

City of Kirkland Fire Department

2007

Response Time Objectives Report

As required in Chapter 35A.92 RCW

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DEFINITIONS

Alarm Interval – Measured time between emergency event awareness and the alarm time.

Alarm Time – The point of receipt of the emergency event at the public safety answering point (PSAP) to the point where sufficient information is known to the dispatcher to deploy applicable units to the emergency. (Time-stamp)

Call Processing Interval – The first ring of the 911 telephones at the dispatch center and the time the CAD operator activates station and/or company alerting devices. This can, if necessary, be broken down into two additional parameters: “*call taker interval*” (the interval from the first ring of the 911 telephone until the call taker transfers the call to the dispatcher) and “*dispatcher interval*” (the interval from the time when the call taker transfers the call to the dispatcher until the dispatcher (CAD operator) activates station and/or company alerting devices). Sixty (60) seconds is an industry standard. (Measured time between alarm time and dispatch time).

Dispatch Time – Is the time when the dispatcher, having selected appropriate units for response with assistance from the CAD system, initiates the notification of response units. (Time-stamp)

Emergency Event Awareness – The point at which a human being or technologic “sentinel” (i.e., smoke detector, infrared heat detector, etc.) becomes aware that conditions exist requiring an activation of the emergency response system. This is considered the emergency event awareness.

Event Initiation Point – The point at which factors occur that may ultimately result in an activation of the emergency response system. Precipitating factors can occur seconds, minutes, hours, or even days before emergency event awareness is reached. An example is the patient who ignores chest discomfort for days until it reaches a critical point at which he/she makes the decision to seek assistance (emergency event awareness). It is rarely possible to quantify the point at which event initiation occurs.

Initial Company Time – The time at which the initial company arrives on scene.

Initial Full Alarm Assignment – Time when all of the personnel, equipment, and resources ordinarily dispatched upon alarm arrives on the scene. In 2007, a full alarm assignment was four Engine companies, one Truck company, one Aid car and one Battalion Chief or firefighting staff equaling 18.

Measured component required by HB1756 for fire suppression responses

Initial Full Alarm Assignment Interval – Measured time between initial company on scene time and Initial Full Alarm Assignment is completed.

Response Time – The combined measured time from dispatch time and includes turnout and travel intervals to initial company arrival time.

Total Response Time Objective - The City of Kirkland Fire District has historically adopted the response time from the time of the 911 call to the time the first arriving unit was on the scene. Dispatch time + turnout time + Travel Interval = Total Response time.

Travel Interval – measured time between turnout time and on scene time of initial company. ***Measured component known as “Response Time” required by HB1756*** CFAI recognizes the need to categorize each emergency response zone into relevant categories (urban, suburban, rural and wilderness) and measure appropriate travel times for each category. CFAI’s method for clarification is more precise than what HB1756 specifically requires.

Turnout Interval – Measured time between dispatch time and turnout time.

Turnout Time – When units acknowledge notification of the event to the beginning point of response time (wheels rolling). ***Measured component known as “Turnout Time” required by HB1756***

Policy Statement

The City of Kirkland Fire Department has existed within the State of Washington since 1890. The City of Kirkland incorporated in 1905. The first paid Fire Chief was hired in 1928. The first paid firefighters for the City of Kirkland were hired in 1970.

The Kirkland Fire Department is legally established as a department through RCW 35A.01.01 and RCW 35A.11.020 and Kirkland Municipal Code 3.16.037. The City of Kirkland also provides fire service to King County Fire Protection District No. 41 by contract agreement (Kirkland Municipal Code 3.24.010).

The City of Kirkland Fire Department provides service to 19.6 square miles in suburban Washington State within King County with a residential population of about 78,000 people.

