A BILL

To amend sections 121.083 and 121.084 and to enact sections 4145.01, 4145.02, 4145.03, 4145.04, 4145.05, 4145.06, 4145.07, 4145.08, 4145.09, 4145.10, 4145.11, and 4145.12 of the Revised Code to enact the High Hazard Training Certification (HHTC) Act regarding construction services performed under a contract at a stationary source.

BE IT ENACTED BY THE GENERAL ASSEMBLY OF THE STATE OF OHIO:

Section 1. That sections 121.083 and 121.084 be amended and sections 4145.01, 4145.02, 4145.03, 4145.04, 4145.05, 4145.06, 4145.07, 4145.08, 4145.09, 4145.10, 4145.11, and 4145.12 of the Revised Code be enacted to read as follows:

Sec. 121.083. (A) The superintendent of industrial compliance in the department of commerce shall do all of the following:

(1) Administer and enforce the general laws of this state
pertaining to buildings, pressure piping, boilers, bedding, 17  
upholstered furniture, and stuffed toys, steam engineering, 18  
elevators, plumbing, licensed occupations regulated by the 19  
dePARTMENT, and travel agents, as they apply to plans review, 20  
insPEction, code enforcement, testing, licensing, registration, 21  
and certification. 22  

(2) Exercise the powers and perform the duties delegated 23  
to the superintendent by the director of commerce under Chapters 24  
4109., 4111., and 4115., and 4145. of the Revised Code. 25  

(3) Collect and collate statistics as are necessary. 26  

(4) Examine and license persons who desire to act as steam 27  
gineers, to operate steam boilers, and to act as inspectors of 28  
steam boilers, provide for the scope, conduct, and time of such 29  
examinations, provide for, regulate, and enforce the renewal and 30  
revocation of such licenses, inspect and examine steam boilers 31  
and make, publish, and enforce rules and orders for the 32  
construction, installation, inspection, and operation of steam 33  
boilers, and do, require, and enforce all things necessary to 34  
make such examination, inspection, and requirement efficient. 35  

(5) Rent and furnish offices as needed in cities in this 36  
state for the conduct of its affairs. 37  

(6) Oversee a chief of construction and compliance, a 38  
chief of operations and maintenance, a chief of licensing and 39  
certification, a chief of worker protection, and other designees 40  
appointed by the director to perform the duties described in 41  
this section. 42  

(7) Enforce the rules the board of building standards 43  
adopts pursuant to division (A)(2) of section 4104.43 of the 44  
Revised Code under the circumstances described in division (D) 45
of that section.

(8) Accept submissions, establish a fee for submissions, and review submissions of certified welding and brazing procedure specifications, procedure qualification records, and performance qualification records for building services piping as required by section 4104.44 of the Revised Code.

(B) The superintendent may enter into a contract with a municipal corporation, township, or county building department certified by the board of building standards pursuant to division (E) of section 3781.10 of the Revised Code, or a municipal or county health district, to do any of the following on behalf of the building department or health district:

(1) Exercise enforcement authority pursuant to section 3781.03 of the Revised Code;

(2) Accept and approve plans and specifications, and make inspections, pursuant to section 3791.04 of the Revised Code;

(3) Enforce the rules adopted pursuant to division (A)(2) of section 4104.43 of the Revised Code.

Sec. 121.084. (A) All moneys collected under sections 3783.05, 3791.07, 4104.07, 4104.18, 4104.44, 4105.17, 4105.20, 4145.09, 4169.03, and 5104.051 of the Revised Code, and any other moneys collected by the division of industrial compliance shall be paid into the state treasury to the credit of the industrial compliance operating fund, which is hereby created. The department of commerce shall use the moneys in the fund for paying the operating expenses of the division and the administrative assessment described in division (B) of this section.

(B) The director of commerce, with the approval of the
director of budget and management, shall prescribe procedures
for assessing the industrial compliance operating fund a
proportionate share of the administrative costs of the
department of commerce. The assessment shall be made in
accordance with those procedures and be paid from the industrial
compliance operating fund to the division of administration fund
created in section 121.08 of the Revised Code.

