

The students learned to accept the danger as well as the excitement while answering alarms. In the summer of 1944 three student firefighters escaped with cuts and bruises when the regular driver of the rural fire truck misjudged a corner and overturned the truck at the intersection of Third and Main in Stillwater. In November, 1952, nineteen-year-old James Bergstrand burned to death when he became entangled in a hose line while fighting a brush fire. In the smoke and flame no one heard his call for help, and he was trapped when a truck moved suddenly to escape a leap of the fire.⁵⁴

Some students were disappointed when the firemanship courses which had been part of the original curriculum

disappeared from the catalogue in the early 1960s. But by then Douglas foresaw changes in the job market that necessitated yet another reorientation of the academic program. He had some innovations in mind when he died suddenly of a heart attack on the evening of January 22, 1962, at the age of fifty-nine.⁵⁵

His death stunned his family, students, and colleagues; but many friends in Stillwater also mourned him. He had been active in community life as well as in the life of the campus and the fire service. A Rotarian, a member of the Chamber of Commerce, a former Boy Scout leader, he was also a life-long Sunday school teacher and elder in the Presbyterian Church. W. G. Garrison (1952), Vice President of M and M Consultants, stated what many felt about R. J. Douglas, ". . . he was a great man. His time with us was too brief."⁵⁶

FOOTNOTES

¹Thomas William Dawson, "An Analysis of the Historical Development of a Fire Protection Technology Program with Implications for Program Planning," (master's thesis, Oklahoma State University, 1970), p. 26; Everett E. Hudiburg, Beside the Still-water: A Fire Protection Chronicle, 1885-1977 (Oklahoma City: Metro Press, 1977), p. 60.

²Hudiburg, Beside the Still-water, p. 60; Mrs. R. J. Douglas, Stillwater, Oklahoma, personal interview, October 6, 1981.

³Hudiburg, Beside the Still-water, p. 49.

⁴Everett Hudiburg, Stillwater, Oklahoma, personal interview, September 11, 1981; Hudiburg, Beside the Still-water, pp. 48-49.

⁵Hudiburg, Beside the Still-water, p. 49; Gene Carlson and William Vandevort, Stillwater, Oklahoma, personal interview, September 9, 1981.

⁶Hudiburg, Beside the Still-water, pp. 49-50.

⁷Ibid., p. 49; William Vandevort, personal interview, Stillwater, Oklahoma, September 29, 1981; "Emmett T. Cox: Fire Service Pioneer," Speaking of Fire, Fall, 1981, p. 2.

⁸William Vandevort, personal interview, Stillwater, Oklahoma, September 29, 1981; Harold Mace, personal interview, Stillwater, Oklahoma, September 22, 1981, Daily O'Collegian, April 11, 1945.

⁹William Vandevort, personal interview, Stillwater, Oklahoma, September 29, 1981; Gene Carlson and William Vandevort, personal interview, Stillwater, Oklahoma, September 9, 1981.

¹⁰Warren Y. Kimball, "Report of State-wide Training Activities," Firemen vol. 16, no. 4 (April, 1947), p. 18; Quarterly of the National Fire Protection Association vol. 32, no. 3 (January, 1939), p. 245.

¹¹Warren Y. Kimball, "Report of State-wide Training Activities," p. 6.

¹²Hudiburg, Beside the Still-water, p. 62; Booster Line, August 1, 1943.

¹⁴"Survey of State and Provincial Firemen's Training" vol. 28, no. 12 (December, 1961), p. 24; "Survey of State and Provincial Firemen's Training", Firemen vol. 32, no. 12 (December, 1965), p. 23.

¹⁵Compiled from figures reported in the annual survey of fire training activities conducted by the National Fire Protection Association. Reported in Firemen, vols. 14-17, 20, 22-36.

¹⁶Philip Reed Rulon, Oklahoma State University--Since 1890 (Stillwater: Oklahoma State University Press, 1975), p. 271.

¹⁷Dawson, "The Historical Development of a Fire Protection Technology Program," p. 32; Mrs. R. J. Douglas, personal interview, Stillwater, Oklahoma, October 6, 1981.

¹⁸Dawson, "The Historical Development of a Fire Protection Technology Program," p. 27; Bulletin, Oklahoma Agricultural and Mechanical College, Forty-Eighth General Catalogue Issue, 1938-39, vol. 36, no. 8, p. 212; Bulletin, Oklahoma Agricultural and Mechanical College, Fiftieth General Catalogue Issue, 1940-41 vol. 38, no. 16 (June, 1941), pp. 403-404.

¹⁹Bulletin, Oklahoma Institute of Technology, Oklahoma Agricultural and Mechanical College, 1950-51 vol. 46, no. 54 (December 15, 1949), p. 101.

²⁰Ibid., pp. 101-102.

²¹R. J. Douglas, "Ten Years of Fire Protection Training at Oklahoma A and M College," Firemen vol. 15, no. 12 (December, 1948), p. 10.

²²Daily O'Collegian, September 26, 1952; Dawson, "The Historical Development of a Fire Protection Technology Program," p. 30.

²³Mrs. R. J. Douglas, personal interview, Stillwater, Oklahoma, October 6, 1981; Harold Mace, personal interview, Stillwater, Oklahoma, September 22, 1981.

²⁴ Enrollment figures supplied by the Registrar and the School of Technology, Oklahoma State University, Stillwater, Oklahoma.

²⁵ Dawson, "The Historical Development of a Fire Protection Technology Program," p. 30.

²⁶ Ibid., p. 34; James Robertson, mailed interview, September 18, 1981; John L. Bryan, mailed interview, September 18, 1981; Bill Westhoff, mailed interview, September 18, 1981; John Uliana, mailed interview, September 21, 1981; Roger Sweet, mailed interview, September 18, 1981.

²⁷ Dawson, "The Historical Development of a Fire Protection Technology Program," p. 37; Charles S. Morgan, "Volunteer Firemen," Volunteer Firemen vol. 13, no. 10 (October, 1943), p. 23; Hudiburg, Beside the Still-water, p. 83; W. Fred Heisler, "Tappin Wheels," a paper presented at the Twenty-Third Annual Fire Department Instructors Conference, Memphis, Tennessee, January 9-12, 1951.

²⁸ "Text on Inspection Practices Ready at Oklahoma," Volunteer Firemen vol. 9, no. 1 (January, 1942), p. 10; "R. J. Douglas," Fire Engineering 115:430; Still-water News-Press, January, 21, 1962; Mrs. R. J. Douglas, personal interview, Stillwater, Oklahoma, October 6, 1981.

²⁹ Daily O'Collegian, July 20, 1962; Larry Borgelt, mailed interview, September 18, 1981.

³⁰ Boyd A. Hartley, mailed interview, September 2, 1981; Keith Royer, personal interview, Stillwater, Oklahoma, September 17, 1981.

