

EFFECTIVE METHODS IN MAKING POSITIVE CHANGES IN ISO RATINGS

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ABSTRACT

The Insurance Services Office (ISO) rates every Fire Department in the United States. These departments are rated on a varied set of items from manpower to water supply to communications and so on. This rating is then used to determine the insurance rates for the community that the fire department is responsible for. By lowering their ISO rating every fire department can in turn lower the cost of insurance for their community.

Many cities spend large amounts of taxpayer's dollars to replace or update fire department equipment with the intentions of lowering their ISO ratings. They feel that this replacement of their older equipment with newer technology will give them more credit during an ISO evaluation and thus lower their rating. Is this the proper way to effect a change in their rating or can a positive change be made by better understanding what ISO expects from each department and use this knowledge to make changes within these departments that have little or no cost to the taxpayers? Can a city acquire a lower rating by studying ISO's rating criteria and adjusting their current assets of vehicles, equipment, and manpower to more closely fit the requirements of the ISO rating schedule? Would this be a more effective tool than just the blanket spending of the taxpayer's dollars on tools and equipment?

This research will attempt to evaluate how departments react to ISO evaluations. It will try to see if these departments found any efficient ways to lower their ISO rating and if their methods could be helpful in determining which method would be more effective for departments in general. Assessing ISO forms, departmental reports, and information from others who have studied ISO rating criteria will be utilized to analyze and evaluate the effectiveness of these methods.

Table of Contents

ABSTRACT.....	2
CHAPTER	
1 INTRODUCTION.....	5
2 BACKGROUND.....	7
3 LITERATURE REVIEW.....	9
a. Forms and Rating Schedules.....	13
4 PROCEDURES.....	23
5 RESULTS.....	27
6 DISCUSSION.....	29
7 RECOMMENDATIONS.....	31
REFERENCE LIST.....	34

CHAPTER 1

INTRODUCTION

What is the ISO, and why do they show up at our doors every 10 to 15 years? The Insurance Service Office Inc. (ISO) is a profit-making agency that performs town-grading surveys in areas that have public fire protection. The ISO grades departments in 49 states and has been doing so, in some form or another, since 1916. ISO has been working in its present form since 1971. The ISO uses a system called The Fire Suppression Rating Schedule (FSRS) to rate the effectiveness of the local fire service to handle suppression within their districts.

The FSRS measures the potential differences between municipalities in how well they manage buildings once they are burning. These municipalities are rated on a scale of 1 through 10 with 1 being the best and 10 having little or no protection. The FSRS is set up to give credit for anything that the municipality has that helps in the fire suppression process. The local department starts out with 0 points and credit is given for anything that meets the FSRS criteria. All points are tallied and a final grade is given to the community.

There are three major sections in the FSRS. These three sections grade, how well you handle alarms, your fire departments' first alarm qualifications, and the quality and

quantity of your water supply. The alarm section is worth 10%, the fire department section is worth 50%, and the water supply section is worth 40%. This grading measures your compliance to a set of minimum standards for each of these areas. To determine your compliance the FSRS asks a fixed set of simple questions. These are basic questions that are easily answered, such as; Are you easily found in the phone book and do you have the proper number of people to handle incoming calls? Does the fire department have the equipment and manpower to handle the fire load in its district? Does the city have an adequate water supply to handle the buildings in its district?

Chapter 2

BACKGROUND AND SIGNIFICANCE

The ISO in one form or another has been around since shortly after the turn of the century. Early on there were many smaller groups rating fire suppression capabilities. These groups evolved into what is now known as the ISO.

“ISO is the principle provider of insurance underwriting, rating and statistical information to the insurance industry in the United States.” (*ISO Community Outreach Program*, p-1) ISO also gathers information for many other reasons. ISO maintains one of the largest databases in the world. “Every year they add over 1.2 billion records to their over 5.5 billion stored records. The data stored by ISO represents about 75% of the industries total premiums.” (*ISO Community Outreach Program*, p-1) All ISO products and services are advisory. The insurance industry can use or not use, or even change them as they see fit. These products are available to any insurer in the US.