Sec. 4145.01. As used in this chapter:

(A) "Apprentice" means a person who is participating in a
registered apprenticeship program to learn a skilled occupation
pursuant to a registered apprenticeship agreement as defined in
section 4139.01 of the Revised Code or 29 C.F.R. 29.2.

(B) "Construction" means all service performed at a
stationary source, including maintenance, repair, assembly,
disassembly, alteration, demolition, modernization, and
installation services.

(C) "Contractor" means any person who undertakes
construction at a stationary source under a contract with an
owner or operator.

(D) "Owner or operator" means a person who owns or
operates a stationary source at which the person engages in
activities described in code 324110 of the 2017 north American
industry classification system and at which the person engages
in one or more covered processes for which the person is
required to prepare and submit a risk management plan under the
"Clean Air Act," 42 U.S.C. 7412. "Owner or operator" does not
include a person who controls the means of engaging in oil and
gas extraction operations.

(E)(1) "Registered apprenticeship program" means any of
the following programs:

(a) A program that trains an individual for a trade or occupation through paid on-the-job training and related instruction that is registered with the United States department of labor as meeting the minimum standards established by the "National Apprenticeship Act of 1937," 29 U.S.C. 50, and 29 C.F.R. Part 29, Subpart A;

(b) An apprenticeship program registered by the department of job and family services under Chapter 4139. of the Revised Code;

(c) An apprenticeship program registered by the state apprenticeship agency of another state that has been authorized to register apprenticeship programs for federal purposes under the laws of that state.

(2) "Registered apprenticeship program" may include any apprenticeship program subject to the "Employee Retirement Income Security Act of 1974," 29 U.S.C. 1001, et seq., as amended or an apprenticeship program supported through an employer's general funds.

(3) "Registered apprenticeship program" does not include an industry-recognized apprenticeship program as described under 29 C.F.R. Part 29, Subpart B.

(F) "Class A skilled journeyperson" means an individual who satisfies the requirements of division (A) of section 4145.02 of the Revised Code.

(G) "Class B skilled journeyperson" means an individual who satisfies the requirements of division (B) of section 4145.02 of the Revised Code.
(H) "State apprenticeship agency" means the state government agency that is authorized by the United States department of labor to register and oversee apprenticeship programs in the state.

(I)(1) "Stationary source" means any building, structure, facility, or installation that emits or may emit any regulated air pollutant or any pollutant listed under the "Clean Air Act," 42 U.S.C. 7412, except those emissions resulting directly from an internal combustion engine for transportation purposes or from a nonroad engine or nonroad vehicle as defined in the "Clean Air Act," 42 U.S.C. 7550.

(2) "Stationary source" includes any building, structure, facility, or installation described in division (I)(1) of this section that is offline for an indefinite period of time for purposes of being revamped or renewed.

(J) "Subcontractor" means any person who undertakes construction at a stationary source under a contract with any person other than an owner or operator.

Sec. 4145.02. (A) An individual shall do both of the following to be considered a class A skilled journeyperson:

(1) Graduate from a registered apprenticeship program;

(2) Complete a thirty-hour training course in safety and health hazard recognition and prevention approved by the occupational safety and health administration of the United States department of labor.

(B) An individual shall do both of the following to be considered a class B skilled journeyperson:

(1) Acquire at least ten thousand hours of experience in
the occupation or trade in which the individual is providing or assigned to provide construction services at a stationary source;

(2) Complete a thirty-hour training course in safety and health hazard recognition and prevention approved by the occupational safety and health administration of the United States department of labor.

Sec. 4145.03. (A) An owner or operator that enters into a contract on and after the effective date of this section for construction services at a stationary source shall do both of the following:

(1) Engage only a contractor that complies with division (B) of this section;

(2) Require, in the contract that the owner or operator enters into with the contractor, that the contractor shall use, with respect to any subcontractor needed for the contract, a subcontractor that complies with division (B) of this section.

