



## **Economic Impact Analysis Virginia Department of Planning and Budget**

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**16 VAC 25-95, 16 VAC 25-177 – Medical Standards and First Aid Standards for General Industry, Medical Standards and First Aid Standards for Construction Industry**  
**Virginia Department of Labor and Industry**  
August 14, 2007

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### **Summary of the Proposed Amendments to Regulation**

The Virginia Department of Labor and Industry (Department) proposes to amend the medical services and first aid regulations for general industry and for the construction industry such that in high hazard industries and on worksites containing job classifications or workplace hazards that could potentially expose employees to serious physical harm or death, employers must designate and train at least one employee during all work shifts to render immediate first aid and cardio pulmonary resuscitation (CPR). The person or persons would have to have a valid, current certificate in first aid and CPR training from the U.S. Bureau of Mines, the American Red Cross, or equivalent training that can be verified by documentary evidence. Alternatively, an employer would be allowed to make written arrangements with and reasonably rely on another contractor or employer on the same job site to provide the first aid/CPR-trained employees. The proposed amendment would not apply to worksites containing job classifications or workplace hazards that do not expose employees to serious physical harm or death (e.g., office settings).

### **Result of Analysis**

There is insufficient data to accurately compare the magnitude of the benefits versus the costs. Detailed analysis of the benefits and costs can be found in the next section.

### **Estimated Economic Impact**

Under the current regulation, employers in general industry must only train a person or persons to render first aid if there is no infirmary, clinic, or hospital which is used for the treatment of all injured employees in *near proximity* to the workplace. The following industries

that fall under the general industry category have more stringent rules: (1) logging, (2) electric power generation, transmission, and distribution, (3) telecommunications, (4) temporary labor camps, (5) commercial diver operations, and (6) welding, cutting, and brazing. In the first five categories, regulations require employers to train at least one person—if not all employees—in first aid and CPR. The welding, cutting, and brazing requirements state that “All injuries shall be reported as soon as possible for medical attention. First aid shall be rendered until medical attention can be provided.” For the remainder of this document, it will be assumed that the current regulation implies that employers in welding, cutting, and brazing are required to ensure that a first aid-trained employee be on the worksite at all time either by training employees herself or by contracting with another employer onsite.

Under the current regulation, the requirements for first aid treatment in the construction industry differ only slightly from those in general industry. In the construction industry, employers must only train a person or persons to render first aid if there is no infirmary, clinic, hospital, or physician, which is available for the treatment of injured employees that is *reasonably accessible in terms of time and distance* to the worksite. In addition to specific requirements for first aid supplies, the regulation for the construction industry also specifies that the person trained to render first aid must have a valid certificate in first-aid training from the U.S. Bureau of Mines, the American Red Cross, or equivalent training that can be verified by documentary evidence; provisions shall be made prior to commencement of the project for prompt medical attention in case of serious injury; proper equipment for prompt transportation of the injured person to a physician or hospital, or a communication system for contacting necessary ambulance service shall be provided; and in areas where 911 is not available, the telephone numbers of the physicians, hospitals, or ambulances shall be conspicuously posted. The categories in the construction industry with more stringent first aid requirements are: (1) electric power generation, transmission, and distribution, for which the Department requires the training of employees in first aid and CPR, and (2) underground construction, caissons, cofferdams, and compressed air, which must have a first aid station and ambulance at each project.

In sum, under the current regulations, most firms or organizations in general and construction industry are required to have a first-aid-trained employee on site only if medical attention in the form of infirmaries, clinics, or hospitals is not in *near proximity* or *reasonably*

*accessible*. These regulations are identical to those required by the U.S. Department of Labor Occupational Safety and Health Administration (OSHA). OSHA interprets *near proximity* and *reasonably accessible* to mean that emergency medical services must be available within 3-4 minutes in workplaces where “serious accidents such as those involving falls, suffocation, electrocution, or amputation are possible” and up to 15 minutes in workplaces, such as offices, where the possibility of such serious work-related injuries is more remote.<sup>1</sup>