What makes the ISO Fire Suppression Rating Schedule so important is that most insurance companies use this schedule as base for determining commercial and residential insurance rates. These rates vary from state to state. In some states residential rates change for every class change your department makes. Other states rates change

only in groups of classifications. In all states the insurance rates for commercial customers change with each individual rating change.

Here are some sample insurance rates.

These rates are for a \$100,000.00 Wood frame home in Granbury Texas.

Class 10 \$1,298.

Class 9 \$738.

Class 8 \$646.

Class 6 \$607.

A \$100,000.00 Business in Granbury Texas

Class 10 \$621.

Class 9 \$571.

Class 8 \$538.

Class 6 \$504.

(Your Next ISO Rating, Simple Solutions by Larry Stevens pg 144)

As you can see your fire department ISO rating can mean a great deal of money to the residents and business owners in your community. If you add these numbers up over a ten or twenty year period it adds up to a very large savings if your department makes only a single grade improvement.

Chapter 3

LITERATURE REVIEW

The first thing that is done in the Fire Response Rating Schedule is to develop the Needed Fire Flow for selected locations in the city. These calculations are used during all of the other sections of the schedule. The fire flow is rated in gallons per minute. This number is arrived at by a formula considering “ Construction, Occupancy, Exposure, and Communication of each selected building, or fire division,” (*ISO Fire Suppression Rating Schedule*, p-6). Once the fire flow is derived it will be factored in when determining items in the fire department and water supply schedules.

Next evaluated is receiving and handling fire alarms. This section “ reviews the telephone facilities for the general public to report fires, the operators on duty at the communication center, and the facilities used to dispatch fire department companies to the fire.”(*ISO Fire Suppression Rating Schedule*, p-11) This review takes into account all aspects of alarms and dispatch and is done in 3 major sections:

1. Evaluation of how you receive alarms, how many telephone lines you have compared to how many are needed, and how you are listed in the phone directory. (2%)
2. How many operators you have compared with how many you need. (3%)
3. The arrangement of the alarm dispatch facility. (5%)

Next we will look at how they rate the fire department. In this section ISO “ reviews the engine and ladder-service companies, equipment carried, response to fires, training and available fire fighters.” (*ISO Fire Suppression Rating Schedule*, p-16). The first determination is that of Basic Fire Flow. This is derived from the Needed Fire Flow that was calculated at the start of the review. Once the Basic Fire Flow is determined, a maximum of 3500 gallons per minute (GPM), this number is used to determine the number of engine companies, ladder companies, reserve engine companies, and reserve ladder companies. In this section the department is reviewed in 8 major sections. The sections are as follows.

1. How many pumpers you have compared to how many you need and how they are equipped compared to ISO’s equipment list. The number of pumpers depends on needed fire flow and response distances. (10%)
2. How many reserve pumpers and their equipment. (1%)
3. Pump capacity of in-service and reserve pumpers as compared to your cities Basic Fire Flow. (5%)
4. How many aerial trucks you have compared to how many you need and how they are equipped compared to ISO’s equipment list. The number of aerials depends on the height of building in town, fire flow, and response distances. (5%)
5. How many reserve aerials and their equipment. (1%)
6. How much of your city is covered within the ISO circles for response by pumpers and aerials. (4%)

7. The number of personnel available for response for first alarm fires. (15%)
8. How much training you do in various areas, what facilities you have for training and how you use the facilities. (9%)

The last section reviewed is the Water Supply. This section “reviews the water supply system that is available for the fire suppression in the city.” (*ISO Fire Suppression Rating Schedule*, p-32) The water supply section is broken up into 3 main sections.

1. How much water is available in different locations of the city as compared to the needed fire flow for that area. (35%)
2. The type and capacity of hydrants. (2%)
3. The condition of the hydrants and how often they are inspected. (3%)

If you add all the numbers for the percentages you will come up with 100 percent, but there is one other item that ISO takes into consideration. This is called divergence. Divergence is no more than a built in adjustment so that if either Fire Department or Water Supply scores much higher, their score is adjusted so that you cannot realize the full credit for that section. For example no matter how good your Fire Department is, if you do not have enough water to supply the necessary fire flow for extinguishment there will be problems on the fireground.