(B)(1) Except as provided in division (B)(4) of this section, a contractor that provides construction services at a stationary source pursuant to a contract entered into on and after the effective date of this section with an owner or operator, and a subcontractor that provides construction services with respect to that contract on behalf of the contractor, shall use only the following individuals:

(a) Class A skilled journeypersons;

(b) Class B skilled journeypersons;

(c) Apprentices.

(2) The contractor or subcontractor shall follow the
following implementation schedule regarding the proportion of
the contractor's or subcontractor's employees performing those
construction services who shall be class A skilled
journeypersons, apprentices, or both:

(a) Beginning on January 1, 2022, at least forty-five per
cent;

(b) Beginning on January 1, 2023, at least sixty-five per
cent;

(c) Beginning on January 1, 2024, at least eighty per
cent.

(3) The contractor or subcontractor shall employ class B
skilled journeypersons for the remaining portion of the
contractor's or subcontractor's employees performing
construction services who are not required to be class A skilled
journeypersons or apprentices pursuant to division (B)(2) of
this section.

(4) An individual employed by a contractor or
subcontractor is not required to be a class A or class B skilled
journeyperson or apprentice pursuant to division (B)(1) of this
section if both of the following apply:

(a) The individual is employed as a project
superintendent, project manager, engineer, or clerical employee;

(b) The individual does not perform construction services.

(C)(1) Divisions (A) and (B) of this section do not apply
under either of the following circumstances:

(a) When a contractor or subcontractor requests qualified
individuals from a hiring hall or referral system that
dispatches individuals who are class A or class B skilled
journeypersons or apprentices, and because of workforce shortages, the contractor or subcontractor is unable to obtain sufficient qualified individuals within forty-eight hours after the request;

(b) An emergency during or after which compliance is impracticable, including an emergency that requires immediate action to prevent imminent harm to public health, public safety, or the environment.

(2) For purposes of division (C)(1)(a) of this section, Saturdays, Sundays, and legal holidays shall not be used in calculating time.

**Sec. 4145.04.** If an owner or operator believes that a contractor or subcontractor is failing or has failed to comply with the implementation schedule established under division (B) of section 4145.03 of the Revised Code, the owner or operator shall, not later than seven days after the date on which the owner or operator first believes a contractor or subcontractor is failing or has failed to comply with the implementation schedule, provide written notice of the alleged noncompliance to the director of commerce, and shall include both of the following in the notice:

(A) A summary that describes the contractor's or subcontractor's alleged noncompliance, including the applicable dates of noncompliance and degree to which the contractor or a subcontractor has allowed the proportion of the contractor's or subcontractor's employees performing construction services to deviate from the implementation schedule;

(B) The corrective actions, if any, that the owner or operator has taken to ensure the contractor or subcontractor is
complying with the implementation schedule, and the date by which the owner or operator expects the contractor or subcontractor to comply with the implementation schedule.

Sec. 4145.05. (A) Each contractor and subcontractor subject to section 4145.03 of the Revised Code shall maintain the following records for a period of not less than three years after the date on which construction services under the contract have been completed:

1. Payroll records for all individuals who performed construction services;

2. Apprenticeship records;

3. Copies of the reports that each contractor and subcontractor is required to submit under sections 4145.06 and 4145.07 of the Revised Code.

(B) The director of commerce or attorney general may request to inspect the records described in division (A) of this section at any time during the time period described in that division. A contractor or subcontractor shall make the records available not later than seven days from the date the director or attorney general makes a request under this division.