³¹ "Administration Course at Boston University," Firemen vol. 23, no. 2 (February, 1956), p. 26; "Fire Protection Course," Firemen vol. 23, no. 1 (January, 1956), p. 26; "Fire Protection Engineering Course," Firemen vol. 23, no. 7 (July, 1956), p. 35; "Fire Administration Course," Firemen vol. 24, no. 9 (September, 1957), p. 42.

³² "Fire Administration in Honolulu," Firemen, vol. 24, no. 5 (May, 1957), p. 32; "Fire Administration Institute," Firemen, vol. 24, no. 8 (August, 1957), p. 21; Everett Hudiburg, personal interview, Stillwater, Oklahoma, September 11, 1981.

³³Gene Carlson and William Vandevort, personal interview, Stillwater, Oklahoma, September 9, 1981; Everett Hudiburg, personal interview, Stillwater, Oklahoma, September 11, 1981.

³⁴Hudiburg, Beside the Still-water, p. 83.

³⁵Ibid., p. 82.

³⁶Ibid.

³⁷Mrs. R. J. Douglas, personal interview, Stillwater, Oklahoma, October 6, 1981; Richard Giles, mailed interview, September 18, 1981.

³⁸Bill Westhoff, mailed interview, September 18, 1981.

³⁹John Uliana, mailed interview, September 21, 1981. John Bryan, mailed interview, September 18, 1981.

⁴⁰Roger Sweet, mailed interview, September 18, 1981.

⁴¹Larry Borgelt, mailed interview, September 18, 1981.

⁴²Ibid.

⁴³Mrs. R. J. Douglas, personal interview, Stillwater, Oklahoma, October 6, 1981.

⁴⁴Douglas to Dunn, May 23, 1947, Douglas research folder, Department of Fire Protection and Safety Engineering Technology, Oklahoma State University, Stillwater, Oklahoma.

⁴⁵R. J. Douglas, "Projet Number 76," Douglas research folder.

⁴⁶Ibid. Lynn B. Gregg, "Nitrogen and Special Piping Used in Study of Oxidation in Dry Pipe Atomic Sprinkler System at Oklahoma A and M College," Douglas research folder.

⁴⁷"Research Combats Fire," Engineering Research, No. 25 (November, 1951), p. 2.

⁴⁸Horatio Bond, Research On Fire (Lexington, Massachusetts: The Lexington Press, 1957), pp. 62-76.

⁴⁹John Bryan, mailed interview, September 18, 1981; Keith Royer, personal interview, Stillwater, Oklahoma, September 17, 1981.

⁵⁰Gene Carlson, mailed interview, September 18, 1981; Harold Mace, personal interview, Stillwater, Oklahoma, September 22, 1981.

⁵¹Figures supplied by the School of Technology, Oklahoma State University, Stillwater, Oklahoma.

⁵²Larry Borgelt, personal interview, Stillwater, Oklahoma, October 2, 1981; Harold Mace, personal interview, Stillwater, Oklahoma, September 22, 1981.

⁵³Richard Giles, mailed interview, September 18, 1981; James Robertson, mailed interview, September 18, 1981.

⁵⁴Booster Line, August 1, 1944; Hudiburg, Beside the Still-water, p. 84.

⁵⁵W. G. Garrison, mailed interview, September 18, 1981; Stillwater News-Press, January 23, 1962.

⁵⁶Stillwater News-Press, January 23, 1962; W. G. Garrison, mailed interview, September 18, 1981.

CHAPTER IV

RETRENCHMENT AND THE NEW ERA

The death of R. J. Douglas brought about profound changes in the fire protection program in administration, in orientation, and in prestige. Some of the changes occurred rapidly, but others came about slowly in phases. Most important, the continuity of strong leadership that had endured for thirty years was broken, and the program as a consequence nearly foundered.

Though Douglas had expected to continue as head of Fire Protection Technology for several more years, he had already chosen a successor who was acceptable to the other members of the program. Elmer Johnson had earned an associate degree in fire protection, a bachelor's degree in education, and a master's degree in psychology all at Oklahoma State University (as Oklahoma Agricultural and Mechanical College was renamed in 1957). He had also worked several years as an assistant safety director for Phillips Petroleum. Nevertheless, at the time of Douglas's death he was not really prepared to assume Douglas's responsibilities; he had intended to finish several more years of work toward a doctorate first. But six months after Douglas's death

Johnson became head of the department. At the time W. C. Buck, a graduate of the fire protection program and an assistant chief on the Stillwater Fire Department, was acting as a part-time instructor in the two-year program. In spite of his help and Hudiburg's and the good will of the students, Johnson found himself unable to cope with the responsibilities and to fill Douglas's shoes. He resigned effective June 30, 1964.¹

Thus began a period of rapid turnovers in both administrators and instructors. (See Table III.) G. L. Sartain, a retired Tulsa fire chief, replaced Elmer Johnson on June 1, 1964. He acted as administrator while John Fred Shreve served as an instructor. Several third-year students, graduates of the two-year program, worked as part-time instructors. Sartain was so unpopular he resigned under pressure in 1967.²

TABLE IV

DEPARTMENT HEADS IN THE FIRE PROTECTION
PROGRAM 1937-1981³

W. Fred Heisler	1937
R. J. Douglas	1938-1942, 1946-1962
Elmer Johnson	July 1, 1962-June 30, 1964
G. L. Sartain	July 1, 1964-1967
David Ballenger	Sept. 1, 1967-May, 1971
Dale F. Janes	May 15, 1971-June 30, 1981
Larry Borgelt	Sept. 1, 1981-

By the time Sartain resigned, anyone interested in the fire protection program at OSU knew it was in trouble. Lack of effective leadership by either Johnson or Sartain had damaged the program to the point that the reputation of the school had suffered and enrollment had begun to decline.⁴

The number of students enrolling in Fire Protection Technology had already begun to decline from the 1957 peak before Douglas's death, but enrollment in the two-year program generally numbered in the 1940s. During Johnson's last year enrollment dropped to 33, hardly enough to support one instructor. Only 8 students graduated in 1969 as compared to 39 in 1957. (See Table IV.)⁵

Besides lack of leadership, other factors may have influenced the decline in enrollment. The new schools that began in the late 1950s, about 350 in number, offered increasing competition for potential students. Those who did come to OSU found facilities that were, in the words of one observer, "atrocious."⁶ Little improvement had been made in the Number 2 Station since its completion in 1939. Those who did graduate from the school at OSU found job offers fewer.⁷

One of the main reasons for this was the decline in the fire insurance industry. By the late 1950s the fire insurance industry had saturated its market. With the advent of cost effective accounting, the industry found less money to spend for fire protection training. For years the industry

TABLE V
 NUMBERS OF GRADUATES - FIRE PROTECTION
 AND SAFETY ENGINEERING TECHNOLOGY⁸

<u>Year</u>	<u>Certificate</u>	<u>Associate Degree</u>	<u>B.S.</u>
*1940	1		
*1941	1		
*1942	2		
1943-46 War Training Programs			
1947	0		
1948	2		
1949	3		
1950	8		
1951	8		
1952	15		
1953	6		
1954	11		
1955	11		
1956	21		
1957		39	
1958		19	
1959		22	
1960		17	
1961		12	
1962		15	
1963		12	
1964		11	
1965		13	
1966		12	
1967		10	
1968		16	
1969		8	
1970		14	-
1971		15	-
1972		21	-
1973		7	-
1974		19	6
1975		39	17
1976		26	16
1977		33	15
1978		26	36
1979		32	32
1980		31	26
1981		35	40