The proposed amendments aim to make the first-aid requirements for high-hazard general and construction industry employers more stringent than those required by the federal government. Under the proposed amendments, employers will be required to designate and train at least one employee during all work shifts to render immediate first aid *and* cardio pulmonary resuscitation (CPR). The person or persons would have to have a valid, current certificate in first aid and CPR training from the U.S. Bureau of Mines, the American Red Cross, or equivalent training that can be verified by documentary evidence. Alternatively, an employer would be allowed to make written arrangements with and reasonably rely on another contractor or employer on the same job site to provide the first aid/CPR-trained employees. As under the current regulation, if an employer does not comply with the regulation, the Department will issue a citation and may assess a penalty and the employer must change his practices to comply with the regulation. The penalty will depend upon the nature and circumstances of the violation.

With the exception of welding, cutting, and brazing, the categories of general and construction industry discussed above that already require first aid and CPR training of employees will not be affected by the proposed amendment, since their first aid requirements are already more stringent. (Employers whose work sites engage in welding, cutting, and brazing will be required to train an employee in CPR and first aid; under current regulations they are required only to train an employee in first aid.) In addition, the proposed amendment for general and construction industry “does not apply to worksites containing job classifications or workplace hazards that do not expose employees to serious physical harm or death (e.g., office settings)”. In other words, the proposed amendments will affect in the same way all firms/organizations (construction and general industry) with job classifications or workplace hazards that could potentially expose employees to serious physical harm or death. Therefore,

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<sup>1</sup> Source: U.S. Department of Labor, Occupational Health and Safety Administration interpretations

the remainder of this document will look at the costs and benefits of changing the requirements for the general and construction industries simultaneously.

As mentioned above, the proposed amendments do also change the requirements for low-hazard worksites. Under current regulations, these worksites are required to have medical services available within 15 minutes or have a first aid-trained person on site at all times. Under the proposed amendments, employers at these worksites will no longer have any requirements with regards to the immediate provision of first aid or CPR. Finally, the proposed amendments explicitly state the requirements for employers of mobile work crews and individual mobile employees that are not explicitly stated in the current regulation.

The proposed amendments will affect all employers in Virginia. The Department estimates that of the 215,201 employers in Virginia, this amendment will make the first aid/CPR requirements more stringent for around 150,000 employers since the Department estimates that around 17,000 establishments are already in compliance with the proposed regulations (or have more stringent current regulations), around 59,000 establishments do not have job classifications or work site hazards that could result in serious physical harm or death, and around 300 establishments do not fall within Department jurisdiction. It is important to note, however, that these numbers are estimates. Within a particular industry that is normally considered to be low hazard, there may be some specific work sites or portions of the establishments that have job classifications or workplace hazards that would fall under the more stringent requirements of the proposed regulation. For example, a large department store that has service personnel who deal directly with customers who would not be exposed to serious or life-threatening hazards may also have warehouse personnel who operate forklifts and are therefore exposed to such hazards. As another example, a supermarket may have retail clerks who are not exposed to serious hazards, but may also have personnel using potentially dangerous equipment, such as a meat slicing machine. Therefore, although some businesses in the areas of Retail or Wholesale Trade may only have office workers, the section could not be considered exempt from the proposed regulation.

It is also unclear how the proposed amendments will change the work practices of those 150,000 employers with job classifications or work site hazards that could result in serious

physical harm or death. First, the current regulation requires employers to have a first aid-trained employee on site at all times if they cannot meet the “near proximity” or “reasonable access” requirements. The only change that this amendment will impose on the employers who comply with current regulation by having a first aid-trained person on site is to require that the person be trained in CPR as well. Since it is unknown how many employers currently have a first aid-trained person on site, and how many of those employees are also trained in CPR, the statewide cost of the proposed amendment on employers is not clear. Second, the cost to employers depends upon the number of employees that they will need to train and employee turnover rates. For example, a small butcher shop with low staff turnover that uses a meat-slicing machine might need to train at most one employee every year. On the other hand, a small contractor might have to train 2-3 employees per month if she has a total of 20 employees at any given time who work at varying job sites, but also has a high turnover in employees. Of course, employers who send employees onto job sites can provide first aid and CPR through a contract with another organization at the job site, but that contract process could be costly or infeasible, depending upon circumstances.