Sec. 4145.06. (A) A contractor subject to section 4145.03 of the Revised Code shall prepare a compliance report at the end of each calendar quarter during which the contractor provided construction services at a stationary source. The contractor shall submit each report to the director of commerce not later than thirty days after the date on which the calendar quarter ends. The contractor shall submit a final report to the director not later than thirty days after construction services under the contract are completed. The contractor shall include in each
report all of the following information with respect to that calendar quarter:

1. The name and address of the contractor;
2. The name and title of the individual preparing the report on behalf of the contractor;
3. The name and address of the owner or operator of the stationary source at which construction services were performed;
4. The name of the project and project number, if any;
5. The total dollar value of the contract;
6. The name and address of all subcontractors involved in providing construction services at the stationary source;
7. The total number of class A and class B skilled journeypersons and apprentices who performed construction services;
8. The name and address of each registered apprenticeship program from which class A skilled journeypersons graduated and each registered apprenticeship program that provided training to apprentices;
9. Certification that the contractor has complied with division (B) of section 4145.03 of the Revised Code;
10. All of the following:
   a. The total number of class A skilled journeypersons who performed construction services;
   b. The total number of class B skilled journeypersons who performed construction services;
   c. The total number of apprentices who performed
construction services;

(d) The numbers described in divisions (A)(10)(a) to (c) of this section represented as a per cent of the total number of class A and class B skilled journeypersons and apprentices who performed construction services.

(B) At the time a contractor submits a report to the director under division (A) of this section, the contractor shall provide a copy of the report to the owner or operator of the stationary source at which the contractor is providing construction services.

Sec. 4145.07. Each subcontractor subject to section 4145.03 of the Revised Code shall prepare a workforce report at the end of each calendar quarter during which the subcontractor provided construction services at a stationary source. The subcontractor shall submit each report to the contractor not later than ten days after the date on which the calendar quarter ends. The subcontractor shall include in each report all of the following information regarding individuals who performed construction services during that calendar quarter:

(A) The total number of class A and class B skilled journeypersons and apprentices who performed construction services;

(B) The total number of class A skilled journeypersons and apprentices who performed construction services;

(C) The total number of class B skilled journeypersons who performed construction services and the means by which the subcontractor verified that each class B skilled journeyperson has satisfied the experience requirement under division (B)(1) of section 4145.02 of the Revised Code;
(D) The name and address of each registered apprenticeship program from which class A skilled journeypersons graduated and each registered apprenticeship program that provided training to apprentices.

Sec. 4145.08. (A) No owner or operator shall do any of the following:

(1) Fail to comply with division (A) of section 4145.03 of the Revised Code;

(2) Fail to comply with the notice requirement under section 4145.04 of the Revised Code within the time period specified in that section;

(3) Submit a written notice as described under section 4145.04 of the Revised Code that includes false or inaccurate information.

(B) No contractor or subcontractor shall do any of the following:

(1) Fail to comply with division (B) of section 4145.03 of the Revised Code;

(2) Fail to maintain the records specified in section 4145.05 of the Revised Code for the time period specified in that section;

(3) Fail to make available the records specified in section 4145.05 of the Revised Code within the time period specified in that section;

(4) Fail to comply with the reporting requirements under sections 4145.06 and 4145.07 of the Revised Code;

(5) Submit a report under section 4145.06 or 4145.07 of
the Revised Code that includes false or inaccurate information.

Sec. 4145.09. (A) Any person who believes an owner or operator, contractor, or subcontractor has violated section 4145.08 of the Revised Code may file a written complaint with the director of commerce. On receiving a complaint, the director may investigate the alleged violation. The director also may investigate whether an owner or operator, contractor, or subcontractor has violated section 4145.08 of the Revised Code on the director's own initiative.

(B)(1) If the director determines after an investigation that reasonable grounds exist that an owner or operator, contractor, or subcontractor has violated section 4145.08 of the Revised Code, the director shall proceed in accordance with the notice and hearing requirements prescribed in Chapter 119. of the Revised Code.

(2) After a hearing conducted under Chapter 119. of the Revised Code, if the director determines an owner or operator, contractor, or subcontractor has violated section 4145.08 of the Revised Code, the director shall order the offending owner or operator, contractor, or subcontractor to remedy the violation. The offending owner or operator, contractor, or subcontractor shall remedy the violation not later than thirty days after the date on which the director issues the order.

