United States of America
OCCUPATIONAL SAFETY AND HEALTH REVIEW COMMISSION
1120 20th Street, N.W., Ninth Floor
Washington, DC 20036-3457

SECRETARY OF LABOR Complainant, v. SIX FLAGS THEME PARKS, INC. dba SIX FLAGS GREAT AMERICA Respondent	OSHRC DOCKET NO. 07-1499

APPEARANCES:	Rafael Alvarez, Esquire Anthony Jones, Esquire U.S. Department of Labor Chicago, Illinois For the Complainant.	Henry Chajet, Esquire Daniel Pubal, Esquire Patton Boggs Washington, D.C. For the Respondent.
BEFORE:	Covette Rooney Administrative Law Judge	

DECISION AND ORDER

This proceeding is before the Occupational Safety and Health Review Commission ("the Commission") pursuant to section 10(c) of the Occupational Safety and Health Act of 1970, 29 U.S.C. § 651 *et seq*. ("the Act"). The Occupational Safety and Health Administration ("OSHA") conducted a health inspection of a facility of Respondent ("Respondent" or "Six Flags"), located in Gurnee, Illinois, from May 2, 2007 to June 28, 2007.[1] As a result, on September 6, 2007, OSHA issued a 29-item serious citation. Respondent filed a timely notice of contest, bringing this matter before the Commission. The eight-day hearing in this case was held from October 21 through 31, 2008, in Chicago, Illinois. Both parties have filed post-hearing briefs and reply briefs.

Jurisdiction

[1]A safety inspection of the facility, conducted earlier in the spring of 2007, also resulted in a citation being issued. That case, Docket No. 07-1497, settled, and the parties submitted the signed settlement agreement at the end of the hearing in this matter. (Tr. 4-8, 1585-87).

Respondent, in its answer, admits that jurisdiction of this proceeding is conferred upon the Commission by section 10(c)of the Act. Respondent also admits that it is an employer engaged in a business affecting commerce that has employees. I find, accordingly, that the Commission has jurisdiction of the parties and the subject matter in this case.

The OSHA Inspection

The cited facility, one of Six Flags' theme parks, consists of rides, a water park, and park services. At the back of the facility is a very large maintenance building that contains rides equipment requiring assembly, maintenance or repair; the maintenance building also contains various departments, including a paint/fiberglass department, a sign shop/mill area, a welding department, a first aid department, and the facility's safety office. Nancy Nash, an industrial hygienist ("IH") with OSHA, is the individual who conducted the inspection, which involved primarily the maintenance building. IH Nash went to the site on May 2, 2007,[2] and met with Steven Small and James Ferretti, the safety manager and safety supervisor, respectively, at the Six Flags facility. The IH began her inspection on May 2 and continued it on May 3, 10, 13, 16, 18, 23 and 26. Mr. Small accompanied her on May 2, and Mr. Ferretti was with her during the rest of the inspection. The IH was also at the facility on June 26, and she held a closing conference with members of management, including Messrs. Small and Ferretti, on June 28. (Tr. 12-13, 18-21, 46, 177, 1389-93, 1426-27).

During the inspection, the IH learned an employee would be spray painting rafts in the paint department on May 10. She determined, after management provided her with material safety data sheets ("MSDS's"), that the paints to be used contained lead, hexavalent chromium and isocyanate. The IH also learned employees used Sintra sign board in the mill; she determined from the MSDS she was given that the board contained lead. IH Nash discovered the facility had not performed any air monitoring for these and other substances.[3] She therefore conducted air monitoring of two employees in the paint area and one in the mill on May 10. Analysis of the monitoring revealed that the only overexposure was to lead, in regard to the employee who had been painting the rafts; his

[2]All dates hereafter will refer to the year 2007, unless otherwise indicated.

[3]Other substances at the facility were formaldehyde, which was contained in a resin, and methylene chloride, which was contained in a cleaner. IH Nash did not perform any monitoring for these substances as they were not in use when she was there. (Tr. 1053-72, 1145, 1162).

exposure was 56 µg/m3, which was 1.1 times the permissible exposure limit ("PEL") of 50 µg/m3 set out in the OSHA lead standard. Based on the lead overexposure, the IH concluded that the facility had violated a number of provisions of the lead standard. (Tr. 23-66, 128-67, 175-195).

The IH learned about other conditions at the site she believed were violations. She found that certain employees, like those in the first aid department, had exposure to blood-borne pathogens ("BBP's") such as HIV and hepatitis B, and she determined that the facility had not complied with provisions of OSHA's BBP standard. She also determined that, as to employees who used respirators for their work, the facility had not complied with various OSHA standards relating to respirators. Finally, the IH determined that other conditions, including the storage of a peroxide formulation near flammable materials and the use of latex gloves for work with paint containing isocyanate, were also violations. (Tr. 200-71, 904-30, 933-980, 985-1013, 1088-89).

Items 9 through 16 – Alleged Violations of OSHA's Lead Standard

These items allege serious violations of OSHA's lead standard. The Secretary contends Six Flags was required to perform initial monitoring to determine employee exposure to lead due to the use of lead-containing materials in the facility, *i.e.*, the paint used for spray painting rafts and the Sintra sign board used in the mill. The Secretary also contends that Six Flags was required to comply with the other cited provisions, as the employee who was spray painting had lead exposure of 56 µg/m3, which was 1.1 times the standard's PEL of 50 µg/m3. S. Brief, pp. 24-38. Six Flags contends the IH's monitoring was invalid and it was not required to comply with the cited standards. It asserts that the IH's calibration of her monitoring equipment was improper, as was her placement of the sampling filters on employees, and that other aspects of the monitoring also rendered the results invalid. It also asserts that the analytical method used by the Salt Lake Technical Center ("SLTC"), OSHA's analytical lab, was not a validated method and the overexposure result was inaccurate. Finally, it asserts that the method the SLTC used to calculate the error rate for the air monitoring pump the IH used was improper. R. Brief, pp. 36-54.The testimony in this regard follows.