The table below gives an example of the time and monetary cost of first aid and CPR training provided by Virginia chapters of the American Red Cross.

<b>Course</b>	<b>Cost</b>	<b>Certification</b>
<i>Greater Richmond Chapter</i>		
Adult CPR	5 hours, \$55	One-year Adult CPR certification
Adult CPR review	4 hours, \$45	Renewal of one-year certification in Adult CPR
Adult CPR/first aid	8 hours, \$65	One year Adult CPR certification, three year first aid certification
<i>Central Virginia Chapter</i>		
Adult CPR	4 hours, \$41	One year Adult CPR certification
Adult CPR review	4 hours, \$31	Renewal of one-year certification in Adult CPR
First aid	4 hours, \$38	Three year first aid certification
Adult CPR/first aid	8.5 hours, \$62	One year Adult CPR certification, three year first aid certification
<i>Hampton Roads Chapter</i>		
Adult CPR	4 hours, \$35	One year Adult CPR certification
First aid	3-4 hours, \$35	Three year first aid certification

Adult CPR/first aid	7-8 hours, \$45	One year Adult CPR certification, three year first aid certification
<i>Alexandria Chapter</i>		
Adult CPR	4½-5 hours, \$45	One year Adult CPR certification
First aid	4½ hours, \$40	Three year first aid certification
Adult CPR/first aid	7½ hours, \$60	One year Adult CPR certification, three year first aid certification
<i>Mountain Empire Chapter, Bristol</i>		
Adult CPR	\$29, 4 hours	One year Adult CPR certification
Adult CPR/first aid	\$37, 7-8 hours	One year Adult CPR certification, three year first aid certification

Source: American Red Cross, <http://www.redcross.org/where/chapts.asp#VA>

Say, then, that a butcher shop in central Virginia needs to have two trained employees in order to have someone on staff at all times who is first aid/CPR-trained. Assume that one trained person is the owner, who will be trained the first year, but needs only the refresher courses the following years. The owner also has to train a new employee every year. The first year of courses will cost the shop  $\$62 + \$62 = \$124$  for the course and  $\$246.50$  for the time, since 17 hours will have to be reallocated from normal activities to training and butchers make, on average,  $\$14.50/\text{hour}^2$  in Virginia. This makes for a total cost of around  $\$370.50$  for the first year. The second and third years will cost the shop around  $\$274.25^3$  since the owner will only need a renewal in the CPR training. (The cost of the fourth year, however, will be the same as the first year since there is no renewal course in first aid training.) Therefore, the proposed amendment will cost the butcher, on average,  $\$306.33$  annually<sup>4</sup>. The construction firm, on the other hand, that needs to train two employees per month, however, will spend a total of  $\$124$  for classes and  $\$295.80$  for the lost 17 hours of work<sup>5</sup> per month, for a total of  $\$5037.60$  annually<sup>6</sup>. These figures do not include, of course, the lost work time should something unplanned happen to the first aid/CPR-trained employee, making it impossible for that worker to be on site (such as illness, death in the family, etc.) and, therefore, against regulations for the other workers to continue to work until a trained replacement can be found or the employee can return to work.

<sup>2</sup> Source: Bureau of Labor Statistics, [http://www.bls.gov/oes/current/oes\\_va.htm](http://www.bls.gov/oes/current/oes_va.htm)

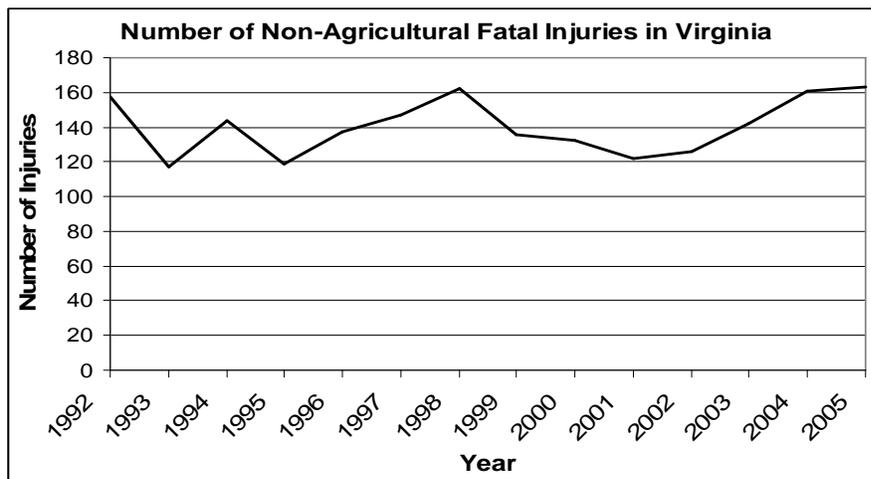
<sup>3</sup>  $\$62 + \$31 + \$14.50 * 12.5$