*Firemanship Training

had dominated and supported all phases of the program at Oklahoma A and M (OSU), but now that support diminished.⁹

With the insurance industry in decline as a job market, the program shifted emphasis once more in 1963 toward industrial fire protection. By this time the original firemanship courses had been dropped in favor of more industrial courses, and in 1967 still others were added. (See Appendix D.)¹⁰

In September, 1967, the third department head since Douglas's death five years earlier assumed departmental leadership. David Ballenger was a graduate of the program with a bachelor's degree in trade and industrial education. He had also worked more than nine years as state fire instructor in Montana. Ballenger added substantially to the department's sprinkler system, making it, according to Harold Mace, the best collection in the world. In 1971 Ballenger stepped down as department head but remained in the department as a full-time instructor until 1974.¹¹

Fortunately for the program the next department head offered more effective leadership in his ten-year administration and guided the department further into a new field. Dale T. Janes was an OSU industrial engineering and management graduate of 1950. He had spent the twenty years since his graduation in industry first with Texas Instruments of Dallas and afterward with International Paper Company of Camden, Arkansas. His specialty was safety engineering, and he steered the department in that direction.

During his tenure, which began in May, 1971, he emphasized safety and the marketability of his graduates.¹²

Under Janes's leadership the department regained its prestige as a leader in its field, and enrollment equalled and then surpassed the peak years of the 1950s. In the 1970s the program also became coeducational, the first female graduate being Nancy French, who graduated in 1970 and continued as a supervisor in the extension program.¹³ Janes's advent was concurrent with a major change in the academic program. The two-year program would now be expanded with the option of two extra years leading to a bachelor's degree.¹⁴

Some members of the Engineering Department's faculty objected to such an expansion in part because it meant a smaller share of the budget for their own departments. But actually the argument as to the worth of academic programs for fire protection was a part of a nation-wide discussion begun in the late 1950s. Some members of the established academic community viewed the new academic programs in fire protection with disfavor as did some old-line firefighters. But other firefighters spoke out in favor of college-level education, citing the new needs and responsibilities attached to the firefighter's work. While they admitted nothing could replace good on-the-job training combined with proper drills and acquired experience, they now spoke of the need for good administration, an understanding of human relations, and skills in public relations. And in the 1970s

the increasing intervention of the federal government in the area of fire protection made necessary the ability of a firefighter to deal with more regulation and bureaucracy.¹⁵

By the end of 1969, Warren Y. Kimball of the National Fire Protection Association reported 233 colleges and universities with academic programs in fire protection training. Of the 8,875 students attending, 1,477 were earning associate degrees; 415, bachelor's degrees; and 28, advanced degrees. Only six states reported no academic program, while most states (excluding Oklahoma) had programs in several different colleges and universities. Kimball believed this was a hopeful sign that firefighting would in time rise above the common conception of it as a semi-skilled trade. He favored better education for firefighters in order that professional standards might be met and set to help raise the fire service to a more desirable level and to meet its ever-growing responsibility for the public safety.¹⁶

However, an author writing in the same journal in 1976 questioned whether higher education for firefighters was not a mixed blessing. The writer noted that in general college graduates now exceeded the number of college-level jobs and speculated that these graduates would begin a "bumping" process, taking the jobs held by high-school graduates, who in turn would replace those with even less education. In that case, what would happen to the able, experienced firefighter who could not meet promotion standards aimed toward the new college graduate? At the same time, would the

college-educated man or woman find the necessary manual labor associated with a firefighter's job boring and frustrating?¹⁷

The problem may have been ameliorated somewhat in the 1970s when many of the academic programs ended due to too much competition for students and funding, so that only the strongest and best-established remained. A handful survived of which only the programs at Illinois Institute of Technology, Iowa State University, the University of Maryland, and the University of California could compare with the one at Oklahoma State University. But the program here had changed to the point it little resembled its original firemanship training program.¹⁸

In 1973 the name changed once again, this time to the Department of Fire Protection and Safety Engineering Technology; the catalogue of that year reflected the justification behind the shift of emphasis:

The nuclear/electronic/aero-space revolution in conjunction with increased ecological awareness has created an economic and moral responsibility within our nation to provide a cadre of trained personnel, knowledgeable in current conservation techniques. In response to this challenge, the curriculum is designed to familiarize the student with inherent risks in such areas as fire, safety and occupational health. Courses and laboratories are structured to enable the recognition, evaluation and control of existing and potential hazards threatening losses to life, property or proprietary information.

The Associate degree curriculum emphasizes fire protection concepts with the remaining courses in the baccalaureate curriculum being devoted to occupational safety and health.¹⁹

The courses offered in 1973-74 dealt with aspects of industrial fire protection and safety; in addition, they touched on topics in management and human relations--common subjects in fire protection programs of the 1970s. In the 1976-77 catalogue Water Supply Hydraulics for Fire Protection changed to Fire Protection Hydraulics and Water Supply Analysis, and five other courses in fire tactics and protection for municipalities appeared. (See Appendix E.)²⁰

Four full-time instructors joined the department in the 1970s. Larry Borgelt, an OSU graduate, joined in 1974 as an assistant professor and became department head when Janes resigned in 1981. Pat Brock came as an assistant professor in 1974 to specialize as a fire protection engineer. Lawrence G. Lee, a safety and industrial hygiene specialist, joined as an assistant professor in 1977. Howard M. Johnson, a radiation specialist, transferred into the department from the radiation-nuclear technology program, and John E. Harvey, transferred in as an electrical codes specialist. All four are still with the department at this writing.²¹

Unlike earlier heads of the department Janes was head only of the academic program, for the disruptions after Douglas's death helped precipitate a division of the total program into three separate areas. In 1969 the Educational Advisory Committee of the Oklahoma State Firefighters Association under the leadership of Andy Miller, its executive director, asked that Dean Lohmann of Engineering study an expansion of the extension program, which had received

little attention since Douglas's death. Lohmann hired Harold Mace, the youngest administrator in the Oklahoma City school system, as Director of the Oklahoma Fire Service Training Program. In 1970 Fire Service Training and Fire Protection Publications (IFSTA's Redbook program) separated formally from the academic program for budgetary reasons. In January, 1973, they transferred from the School of Technology to Engineering Extension. At that time Harold Mace was asked to direct both programs. Fire Protection Publications and Fire Service Training operated as separate units, although Mace still retained oversight of both budgets.²²

Through the 1960s the university administration generally ignored the extension program, but Fire Service Training in the 1970s received strong support from the Oklahoma State Firefighters Association's Andy Miller, a graduate of the academic program and an Oklahoma City Fire Department captain. Miller helped win the legislative support Fire Service Training needed. Like the academic program, Fire Service Training had received little funding from Oklahoma State University, but funding from the legislature and other outside sources increased in the 70s to the extent that the university in time provided less than five percent of the extension program's total budget.²³