Even though the rating schedule is very specific there are some items that can be submitted as replacements for other pieces of equipment. For example on the pumper

equipment forms you may replace a “burst hose jacket with a hose clamp.” (*ISO equivalency tables*) On an aerial truck you may replace a “smoke ejector with a positive pressure ventilation fan.” (*ISO equivalency tables*) these are all specified on the ISO equivalency form. Replacements can only come from this form, no other replacements will be accepted.

The following 10 pages contain examples of some of the ISO forms. The field agents to determine points given in each section use these forms. The first form is the master work sheet. This sheet is used to tally all the points from the main sections of the work sheets. The final total is shown on this work sheet and the department’s relative classification is shown at the bottom. Some of the other sheets show needed fire flow, equipment needed on pumpers, personnel needed, etc. One of the forms, the Pumper Test Date sheet, is an example of the type of record keeping that ISO expects your department to have on hand. The last pages show the Fire Suppression Rating Schedule Equivalencies.

Chapter 4

PROCEDURES

This section is intended to provide the reader with information related to the methods used in the formation of this study.

A phone survey was undertaken to obtain the information needed to accurately make a decision about the more efficient method. A list of departments that had received a visit from the ISO was requested from the local ISO representative. This list was never received. Finally, cities were randomly chosen and surveyed. Many of these cities had not been visited for many years. A copy of this survey has been placed at the end of this chapter.

In section 4-a of this paper was a group of standard ISO forms. These forms are representative of the type of form used throughout the ISO rating process. By reviewing these forms you can gain insight into all of the items that ISO will be rating your community on. This is like taking an open book test but even better. You get to have the questions ahead of time so that you can prepare for the test. These forms were also evaluated and reviewed as part of this research.

Both the survey and the evaluation of the forms were used to help determine which method would be most efficient.

ISO SURVEY

1. Did your department know ahead of time that ISO was coming to rate your town?
2. Did your department do any planning to prepare for the visit?
3. Did your department make any major purchases hoping to gain a better rating?
4. If your department made major purchases did they help to give your department a better rating?
5. Did members of your department review the ISO rating schedule prior to the visit?

6. After reviewing the ISO schedule did your department make any changes in procedures, testing, equipment, or training to prepare for the visit?
7. Did any of these last changes help to give the department a better rating?
8. Did your department review its last ISO rating and if so did they make any changes relating to that last rating?
9. If they did make changes, relating to the last rating, did it help to give the department a better rating?
10. Overall did your departments rating go up or down?

Chapter 5

RESULTS

Of the departments surveyed, that had not requested a visit, only one department made any substantial effort to effect a change in their rating. The other departments stated that they were given no warning that the ISO was coming to rate them and that if they had been warned they felt that there was not much that they could do to effect the rating.

The departments that said that they had some advance warning of the ISO visit had many different reasons as to why they did not prepare for the appraisal. Some departments felt that the appraisal was just a formality and that it would not make any difference what they did to try to change it. Others said that they did not have enough time to make any changes so they did nothing. One department requested that the ISO give them some extra time so that they could prepare for the visit. In general these departments stated that their ratings were not affected by what little changes they had made.

One department requested that the ISO visit their department. This visit has not yet occurred. This department stated that they had been working to improve their department for three years. They had made major changes in their fleet, personal protective gear,

methods of documentation, and number of training hours. They felt that they would be able to reduce their rating by at least one grade.

In general it seems that each department had a little different opinion of what effect they could have on the outcome of their ISO rating. What was obvious was that the more information they had gathered about the ISO and its rating schedule the more confident they were that they could make positive changes in their upcoming rating.

This study was undertaken to determine what would be the best way to prepare for an upcoming ISO visit. Would it be by spending dollars for major changes or could more credit be received for evaluating the rating schedule and making strategic but less costly changes.

After a thorough investigation of the ISO rating schedule it seems that only with knowledge of the rating schedule would you be able to improve your rating. Major purchases may be needed but if you do not make the right purchases you may be throwing your money away. For example, if your community has only one older but functional aerial truck, you could receive no extra credit for replacing the vehicle at a cost of \$750,000.00. On the other hand if you simply did your pump and aerial tests on that same truck you would receive some additional credit. Another example would be where you replace your water main and hydrant system but do not upgrade your fire department

at the same time you would not get the amount of credit that the water system should give you.

