

PSP Compliance Principles

In 2012 and 2013, OSHA brought actions seeking to enforce various provisions of the Product Stewardship Program (PSP) for refractory ceramic fibers (RCF) against a customer of one of the HTIW Coalition members. To the knowledge of the HTIW Coalition and its members, all such actions have been settled to date.

In an attempt to clarify PSP compliance issues for future reference, HTIW Coalition offers the following general principles for PSP compliance. All are based on current and longstanding OSHA regulations or policies. While these principles apply generally, HTIW Coalition recognizes that each specific case must be judged on its own merits.

1. **Applicable OSHA Standards.** First and foremost, nothing in the RCF PSP authorizes noncompliance with applicable Occupational Safety and Health Standards. In the enforcement proceedings referenced above, HTIW Coalition reaffirmed that the RCF PSP cannot supersede applicable OSHA standards, such as the standards governing respiratory protection (29 CFR 1910.134). Compliance with all applicable standards is required. However, as discussed further below, neither the RCF Recommended Exposure Guideline (REG) contained in the PSP nor the NIOSH Recommended Exposure Limit (REL) for RCF, both of which have been established at 0.5 f/cc, are applicable OSHA standards

2. **Statistical Procedures.** In the enforcement cases referenced above, an issue arose regarding the statistical procedures for determining exceedance of the RCF REG and REL. Although the REG and REL are not applicable OSHA standards, exceedance of them should be determined using the statistical procedures specified in Section II, Chapter 1, Part IV.D. of the OSHA Technical Manual (OTM) as in effect on August 1, 2014. As the OTM recognizes, all sampling and analytical methods have some degree of uncertainty as a result of sampling and analytical error (SAE). The SAE is used to determine the upper and lower confidence limits of the sampling results, and is especially important when sample results are near the level of the REG. As discussed in the OTM:

Error factors determined by statistical methods shall be incorporated into the sample results to obtain the lowest value of the true exposure (with a stated degree of statistical confidence) and also the highest value of the true exposure (also with a stated degree of statistical confidence).

Confidence limits are values at each end of the confidence interval, which is the probable range of the true value. The lower value is called the lower confidence limit (LCL), and the upper value is the upper confidence limit (UCL). The LCL and the UCL are each termed one-sided because the main concern is with being confident that the true exposure is either less or greater than the PEL.

OSHA applies the LCL and UCL with a 95% statistical confidence limit and they are expressed here as $LCL_{95\%}$ and $UCL_{95\%}$. SAEs that provide a one-sided 95% confidence limit have been developed and are reported out on the Air Sampling Report.

If the $UCL_{95\%} < 1.0$, a violation does not exist.

If $LCL_{95\%} < 1.0$ and the $UCL_{95\%} > 1.0$, classify as possible overexposure.

If $LCL_{95\%} > 1.0$, a violation exists.¹

The OTM goes on to explain that the confidence limits are calculated differently depending on the type of sampling method used. With respect to results in the “possible overexposure” category, the OTM states:

If the results are in the "possible overexposure" category, consider further sampling, taking into consideration the seriousness of the hazard and pending citations. If further sampling is not conducted, or if additional measured exposures still fall into the "possible overexposure" category, the CSHO may wish to carefully explain to the employer and employee representative at the closing conference that the exposed employee(s) may be overexposed, but that there is insufficient data to document noncompliance. The employer should be encouraged to voluntarily reduce the exposure and/or to conduct further sampling to ensure that exposures are not in excess of the PEL.

In interpreting these principles and procedures it is important to note that “overexposure” related to effective exposure should consider the protective effect of respirators.

3. **Objective data**. In the recent crystalline silica proposal, OSHA defines objective data as follows:

“Objective data” means information, such as air monitoring data from industry-wide surveys or calculations based on the composition or chemical and physical properties of a substance, demonstrating employee exposure to respirable crystalline silica associated with a particular product, material, process, operation, or activity. The data must reflect workplace conditions closely resembling the processes, types of material, control methods, work practices, and environmental conditions in the employer’s current operations. 78 Fed. Reg. 56444 (September 12, 2013).

¹ Because the OTM is discussing compliance with PELs, the term “violation” is used. As discussed below the proper term with respect to the RCF REG or REL would be “exceedance,” because an exceedance is not a violation as with a PEL.