Fire Service Training, the only training agency in Oklahoma, has had to change its emphasis with the times as has Fire Protection Technology. Management, statistical data, and long-range planning are the topics that interest

Oklahoma firefighters currently. The fire chief in the state as in the rest of the nation is mainly an administrator now; his line officers fight the fires. Fire Service Training is also one of the few agencies that uses the assessment center method to test for promotion, the only method that has been sustained by federal courts. The most promising development for Fire Service Training and for IFSTA is the proposed \$550,000 training area to be built on Lake Carl Blackwell. The facility which will be funded by the legislature, will include laboratories, classrooms, and multi-purpose space which Mace expects to share with Fire Protection Technology.²⁴

If Fire Service Training and Fire Protection Technology endured a period of disruption in the 1960s, the Redbook publications enjoyed a period of growth and success. Fire Protection Publications had only two editors in the first forty years of its existence. Everett Hudiburg followed Fred Heisler as editor in 1955 and held that position until 1975. As Hudiburg maintained the procedures set by Heisler, the program had the benefit of continuity. By 1959 Fire Protection Publications offered twenty-nine different manuals and visual aids. In 1966 they sold 31,944 units. Four years later, in 1970, that total had risen to 48,344. (See Table V.)²⁵

In part, the increased sales came from the growing number of academic programs and a national emphasis on training in the nation. Most found producing their own

materials too expensive an undertaking and preferred to use what was already available, the Redbooks. At the same time, the Heisler system of validation remained unchanged; by the 1960s some participants were bringing a second generation with them to the annual meetings in Stillwater. This new generation, like the first, had a proprietary interest in the manuals they helped produce and thus supported the publications in their home departments.²⁶

Some critics of the Redbooks saw the validation procedure as a weakness rather than a strength. Keith Royer of Iowa State University, a participant for many years, saw it as a way of perpetuating error if the committee decided a questionable technique was correct. He also objected to the continued participation of the insurance industry in the validation conferences and believed IFSTA should break its ties with the industry.²⁷

In spite of such criticism Redbook sales continued a rapid growth through the 1970s. In 1980 123,404 units were sold, two and one-half times the number sold ten years earlier. Also by 1980 IFSTA's foreign market though small, included twenty-nine foreign countries: Australia, Brazil, the Canal Zone, the Dutch Antilles, England, France, Germany, Guam, Holland, Hong Kong, India, Jamaica, Luxemborg, Malaysia, Mexico, New Zealand, Nicaragua, Puerto Rico, the Philippines, Singapore, Scotland, South Africa, Sweden, St. Croix, St. Thomas, Venezuela, the Virgin Islands, the West Indies, and the Windward Islands.²⁹

TABLE VI
 TOTAL FISCAL YEAR SALES BY FIRE
 PROTECTION PUBLICATIONS²⁹

Year	Units	Income
1966	31,944	
1967	31,932	
1968	29,277	
1969	40,162	
1970	48,344	\$107,891.87
1971	49,062	\$146,452.29
1972	68,133	\$227,106.26
1973	89,870	\$280,498.64
1974	131,837	\$378,959.59
1975	98,633	\$393,201.73
1976	94,813	\$353,413.99
1977	107,548	\$416,296.43
1978	116,375	\$614,846.63
1979	135,923	\$712,122.24
1980	123,404	\$922,083.25

Fire Protection Publications did pass through one period of rapid turnover in its editorship in the 1970s. After Hudiburg retired in 1975, Charles Thomas replaced him for one year, January 1, 1975, to January 1, 1976. John Peige replaced Thomas from January 1, 1976, to January 1, 1980, and was followed by Gene Carlson, who advanced from the position of assistant editor January 1, 1980, and continues to the present. Unlike Fire Protection Technology, which found a rapid turnover in leadership destructive, Fire Protection Publications survived intact.³⁰

Following Hudiburg's retirement the publication section did experience a growth in staff numbers and an improvement in facilities. Hudiburg's staff--himself, an assistant editor, a full-time and a part-time secretary, and an artist--had occupied Quonset 2 since about 1965. But the rapid growth of the publications required more staff and more room. In 1981 Fire Protection Publications employed 15 full-time and 10 part-time people. They moved into a new building financed by IFSTA in September, 1976.³¹

Bringing in a new editor after twenty years also meant a change in the product itself. The Redbooks of Heisler and Hudiburg, though updated, remained basically unchanged until Hudiburg's retirement. Later editors made a number of changes in style and format, including the traditional red covers. Even though the new editions had red and black covers with photographs, most users still referred to them simply as the "Redbooks". At the same time, the editors

on more responsibility for writing drafts of new manuals which left the conference delegates to suggest new topics and verify the accuracy of the prepared texts.³²

As the users of the manuals had grown more sophisticated and more demanding with better training, so the manuals had to change as well. The new editors, especially Carlson, strove for quality as well as accuracy. And to insure accuracy the editors used a system of checks and balances. Not only did the validation conferences check every part of the manuals, they asked other users to report possible problems. In many cases the highest executive officers of equipment and apparatus companies served as delegates to the conferences and thus gave expert advice.³³

In the 1970s the validation conferences remained so popular they forced a major change in the way the system operated. Attendance before 1978 had been strictly voluntary and unrestricted. Any user of the manuals was an eligible delegate for the validation conferences. But by 1978 attendance grew to more than two hundred, too many even when divided into committees to work separately on particular manuals. Starting in 1979, then, IFSTA began to require prospective delegates to submit applications stating their qualifications. Though this offended a few, it also helped insure only the most knowledgeable reviewers would validate the manuals.³⁴

A second major development of the late 1970s was the

formal organization of the International Fire Service Training Association. Prior to this time the organization had been loosely-knit and voluntary in membership. But threats to the association's copyrighted materials in the late 1970s forced IFSTA to write a constitution and set up a more formal organization.³⁵

In spite of the division of the fire protection program into three separate units, the units continue to operate cooperatively. Mace administers the budget of both Fire Service Training and Fire Protection Publications, and they expect to share their new facilities with Fire Protection Technology. The publications division also relies on the other two divisions to confirm its written descriptions by actual practice. This cooperation Mace sees as an advantage and a strength of the program at OSU. In some instances in which a university has both an academic and an extension program, the two divisions do not cooperate but work separately toward what is basically the same goal.³⁶

This cooperation Mace also sees as making fire protection training at Oklahoma State truly unique. This is the only program that offers extension training, academic coursework, and the written materials to facilitate them. Through the extension program it serves both the volunteer and the paid firefighter, the largest city and the smallest town. The program trains the firefighter but it also graduates men and women who take positions in many related fields at salaries that make them the highest paid graduates in any field

at OSU.³⁷

As has been true since the 1940s, few graduates in the 1960s and 1970s have entered the fire service. Instead they are currently employed as fire protection and safety consultants, fire protection and safety engineers, representatives of fire equipment companies, fire marshals, writers of professional journals, and teachers. Many in the 1970s have entered the growing energy field. Several graduates of the program have gone on to help found similar academic programs elsewhere; one, John Bryan, is chairman of the department at the University of Maryland, another leader in the field of fire protection.³⁸