Staffing

In 2007, the City of Kirkland Fire Department employed seventy-eight (78) career Firefighters, twenty-two (22) Fire Reserves, and ten (10) other staff. The total numbers by their assigned areas of responsibility are as follows:

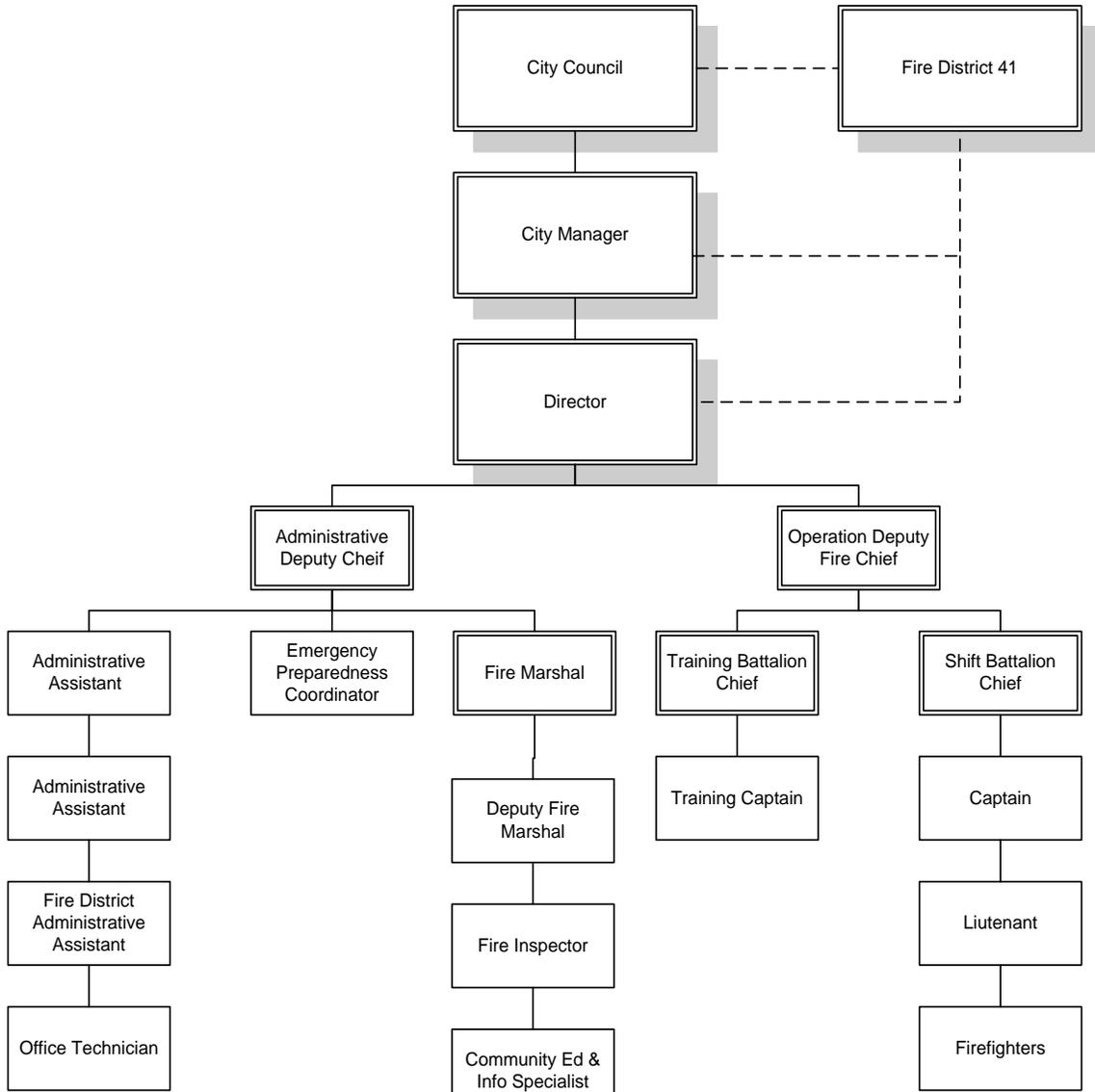
Number of employees:

◦ Chief Officers	3
◦ Career Firefighters	78
◦ Fire Reserves	22
◦ Administrative Support	3
◦ Public Education Staff	1
◦ Fire Prevention Staff	3
TOTAL STAFF	110

In 2008, the City of Kirkland Fire Department anticipates that staffing will remain the same.