<sup>4</sup>  $(\$274.25 + \$274.25 + \$370.50) / 3$

<sup>5</sup>  $17 * \$17.40/\text{hour}$  earned by construction employees. Source: Bureau of Labor statistics, [http://www.bls.gov/oes/current/oes\\_va.htm#b47-0000](http://www.bls.gov/oes/current/oes_va.htm#b47-0000)

Ideally, we would then take some weighted average of \$306.33 and \$5037.60 and multiply it by the total number of affected firms to get a total cost of the proposed amendment. However, some firms—particularly small construction firms that regularly move employees from site to site—might choose to satisfy the requirements by contracting with another firm to provide the first aid. Those contractual costs could be small if the firm has an existing contract with the other firm on site, or they could be large if the firm needs to hire a lawyer to draw up a contract “sharing” the first-aid/CPR-trained employee. The lack of information on how many firms are currently in compliance with the proposed regulation and how firms would choose to satisfy the proposed regulation makes it difficult to estimate a total cost of the proposed amendments to Virginia firms.

The benefits of the proposed amendments for citizens and organizations are equally difficult to quantify. In 2005, there were 163 fatal injuries (including 22 due to assaults and violent acts)<sup>7</sup> and approximately 126 non-fatal injuries<sup>8</sup> in non-agricultural industry in Virginia.<sup>9</sup> Below is a graph of the fatal injuries in Virginia from 1992 through 2005. As the graph illustrates, although the number of fatal injuries in 2005 is high, the numbers do not necessarily indicate an increasing trend in the data. The number of non-fatal injuries does not show an increasing trend either.



Source: Department of Labor and Industry, [http://www.doli.virginia.gov/whatwedo/coop\\_prog/research\\_p1.html](http://www.doli.virginia.gov/whatwedo/coop_prog/research_p1.html)

<sup>6</sup> 12\*(124+295.80)

<sup>7</sup> Source: Department of Labor and Industry, [http://www.doli.virginia.gov/whatwedo/coop\\_prog/pdf/tables/cfoi2005/Table4.pdf](http://www.doli.virginia.gov/whatwedo/coop_prog/pdf/tables/cfoi2005/Table4.pdf)

<sup>8</sup> Source: Bureau of Labor Statistics, <http://www.bls.gov/iif/oshwc/osh/os/pr057va.pdf>

<sup>9</sup> Because agriculture is not included in either general or construction industry, agricultural employers and employees are not affected by the proposed amendment.

It is difficult to estimate the number of fatalities that would have been avoided had first aid been available on site. There have been two deaths in the past five years where Virginia Occupational Safety and Health Compliance Program (VOSH) inspectors recommended issuing a fatality-related violation for lack of first aid training. Based on this information, the Department estimates that these proposed amendments would save about 1-2 lives every five years.

The Department cites OSHA's 2006 adoption of its Hexavalent Chromium Standard to apply a value of \$6.8 million to each premature fatality avoided<sup>10</sup>. If 1-2 lives are saved every five years, this amendment will result in an annual savings of approximately \$1.36-\$2.72 million. According to the OSHA document, this \$6.8 million figure came from EPA, which used studies on individuals' willingness-to-pay (WTP) to reduce the risk of premature death. These contingent valuation studies normally present respondents with hypothetical fatality risk situations and ask how much they would pay for a particular risk reduction. There are other ways to estimate the value of a statistical life (VSL) and over the past few decades, researchers have developed numerous methodologies for determining the VSL. For a discussion of these analyses, see Viscusi (2006) or Viscusi and Aldy (2003). For the purposes of this analysis, however, we will simply note that \$6.8 million is an average figure in the range of determined VSL values, almost all of which fall between \$1 million to \$20 million.