Though the program might have foundered after Douglas's death and though it did pass through several disruptions, by 1981 it had readjusted to new leadership, new orientation, and a new structure. Enrollment resumed a healthy rate of growth, Redbook sales soared, and the extension program enjoyed a revitalization under Harold Mace's administration and new funding from the legislature. After fifty years fire service training at Oklahoma State University seemed to be enjoying both its maturity and its position of leadership in its field.³⁹

NOTES

¹Thomas William Dawson, "An Analysis of the Historical Development of a Fire Protection Program with Implications for Program Planning" (master's thesis, Oklahoma State University, 1970), pp. 38-39; Mrs. R. J. Douglas, personal interview, Stillwater, Oklahoma, September 6, 1981; Everett Hudiburg, Stillwater, Oklahoma, personal interview, September 11, 1981.

²Everett Hudiburg, personal interview, Stillwater, Oklahoma, September 11, 1981.

³Dawson, "The Historical Development of a Fire Protection Program," pp. 42-43; Larry Borgelt, personal interview, Stillwater, Oklahoma, October 6, 1981.

⁴Harold Mace, personal interview, Stillwater, Oklahoma, September 22, 1981.

⁵Ibid.

⁶Ibid.

⁷Ibid.

⁸Figures available in the School of Technology, Oklahoma State University, Stillwater, Oklahoma.

⁹Harold Mace, personal interview, Stillwater, Oklahoma, September 22, 1981.

¹⁰Dawson, "The Historical Development of a Fire Protection Program", p. 31; Oklahoma State University Catalogue, 1967-68, p. 272.

¹¹Harold Mace, personal interview, Stillwater, Oklahoma, September 22, 1981; Larry Borgelt, personal interview, Stillwater, Oklahoma, October 21, 1981.

¹²Daily O'Collegian, June 25, 1971; Harold Mace, personal interview, Stillwater, Oklahoma, September 22, 1981.

¹³Harold Mace, personal interview, Stillwater, Oklahoma, September 22, 1981.

¹⁴ Hudiburg, Beside the Still-water: A Fire Protection Chronicle, 1885-1977, (Oklahoma City: Metro Press, 1977), pp. 96-97.

¹⁵ Harold Mace, personal interview, Stillwater, Oklahoma, September 22, 1981; Keith Royer, personal interview, Stillwater, Oklahoma, September 17, 1981; C. L. Bolz, "'College-Level' Fire Administration Training," Firemen vol. 21, no. 11, (November, 1954), pp. 8-9.

¹⁶ Warren Y. Kimball, "The Trend in Higher Education for the Fire Service," Firemen vol. 36, no. 12 (December, 1969), pp. 14-17.

¹⁷ "Higher Education: Mixed Blessing?", Fire Command vol. 43, no. 2 (February, 1976), p. 15.

¹⁸ Pat Brock, personal interview, Stillwater, Oklahoma, August 18, 1970.

¹⁹ Oklahoma State University Catalogue, 1973-74, pp. 172-173.

²⁰ Ibid., p. 89A-90A; Oklahoma State University Catalogue, 1976-77, Stillwater, Oklahoma, pp. 90A-91A.

²¹ Larry Borgelt, personal interview, Stillwater, Oklahoma, October 30, 1981.

²² Ibid.

²³ Everett Hudiburg, Beside the Still-water, p. 98; Harold Mace, personal interview, Stillwater, Oklahoma, September 22, 1981.

²⁴ Ibid.

²⁵ Ibid.; Daily O'Collegian, October 24, 1981.

²⁶ William Vandevort, personal interview, Stillwater, Oklahoma, September 29, 1981.

²⁷ Ibid.

²⁸ Keith Royer, personal interview, Stillwater, Oklahoma, September 17, 1981.

²⁹ Progress and Status Report, Fiscal Year 1979, Fire Protection Publications, Engineering Extension, College of Engineering, Oklahoma State University, Stillwater, Oklahoma.

³⁰ Ibid.; Progress and Status Report, Fiscal Year 1972, Fire Protection Publications, Engineering Extension, College of Engineering, Oklahoma State University, Stillwater, Oklahoma.

³¹ William Vandevort, personal interview, Stillwater, Oklahoma, September 29, 1981.

³² Harold Mace, personal interview, Stillwater, Oklahoma, September 29, 1981; William Vandevort, personal interview, Stillwater, Oklahoma, September 29, 1981.

³³ William Vandevort, personal interview, Stillwater, Oklahoma, September 29, 1981.

³⁴ Ibid.

³⁵ Ibid.

³⁶ Ibid.

³⁷ Harold Mace, personal interview, Stillwater, Oklahoma, September 22, 1981.

³⁸ Ibid.

³⁹ Harold Mace, personal interview, Stillwater, Oklahoma, September 22, 1981.

CHAPTER V

LOOKING BACK

Looking back over the last fifty years of its history, one can see some factors that made fire protection training at Oklahoma State University a success. First, the state of Oklahoma provided a hospitable environment for such a program. Oklahoma firefighters demonstrated an openness to new ideas, a willingness to experiment, and a real interest in improving their performance. Individuals among them such as Charles Slemp, J. E. Taplin, and Ray Pence also encouraged innovations in training and worked to make their aspirations come true. In choosing a site for the program, those who advocated it were fortunate in having a town like Stillwater with a progressive fire chief like Pence and a receptive college president like Henry G. Bennett.

The times were also right in that increasing property prices and increasing property losses in the 1920s and 1930s awoke an interest in the insurance industry which sustained the program for the next thirty years. The coming of the Depression, though it created many hardships, actually benefited the publication of the Redbooks as it caused an interest among several states in sharing expenses and consolidating under one program. Also, the interest in training

firefighters in the 1920s and 1930s was a part of a general interest in training all public servants for better performance. Many parts of the country discussed and set up training programs of varying kinds, but none except Oklahoma took the ultimate step of setting up an academic program.

A large part of the success of the academic program lay in the unique city/college relationship that existed between Stillwater and Oklahoma Agricultural and Mechanical College. That the city and college were willing to cooperate and share expenses in such an effort remains unique to this day. Each partner benefited from the joint undertaking at a fraction of the total cost, for federal money through the Public Works Administration paid two-thirds of the cost of the constructing the campus fire station.

Undoubtedly the most important factor in the success of the program was its strong leadership. Several men deserved credit for their contribution to the program but the most vital were W. Fred Heisler, J. Ray Pence, and R. J. Douglas. Each had some special talent which he contributed generously.

W. Fred Heisler, compiler, writer, and editor of the Redbooks for twenty years, was, like the other two, an innovator. He developed the procedures through which the training manuals were published. Although he had talent as a writer, he was also a superb lecturer with a natural understanding of group dynamics. That was especially important considering that most of the material he collected for

his publications came as the product of group discussions and committee meetings. That system worked well for Heisler, but the real measurement of its worth was in the fact it remained the main method for compiling material twenty years after his retirement.