(C) An offending owner or operator, contractor, or subcontractor that fails to remedy a violation within the time period specified in division (B)(2) of this section is subject to the civil penalty specified in section 4145.10 of the Revised Code. The attorney general, on behalf of the director, may bring a civil action in any court of competent jurisdiction to enforce the violation. If the attorney general is the prevailing party...
in a civil action brought under this division, the court shall award to the attorney general court costs and reasonable attorney's fees. A civil penalty assessed under section 4145.10 of the Revised Code and any court costs and attorney's fees recovered shall be paid into the state treasury to the credit of the industrial compliance operating fund created under section 121.084 of the Revised Code.

Sec. 4145.10. Subject to section 4145.09 of the Revised Code, an owner or operator, contractor, or subcontractor that violates section 4145.08 of the Revised Code is subject to a civil penalty of not more than ten thousand dollars for each violation. Each day during which a violation of division (A)(1) or (B)(1) of section 4145.08 of the Revised Code occurs constitutes a separate violation.

Sec. 4145.11. (A) The director of commerce may adopt rules in accordance with Chapter 119. of the Revised Code as necessary to administer and enforce this chapter.

(B) The director shall do both of the following:

(1) Create and make available a form on which a contractor shall include the information specified in section 4145.06 of the Revised Code;

(2) Make publicly available on the department of commerce's internet web site each compliance report a contractor submits to the director under section 4145.06 of the Revised Code not later than thirty days after the date on which the contractor submits the report to the director.

Sec. 4145.12. The purpose of this chapter is to protect public health and safety by requiring minimum training and skill standards for persons performing construction services on
certain high hazard facilities where inferior or faulty work practices can pose serious risks to the public and result in potentially catastrophic consequences.

Section 2. That existing sections 121.083 and 121.084 of the Revised Code are hereby repealed.

Section 3. This act shall be known as the High Hazard Training Certification (HHTC) Act.

Section 4. The General Assembly finds the following:

(A) The General Assembly has long recognized our State Government's duty to protect the public health, safety and welfare. This Act falls within these powers and duties by requiring certain training and qualification standards for contractors performing construction work on high hazard facilities.

(B) Public health and safety protections enacted under the State's police powers have been repeatedly upheld by the courts. For example, the Ohio Supreme Court has pointedly recognized that the "[p]rotection and preservation of public health are among the prime governmental concerns and functions of the state as a sovereignty." State ex. rel. Mowrer v. Underwood, 137 Ohio St. 1 (1940) (upholding state legislation relating to regulation of health districts); see also State v. Martin, 168 Ohio St. 37 (1958) (upholding state regulation of well drilling to protect water supply as a reasonable police power function). Federal courts likewise have protected the sanctity of state police powers for the sake of both public health and worker safety. See Associated Builders & Contractors v. Michigan Department of Labor and Economic Growth, 543 F.3d 275 (6th Cir. 2008) (upholding apprenticeship training requirements in state trade
licensing law under state's police powers).

(C) In this Act, the General Assembly recognizes that use of its police power is necessary to protect public health and worker safety by requiring adherence to certain training and certification standards by contractors performing work on high hazard facilities, where faulty or inferior work practices can pose serious risks to workers at these facilities and the general public, resulting in potentially catastrophic consequences.

(D) There are compelling grounds and public policy justifications for this Act. Construction is an inherently dangerous industry, wherein errors in project planning or execution can result in serious health and safety risks. Geetha M. Waehrer, Xiuwen S. Dong, Ted Miller, Elizabeth Haile, and Yurong Men, Costs of Occupational Injuries in Construction in the United States, 39 Accident Analysis and Prevention 1258 (2007) (construction is a high risk industry and accounts for disproportionate share of work-related injuries).

(E) The risks inherent in construction are substantially higher in high hazard facilities that handle dangerous materials or substances insofar as unsafe work practices may cause explosions, chemical spills and other hazardous conditions, which may expose workers and the public, especially populations in nearby communities, to dangerous conditions that can lead to serious bodily injuries and death.