Testimony of IH Nash

Nancy Nash has been an IH with OSHA for 3 years and has had extensive training in IH matters, including air monitoring for contaminants and BBP exposure control; prior to her current job, she was an IH for 14 years in Illinois with the Onsite Safety and Health Consultation Program,

an OSHA and state-funded program that assists small employers in OSHA compliance.[4] IH Nash testified that during the opening conference at Six Flags, when she asked about monitoring for air contaminants, Mr. Small said he was unaware of any such monitoring being done. She also testified that during the inspection, she spoke to ***{Redacted}***, an employee in the paint area, and learned he would be prepping and then spray painting two rafts on May 10. ***{Redacted}*** gave her the "recipe cards" for the paint mixtures he would be using, and management provided her the MSDS's for the materials in the paint mixtures.[5] The primer to be used had a hardener in it that contained HDI, an isocyanate, and the paint to be used had a "lemon yellow" paint in it that contained lead chromate, consisting of lead and hexavalent chromium; the paint also had a hardener in it that contained HDI.[6] The IH further learned, during the inspection, that employees in the mill worked with Sintra sign board; she was given the MSDS for the board and found it could contain zero to 2 percent lead. After reviewing the MSDS's for the paints and the Sintra sign board, the IH told Mr. Small that she wanted to do air monitoring to determine employee exposure. (Tr. 12-55, 145-52; C-7-8, C-10, C-17).

The IH described how, in her office on the afternoon of May 9, she prepared the air pumps she needed for her monitoring on May 10: three were required for ***{Redacted}***, for the three substances he would be exposed to; two were required for ***{Redacted}***, who would be prepping rafts in a room adjacent to ***{Redacted}*** and could be exposed to lead and hexavalent chromium; and one was required for a mill employee who would be using the Sintra sign board.[7] The IH calibrated each pump, by using a Bios DC-Lite Calibrator ("DC-Lite") that was in her office, and she recorded the results on a sampling worksheet. She also got together the tubing she would need to connect each

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[4]IH Nash also has a BS degree in chemistry, and she has had graduate-level courses in environmental and occupational public health; she is not a certified IH. (Tr. 17-18, 272).

[5]Messrs. Small and Ferretti gave the IH the MSDS's she requested. (Tr. 31-32, 46-48).

[6]The MSDS for the hardener in the primer shows it contained .1 percent HDI by weight. The MSDS for the "lemon yellow" in the paint shows it contained 5.1 percent and 22.6 percent hexavalent chromium and lead by weight, respectively; also, the MSDS for the hardener in the paint shows it contained .7 percent HDI by weight. The "recipe card" indicates that the "lemon yellow" paint was 2.3 ounces of the total paint mixture. (C-7-8, C-10, C-17).

[7]The IH also prepared three air pumps for herself due to OSHA's requirement that, when sampling for employee exposure, the IH must also be monitored for exposure. (Tr. 65).

pump to its sampling media, as well as the various types of media she needed for the substances she would be monitoring.[8] The IH took the equipment home with her in a case so she could be at the site early the next day when ***{Redacted}*** and ***{Redacted}*** began work. (Tr. 58-66, 148-52, 316-18).

Upon arriving at the site on May 10, the IH spoke to ***{Redacted}*** and ***{Redacted}*** about the work they would be doing and how she would perform her air monitoring. She put the pumps on ***{Redacted}*** and ***{Redacted}*** at approximately 6:20 a.m. The IH identified C-6b as a photo she took as ***{Redacted}*** was spray painting a raft with the sampling equipment on; he also had on personal protective equipment ("PPE"), including gloves, a Tyvek suit, a hood and a breathing air line.[9] The IH also identified C-20 as a photo of ***{Redacted}***, a mill employee, fabricating Sintra sign board with the sampling equipment on. IH Nash said she had to put a new isocyanate filter on ***{Redacted}*** every 10 to 15 minutes and that when she did so she checked his other pumps and filters; she also said she put a new lead filter on him for each of his three operations, *i.e.*, (1) sanding and prepping, (2) spray painting, and (3) removing masking materials.[10] The IH noted that as she removed each filter, she put it in a ziplock bag that she kept in her shoulder bag; she also noted the filters were attached to ***{Redacted}***'s air-line hood near his shoulder. The IH stated that Mr. Ferretti was with her when she monitored the employees. (Tr. 56-58, 66, 112-22, 149-52, 316-18, 889).

After the sampling was completed, IH Nash removed the pumps from the employees and took the pumps, filters and other equipment with her. She post-calibrated the pumps in her office on May 11, and she sent the filters to the SLTC for analysis by putting the bagged filters into a box and mailing the box to the lab.[11] On June 1, the IH received the analysis results, which revealed that of

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[8]The IH said the sampling media was a filter in a cassette; she also said the different substances she sampled each required a specific type of media. The IH had an Escort ELF Sampling Pump with her, which was the type of pump she used for the lead sampling; she also had a DC-Lite and a media, and she demonstrated how to calibrate the pump. An Escort ELF Pump is depicted in C-32; the IH said that the filter in C-32 was not the same type as the one used on ***{Redacted}***, and she was unsure if the tubing was the same. (Tr. 58-64, 96).

[9]The IH noted that C-6c was a closeup of C-6b. (Tr. 56-58).

[10]Pursuant to her sampling worksheet, the IH said ***{Redacted}***'s sampling was for 191, 129 and 80 minutes, respectively, for each operation, for a total of 400 minutes. (Tr. 118-20).

[11]The IH's pre- and post-sampling calibration calculations are on C-18. (Tr. 121-23).

her sampling, the only overexposure was for lead, in regard to ***{Redacted}***; further, C-19, the analysis results of ***{Redacted}***'s lead sampling, showed that, of the three filters used to monitor his lead exposure, only the sample taken during the spray painting work had detectible lead; the other two had no detectible lead. The IH used C-19 to determine ***{Redacted}***'s eight-hour time weighted average exposure, and her calculations, set out on page 2 of C-19, revealed that his exposure was 56 µg/m3. (Tr. 123-24, 128-38).

At the end of June 2008, the IH learned of a change in the OSHA Technical Manual ("OSHA Manual") that prohibited using the DC-Lite to calibrate the Escort ELF pump ("Escort ELF"), as doing so affected the pump's operation; the notice was in C-35, an OSHA directive dated June 24, 2008.[12] The IH contacted OSHA's Cincinnati Technical Center and learned there could be a 2 percent error from using the DC-Lite with the Escort ELF; she then contacted the SLTC and learned the 2 percent error could be pooled with the sampling and analytical error ("SAE") calculation that SLTC used, which incorporated the laboratory error rate and the pump calibration error rate.[13] The SLTC provided her with an SAE calculation that took into account the three error rates and resulted in the lower control limit for the severity of ***{Redacted}***'s exposure being 1.022, as shown in C-33; since the number was greater than 1, the exposure still exceeded the PEL for lead.[14] (Tr. 67-93).