Though Heisler must receive credit for the early success of the Redbooks, Pence and Douglas exerted more influence over the program as a whole. In many ways the two were alike. They shared with Heisler a dedication to firefighting and a love of firefighters, a love of learning and an interest in research, and a devotion to the whole fire protection program. At the same time, they differed in personality, style, and method of operation.

Pence was aggressive, enthusiastic, and flamboyant, but he turned those characteristics to the benefit first of his fire department and later of the fire protection program. When he had an idea he worked for it and asked for the funding it required, whether it was a fire department for Healdton or a fire station for Stillwater. He also had the ability to inspire others with his enthusiasms to the point that the city of Stillwater gave him whatever he asked, especially when he demonstrated his willingness to contribute his own labor. Though he was a showman, both the city and the fire protection program gained by it as he won for them much good publicity. From its very beginning he helped make it not just a local or even state project but a program with national implications. Though his association with the

program was much shorter than Heisler's or Douglas's, Pence left an indelible impression.

If people admired Pence, they loved Douglas, who inspired by example. His approach was low-key and modest, but no one ever doubted his ability either as a teacher or a researcher. If the program suffered from his lack of aggressiveness in winning financial support from the college, it gained much in the loyalty he inspired in his graduates.

Douglas, Pence, and Heisler all helped build the tradition that gives a special character to fire protection training at Oklahoma State University. The graduates of the academic program are unusually loyal and maintain a real interest in their alma mater. After Douglas's death and during the department's nadir, they became concerned over the fate of the program and conveyed their disturbance to Dean Lohmann, who considered their views in making a change in personnel. Since then they have continued to work for the entire training program, recruiting students, serving as validation conference members, and contributing to the physical welfare of the three divisions. Though few are in such positions as to contribute financially to the program, they are available to provide the information and the hardware necessary to conduct the training program, from discarded but repairable fire trucks to railroad boxcars. But this help should not be attributed to loyalty to Oklahoma State University; it is loyalty to the Department

of Fire Protection Technology and in many cases to the memory of R. J. Douglas.

In some ways Oklahoma State University has received more from the fire protection program than it has given. The initial investment in the campus fire station was small as was the departmental budget for many years. The International Fire Service Training Association has for nearly fifty years produced nationally acclaimed training manuals through voluntary efforts. IFSTA is now self-sustaining but remains tied to the university administration. Fire Service Training shares the facilities provided by the university but is funded primarily through the state legislature. What OSU receives in return for a minimal investment to this point is good national publicity and a share of the program's prestige with industry and the fire service.

The greatest beneficiary of the program, however, has been the fire service. The extension program, training manuals, and the initial academic program all had the improvement of the fire services as their aim. That the academic program was later forced to change directions toward the insurance field and industrial safety was not so much a failure as widening of its scope. The fire service has not been ignored in the reorientation but has come to share the larger scope of the program. In the words of Everett Hudiburg, the fire protection program at OSU has given to the fire service as a whole "dignity, respect, and professionalism".¹

NOTE

¹Everett Hudiburg, personal interview, Stillwater, Oklahoma, September 11, 1981.

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APPENDIXES

APPENDIX A

CONTRACT

This contract made and entered into this 6th day of April, 1938, by and between the State Board of Agriculture of the State of Oklahoma, party of the first part, and the City of Stillwater of the State of Oklahoma, party of the second part.

WITNESSETH:

That whereas, it is necessary for the protection of the property and equipment of the Oklahoma Agricultural and Mechanical College, used for the promotion of the educational purposes of the College and for the protection of the students in attendance at said College that a fire station and equipment be maintained on the campus of said College; and,

Whereas, it is necessary that the Oklahoma Agricultural and Mechanical College secure the use of a fire station and equipment in connection with the Fire Service Training School of said College; and,

Whereas, the party of the second part is willing to construct and maintain at its expense upon the campus of

said College at Stillwater, Oklahoma, a fire station and equipment to be used by second party in providing fire protection for the buildings on the campus of said College, and also for the protection of that part of the City of Stillwater in the vicinity of said College.

NOW, THEREFORE, for and in consideration of the foregoing, and of the sum of One and no/100 (\$1.00) Dollar, each to the other in hand paid, the receipt of which is hereby acknowledged, the party of the first part does hereby set aside the following described portion of the campus of the Oklahoma Agricultural and Mechanical College, to-wit:

"A tract of land described by metes and bounds as follows: Beginning at the southeast corner of the campus of the Oklahoma Agricultural and Mechanical College, same being the southeast corner of the Northwest Quarter (NW/4) of the Southwest Quarter (SW/4) of Section Fourteen (14), Township Nineteen (19) North, Range Two (2) East of the Indian Meridian, Payne County, State of Oklahoma; thence North along the East line of the campus of the Oklahoma Agricultural and Mechanical College two hundred (200) feet; thence west one hundred and thirty-five (135) feet; thence South two hundred (200) feet to the South line of said campus; thence line of said campus, same being the north line of College Avenue, to the point of beginning,

for the use of the City of Stillwater of the State of Oklahoma as provided and limited herein. Second party agrees to construct at its own expense, upon the tract above described, a building suitable for a fire station at a cost of not less than Ten Thousand and no/100 (\$10,000.00) Dollars. The structure to be built in strict accordance with plans and specifications prepared by the School of Architecture of the Oklahoma Agricultural and Mechanical

College, and approved by the first party and also by the second party; the actual cost of the plans to be paid by second party, payment being made to the Building Supervision and Trust Fund of said College, the plans to provide for a first unit of said building to cost not exceeding the said sum of Ten Thousand and no/100 (\$10,000.00) Dollars, but as designed for the complete building to cost ultimately the approximate sum of Sixty Thousand and no/100 (\$60,000.00) Dollars. Party of the second part agrees to supply all necessary fire fighting equipment and to equip the station as soon as it is completed at its own expense.

IT IS AGREED that the Oklahoma Agricultural and Mechanical College shall have the use of the fire station building and equipment for its Fire Service Training School, at times and under conditions to be mutually agreed upon and designated, provided however that in no event will the use of said building and equipment by said Fire Service Training School interfere with the use thereof by second party for fire operations.

IT IS AGREED that all supplies for functioning the fire station for the use of the City and in the protection of the property of said College will be supplied by second party at its expense, and the supplies needed for training purposes for students enrolled in the Fire Service Training School will be supplied by said College at its expense.

IT IS AGREED that the landscaping and care of the campus adjacent to said fire station will be under the

direction, supervision, and at the expense of the College as also will be the care of the rooms used for classes and laboratories, the janitor work however at the fire station proper will be supplied and paid for by the second party.

IT IS FURTHER AGREED THAT said second party will supply all water and light to be used in the building without expense to the College, and the College will supply all heat used in the building without expense to second party.