Organization

The City of Kirkland Fire Department operates under a chain-of-command under the Kirkland City Council and City Manager and contracted to provide service with the Fire District No. 41 Fire Commissioners. The chain-of-command, or organizational chart, looks like this:



Functions

The functions performed by the City of Kirkland Fire Department include the following:

- a) Emergency response to fires by career fire department staff
- b) Emergency response to medical aid emergencies by career department staff and fire reserve personnel
- c) Emergency response to all motor vehicle accidents
- d) Emergency response to technical rescue incidents by career fire department staff
- e) Hazardous Materials “Operations” level emergency response and participating members of the Regional Technical level response
- f) Investigate fires within the City boundaries
- g) Mutual aid emergency responses when requested by neighboring jurisdictions
- h) Public Education
- i) Fire inspections in the local businesses within the City of Kirkland
- j) Coordination of the City of Kirkland Office of Emergency Management

Emergency Call Log

Total emergency responses in 2007 were broken down as follows:

CALL TYPES (listed according to station reporting)							
	21	22	24	25	26	27	ALL
TOTAL FIRES	44	86	1	23	45	95	300
Building Fires in area	7	2	0	3	5	6	24
Building Fires in OJ¹	1	3	0	0	5	3	15
All Vehicle Fires	1	11	0	3	5	7	27
Other Fires	35	70	1	17	30	79	234
EMS/RESCUE	849	1124	216	284	723	1756	5163
HAZARDOUS CONDITION	27	48	2	17	23	36	156
SERVICE CALL	41	41	3	22	22	59	191
Automatic Fire Alarms	114	204	2	53	98	234	797
OTHER²	66	189	10	35	130	137	648
TOTAL CALLS	1141	1692	234	434	1041	2317	7255

¹OJ includes calls where Kirkland units responded to outside Jurisdictions.

²“Other” - mostly include good intent calls & OJ calls alone

Response Standards

1) **Turnout Time**

Turnout Time Objective:

The City of Kirkland Fire Department has adopted a turnout time objective of sixty (60) seconds, ninety percent (90%) of the time.

Actual Department Comparison for the Year 2007:

The City of Kirkland Fire Department met the turnout time objective sixteen point one percent (16.1%) of the time. The fire department turnout time was *under* two (2) minutes and thirty (30) seconds ninety percent (90%) of the time (average was one (1) minute and thirty-six (36) seconds).

2) **Arrival of 1st Arriving Engine Company at Fire Suppression Incident**

Response Time Objective:

The City of Kirkland Fire Department has adopted a response time objective of four (4) minutes and forty-five (45) seconds for the first fire engine to arrive when responding to a fire suppression incident ninety percent (90%) of the time.

Total Response Time Objective:

The City of Kirkland Fire Department has historically adopted the response time from the time of the 911 call to the time the first arriving unit was on the scene. Dispatch time + turnout time + Travel Interval = Total Response time. The total time standard is five (5) minutes and thirty (30) seconds for the first fire engine to arrive when responding to a fire suppression incident ninety percent (90%) of the time.

Actual Department Comparison for the Year 2007:

Response Time Objective:

The City of Kirkland Fire Department met the response time objective forty-six percent (46 %) of the time. The fire department response time for the arrival of the first fire engine to fire suppression incidents was *under* seven (7) minutes and twenty-three (23) seconds ninety percent (90%) of the time (average was five (5) minutes and seven (7) seconds).

Total Response Time Objective:

The City of Kirkland Fire Department met the response time objective forty percent (40 %) of the time. The fire department response time for the arrival of the first fire engine to fire suppression incidents was *under* eight (8) minutes and twenty-five (25) seconds ninety percent (90%) of the time (average was six (6) minutes and thirteen (13) seconds).

3) Deployment of full first alarm assignment at a fire suppression incident.

Response Time Objective for Full First (1st) Alarm Response:

The City of Kirkland Fire District has adopted a response time objective of ten (10) minutes for the first full alarm assignment when responding to a fire suppression incident ninety percent (90%) of the time. The City of Kirkland Fire Department's first full alarm assignment to a fire suppression response is four (4) Engine companies, one (1) Truck company , one (1) Aid car, and one (1) Battalion Chief or a total of eighteen (18) firefighting personnel.

Actual Department Comparison for the Year 2007:

The City of Kirkland Fire Department deployed the first full alarm assignment to a fire suppression response and met the response time objective sixty-two percent (62%) of the time. The Fire Department's first full alarm assignment to a fire suppression call was *under* thirteen (13) minutes and nine (9) seconds ninety percent (90%) of the time (average was ten (10) minutes and fifty-one (51) seconds).