Every section in the rating schedule has some type of effect on another section and because of the amount of credit placed on each section you must be careful to keep them in balance. ISO gives a maximum number of points for each section of the schedule. You may have the finest dispatch center in the state but if your fire department or your water supply falls short your rating will not be where you would like to see it. The schedule can be used as a guide for the development of a balanced system. It can assist you in determining the structure for the divisions that it rates.

Chapter 6

Discussion

These findings seem to imply a couple of main points. First that most departments treat an ISO survey as if it were something that they have no control over. And last after review of the rating schedule it seems that it should be reasonably simple to make minor, and even major changes in your ISO rating by just reviewing the schedule, reviewing your last rating and adjusting your procedures to fall in line with what the ISO is recommending.

It would seem reasonable that departments would take this ISO rating very serious and that they would prepare for the ISO visit, doing everything possible to create a better rating for their community. If this were done it would be to the advantage of not only the fire department but also the communities administrators, the business owners, and the citizens of that community. If all these groups worked together to obtain a better rating it would actually save them money in the long run by reducing insurance rates in the community. As seen by the survey most communities do not take their ISO rating very seriously. They do little to prepare for it and don't even look at the review that they are given. This lack of interest does a disservice to the community as a whole. It costs the business owners and citizens money on their insurance rates. The main issue is that the fire department loses the opportunity to make their department a better and more efficient

one. If you plan right you can make many improvements to the fire department and not cost the citizens any money. If marketed right you can turn your improvements into something that the citizens will want to make happen because they will realize that they will be receiving not only better service but it will cost them less money.

Chapter 7

RECOMMENDATIONS

The information here makes it plain to see that if your community is willing to spend the time the most efficient way to effect a positive change in your ISO rating is to study the rating schedule, look over your last ISO rating, and make the procedural changes that are recommended. If these things are done you should be able to make significant changes in your ISO rating without spending huge amounts of money.

The study also shows that by gaining community support for these changes you can make major improvements in the fire, dispatch, and water departments without a long term cost to the community. By lowering the community's ISO rating there will be a decrease in the insurance rates. This rate decrease would offset the costs of the improvements. The bottom line is that the department is improved and the community receives better fire protection.

NEW DEVELOPMENTS

State Farm Property/Casualty Insurance Group, the largest property/casualty group in the world, has decided to no longer use ISO's Public Protection Classification (PPC) grading schedule. State Farm has developed their own rating system that they feel will

more accurately assess a communities loss rates. “State Farm has estimated that approximately 70 percent of all claims paid by their company were not fire related losses.”(*OnScene Magazine*) For this reason their new system looks not only at the fire losses but at all other types of losses such as natural occurrences, criminal, and liability losses. Their new system looks at the past history of a community and its total insurance losses to determine a rate code that is tied to the community’s zip code. This new system is called the Subzone Rating Factor system. With this new system, changes in a community’s status will change the local rates. For example if over a pre-determined time the communities fire losses have significantly lowered the communities local rates will lower. Also if the crime rates drop the rates will also lower. These changes can work for or against the community’s local rates.

“Currently State Farm insures almost 20 percent of all the residential properties in the United States.” (*OnScene magazine,*) If their new rating schedule creates increased profits for the company will other insurance companies look to develop a similar rating schedule of their own? If they do what will become of the ISO’s PPC? If the private insurance companies now determine what local rates will be what affect will this have on fire service in general and will fire departments across the country have to develop new strategic plans and tie them to the new local insurance rates? This question has the largest impact on the fire service in general since fire departments use the ISO’s rating in their yearly budgeting and in their strategic planning as well. These and many other questions have arisen from this new thinking from State Farm.

ISO seems to have taken this challenge to their authority seriously. They are currently working to create a better PPC program. They are working with insurance companies to test an enhanced program. This enhanced program makes it easier for insurance companies to get PPC information and local community information together.

For years fire departments have complained that ISO does not accurately show their capabilities. The complaints vary from schedules that are not accurate to rating outdated equipment and not crediting departments for having newer technology equipment. Most of these complaints surround the fact that ISO looks at specific items rather than the performance of the individual department. From these initial descriptions it seems that the State Farm system will more accurately assess the fire service and therefore create a more accurate insurance rate.

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