Testimony of Dean Erickson

Dean Erickson has been an inorganic analytical chemist at SLTC for 29 years; he prepares samples for metal analysis and analyzes the samples using various techniques. Mr. Erickson testified about how samples are received at SLTC; a lab employee opens the box with the samples, gives each sample a specific lab number, and enters the information from the OSHA sampling forms into the SLTC's database; the samples are then assigned to an analyst, who reviews the sampling forms to ensure the information was entered properly into the database. Mr. Erickson also testified about how

[12]The updated OSHA Manual is R-1; the relevant provision is on page 36. (Tr. 93).

[13]The laboratory error rate was based on the standard deviation calculated from quality control samples analyzed alongside compliance samples, while the pump calibration error rate was 5 percent. (Tr. 82). *See also* C-33.

[14]The lower control limit for the severity of ***{Redacted}***'s exposure without considering the 2 percent error rate was 1.028, as shown in C-33.

he prepared and analyzed the lead samples in this case. He labeled a separate flask with the lab number for each sample and put the filter from the cassette for each sample in the appropriate flask; he put nitric acid in each flask and put the samples on a hot plate so that the filters were "digested" and any metal in them was in solution. He used an inductively coupled plasma mass spectrometry ("ICP-MS") instrument to perform the lead analysis. The ICP-MS was calibrated, the samples were placed onto the instrument's sample rack, and the ICP-MS ran the samples and gave a printout of the lead concentration for each sample. Mr. Erickson put this information on a spreadsheet that calculated the concentration as milligrams per cubic meter; he then put this number into the database, which generated a form that reported the results to the OSHA inspector who had requested the analysis. Mr. Erickson identified C-19 as the form showing his lead analysis results in this case, and he highlighted in yellow the one sample of three that was an overexposure. He also noted the chain of custody portion of the form, which showed each action the lab had taken, along with the initials of the person taking the action and the date of the action. (Tr. 521-47, 558-68).

Mr. Erickson identified C-36 as ID-105, the method he used to prepare the samples. He said the method was for inorganic arsenic but that the SLTC's standard operating procedure was to use ID-105 for preparing various metals for analysis; he also said that ID-105, at section 5.5.3, which he highlighted, allowed using the method to prepare various metals, including lead, and then using for analysis either an atomic absorption or ICP technique. He agreed he did not use either of those but instead used the analysis method in Method 1006, an ICP-MS procedure. Mr. Erickson noted there are different kinds of ICP's, each having a different analytical procedure. He further noted he did not use Method 1006 to prepare the samples in this case as its digestion method was not as robust as the one he used; it was also not recommended for bulk samples, which he was analyzing along with the other Six Flags samples. Mr. Erickson conceded the procedure he followed, *i.e.*, ID-105 for digestion, or preparation, and Method 1006 for analysis, was not a validated, published procedure; however, as far as he knew, it was an allowable procedure.[15] (Tr. 544-56, 569-82, 606-08).

[15]Mr. Erickson indicated he had been writing down how to run the ICP-MS, by following the manufacturer's specifications, for others to use; he also indicated he had run quality control samples on the ICP-MS to ensure it was operating within OSHA parameters, after which the lab management had instructed him to use the ICP-MS for sample analysis. (Tr. 575, 579).

Testimony of Keith Nicholson

Keith Nicholson has been the Director of Analytical Services at SLTC since 2007; he has been the Quality Assurance Coordinator at SLTC since 2000, and from 2000 to 2007 he also worked as a chemist at SLTC. He has a B.S. in chemistry, a Master's degree in public health, with an emphasis on industrial hygiene, and he has been a site assessor with the Laboratory Accreditation Program of the American Industrial Hygiene Association ("AIHA") since 1993.[16] Mr. Nicholson testified that the purpose of a validated method is to show it has been tested to produce results within parameters specified for validated methods. He also testified the SLTC was an accredited lab in part because it used validated methods for the materials it analyzed. Mr. Nicholson agreed that combining ID-105 and Method 1006 was not a validated method, but he opined it was scientifically valid. He noted that both were validated methods for lead and that using the digestion part of ID-105 and the instrumentation part of Method 1006 was proper.[17] He further noted that ID-105 was specifically validated for analyzing arsenic by atomic absorption but that it and other analytes, such as lead, could also be analyzed with an ICP technique. He conceded there were other validated methods for lead but that the SLTC did not use them for the analysis in this case.[18] He also conceded that after his deposition in this matter, the SLTC reviewed its operations and found there was no written procedure tying ID-105 and Method 1006 together; he stated the lab was considering making a "paper change" to Method 1006 to allow additional digestion methods providing the lab could show equivalent

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[16]Mr. Nicholson's resume is C-38.

[17]Mr. Nicholson said that while Method 1006 (C-37) was not on OSHA's website index of validated methods, it was a validated method and could be found by entering "1006" into the search field of the analytical methods part of the website. He also said his lab did not generally use Method 1006, for the reasons Mr. Erickson indicated. Finally, he said that while the "status of method" was shown as an "evaluated method," the "FV" in the control number, at the top of C-37, meant it was fully validated. Mr. Nicholson indicated the only part of Method 1006 his lab used was the analysis part, which instructs the user, at section 3.5.1, to follow the manufacturer's standard operating procedures for the particular ICP-MS instrument. (Tr. 650-54, 703-14).

[18]He indicated his lab had the equipment to perform analysis with these other methods, such as ID-125G; he also indicated that when ID-125G was written no ICP-MS instruments were available for general use in the industry. He said the two types of ICP that are now available are atomic emission ICP and ICP-MS; each has its own specific operating procedure. (Tr. 636-37).

instrumental performance. Mr. Nicholson said that in implementing the ICP-MS analysis, the lab had run a number of samples that showed comparable results with older techniques; however, he was unsure if the lab had kept formal records in that regard. He also said not all methods used in labs were validated methods, and he noted the methods development team at his lab could take a year or more to go through the full validation process. (Tr. 610, 631-54, 694-700, 703-14).

Mr. Nicholson further testified that he was the individual at SLTC who calculated a new SAE due to the pump calibration problem. He said he did the calculation on or about October 20, 2008, and he identified C-33 as his e-mail and an attachment with the new SAE calculation. He also said he did the calculation by adding an additional 2 percent error on top of the original 5 percent error; specifically, he squared each source of error, summed them together, and then took the square root of the total. He stated he combined the error rates appropriately; he disagreed that he should have added the two error rates and then squared 7 for a total of 49, rather than squaring 2 and squaring 5 and adding those together for a total of 29. He further stated he had pooled errors before, although not in a situation exactly like this one, and he admitted that while he had taken statistics courses and had a basic understanding of statistics, he was not a statistician. (Tr. 662-77, 723-25).