According to one study, most severely injured patients who die in the first few hours after injury succumb to airway compromise, respiratory failure, or uncontrolled hemorrhage, all of which can be treated using basic first aid measures.<sup>11</sup> (Injuries that could cause these problems are crushing injuries, injuries caused by falls from heights such as in construction, injuries caused by machinery in manufacturing, and electric shock.) Of course, under the current regulation, patients will be treated within minutes, but the Department is concerned with the number of minutes it takes to receive treatment. In justifying its 3-4 minute response time interpretation of reasonable accessibility of medical care, OSHA writes that:

Medical literature establishes that, for serious injuries such as those involving stopped breathing, cardiac arrest, or uncontrolled bleeding, first aid treatment must be provided within the first few minutes to avoid permanent medical impairment or death. Accordingly, in workplaces where

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<sup>10</sup> Source: U.S. Department of Labor, Occupational Safety and Health Administration, *Occupational Exposure to Hexavalent Chromium*, Federal Register 71:10099-10385, February 2006.

<sup>11</sup> Source: World Health Organization, <http://www.who.int/bulletin/volumes/84/7/editorial20706html/en/>

serious accidents such as those involving falls, suffocation, electrocution, or amputation are possible, emergency medical services must be available within 3-4 minutes, if there is no employee on the site who is trained to render first aid.

In fact, it seems to be widely accepted that medical attention within a few minutes of a serious injury can significantly improve the individual's probability of avoiding death or long-term health consequences such as amputation or permanent damage.

There are also studies that indicate that having a first aid person readily available reduces the risk of serious injury or death. According to the Canadian Red Cross and SMARTRISK, a non-profit organization dedicated to preventing injuries and saving lives, getting trained in first aid can reduce your risk of injury by more than 40 percent.<sup>12</sup> Research conducted by St. John Ambulance found that the number of work-related injuries is reduced by between 20 and 30 percent when workers are trained in first aid.<sup>13</sup> According to the International Labor Organization Encyclopedia of Occupational Health and Safety, defibrillation administered within four minutes of cardiac arrest yields survival rates of 40 to 50%, versus less than 5% if given later. For chemical eye injuries, immediate flushing with water can save eyesight. For spinal cord injuries, correct immobilization can make the difference between full recovery and paralysis. For hemorrhages, the simple application of a fingertip to a bleeding vessel can stop life-threatening blood loss.<sup>14</sup>

The Department argues that most employers are not providing medical care as quickly as they should. The Department of Emergency Medical Services (EMS) statistics indicate that many employers in Virginia are not providing care within four minutes of injury. In 2004, 2005, and 2006 the average EMS response time for all calls was 8.89 minutes, 8.94 minutes, and 8.96 minutes, respectively. The table below provides response time for industrial sites:

<b>Statewide Industrial Site* Response time (“Arrived at Scene” minus “Dispatched”)<sup>15</sup></b>			
	<b>2004</b>	<b>2005</b>	<b>2006</b>
<b>1-3 minutes</b>	19.2%	19.3%	20.9%

<sup>12</sup> Source: SMARTRISK, <http://www.smartrisk.ca/ContentDirector.aspx?tp=1547>

<sup>13</sup> Source: Northern News Service, [http://www.nnsl.com//frames/newspapers/1998-05/may18\\_98safe5.html](http://www.nnsl.com//frames/newspapers/1998-05/may18_98safe5.html)

<sup>14</sup> Source: International Labor Organization

<http://www.ilo.org/encyclopaedia/?d&nd=857400218&prevDoc=857400218&spack=000listid%3D01000000400%26listpos%3D0%26lsz%3D1%26nd%3D857000071%26nh%3D2%26>

<sup>15</sup> Source: Department of Labor and Industry, Agency Background Document