(F) Congress has addressed these dangers by enacting section 112(r) of the "Clean Air Act," 42 U.S.C. 7412(r), under which the U.S. Environmental Protection Agency requires owners and operators of such facilities to implement "Risk Management Plans" ("RMP") to prevent public health threats presented by
such facilities. See also 40 C.F.R. Part 68 and 59 Fed. Reg. 4233 and 4478.

(G) It has been well documented that petroleum refineries, in particular, present acute risks of workplace accidents. The U.S. Department of Labor, Occupational Safety and Health Administration (OSHA) found that, since the agency began monitoring safety management at these facilities in 1992, "no other industry sector has had as many fatal or catastrophic incidents related to the release of highly hazardous chemicals . . . as petroleum refining. . . ." See Occupational Safety and Health Administration, OSHA 3918-08 2017, Process Safety Management for Petroleum Refineries (2017).

(H) In an attempt to address these risks, OSHA issued regulations in 1992 for high hazard facilities that require owners and operators to follow certain procedures for evaluating safety performance of contractors and established requirements for safety programs to ensure that contractor employees are properly trained. See 29 C.F.R. 1910.119.

(I) In 2017, OSHA announced a National Emphasis Program for inspecting facilities with highly hazardous chemicals. The directive detailed the numerous fatal and/or catastrophic safety incidents that occurred just since 2010, including the following:

(1) "A heat exchanger catastrophically ruptured, which caused an explosion and fire killing seven workers."

(2) "A crew was realigning pumps due to a pump seal leak in an isomerization unit when flammable materials were released, formed a vapor cloud and ignited. The fire killed one worker and hospitalized three with burn injuries."
(3) "An explosion killed two workers attempting to light a boiler at a fluid catalytic cracking unit."

(4) "Ignition of a release of flammable materials killed one contract worker attempting to install a blind flange on a knockout drum."

(5) "An eight-inch-diameter pipe catastrophically ruptured, releasing flammable, high-temperature light gas oil, which then formed a large vapor cloud that ignited. The ensuing explosion and fire caused minor injuries to six workers and hospitalized approximately 20 residents of the community near the refinery."

Occupational Safety and Health Administration, Directive No. CPL 03-00-021, OSHA Instruction, PSM Covered Chemical Facilities National Emphasis Program (January 17, 2017).

(J) A review of the most recently available OSHA data reveals that unacceptable levels of risk persist in this sector. Specifically, there has been a recent surge in "serious" OSHA safety violations at petroleum refineries—an increase of 78% in 2019 over the previous year. Federal law defines a "serious" safety violation as one having a "substantial probability [of causing] death or serious physical harm" that an employer knew or should have known to exist. Section 17 of the "Occupational Safety and Health Act of 1970," 29 U.S.C. 666.

(K) The other main federal agency that oversees the high hazard sector of the construction industry is the U.S. Chemical Safety and Hazard Investigation Board (CSB), which is responsible for investigating serious accidents at high hazard facilities. Examples of recent CSB investigations include the following:


(3) ExxonMobil Refinery Explosion (Torrance, CA) – On February 18, 2015, a pollution mitigation device exploded during a time when ExxonMobil had attempted to isolate the equipment so that maintenance could be performed. Debris from the explosion nearly hit tanks full of hydrofluoric acid, a highly toxic substance that can cause serious injury or death at just 30 parts per million. United States Chemical Safety and Hazard Investigation Board, Investigation Report No. 2015-02-I-CA, *ExxonMobil Torrance Refinery* (2017).