Testimony of Robert Lieckfield

Robert Lieckfield is the division director for laboratory services at Bureau Veritas North America ("Veritas"), a large international concern with a health, safety and environment component; he is responsible for lab operations in three cities in the United States, and he directs the industrial hygiene consulting group in one of those cities.[19] Mr. Lieckfield has a B.S. in chemistry, a year of graduate school in forensic science, and a graduate degree in business. For 20 to 25 years, he has been directly involved in developing lab methods for clients; clients have included the EPA, NIOSH, and the U.S. Air Force, and his work has involved overseeing sampling and analytical work. He was an AIHA site assessor for 10 years (with two years as lead assessor), has taught a university graduate course for 20 years in industrial chemical sampling and analysis, and has written chapters on industrial hygiene, lab design and sampling methods for "Patty's Industrial Hygiene," an industrial

[19]Mr. Lieckfield worked for Clayton Group Services ("Clayton"), an industrial hygiene and lab consulting firm, from 1976 to 2005, when Veritas acquired Clayton. His resume is R-12.

hygiene handbook. Mr. Lieckfield has 32 years of experience in his field. He was accepted as an expert in, *inter alia*, laboratory analysis, industrial hygiene, and analytical methods. (Tr. 728-36).

Mr. Lieckfield testified that he had reviewed OSHA's lead sample analytical results in this case and the deposition testimony of Messrs. Nicholson and Erickson; he also reviewed the analysis methods used for the Six Flags samples. It was his opinion that OSHA's conclusion that an employee was overexposed to lead was not supportable. He said AIHA policies require labs to use validated methods, to assure reliable data. He also said he had reviewed ID-105, and that while it was a validated method for arsenic it was not, in his opinion, validated for lead; he had not found it listed on the websites of OSHA, NIOSH or AIHA as validated for lead. Mr. Lieckfield did not read section 5.5.3 to mean that ID-105 was validated for lead; rather, he read it to mean that if OSHA had sampled for arsenic and wanted to also analyze the sample for other metals it could do so. He pointed out that the ICP method noted at section 5.5.3 did not mean ICP-MS, as ICP and ICP-MS were two different methods.[20] He also checked various websites to find an ICP-MS method that would indicate OSHA had complied with AIHA policy but did not find one. Mr. Lieckfield opined that using parts of different validated methods was not good practice and would not be in accordance with AIHA. He said the absence of accreditation would not necessarily invalidate the scientific basis of a particular analysis but that the analysis would not be defensible. (Tr. 736-45, 773-74).

Mr. Lieckfield further testified that he had reviewed C-33 and that, based on his expertise in analytical error and analytical results, the recalculation was an incorrect application of the equation. He explained that separating out the two pump error rates was improper and that combining them would have been the appropriate way to recalculate the SAE; specifically, reading from C-33, he said the equation should have been .029 divided by 1.001 squared plus .07 squared. Mr. Lieckfield stated that he had recalculated the SAE, based on the proper application of the equation, and that the severity of the employee's exposure was .995; he also stated that because that number was less than 1, the sample was below the 50 μg/m3 PEL of the standard.[21] (Tr. 739, 746-52).

Discussion

[20]He agreed that ICP-MS was a scientifically valid approach for an analysis. (Tr. 774).

[21]The recalculation shows the exposure severity to be .997, not .995. (Tr. 1476-77; R-16).

As noted above, Respondent contends that the sampling results were invalid because the IH's monitoring was improper.[22] It asserts, for example: that her placement of the sampling cassettes was not within ***{Redacted}***'s "breathing zone," as required; that she did not adequately observe the sample collection, rendering the samples suspect; and that, due to the number of samples taken for lead, and the fact that she was also changing the cassettes for lead and hexavalent chromium during her sampling, the IH could have confused the cassettes and their identification is thus suspect. *See* R. Brief, pp. 41-45.

In regard to the placement of ***{Redacted}***'s lead sampler, IH Nash testified on direct that she would have attached it to an area around his breathing zone; specifically, because he had on an air-line hood, she would have clipped it to the hood near his shoulder. (Tr. 117-18). During cross-examination, she agreed that in her deposition she said she put it on his shoulder. She then repeated that she had put it on the hood, but also said she would have clipped it to his shoulder, "2 to 4 inches from his shoulder." She conceded she did not know exactly where she put the sampler but later stated that while she did no measurement, she clipped it on his shoulder and it hung down about 2 inches from the clip. (Tr. 299-303, 306-07, 431). The IH identified C-6b as a photo she took of ***{Redacted}*** spray painting and C-6c as a blowup of C-6b. (Tr. 55-56). She agreed C-6c did not show the samplers but noted the photo was blurry. She then stated that, as the hood draped over his shoulders, she clipped the samplers about 2 inches above his shoulders, that is, two samplers on one side and one on the other. (Tr. 347-53, 360). The IH also identified C-39 and C-40 as further photos she had taken of ***{Redacted}*** spray painting; C-39 shows ***{Redacted}*** with three sampling pumps on his back, and C-40, a side view, shows a sampler hanging over his right front shoulder. (Tr. 880-88).

Respondent contends that the foregoing shows the samplers were not within ***{Redacted}***'s breathing zone, citing to C-34, the OSHA Manual. I disagree. C-34 states the sampler should be put "as close as practical to the nose and mouth of the employee, i.e., in a hemisphere forward of the shoulders with a radius of approximately six to nine inches." (C-34, II: 1-3). Although IH Nash's testimony was not perfectly clear, it persuades me, together with C-40, that she placed the samplers within ***{Redacted}***'s breathing zone as required. C-20, a photo the IH took as ***{Redacted}*** was being

[22]The IH's use of the DC-Lite to calibrate the sampling pumps is addressed *infra*.

sampled, supports my conclusion; C-20 plainly shows a clip on ***{Redacted}***'s left shoulder and a sampler hanging down 2 to 4 inches from the clip. (Tr. 152). Further, I observed the IH's demeanor and found her a credible and convincing witness; I have also noted her credentials and experience, *supra*. There were times when she appeared to be somewhat confused or flustered during her testimony. However, I attribute any such confusion or lack of clarity to Respondent's vigorous cross-examination of her. IH Nash's testimony is credited, and Respondent's first assertion is rejected.