4) Arrival of First Unit at an emergency medical incident.

Response Time Objective:

The City of Kirkland Fire Department has adopted a response/travel time objective of four (4) minutes and thirty (30) seconds for the arrival of the first emergency medical unit with at least two (2) Emergency Medical Technicians ninety percent (90%) of the time.

Total Response Time Objective:

The City of Kirkland Fire Department has historically adopted the response time from the time of the 911 call to the time the first arriving unit was on the scene. Dispatch time + turnout time + Travel Interval = Total Response time. The total time objective is five (5) minutes for the first unit to arrive when responding to an emergency medical incident ninety percent (90%) of the time.

Actual Department Comparison for the Year 2007:

Response Time Objective:

The City of Kirkland Fire Department met the response time objective fifty-seven percent (57%) of the time. The Fire Department's response time for the first arriving unit responding to an emergency medical incident was *under* six (6) minutes and fifty (50) seconds ninety percent (90%) of the time (average was four (4) minutes and thirty-eight (38) seconds).

Total Response Time Objective:

The City of Kirkland Fire Department met the response time objective forty-nine percent (49 %) of the time. The fire department response time for the arrival of the first arriving unit responding to an emergency medical incident was *under* seven (7) minutes and fifty-one (51) seconds ninety percent (90%) of the time (average was five (5) minutes and twenty-nine (29) seconds).

2007 Results

Response Time Objectives as required in Chapter 35A.92 RCW

Actual 90% time and Average time vs Target

**Turnout Time
(Dispatch to enroute)**

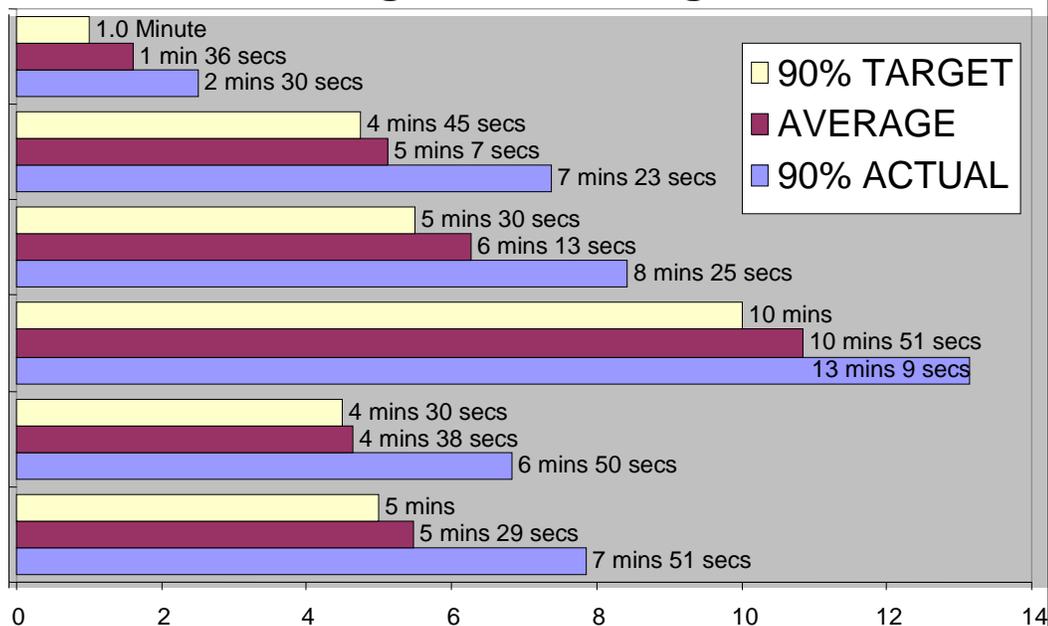
**Fires - 1st unit arrival
(From time of dispatch)**