IT IS AGREED that after the first unit is completed, the first party shall have the right, at its expense, to complete the building for the purpose of operating necessary class rooms and laboratory space for its Fire Service Training School.

IT IS FURTHER AGREED AND UNDERSTOOD by and between the parties that this contract shall be in full force and effect immediately upon its execution by the parties hereto, and that it shall remain in full force and effect for a period of ninety-nine (99) years unless cancelled by mutual agreement before the expiration of said time.

IT IS UNDERSTOOD AND AGREED that second party will proceed with the construction of said building within a reasonable time after the execution of this contract.

IN WITNESS WHEREOF the parties hereto have caused this instrument to be executed the day and date first above written.

STATE BOARD OF AGRICULTURE OF
THE STATE OF OKLAHOMA

BY JOE C. SCOTT
PRESIDENT

ATTEST:

FORREST K. BURNS
SECRETARY

CITY OF STILLWATER OF THE
STATE OF OKLAHOMA

BY HARRY JONES
MAYOR

ATTEST:

H. J. NESTER
COMMISSIONER OF REVENUE AND
ACCOUNTING, EX-OFFICIO CITY CLERK

APPENDIX B

COURSE DESCRIPTIONS FOR FIREMANSHIP

TRAINING, 1940-41

111. Fire Fighting Practices. I. lab. 3, cr. 1. Actual drills with modern equipment at a modern fire station in hose and ladder work, forcible entry, salvage and overhaul, operation of apparatus, and rescue and first aid.
112. Fire Hazards and Causes. I. Class 1, lab. 3, cr. 2. A study of fire hazards in a modern city and in rural districts; an analysis of fires to determine causes; causes of fires in industry.
121. Fire Fighting Practices. II. Class 1, lab. 3, cr. 1. Continuation of Tech A 111.
122. Fire Protection. II. Class 1, lab. 3, cr. 2. A study of modern fire protection including city water supply and distribution, fire department organization, housing, equipment and personnel, private fire protection methods, chemical extinguishment, building construction for protection, and methods of administration and cooperation in fire protection.
211. Fire Fighting Practices. I. Lab. 3, cr. 1. Continuation of Tech A 121.
212. Fire Prevention. I. Class 1, lab. 3, cr. 2. A study of fire prevention as a prohibiting factor in fire hazards, including a study and practice in inspection work, civic contracts, public school fire prevention work, observation of fire prevention week and any other phase of fire prevention work that will develop fire and safety consciousness.
222. Fire Fighting Tactics. II. Class 1, lab. 3, cr. 2. A study of and practice in the sequence of operation, major and minor, necessitated in fighting all types of fires, and the art of using the entire force and available help effectively. The controlling purpose

of the course is to train men to use their minds in working under emergencies. To do this effectively they must be taught to fight fires and meet emergencies before they happen.

232. Fire Department Inspection Practice. II. Class 1, lab. 3, cr. 2. Inspection organization, inspection maps, and standard symbols and inspection forms and records. Laboratory consists of actual inspections of buildings to locate high value stocks, man traps, best means of entrance, logical place to ventilate, and to check up fire protective devices and exists. Mr. Douglas

APPENDIX C

COURSE DESCRIPTIONS FOR FIRE PROTECTION, 1950-51

- 102 Fire Extinguisher Installation, Maintenance and Recharge. I. Class 1, lab. 3, cr. 2. Practice in installing, marking, overhauling, cleaning, and makes of approved fire extinguishers.-Mr. Douglas.
- 111 Fire Fighting Practices. I. Lab. 3, cr. 1. Actual drills with modern equipment at a modern fire station in hose and ladder work, forcible entry, salvage and overhaul, operation of apparatus and rescue and first aid.-Mr. Douglas.
- 112 Fire Hazards and Causes. I. Class 1, lab. 3, cr. 2. A study of the cause of fires in cities, rural areas, homes and in industry. The application of the basic principles of fire protection to eliminate or control fire hazards.-Mr. Douglas.
- 121 Fire Fighting Practices. II. Lab. 3, cr. 1. Continuation of Tech A III.-Mr. Douglas.
- 122 Fire Protection. II. Class 1, lab. 3, cr. 2. A study of modern fire protection including city water supply and distribution, fire department organization, housing, equipment and personnel, private fire protection methods, chemical extinguishment, building construction and co-operation in fire protection.-Mr. Douglas.
- 132 Principles of Fire Inspection. II. Class I, lab. 3, cr. 2. A study of inspection organization standard symbols, inspection maps, diagrams and sketches, inspection forms and checklists, inspection reports and records. Codes, laws and ordinances relating to inspection are studied and the National Board of Fire

Underwriters standards are reviewed.-Mr. Douglas.

- 211 Fire Fighting Practices. I. Lab. 3, cr. 1.
Continuation of Tech A 121.-Mr. Douglas.
- 212 Fire Prevention. I. Class 1, lab. 3, cr. 2.
A study of fire prevention organization and practice in the development of a continuous fire prevention and educational program to promote public fire and safety consciousness.-Mr. Douglas.
- 232 Fire Inspection Practices. I. Class 1, lab. 3, cr. 2. Prerequisite: Tech A 132. Actual inspection of buildings to locate high value stocks, to man traps, to secure best means of entrance and to check exits and fire protective equipment. Complete reports, including maps and sketches, are required for each building inspected.-Mr. Douglas.
- 242 Automatic Sprinkler Protection. II. Class 1, lab. 3, cr. 2. A practical analysis of N.F.P.A. sprinkler installation code covering in detail types of systems, spacing of lines, heads and hangers, heat actuating devices, accelerators and exhausters; water supply; and sprinkler maintenance.-Mr. Douglas.
- 292 Fire Protection Hydraulics. II. Class 1, lab. 3, cr. 2. Prerequisite: Math 183. A study of the mechanics of liquids flowing in water mains, hydrants, pumps, standpipes, hose, nozzles and sprinkler systems.-Mr. Douglas.

APPENDIX D

COURSE DESCRIPTION FOR FIRE

PROTECTION TECHNOLOGY,

1967-68

- 1102-102 FIRE EXTINGUISHING AND ALARM SYSTEMS. Lab. 3. A study of the various types of fixed and portable fire extinguishers and fire detection and alarm systems.
- 1212-112 FIRE HAZARDS AND CAUSES. Lab. 3. A study of the causes of fires in cities, rural areas, home, and industry. The application of the basic principles of fire protection to eliminate or control fire hazards.
- 1322-122 FIRE PROTECTION. Lab. 3. A study of modern fire protection including city water supply and distribution, fire department organization, housing, equipment and personnel, private fire protection methods, chemical extinguishment, building construction for protection, and methods of administration and cooperation in fire protection.
- 1432-132 PRINCIPLES OF FIRE INSPECTION. Lab. 3. A study of inspection organization, standard symbols, inspection maps, and inspection reports. Building construction and the National Building Code are studied in detail.
- 1562-162 FIRE CODES AND STANDARDS. Lab. 3. A survey of the Fire Codes and Standards developed by the National Fire Protection Association. The Fire Prevention Code of the National Board of Fire Underwriters is covered completely.
- 1682-182 INDUSTRIAL FIRE HAZARDS. Lab. 3. Prerequisite 1212. Control measures to protect personnel and property from hazards due to boilers, industrial ovens, plastics, radioactive materials, and other industrial equipment, materials, and processes.