As to Six Flags' second assertion, I disagree that the IH inadequately observed the sample collection. IH Nash testified that while ***{Redacted}*** was being sampled, she was outside the building but observed him through a window and also an entry door to the paint room. She agreed that during the sampling, she took a photo of the ventilation on the side of the building; she also went to observe ***{Redacted}*** in a room adjacent to where ***{Redacted}*** was. She stated, however, that the majority of her time was spent observing ***{Redacted}***. She also stated that while he painted, she had to change his isocyanate sampler every 10 to 15 minutes; further, she put on a new lead sampler for each of his work operations, and every time she changed a sampler she checked all the pumps and samplers to make sure everything was in place. (Tr. 113-14, 296-98, 307-08, 357-61). Based on the IH's testimony, I reject Six Flags' assertion. I also reject its suggestion that the samplers could have fallen off and ***{Redacted}*** replaced them, making the samples invalid. (Tr. 358-60). There is no evidence in the record to support Respondent's suggestion, and I find it to be sheer speculation.

With respect to Six Flags' third assertion, I do not agree that the IH confused the samples. The IH's testimony shows that she took 13 samples for lead at the site, *i.e.*, seven air samples (three for ***{Redacted}***, two for ***{Redacted}***, one for ***{Redacted}***, and one for herself), three bulk samples, and 3 wipe samples; of these, only the one air sample for ***{Redacted}***, taken during his spray painting, detected lead. (Tr. 308-09, 315-25). The IH also testified about how she put the relevant information about ***{Redacted}***'s sampling on worksheets and how she gave a specific number to each of his lead samples, that is, SF1PB, SF5PB and SF6PB. She further testified about how she put each sample taken into a ziplock bag, which she kept in her shoulder bag, and how she later mailed the bagged samples to the SLTC in a box.[23] When she received C-19, the analysis results, she noted that the

[23]Although the IH did not say so, it is clear from Mr. Erickson's testimony, *supra*, that the sampling worksheets accompany the OSHA inspector's samples.

three numbers reflecting ***{Redacted}***'s lead sampling were on C-19 and that the only overexposure related to ***{Redacted}***'s second sample, SF5PB. (Tr. 112-22, 128-36). I found the IH's testimony about how she took her samples credible, and the fact that she gave ***{Redacted}***'s samples specific numbers, which were reflected on her sampling worksheets and on C-19, convinces me the IH did not confuse her samples. IH Nash's years of experience are set out above, as are her education and training. I simply do not believe that an IH with her qualifications would confuse her monitoring samples, as Respondent suggests. Six Flags' third assertion is rejected.[24]

Turning to the calibration of the Escort ELF pump with the DC-Lite calibrator, the record plainly shows that doing so affects the pump's operation. Specifically, the 1997 Escort ELF manual states, on page 5-2, that the DC-Lite should be used with the Escort ELF only if an isolating flow restrictor is "placed in line between the pump and the calibrator." The manual goes on to state that the "[f]ailure to use such an isolation technique can cause a calibration inaccuracy on the order of 2% and is not recommended." *See* R-3, p. 5-2.[25] The 2000 operating instructions for the DC-Lite contain essentially the same statement. *See* R-7, p. 13, § 9.2.[26] C-34, the OSHA Manual that was in effect when IH Nash did her monitoring at Six Flags, did not contain the statement about not using the DC-Lite with the Escort ELF. However, as the IH testified, at the end of June 2008, well after she had received the analysis results for ***{Redacted}***, the IH learned that the new OSHA Manual prohibited using the DC-Lite with the Escort ELF as doing so affected the pump's operation; the notice was in C-35, a June 24, 2008 OSHA directive, and the prohibition is on page 36 of R-1, the updated OSHA Manual. The IH contacted OSHA's Cincinnati Technical Center and learned there could be a 2 percent error from using the DC-Lite with the Escort ELF; she then contacted the SLTC and learned the 2 percent error could be pooled with the SAE calculation the SLTC used. (Tr. 67-93).

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[24]Six Flags has made various other arguments in its attempt to establish that IH Nash's sampling was improper. I have considered them all and find none of them persuasive.

[25]The 1995 manual for the ESCORT ELF does not contain this statement. (R-1, p. 5-1)

[26]A November 17, 2008 joint stipulation makes it clear that R-7 applies to the DC-Lite that IH Nash used to calibrate the sampling pumps she used at Six Flags.

As set out *supra*, Mr. Nicholson testified about how he applied the additional 2 percent pump error to SLTC's SAE calculation; C-33 shows his recalculation.[27] (Tr. 662-77, 723-25).

I have carefully reviewed the testimony of Mr. Nicholson and Mr. Lieckfield in regard to the recalculation of the SAE. I observed the demeanor of these individuals as they testified, and I found both to be credible witnesses. Further, they have similar educational backgrounds, although Mr. Lieckfield had an additional year of graduate study, and their years of experience in their respective fields are comparable (32 for Mr. Lieckfield; 30 for Mr. Nicholson). However, Mr. Lieckfield was offered and accepted as an expert in various areas, including lab analysis, industrial hygiene, analytical methods, and analysis inaccuracy. (Tr. 735-36). Mr. Nicholson was not offered as an expert. In addition, while he believed he had recalculated the SAE correctly, he conceded he had not pooled error rates in a situation exactly like this one before; he also admitted that while he had taken statistics courses and had a basic understanding of statistics, he was not a statistician. (Tr. 664-66, 673). Mr. Lieckfield, on the other hand, testified that based on his expertise in analytical error and analytical results, the recalculation in C-33 was an incorrect application of the equation. He also testified that he had recalculated the SAE, based on the proper application of the equation, and that because that number was less than 1, the sample was below the 50 µg/m3 PEL of the standard. (Tr. 739, 746-52). In view of the fact that Mr. Lieckfield was accepted as an expert in areas specifically relevant to the issue to be determined, that is, analytical error and analytical results, I credit his testimony over that of Mr. Nicholson. I find, accordingly, that ***{Redacted}***'s second lead sample, taken during his spray painting work, was below the 50 µg/m3 PEL of the lead standard.[28]

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[27]Respondent has moved for sanctions against the Secretary for failing to produce the calculations and e-mails as to this issue until the hearing. R. Brief, p. 50, n.18. However, as the Secretary notes, she provided the relevant documents to Six Flags "soon after" becoming aware of the issue. As she also notes, Respondent was able to present an expert who disputed OSHA's calculations and analysis methods. S. R. Brief, p. 13. Finally, as nearly all of the lead citation items, including Item 9a, have been vacated, as set out *infra*, Six Flags has not been prejudiced.

[28]In this regard, I note that the Secretary made no attempt to present further evidence to rebut the testimony of Mr. Lieckfield. I also note that although Mr. Nicholson was listed as a potential expert rebuttal witness in her pre-hearing statement, the Secretary did not attempt to offer Mr. Nicholson as an expert at the hearing. *See* S. pre-hearing statement, page 5.