**Fires - 1st unit arrival
(From time of 911 call)**

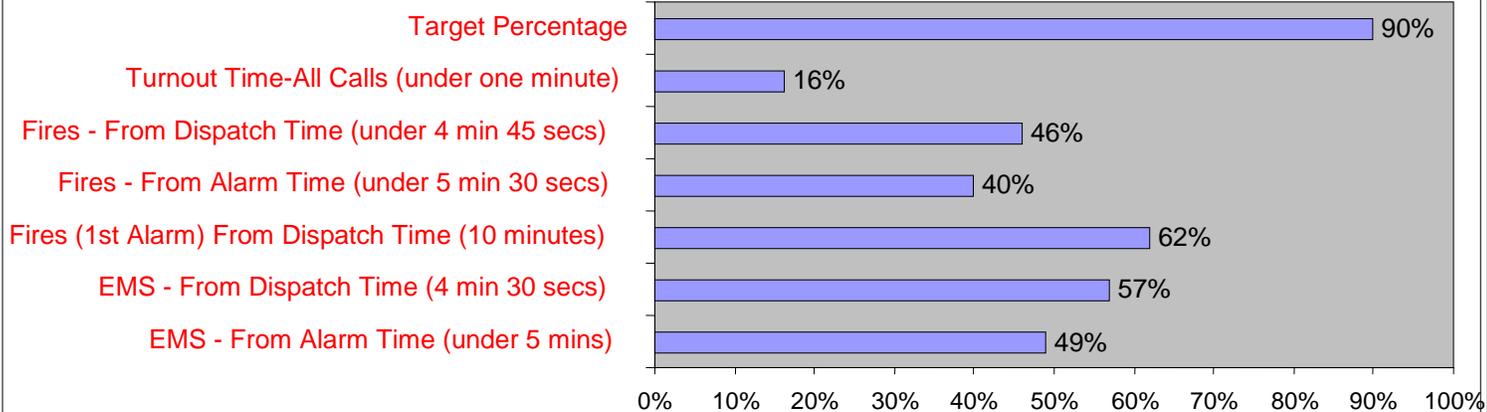
**Fires - Full Alarm at scene
(From time of dispatch)**

**EMS - 1st unit arrival
(From time of dispatch)**

**EMS - 1st unit arrival
(From time of 911 call)**



Response Times - Percentage of Calls Reaching 90% Target



Predictable Results

The predictable results, assuming all internal efficiencies have been exhausted, is that call volume, increased time that a unit is already at an emergency response in their first in area – causing a unit from another area to respond, increases in daily traffic and increases in population are just some of the causes that affect the response time standards not being meet 100% of the time.

Plan of Action

To meet the response time objectives, the Kirkland Fire Department will continue to insure that all internal efficiencies are being evaluated. Then looking at response data to determine how to best improve reliability and look at what changes may improve our ability to accomplish our response standards such as:

We have new Mobile Data Terminals (MDT) in the emergency response units that have had connectivity issues which has affected the reported turnout time, not the actual turnout, and we have been able to replace the mode of connection to help make these more reliable.

We are partners in the region to create a regional public safety communications center to help improve the dispatching side of the response and this has moved into the actual planning process.

In 2007 we were preparing to implement a new paging and alerting system to reduce the time it takes to notify firefighters of emergencies.

We have been moving forward with the Fire District No 41 Commissioners to consolidate two stations into a single facility to provide better fire response times in the Finn Hill area; this is now in the planning stage.

Copy of HB 1756

Substitute House Bill 1756 (SHB 1756) was passed into law during the 2005 legislative session. The bill was passed in the House by a vote of 96 yeas to 2 nays and in the Senate by a vote of 36 yeas and 10 nays. This law mandates certain response criteria be established and measured by certain fire departments across the State of Washington, beginning in 2007 with an analysis of responses in 2006. The requirement was passed and is now the law for all City Fire Departments, all Code City Fire Departments, all Fire Protection Districts and Regional Fire Protection Service Authorities, and all Port Districts.

PART I – CITY FIRE DEPARTMENTS

NEW SECTION. Sec. 101 The legislature intends for city fire departments to set standards for addressing the reporting and accountability of substantially career fire departments and to specify performance measures applicable to response time objectives for certain major services. The legislature acknowledges the efforts of the international city/county management association, the international association of fire chiefs, and the National Fire Protection Association for the organization and deployment of resources for fire departments. The arrival of first responders with automatic external defibrillator capability before the onset of brain death and the arrival of adequate fire suppression resources before flash-over is a critical event during the mitigation of an emergency, and is in the public's best interest. For these reasons, this chapter contains performance measures, comparable to that research, relating to the organization and deployment of fire suppression operations, emergency medical operations, and special operations by substantially career fire departments. This chapter does not, and is not intended, in any way to modify or limit the authority of cities and towns to set levels of service.

