



NFPA® 2112 QUESTION & ANSWER SHEET

1 **WHO IS OSHA®, AND WHAT IS THEIR RESPONSIBILITY TO EMPLOYEES IN THE PETROCHEMICAL INDUSTRY WHO MIGHT BE EXPOSED TO A FLASH FIRE HAZARD?**

OSHA® is a federal agency established by the Occupational Safety & Health Act of 1970. It is OSHA®'s mission to ensure "safe and healthful working conditions for working men and women by setting and enforcing standards and by providing training, outreach, education and assistance." OSHA® standards are federal regulations and carry the full force of the law; non-compliance with OSHA® regulations can result in citations and costly fines.

2 **WHAT IS NFPA® AND WHAT IS THEIR ROLE IN PROTECTING WORKERS IN THE PETROCHEMICAL INDUSTRY WHO MIGHT BE EXPOSED TO A FLASH FIRE HAZARD?**

The National Fire Protection Association (NFPA®), a non-profit agency, develops, publishes and disseminates consensus codes and standards intended to minimize the possibility and effects of fire.

3 **WHAT IS THE GENERAL DUTY CLAUSE?**

The General Duty Clause is OSHA®'s broadest statement about an employer's responsibility to protect employees in the workplace. It reads:

"Each employer shall furnish to each of his employees employment and a place of employment which are free from recognized hazards that are causing or are likely to cause death or serious physical harm to his employees."

4 **WHAT IS THE GENERAL INDUSTRY CLAUSE FOR PERSONAL PROTECTIVE EQUIPMENT (PPE)?**

OSHA®'s General Industry Clause, 29 CFR 1910.132(a), addresses the employers' responsibilities regarding personal protective equipment, which includes flame-resistant clothing. The document outlines specific activities such as the need to perform a hazard risk analysis (HRA), to properly select PPE based on the results of the HRA, and

to adequately train employees on the use, limitations, care, maintenance, wear life and disposal of PPE.

5 **WHAT IS NFPA® 2112?**

NFPA® 2112, entitled Standard on Flame-resistant Garments for Protection of Industrial Personnel Against Flash Fire, is a national consensus standard which defines minimum performance requirements for garments which are to be worn by workers who face the threat of exposure to a flash fire in their workplace.

6 **HOW DO THE GENERAL INDUSTRY CLAUSE AND NFPA® 2112 HELP ENSURE THE SAFETY OF EMPLOYEES IN THE PETROCHEMICAL MARKET?**

In March 2010, OSHA® issued a memorandum to those in oil and gas well drilling, well servicing and production-related operations regarding a lack of compliance with personal protective equipment PPE standard, 29 CFR 1910.132(a). OSHA® restated that flame-resistant PPE is required for workers who could be exposed to a thermal hazard. OSHA® also said that following the requirements of NFPA® 2112 (Standard on Flame-Resistant Garments for Protection of Industrial Personnel against Flash Fire) is one way of complying with the PPE requirement.

7 **WHAT IS INVOLVED IN OBTAINING NFPA® 2112 CERTIFICATION ON FLAME-RESISTANT CLOTHING?**

Certification to NFPA® 2112 is a 2-step process and must be performed by a 3rd party certifier. In step 1, fabrics and findings (thread, buttons, zippers, etc) are tested against the performance requirements of the standard. If they pass, they can be labeled by the manufacturer as "component recognized." Then in step 2, a finished garment, constructed from fabric and findings approved in step 1, is inspected to be sure it meets the necessary design requirements set forth in the standard.

Production facilities where component recognized fabrics/ findings and certified garments are made must also submit to unannounced inspections and product audits by a 3rd party certifier on a quarterly basis.



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8 **WHO DOES THE TESTING TO DETERMINE NFPA® 2112 COMPLIANCE?**

Product testing and facility audits are performed by a 3rd party certifier as required by NFPA® 2112. Manufacturers cannot do their own testing or simply state that they use “recognized components” in assembling their garments. Bulwark® has chosen Underwriters Laboratories (UL®) to be our 3rd party certifier; however, there are others in the industry that can perform the same service.

9 **WHAT LABELING IS REQUIRED ON GARMENTS THAT ARE NFPA® 2112 CERTIFIED?**

NFPA® 2112 mandates strict labeling requirements. In addition to bearing the mark of the 3rd party certifier, these words and the edition of the standard must appear on the label of a certified garment:

“THIS GARMENT MEETS THE REQUIREMENTS OF NFPA® 2112, STANDARD ON FLAME-RESISTANT GARMENTS FOR PROTECTION OF INDUSTRIAL PERSONNEL AGAINST FLASH FIRE, 2012 EDITION. NFPA® 2112 REQUIRES UPPER AND LOWER BODY COVERAGE.”

Beware of subtle changes in wording on the label that claim to meet a portion of the standard. The following language does not meet the requirements of NFPA® 2112:

“THIS GARMENT MEETS THE PERFORMANCE REQUIREMENTS OF NFPA® 70E-2012, ASTM F1506-10A, NFPA® 2112-2012.”

10 **HOW CAN AN EMPLOYER BE CERTAIN THAT THE GARMENTS THEIR EMPLOYEES ARE BEING FURNISHED MEET OR EXCEED THE QUALIFICATIONS OSHA® REQUIRES?**

OSHA® cannot require that flame-resistant clothing be certified to a particular standard. However, since OSHA® identified following NFPA® 2112 as one means of compliance with the PPE regulation, many organizations have made the internal decision to have their employees wear clothing that is certified to NFPA® 2112. As a result, there has been a sharp increase in the market demand for NFPA® 2112 certified garments.

Is your OSHA® inspector looking for flame-resistant garments certified to NFPA® 2112 when he visits your site? Maybe.... Even though OSHA® cannot issue a citation simply because flame-resistant garments are not NFPA® 2112 certified, providing and requiring that workers in the oil and gas industries wear flame-resistant garments certified to NFPA® 2112 will ensure that an employer is following recognized guidelines for the protection of workers.

11 **IS ANY OUTERWEAR CERTIFIED TO NFPA® 2112?**

Yes, the 2012 edition of the standard added new verbiage specifically addressing outerwear; however, 3rd party labs found the requirements lacking clarity and asked the committee for feedback on how to interpret the new language especially with regard to testing that is required of the lining fabrics. As a result, a TIA (Temporary Interim Amendment) was issued and certification language surrounding outerwear was improved. These changes are now part of the 2012 edition of the standard but, under the provisions of a TIA, are required to be reconsidered by the committee in the next revision cycle.

12 **IS ANY RAINWEAR CERTIFIED TO NFPA® 2112?**

No; NFPA® 2112 does not apply to rainwear. Rainwear suitable for use in an environment where exposure to flash fire is possible should meet the requirements of ASTM 2733, Standard Specification for Flame Resistant Rainwear for Protection Against Flame Hazards.