I have also carefully reviewed the testimony of Mr. Nicholson and Mr. Lieckfield as to whether combining ID 105 with Method 1006 was appropriate. As set out *supra*, Mr. Nicholson testified the two methods were both validated and that while combining them was not a validated method it was scientifically valid. He indicated that combining different methods is permissible and that not all methods labs use are validated. He said ID 105 was validated for arsenic but also for lead, due to section 5.5.3, and that while ID 105 and Method 1006 do not appear on OSHA's website as such, they are validated methods for lead. (Tr. 631-54). Mr. Lieckfield, however, testified that using parts of different validated methods was not good practice and would not be in accordance with AIHA; he noted the lack of accreditation would not necessarily invalidate the scientific basis of an analysis but that the analysis would not be defensible. Mr. Lieckfield further testified that ID 105 was not validated for lead; it did not appear as such on the websites he checked, and he read section 5.5.3 of ID 105 to mean only that if OSHA had sampled for arsenic and wanted to also analyze that sample for lead it could do so. Mr. Lieckfield said that "ICP" is not the same as "ICP-MS;" they are different methods. He also said he checked various websites to find an ICP-MS method that would show OSHA had complied with AIHA policy but had not located one. Mr. Lieckfield opined that OSHA's conclusion that an employee was overexposed to lead was not supportable. (Tr. 736-45, 773-74).

As in the SAE discussion, I found the testimony of both Mr. Nicholson and Mr. Lieckfield credible. Again, however, Mr. Lieckfield, who testified as an expert in lab analysis and analytical methods, has the superior credentials and expertise in the matters that are relevant to this issue, that is, whether the lead analysis was proper. I therefore credit his opinion that OSHA's lead analysis in this case was not appropriate and that its determination that an employee was overexposed to lead is not supportable. My conclusion is bolstered by Mr. Nicholson's statement that the SLTC had no written procedure tying ID-105 and Method 1006 together and his further statement that the lab was considering making a "paper change" to Method 1006 to allow additional digestion methods providing the lab could show equivalent instrumental performance. (Tr. 643). It is also bolstered by his statement that while his lab, in implementing the ICP-MS analysis, had run a number of samples that showed comparable results with older techniques, he did not know if formal records in that

regard had been kept.[29] (Tr. 643-44). On the basis of the record, the Secretary has not met her burden of proving either that her lead analysis was proper or that ***{Redacted}*** was overexposed to lead.[30]

The Lead Citation Items

There are eight lead citation items in this case. However, some of the items have two or more instances, resulting in a total of 13 alleged violations of the lead standard. Of these 13, 10 are dependent upon the PEL being exceeded; stated another way, if the PEL is not exceeded, the requirements of the standard do not apply and need not be met.[31] The items in which the PEL must be exceeded for the standard to apply are as follows:

Item 9a	29 C.F.R. 1910.1025(c)(1)
Item 9b	29 C.F.R. 1910.1025(e)(1)
Item 9c	29 C.F.R. 1910.1025(e)(3)(i)
Item 11a	29 C.F.R. 1910.1025(g)(2)(iv)
Item 11b	29 C.F.R. 1910.1025(g)(2)(v)
Item 11c	29 C.F.R. 1910.1025(g)(2)(vii)
Item 12	29 C.F.R. 1910.1025(i)(2)(i)
Item 13	29 C.F.R. 1910.1025(i)(3)(i)
Item 16	29 C.F.R. 1910.1025(m)(2)(i)

Based upon my finding, *supra*, that the Secretary did not establish that ***{Redacted}*** was exposed to lead over the PEL, Respondent was not required to comply with the foregoing provisions. The above items are therefore vacated. The remaining items are addressed below.

Item 10

Item 10 alleges a violation of 29 C.F.R. 1910.1025(d)(2), which requires each employer who has a workplace or work operation covered by this standard to determine if any employee may be

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[29]My conclusion is further bolstered by the fact that, as with the SAE issue, the Secretary made no attempt to present additional evidence to rebut the testimony of Mr. Lieckfield.

[30]Respondent has also urged that the lead analysis method used was not valid because it produced false positive "phantom" results on spiked calibration samples that were not deducted from the result for the sample that led to the citation items. (R. Brief, pp. 55-59). However, due to my findings set out above, I need not address this additional assertion.

[31]To prove a violation of an OSHA standard, the Secretary must show that the standard applies, that its terms were not met, that employees were exposed to the violative condition, and that the employer knew, or could have known with the exercise of reasonable diligence, of the violative condition. *Astra Pharmaceutical Prod.*, 9 BNA OSHC 2126, 2129 (No. 92-262).

exposed to lead at or above the action level.[32] The lead standard "applies to all occupational exposure to lead," with the exception of the construction industry and certain agricultural operations. *See* 29 C.F.R. 1910.1025(a)(1)-(2). The standard defines "action level" as "employee exposure, without regard to the use of respirators, to an airborne concentration of lead of ... 30 µg/m3 ... averaged over an 8-hour period." *See* 29 C.F.R. 1910.1025(a). I find that Respondent was required to conduct air monitoring to determine employee exposure to lead and failed to do so.

The IH's testimony about learning that no monitoring was done at Six Flags for lead, and her further testimony about learning what materials at the site contained lead, is set out on page 4 of this decision. The IH said air monitoring was required to determine if either ***{Redacted}***, who used lead-containing paint, or ***{Redacted}***, who fabricated Sintra board, which also could contain lead, was exposed to lead. The IH agreed that the actual amount of lead in the total paint mixture was small; the "lemon yellow" component was 2.3 ounces of the 31.8 ounces making up the total paint mixture, and the "lemon yellow" contained 22.6 percent lead, meaning the total paint mixture had about a half-ounce of lead in it and was therefore .0016 percent of the total paint mixture. She also agreed that a half-ounce would fit in an eye dropper and that OSHA did not require the reporting of lead in a paint's MSDS unless the percentage was .1 percent. (Tr. 372-82). The IH stated it is not OSHA's practice to measure quantities or percentages of contaminants in materials; rather, she monitors for exposure to hazards, regardless of the quantity of contaminants in a substance. (Tr. 1335-36). She also stated that her understanding of objective data was any data the employer had showing that employees would not be exposed to a particular contaminant above the action level under the conditions of use. She said Six Flags never showed her any data in that regard. She also said she would have required air monitoring anyway; the standard required it, and the composition of ingredients in a material, by itself, could not be relied upon. (Tr. 150-51, 362-66, 1133-35).