NEW SECTION. Sec. 102 The definitions in this section apply throughout this chapter unless the context clearly requires otherwise.

- (1) "Advanced life support" means functional provision of advanced airway management, including intubation, advanced cardiac monitoring, manual defibrillation, establishment and maintenance of intravenous access, and drug therapy.
- (2) "Aircraft rescue and fire fighting" means the fire fighting actions taken to rescue persons and to control or extinguish fire involving or adjacent to aircraft on the ground.
- (3) "Brain death" as defined by the American Heart Association means the irreversible death of brain cells that begins four to six minutes after cardiac arrest.
- (4) "City" means a first class city or a second class city that provides fire protection services in a specified geographic area.
- (5) "Fire department" means a city or town fire department responsible for fire fighting actions, emergency medical services, and other special

operations in a specified geographic area. The department must be a substantially career fire department, and not a substantially volunteer fire department.

- (6) “Fire suppression” means the activities involved in controlling and extinguishing fires.
- (7) “First responder” means provision of initial assessment and basic first-aid intervention, including cardiac pulmonary resuscitation and automatic external defibrillator capability.
- (8) “Flash-over” as defined by national institute of standards and technology means when all combustibles in a room burst into flame and the fire spreads rapidly.
- (9) “Marine rescue and fire fighting” means the fire fighting actions taken to prevent, control, or extinguish fire involved in or adjacent to a marine vessel and the rescue actions for occupants using normal and emergency routes for egress.
- (10) “Response time” means the time immediately following the turnout time that begins when units are en route to the emergency incident and ends when units arrive at the scene.
- (11) “Special operations” means those emergency incidents to which the fire department responds that require specific and advanced training and specialized tools and equipment.
- (12) “Town” means a town that provides fire protection services, which may include fire fighting actions, emergency medical services, and other special operations, in a specified geographic area.
- (13) “Turnout time” means the time beginning when units receive notification of the emergency to the beginning point of response time.

NEW SECTION. Sec 103 (1) Every city and town shall maintain a written statement or policy that establishes the following:

- (a) The existence of a fire department;
 - (b) Services that the fire department is required to provide;
 - (c) The basic organizational structure of the fire department;
 - (d) The expected number of fire department employees; and
 - (e) Functions that fire department employees are expected to perform.
- (2) Every city and town shall include service delivery objectives in the written statement or policy required under subsection (1) of this section. These objectives shall include specific response time objectives for the following major service components, if appropriate:
- (a) Fire suppression;
 - (b) Emergency medical services;
 - (c) Special operations;
 - (d) Aircraft rescue and fire fighting;
 - (e) Marine rescue and fire fighting; and
 - (f) Wild land fire fighting.

- (3) Every city and town, in order to measure the ability to arrive and begin mitigation operations before the critical events of brain death or flash-over, shall establish time objectives for the following measurements:
 - (a) Turnout time;
 - (b) Response time for the arrival of the first arriving engine company at a fire suppression incident and response time for the deployment of a full first alarm assignment at a fire suppression incident;
 - (c) Response time for the arrival of a unit with first responder or higher level capability at an emergency medical incident; and
 - (d) Response time for the arrival of an advanced life support unit at an emergency medical incident, where this service is provided by the fire department.
- (4) Every city and town shall also establish a performance objective of not less than ninety percent for the achievement of each response time objective established under subsection (3) of this section.

NEW SECTION. Sec. 201 (1) Every city and town shall evaluate its level of service and deployment delivery and response time objectives on an annual basis. The evaluations shall be based on data relating to level of service, deployment, and the achievement of each response time objective in each geographic area within the jurisdiction of the city or town.

- (2) Beginning in 2007, every city and town shall issue an annual report which shall be based on the annual evaluations required by subsection (1) of this section.
 - (a) The annual report shall define the geographic areas and circumstances in which the requirements of this standard are not being met.

The annual report shall explain the predictable consequences of any deficiencies and address the steps that are necessary to achieve compliance.