- 2132-232 FIRE INSPECTION PRACTICES. Lab. 3. Prerequisite: 1432. Actual inspection of buildings to locate high value stocks and man traps to secure best means of entrance and to check exits and fire protection equipment. Complete records, including maps and sketches, are required for each building inspected.
- 2242-242 AUTOMATIC SPRINKLERS. Lab. 3. Prerequisite: TEC 1215. A practical analysis of the National Fire Protection Association sprinkler installation code covering in detail types of systems, spacing of lines, heads and hangers, heat actuating devices, accelerators and exhausters, water supply, and sprinkler maintenance.
- 2372-272 FIRE PROTECTION HYDRAULICS. Lab. 3. Prerequisite: TEC 1215. A study of the mechanics of liquids flowing in water mains, hydrants, pumps, standpipes, hose, nozzles, and sprinkler systems.
- 2482-282 WATER SUPPLY ANALYSIS. Lab. 3. Prerequisite: 2372. A study of water supply requirements for fire protection and methods of determining quantities of water available from distribution systems.

APPENDIX E

COURSE DESCRIPTION FOR FIRE PROTECTION

AND SAFETY ENGINEERING TECHNOLOGY,

1976-77

- 1213 FIRE AND SAFETY HAZARDS RECOGNITION. A survey of physical, chemical and electrical hazards and their relationship to loss of property and/or life. Safe storage, transportation and handling techniques are stressed to eliminate or control potential risks.
- 1373 PORTABLE EXTINGUISHING SYSTEMS. Lab. 3. A comparison of portable fire extinguishing systems, their construction features and their operational capabilities. Scope includes portable or "hand-held" fire extinguishers, hoses, and auxiliary water/foam delivery apparatus.
- 1684 INDUSTRIAL LOSS PREVENTION. Lab. 3. Prerequisite: 1213. An examination of specific industrial processes, equipment, facilities and work practices to understand potential hazards and techniques for detecting and controlling such hazards.
- 2143 STRUCTURAL DESIGNS FOR FIRE-LIFE SAFETY. Lab. 3. Prerequisite: GENT 1153. Building construction methods are critically examined within the scope of pertinent standards and codes to assure maximum life and property safety from fires, explosions and natural disaster.
- 2153 FIRE PROTECTION MANAGEMENT. Prerequisites: prior or concurrent enrollment in all other fire protection courses. Applied human relations, technical knowledge and skills for achieving optimum effectiveness from a fire protection organization.
- 2243 FIXED EXTINGUISHING SYSTEMS. Lab. 3. Prerequisite: 1373. MATH 1513. Detailed applications of current standards and codes to select design, install, operate and maintain fixed fire extinguishing facilities.

- 2372 FIRE PROTECTION HYDRAULICS. Lab. 3. Prerequisite: GENT 1215. A study of the mechanics of liquids flowing in water mains, hydrants pumps, standpipes, hoses, nozzles and sprinkler systems.
- 2482 WATER SUPPLY HYDRAULICS FOR FIRE PROTECTION. Lab. 3. Prerequisite: 1373 MATH 1513. A study of water-handling facilities using hydraulic calculating methods and applied techniques to determine water-flow capabilities, to obtain conformance with fire protection water requirements.
- 2512 ELECTRICAL SAFETY CODES. Lab. 3. Prerequisite: GENT 1213. A safety-orientated treatment of the design installation, operation and maintenance of electrical power distribution systems and utilization equipment. Based on current electrical codes and safety standards.
- 3013 INDUSTRIAL SAFETY ORGANIZATION. Prerequisite: junior standing. Survey course. Concepts for recognition evaluation and control of occupational health and safety hazards.
- 3023 OCCUPATIONAL SAFETY ORGANIZATION. Lab. 3. Prerequisite: 3013. A personnel-oriented analysis of occupational facilities, equipment and operations to identify and evaluate inherent hazards--corrective emphasis is directed toward worker, machine, environmental controls.
- 3222 INDUSTRIAL SECURITY APPLICATIONS. Prerequisite: Junior standing. Methods and equipment applied to the safeguarding of industrial property, personnel and proprietary information.
- 4224 ELEMENTS OF INDUSTRIAL HYGIENE. Lab. 3. Prerequisite: CHEM 1364, 1474; junior standing. Familiarization with toxic or irritating substances, physical energies, biological, ergonomic and other occupational stress factors causing employees illness or discomfort. Environmental pollution sources and controls.
- 4333 SYSTEM SAFETY MANAGEMENT. Lab. 3. Prerequisite: prior or concurrent enrollment in all other fire-safety subjects. Integrated application of all fire/safety techniques to recognize, evaluate and control potential occupational hazards. Critical Path, LAD, PERT and human factors concepts are applied

Additions in the 1976-77 catalogue

- 1113 FIRE TACTICS I. Discussion of the proper methods of attack and extinguishment of fires in various occupancies and hazards with emphasis of factors which would adversely affect the extinguishment of fire plus way to compensate for this.
- 1123 FIRE TACTICS II. This course will place emphasis on methods and procedures involved in pre-planning operations for a city's fire defense. Included will be methods of analyzing the fire problems and the factors involved in decision making as to the equipment to be sent to the initial alarm of fire as well as the running assignments which follow.
- 1133 RECORDS AND REPORTS. This course is designed to introduce the student to the proper methods of record keeping in the fire science. Special emphasis will be placed on the types of records, graphs, and other aids used in determining loss factors, long-range planning etc. for a municipality.
- 1222 INSPECTION PRACTICES. A course in the proper procedures to be followed in the inspection of a property, including proper dress, communications, tools used, inspection techniques, and common areas to be looked at.
- 4123 ADVANCED FIRE/SAFETY PROBLEMS. Prerequisites: junior standing and consent of instructor. Selected problems in the fire, occupational safety, occupation health, and industrial security areas. The application of research or state-of-the-art technologies to prevent or correct such problems.

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VITA

Mary Jane Warde

Candidate for the Degree of
Master of Arts

Thesis: FIFTY YEARS OF FIRE PROTECTION TRAINING AT
OKLAHOMA STATE UNIVERISTY

Major Field: History

Biographical:

Personal Data: Born in Fulton, Kentucky, June 29,
1944, daughter of Mr. and Mrs. N. B. "Buster"
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Education: Graduated from Martin High School, Martin,
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June, 1966; attended Florida State University,
Tallahassee, Florida, September, 1966 - May, 1967;
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University, September, 1979; completed requirements
for Master of Arts degree at Oklahoma State Univer-
sity in December, 1981.

Professional Experience: Teaching Assistant, Depart-
ment of History, Oklahoma State University, 1979 to
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ical Review, 1980-81; member of Phi Alpha Theta
and Phi Kappa Phi.