Respondent asserts it was not required to conduct air monitoring for lead exposure because Mr. Small, its safety manager, had made a determination based on objective data that there was no exposure to lead. Mr. Small testified that he had made this determination by taking into account the minute amounts of lead-containing paint that were used (as indicated in the MSDS's and "recipe

[32]The standard is captioned "initial determination."

cards" for the paints used), the infrequent use of lead-containing paint, and the fact that of all the paint mixed for use, about half was disposed of as waste; in making his determination, Mr. Small spoke with Mr. Schultz, the painting manager, and others, and he also considered factors such as the PPE employees used and the ventilation system in the spray painting area.[33] (Tr. 1416-24).

As noted above, the cited standard is captioned "initial determination." The next provision, 29 C.F.R. 1910.1025(d)(3)(i), is captioned "basis of initial determination," and states as follows:

> The employer shall monitor employee exposures and shall base initial determinations on the employee exposure monitoring results and any of the following, relevant considerations:
> (A) Any information, observations, or calculations which would indicate employee exposure to lead;
> (B) Any previous measurements of airborne lead; and
> (C) Any employee complaints of symptoms which may be attributable to exposure to lead.

In view of the above, I agree with IH Nash that the cited standard requires monitoring to determine employee exposure to lead; the foregoing provisions make it plain monitoring is required and that paragraphs (A), (B) and (C) are to be considered with the monitoring results. However, even assuming *arguendo* that monitoring was not required, I do not credit Mr. Small's testimony about his determination as to lead exposure. I observed Mr. Small's demeanor as he testified, and while I found him credible in some respects, other aspects of his testimony, such as that summarized above, gave the clear impression of being tailored to establish a defense for Six Flags; stated another way, some of his testimony appeared to be after-the-fact rationalization of Respondent's actions in this matter. Accordingly, to the extent that Mr. Small's testimony is inconsistent with that of another witness found to be credible, such as IH Nash, his testimony will not be credited.[34]

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[33]Mr. Small indicated he made this determination in the spring of 2006, which was about six months after he started working at the facility. (Tr. 1388, 1416).

[34]For example, Mr. Small testified that based on his conversations with Mr. Schultz, painting the rafts was not common and only about a half a gallon of the "lemon yellow" paint was mixed per year, half of which was thrown away. (Tr. 1419-20). The IH, however, testified that ***{Redacted}*** told her he painted about 30 rafts per year, although she did not know if he used the "lemon yellow" for all of them, and Mr. Schultz, when she asked him, did not know how often paint containing lead was used. (Tr. 396-98).

Based on the foregoing, Item 10 is affirmed as a serious violation; an employer who fails to conduct air monitoring for lead could be exposing employees to harmful amounts of lead that could cause serious injuries. (Tr. 155). The Secretary has proposed a penalty of $5,000.00 for this item. In assessing penalties, the Commission must give due consideration to the gravity of the violation and to the employer's size, history and good faith. *See* 29 U.S.C. § 666(j). The IH testified the violation was of high gravity because of ***{Redacted}***'s exposure over the PEL. (Tr. 155). However, the record in this case shows that the Secretary did not establish that any employees were exposed to lead over the PEL or even the action level of the standard. I find, therefore, that the gravity of the violation was low. The IH also testified that no credit was given for size, history or good faith, due to the employer's large size, its history of serious violations in the last three years, and the determination that its safety and health program had significant deficiencies. (Tr. 145, 155-56). I agree with the IH's testimony as to the penalty factors, except for gravity.[35] I conclude that a penalty of $2,500.00 is appropriate, in view of my finding of low gravity. A penalty of $2,500.00 is assessed for this item.

Item 14

Item 14 alleges a violation of 29 C.F.R. 1910.1025(j)(1)(i), which requires the institution of a medical surveillance program for all employees who are or may be exposed to lead above the action level for more than thirty (30) days per year. The evidence of record shows that the Secretary did not prove that employees were exposed to lead over the PEL or the action level of the standard. Moreover, I find that there is no evidence to establish employees could have been exposed to lead above the action level for more than 30 days per year. This item is consequently vacated.

Item 15a

Item 15a alleges a violation of 29 C.F.R. 1910.1025(l)(1)(i), which requires each employer having a workplace in which there is a potential exposure to airborne lead at any level to inform employees of the content of Appendices A and B of the lead standard. I conclude that there was a potential for exposure to airborne lead at the facility, based on the use of lead-containing materials at the site. Respondent was therefore required to comply with the standard. IH Nash testified that when she asked ***{Redacted}*** if he knew what the health hazards of lead exposure were, he indicated

[35]My agreement with the IH as to the penalty factors, except for gravity, will apply to all of the items for which a penalty is assessed; I will address gravity for each item.

he did not.[36] Further, at the closing conference, when she told those present, including Messrs. Small and Ferretti, that employees were not aware of lead's health hazards, no comment was made. The IH did not know if employees had access to computers such that they could review the appendices on OSHA's website. However, no one informed her of any such access, she saw no computers in the work areas, and it was her opinion that such access by itself was inadequate; employees would need to know what to look for on the OSHA website. (Tr. 187, 192-93, 410-11, 1172-73, 1176, 1341-42).

Mr. Small testified that his office was in the middle of the maintenance area, that he had a computer in his office, and that there were two other computers in an outer office, one of which was Mr. Ferretti's; all three had internet access, and employees had access to those computers.[37] Mr. Small said he had seen Bernie Leonard, the facility's former safety supervisor, pull up OSHA's website on his computer with an employee present to discuss a safety-related question on two occasions; as he recalled, the questions related to fall protection. Mr. Small agreed employees would have to request access to use the computers, and he did not know if employees knew how to look up information on OSHA's website on their own. (Tr. 1404-06, 1508-11, 1529).

In view of the foregoing, I find employees were not informed of the content of Appendices A and B of the standard. I found the IH's testimony set out above credible, and that no one ever mentioned to her that employees had access to computers to look up information on OSHA's website persuades me employees did not do so. Even if employees could request access to computers, as Mr. Small indicated, he did not know if they knew how to look up information on OSHA's website on their own. Based on the record, Respondent was in violation of the cited standard. I agree with the IH that the violation was serious, in that there was a potential for exposure to lead and lead exposure can cause serious illness. A penalty of $2,000.00 has been proposed for Item 15. Because Item 15b has been vacated, *infra*, I find that a penalty of $1,000.00 is appropriate for Item 15a; it is also appropriate given the low gravity of the condition, in that no exposure over the PEL or action level has been shown in this case. A penalty of $1,000.00 is assessed.