<b>4-15 minutes</b>	75.1%	73.9%	72.2%
<b>15-100 minutes</b>	5.7%	6.8%	6.9%
<b>Average time in minutes</b>	7.10	7.58	7.34

\* "Industrial sites" includes "building under construction, dockyard, dry dock, factory building or premises, garage (place of work), industrial yard, loading platform in factory or store, industrial plant, railway yard, shop (place of work), warehouse and workhouse)

It is important to note that we do not know how many of these worksites were high-hazard (although according to the Department, most industrial sites are high-hazard) and we do not know how many of these worksites had a first-aid person on staff. In other words, although these numbers give an indication of unacceptably high response times, we do not know for sure that these job sites are out of compliance with the current regulation.

The Department argues, however, that this is not just a compliance issue. They feel that satisfying the 3-4 minute rule from injury to medical *care* is a near-impossible task for employers, no matter how close the site is to the hospital. Many employers, it argues, believe that they are in compliance with the regulation but in reality, even without the concerns of road congestion or unusually high numbers of accidents in the area, it takes longer to actually get to medical care than employers estimate. Emergency rooms are often crowded and communication with hospital or clinic staff takes additional time.

If it is true that lives will be saved, or that a potentially serious injury could be prevented by passing these amendments, then the amendment does provide significant benefits. These benefits include, but are not limited to, the lives that will be saved. Employers will not only save an experienced worker by reducing the chance of death or serious injury, they will also save financially by reducing their workers' compensation premiums, reducing workers' compensation payments, and reducing short-term disability payments. In addition, it is easy to imagine a loss in productivity due to reduced morale in workers with the death or serious injury of one of their colleagues. If workers lose enough confidence in the speed of medical attention, they might even leave the job, which will require an employer to train a new person for the job. Given that those with job alternatives are often the more skilled or experienced workers, this loss could add a significant cost to an employer.

Another benefit of the proposed amendments is a reduction in enforcement time. To evaluate if a worksite is in compliance, an enforcement officer has to evaluate the time it would

take response teams to get to the worksite, which could include driving to the hospital or clinic, perhaps more than once if road congestion or emergency facility staffing at a particular time of day is a concern. The Department estimates that this will save at least 200 man-hours annually, since there are on average 400 first aid violations cited per year and it takes around 30 minutes to verify that there was no rescue squad or other medical attention within 3-4 minute response time. These 200 man-hours do not, of course, include the time it took to verify when the inspector was able to determine that there was medical attention available within 3-4 minutes. Since construction inspectors make approximately \$20.00 per hour<sup>16</sup>, this offers a total benefit to taxpayers of \$4000 annually.

In addition, the ambiguity of the three-to-four minute requirement reduces employers' likelihood of compliance and gives employers the opportunity to argue with inspectors about their compliance. The proposed amendments would make compliance easier to evaluate and easier to enforce. By reducing the time it takes an enforcement officer to evaluate compliance, the proposed amendments will allow officers to evaluate more sites. If officers can evaluate more sites, compliance will improve not only because more non-compliant employers can be caught, but also because it will increase the concern among employers of being evaluated. In addition, the Department argues that employers are more likely to comply when the regulation is unambiguous.

Finally, the proposed amendments change the requirements for worksites containing job classifications or workplace hazards that do not expose employees to serious physical harm or death, such as office settings. One benefit of this amendment is that employers in office settings can save money by not having to be within fifteen minutes of a hospital or have a first aid person on staff. Under the proposed amendment, those employers with low-hazard worksites that are not currently within fifteen minutes of a hospital or clinic will save the costs of training the requisite number of employees in first aid/CPR, which would be somewhere around the \$306.33 or \$5037.60 estimated earlier in this document (page 6). (As previously noted, the lack of data on current compliance rates makes it impossible to quantify total savings.) Another benefit is that enforcement officers no longer need to ensure compliance in non-hazardous work settings, which

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<sup>16</sup> This is an average of the Bureau of Labor Statistics wage for Construction and Building Inspectors ([http://www.bls.gov/oes/current/oes\\_va.htm](http://www.bls.gov/oes/current/oes_va.htm)) and the wage advertised on the Department of Labor and Industry site for the Safety/Health Compliance Officer ([http://www.doli.virginia.gov/whoweare/employment/doli\\_jobs.html](http://www.doli.virginia.gov/whoweare/employment/doli_jobs.html))

will save further enforcement time. The cost is that workers in those settings might not have immediate access to necessary health care; however, because fifteen minutes is not likely to mitigate the effects of a serious injury, and these workers are not exposed to workplace hazards and not likely to need medical care often, these costs are also not likely to be significant.