(L) Over the past several years, CSB has conducted several investigations at high hazard facilities in which it categorically determined that "insufficient safety requirements for contractor selection and oversight were found to be causal" to the accidents in question." United States Chemical Safety and Hazard Investigation Board, Contractor Safety Digest, *The Importance of Contractor Selection and Oversight* (2018).
(M) In addition to the considerable challenges highlighted above, safety threats are likely to increase due to critical, unprecedented craft labor shortages. These conditions underscore the need for greater scrutiny over contractor qualifications generally and especially in the high hazard sector. Ben DuBose, *ECF '16: Energy Contractors Need Newcomers to Ease Labor Shortage*, Hydrocarbon Processing (March 1, 2016) (craft shortage primary factor in 65% failure rate among mega-projects in Gulf Coast Region); Gavin Aronsen, *Labor Shortage Delays DuPont Plant Completion*, Ames Tribune (January 9, 2015) (shortage of qualified workers delayed the completion of a $200 million DuPont ethanol plant in Iowa).

(N) Acting in response to these growing risks and related concerns, Washington State, California and New Jersey have enacted legislation to require contractors on certain high hazard facilities, including petroleum refineries, to require construction contractors to ensure their craft workforce meets minimum apprenticeship training and experience requirements as a means of ensuring the use of properly trained, safety-conscious employees at these facilities.

(O) These statutes are based on growing concerns regarding the eminent dangers of the petroleum refinery sector, as well as extensive public policy findings, which recognize that established apprenticeship training programs in the construction industry are most reliable and effective means for ensuring proper qualifications of craft labor personnel due to the in-depth skill and safety training they provide.

(P) Widespread recognition of the value of apprenticeship training generally has also promoted at least 14 states have passed incorporating critical apprenticeship training components

(Q) The apprenticeship training provisions relate to skill and safety training standards developed for craft labor apprenticeship programs established under the "National Apprenticeship Act of 1937," 29 U.S.C. 50, et seq. Apprenticeship training is a system in which workers are fully trained through organized, formally registered apprenticeship standards, designed in accordance with established quality, safety and performance standards approved and monitored by the U.S. Department of Labor and state labor agencies, including the Ohio Department of Job and Family Services. United States Department of Commerce and Case Western Reserve University, The Benefits and Costs of Apprenticeship: A Business Perspective (2016) (apprenticeship programs are widely supported by contractors and other employers as highly cost-effective due to higher productivity of trained workers, improved safety, improved project quality, more reliable project staffing, and reduction in employee turnover).

(R) In order to be approved under applicable federal regulations, an apprenticeship program must have an organized, written plan that contains provisions addressing "safety training for apprentices on the job and in related instruction"
in addition to numerous other standards for acquiring critical
skills in a given trade. Apprentices receive a combination of
extensive on-the-job training, combined with classroom and shop
instruction, and must pass specific skill-level tests after each
year before they can proceed to the next year in programs that
typically involve a 3 to 5 curriculum. See 29 C.F.R. 29.5.

(S) In educating workers in the construction industry, the
training used to develop skills in the respective trades is
inextricably linked to safety training since performing many
functions or tasks safely requires that the work correctly.
Executing tasks in construction properly also requires that they
be carried out in accordance with a number of complex industry
codes and standards. See, e.g., Farzad Minooei, Towards a
Deeper Understanding of the U.S. Workforce Development System
in the Construction Industry (2018) (Ph.D. dissertation,
University of Colorado) ("A skilled workforce is essential to
safety, productivity and sustainability of construction and
maintenance activities . . . ."). Conversely, the use of workers
with inadequate training can seriously undermine project safety.
See, e.g., Hossein Karimi, Timothy R.B. Taylor, Paul M. Goodrum,
and Cidambi Srinivasan, Quantitative Analysis of the Impact of
Craft Worker Availability on Construction Project Safety
Performance, 16 Construction Innovation 307 (2016) ("When a
project is executed by less qualified craft workers, increases
in human errors, less familiarity with safety procedures and
legislations and inadequate safety training will be the factors
that adversely influence safety performance.").

(T) In view of these factors, the General Assembly finds
that the use of apprenticeship training standards on
construction projects for high hazard facilities provides the
most effective means for addressing growing public safety
threats and should be incorporated into the project planning system used for these facilities.