The silica proposal would allow use of objective data for initial exposure assessments and various other purposes. As noted in the proposal, OSHA has allowed employers to use objective data in lieu of initial monitoring in other standards, such as formaldehyde (29 CFR 1910.1048) and asbestos (29 CFR 1910.1001)(78 Fed. Reg. 56447). For example, the formaldehyde standard provides:

Where the employer documents, using objective data, that the presence of formaldehyde or formaldehyde-releasing products in the workplace cannot result in airborne concentrations of formaldehyde that would cause any employee to be exposed at or above the action level or the STEL under foreseeable conditions of use, the employer will not be required to measure employee exposure to formaldehyde.

As discussed in the PSP, the RCF industry has systematically collected objective data on RCF workplace exposures for over 20 years, and now maintains a large and sophisticated database on exposures in virtually all affected job categories. Representatives of HTIW Coalition meet annually with OSHA (and other invitees) to discuss the latest data and exposure trends.

In most if not all instances, the RCF data clearly meet the definition of objective data as proposed in the silica rule. In appropriate cases demonstrations of REG and REL attainment may be based on objective data as defined above.

4. **General Duty**. In the enforcement actions referenced above, OSHA citations have alleged that exceedance of the REG and REL, without installation of engineering controls thought by OSHA to be feasible, is a violation of the

General Duty Clause.² However, it is important to remember that unlike an OSHA permissible exposure limit (PEL), neither the REG nor the REL have been determined to be necessary to prevent a significant workplace risk. Both are based primarily on determinations of the airborne concentration that is feasible to attain with engineering controls at most operations. To be sure, both HTIW Coalition and NIOSH believe that compliance with the 0.5 f/cc level will reduce whatever risk may be present. As NIOSH stated in the RCF Criteria Document:

At this time, the available health data do not provide sufficient evidence for deriving a precise health based occupational exposure limit to protect against lung cancer. However, given what is known from the animal and epidemiological data, NIOSH supports the intent of the PSP and concurs that a recommended exposure limit (REL) of 0.5 f/cm³ as a TWA for up to a 10-hr work shift during a 40-hr workweek will lower the risk for developing lung cancer.³

However, neither the REG nor the REL are based on any determination that attainment is necessary to prevent a significant workplace health risk.

General Duty citations alleging exceedance of the REG or REL should be based on OSHA's Enforcement Policy for Respiratory Hazards Not Covered by OSHA Permissible Exposure Limits.⁴ The Policy states that in cases where an OSHA PEL does not apply, OSHA will review other available occupational exposure references and recommendations. These include NIOSH RELs and

² The term "exceedance," as used herein, refers to airborne concentrations above the REG or REL in the absence of proper respiratory protection. Airborne concentrations above the REG or REL would not constitute an exceedance if proper respiratory protection is used.

³ See NIOSH, "Occupational Exposure to Refractory Ceramic Fibers, Criteria for a Recommended Standard," pp. v-vi (May 2006).

⁴ Memorandum from Richard Fairfax to Regional Administrators (January 24, 2003).

manufacturers' recommendations such as the RCF REG. In considering such recommendations, the Policy states:

Care should be taken that these recommendations or references are not considered or used as either OSHA PELs or as "national consensus standards" . . . It is important to note that in workplaces where an employer has workers exposed to chemicals and where OSHA did not have a PEL for the contaminant, those employers would not automatically receive a citation if the exposure is above the recommendation. In the majority of cases, the employer would receive a letter from the local OSHA Area Office advising that a worker(s) at the establishment had exceeded an occupational exposure recommendation. The letter would also provide a series of recommended exposure control suggestions.

The HTIW Coalition reiterates its commitment to achieve and maintain exposure levels at or beneath the REG and REL, both in plants operated by its member companies and those facilities operated by its customers. We maintain that attainment of these guidelines is feasible in most operations without respiratory protection and in all cases with appropriate respiratory protection. The HTIW Coalition has published relevant outreach material on appropriate engineering controls and workplace practices for handling RCF. As necessary HTIW Coalition members work with customers to ensure that attainment of these guidelines is achieved. When presented with evidence to the contrary from our own monitoring or an OSHA inspection, we will make this literature available to our customers and offer suggestions for improvement to those facilities.