## **Businesses and Entities Affected**

According to the Virginia Employment Commission (VEC) fourth quarter data, there were 215,201 employers in Virginia.<sup>17</sup> All of these employers would be potentially affected by the proposed amendments. The Department estimates that for about 65,000 of these employers, the regulation would become less stringent under the proposed amendments, but for about 150,000 of these employers, the regulation would become more stringent.

## **Localities Particularly Affected**

All Virginia localities may have individuals or organizations that would be affected by these amendments.

## **Projected Impact on Employment**

These amendments could reduce employment if employers choose not to hire because of the cost of ensuring that a first-aid-trained person is on staff at all times. This is particularly relevant if an employer hires and sends out mobile work groups. In this case, the cost of training someone in first aid could be too much to merit hiring the other people who would be sent out on the job with the first-aid-trained employee.

## **Effects on the Use and Value of Private Property**

If the cost of training the requisite number of employees in first aid and CPR is onerous to a small business owner, then these amendments could reduce the value of his/her business. In addition, if employers pass the cost onto their consumers (such as the owner of a construction company passing the cost onto homebuyers), then these amendments could moderately increase the cost of some products and services.

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<sup>17</sup> Source: Virginia Community Profile, Virginia Employment Commission (VEC), 2007.  
<http://velma.virtuallmi.com/admin/gsipub/htmlarea/uploads/pdf/communityprofiles/5101000000.pdf>

## **Small Businesses: Costs and Other Effects**

According to the Virginia Employment Commission (VEC) 2006 fourth quarter data, 214,568 of the 215,201 employers in Virginia have less than 500 employees, so 99.7% of Virginia employers qualify as small businesses.<sup>18</sup> This means that approximately 150,000 small businesses will be affected by the proposed amendments. The cost to small businesses will be the same costs as listed above: the course fee and the opportunity (time) cost of training as many employees in first aid and/or CPR as necessary to ensure that one trained employee is on site at all times, or the cost of developing a contract with a different on-site employer.

On the other hand, the costs above will only apply to small business owners who do not currently have a first aid/CPR-trained person on site and part of those costs could be offset by the money saved from not having to pay workers' compensation or short-term disability if the effects of an accident can be mitigated by faster care. In addition, costs will be reduced if an experienced worker who might have died is saved by faster care and can return to work. For those small businesses with only low-hazard job sites, such as sites devoted solely to office work, costs will be reduced by not having to be concerned with first aid or CPR care at all. (This cost decrease will affect only those sites that are more than 15 minutes away from a hospital, clinic, or infirmary.)

## **Small Businesses: Alternative Method that Minimizes Adverse Impact**

If the only way to ensure workers' access to immediate health care in the case of emergency is to mandate that a first aid/CPR-trained person be on site, then there is no alternative method that minimizes adverse impact.

If a 3-4 minute response time is sufficient, however, and if it is possible to get care from a medical facility within 3-4 minutes, then the problem is not the current regulation, but the fact that employers are not meeting the 3-4 minute requirement of the regulation. One alternative would be to ensure that all employers of workers on high-hazard worksites know that they must be able to provide *treatment* within four minutes no matter the area of the state or the time of day, and that if they cannot meet that standard, they must have a first aid/CPR-trained person on site or suffer the consequences of non-compliance. Currently, employers have a choice. If they

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<sup>18</sup> Source: Virginia Community Profile, Virginia Employment Commission (VEC), 2007.  
<http://velma.virtuallmi.com/admin/gsipub/htmlarea/uploads/pdf/communityprofiles/5101000000.pdf>

are not within the prescribed time/distance from medical care, then they must have a first aid-trained person on site anyway. If no one is currently within the prescribed time/distance from medical care, and work sites are in compliance, then the only effect of the amendment is to require CPR-training in addition to first-aid training. If, however, there is even one small business that actually is within 3-4 minutes of medical care, and 3-4 minutes is what workers need to be safe, then this amendment imposes a cost to business overall with no benefit except for the additional CPR requirement. In this case, an alternative to the proposed amendment would be simply to add the CPR training requirement to the first aid training requirement if the worksite is not within 3-4 minutes of medical attention. The Department could also put language into the regulation that strongly encourages firms to have a first aid person on site, given the difficulties in providing care within four minutes discussed above.

This alternative will probably increase, not decrease, enforcement time, but it could provide a less costly option to the proposed amendments.

## **Real Estate Development Costs**

The proposed amendments will directly increase costs for those real estate developers who are employers and who were using the *near proximity* or *reasonable access* clause in order to comply with current regulations. The cost to real estate developers will be the same costs as listed above: the course fees and the opportunity (time) cost of training as many employees in first aid and/or CPR as necessary to ensure that one trained employee is on site at all times, or the cost of developing a contract with a different on-site employer.

Those costs could be partially offset by the money saved from not having to pay workers' compensation or short-term disability if the effects of an accident can be mitigated by faster care. In addition, costs will be reduced if an experienced worker who might have died is saved by faster care and can return to work. If real estate developers have low-hazard job sites, such as sites devoted solely to office work, then their costs on those sites will be reduced by not having to be concerned with first aid or CPR care at all. (This cost decrease will affect only those sites that are more than 15 minutes away from a hospital, clinic, or infirmary.) Therefore, the cost of the proposed amendments to real estate development is ambiguous.

## References

- International Labor Organization, Encyclopedia,  
<http://www.ilo.org/encyclopaedia/?d&nd=857400218&prevDoc=857400218&spack=000listid%3D010000000400%26listpos%3D0%26lsz%3D1%26nd%3D857000071%26nh%3D2%26>  
[6](#)
- Northern News Service, "Learning to Stay Safe: First Aid courses give workers essential information," May 1998. [http://www.nnsl.com//frames/newspapers/1998-05/may18\\_98safe5.html](http://www.nnsl.com//frames/newspapers/1998-05/may18_98safe5.html)
- Sasser, Scott M. *et al*, "Preventing death and disability through the timely provision of prehospital trauma care," World Health Organization Bulletin. July 2006. 84(7): 507.
- SMARTRISK, "First Aid Training Reduces Risk of Injury," September 2004,  
<http://www.smartrisk.ca/ContentDirector.aspx?tp=1547>
- Viscusi, W. Kip, "Monetizing the Benefits of Risk and Environmental Regulation," April 2006. AEI-Brookings Joint Center for Regulatory Studies Working Paper 06-09.  
[http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=979335](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=979335)
- Viscusi, W. Kip and Joseph Aldy, "The Value of a Statistical Life: A Critical Review of Market Estimates Throughout the World," The Journal of Risk and Uncertainty, 2003. 27(1): 5-76.

## Legal Mandate

The Department of Planning and Budget (DPB) has analyzed the economic impact of this proposed regulation in accordance with Section 2.2-4007.H of the Administrative Process Act and Executive Order Number 36 (06). Section 2.2-4007.H requires that such economic impact analyses include, but need not be limited to, the projected number of businesses or other entities to whom the regulation would apply, the identity of any localities and types of businesses or other entities particularly affected, the projected number of persons and employment positions to be affected, the projected costs to affected businesses or entities to implement or comply with the regulation, and the impact on the use and value of private property. Further, if the proposed regulation has adverse effect on small businesses, Section 2.2-4007.H requires that such economic impact analyses include (i) an identification and estimate of the number of small businesses subject to the regulation; (ii) the projected reporting, recordkeeping, and other administrative costs required for small businesses to comply with the regulation, including the type of professional skills necessary for preparing required reports and other documents; (iii) a statement of the probable effect of the regulation on affected small businesses; and (iv) a

description of any less intrusive or less costly alternative methods of achieving the purpose of the regulation. The analysis presented above represents DPB's best estimate of these economic impacts.