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[36]Appendix A describes the health hazards of lead exposure; Appendix B summarizes the lead standard's requirements.

[37]Mr. Small indicated employees could also use their supervisors' computers and that there was at least one other computer in the facility employees could utilize. (Tr. 1508).

Item 15b

Item 15b alleges a violation of 29 C.F.R. 1910.1025(l)(1)(ii), which requires the employer to institute a training program for all employees who are subject to exposure to lead at or above the action level or for whom the possibility of skin or eye irritation exists. As found *supra*, there is no evidence in the record that employees were subject to exposure to lead at or above the action level. Further, IH Nash testified that she would not have anticipated skin or eye irritation in this case. (Tr. 188). The Secretary has not shown a violation of the cited standard. This item is vacated.

Items 3 through 8 – Alleged Respiratory Protection Violations

Item 3

Item 3 alleges a violation of 29 C.F.R. 1910.134(d)(3)(iii)(B)(2); that standard states that:

> If there is no ESLI[38] appropriate for conditions in the employer's workplace, the employer implements a change schedule for canisters and cartridges that is based on objective information or data that will ensure that canisters and cartridges are changed before the end of their service life. The employer shall describe in the respirator program the information and data relied upon and the basis for the canister and cartridge change schedule and the basis for reliance on the data.

IH Nash testified that in the paint/fiberglass area and in the sign shop, employees wore North 7700 air-purifying respirators for various activities; the respirators were equipped with organic vapor cartridges and some also had pre-filters.[39] She also testified the cartridges did not have ELSI's on them and that Six Flags had not implemented a change schedule for the cartridges. ***{Redacted}*** and ***{Redacted}*** wore half-mask respirators for tasks such as sanding, painting and applying fiberglass, and while ***{Redacted}*** said he changed his cartridge once a week or once a month, ***{Redacted}*** said he wasn't told when to change his cartridge; the paints they used contained chemicals like toluene, methyl isobutyl ketone, butyl acetate and isocyanate, and the fiberglass process used styrene.[40] Further, ***{Redacted}***, a sign shop worker, said his supervisor told him to wear the respirator when he

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[38]"ESLI" means end-of-service-life indicator. *See* 29 C.F.R. 1910.134(b).

[39]The IH identified C-12a as a half-face respirator used in the sign shop and C-12b, which was later admitted as part of C-15, as a pre-filter. She said that employees in the paint/fiberglass area used both half-face and full-face air-purifying respirators. (Tr. 947-52, 1360-62).

[40]The MSDS's for the paints used in the paint area are C-7-9; the IH said the chemicals in the paints could cause problems related to the central nervous system. (Tr. 952-55).

made doors and prepared the glue or resin for the doors.[41] ***{Redacted}***, another sign shop worker, said he had been at the facility for about four months and had been told to wear the respirator but was not told when to change the cartridges.[42] The IH identified C-13 as Six Flags' respiratory protection program. C-13 states that associates required to wear respirators must be adequately trained in the care and maintenance of the respirators they use; it also states, on page 6, that:

> Frequent and random inspections shall be conducted by the safety department. These inspections will assure that respirators are properly selected, fitted, used, cleaned and maintained.

C-13 further states, on page 4, in element C, that employees should be trained in cartridge changing frequency. The IH said that not having a change schedule was a hazard as any contaminants on cartridges could de-sorb into the face piece and be inhaled by the employee; in this regard, she pointed out that ***{Redacted}*** told her he had not changed his cartridge in years. She also said the violation was serious due to the chemicals involved and the fact that no air monitoring was done to determine employee exposure. (Tr. 946- 67).

Respondent contends that, as there was no evidence to show employees were overexposed to any contaminants, respirator use at the facility was voluntary and it was not required to comply with the cited standards relating to respiratory protection. R. Brief, pp. 19-21. This contention is rejected. The IH's testimony above shows employees were exposed to a number of hazardous chemicals in their work. Further, while the IH agreed that Steve Ron, the sign shop/mill manager, told her respirators were not required for any tasks (Tr. 1153, 1347), I do not find Mr. Ron's statement credible in light of what ***{Redacted}*** and ***{Redacted}*** told her. The IH also noted that ***{Redacted}***, ***{Redacted}*** and Schultz all indicated respirators were required in the paint/fiberglass area.[43] (Tr. 1340). Based on the record, I find that Respondent required respirators to be used for

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[41]Items 26 and 27, *infra*, show that employees in the mill area used a resin or glue that contained formaldehyde to make doors and that use of the resin posed a serious hazard.

[42]IH Nash identified C-14 as the MSDS for a paint that was also used in the sign shop; it contained xylene, butyl acetate, ethylbenzene and naphthalene, and inhaling it could affect the brain and the nervous and respiratory systems. (Tr. 955-97).

[43]The IH agreed that the specific statement of Mr. Schultz, the paint/fiberglass area manager, was that respiratory protection is supplied to employees as needed and that if a

work performed in the paint/fiberglass area and for work in the sign shop involving the paint in C-14 and the resin or glue.[44]

Even assuming *arguendo* that respirator use was voluntary, I agree with the Secretary that Six Flags was required to comply with the cited standards relating to respiratory protection. S. R. Brief, p. 4. As the Secretary notes, 29 C.F.R. 1910.134(2)(i) and (ii) provide that:

> (2) Where respirator use is not required:
> (i) An employer may provide respirators at the request of employees or permit employees to use their own respirators, if the employer determines that such respirator use will not in itself create a hazard. If the employer determines that any voluntary respirator use is permissible, the employer shall provide the respirator users with the information contained in Appendix D to this section ("Information for Employees Using Respirators When Not Required Under the Standard"); and
> (ii) In addition, the employer must establish and implement those elements of a written respiratory protection program necessary to ensure that any employee using a respirator voluntarily is medically able to use that respirator, and that the respirator is cleaned, stored, and maintained so that its use does not present a health hazard to the user. Exception: Employers are not required to include in a written respiratory protection program those employees whose only use of respirators involves the voluntary use of filtering facepieces (dust masks).

On the basis of the foregoing, I find that the Secretary has proved the alleged violation. Six Flags asserts the violation was due to unpreventable employee misconduct. To prove this affirmative defense, as the Secretary points out, the employer must show that it (1) established a work rule to prevent the reckless behavior and/or unsafe condition from occurring, (2) adequately communicated the rule to its employees, (3) took steps to discover incidents of noncompliance, and (4) effectively enforced the rule whenever employees transgressed it. *P.Gioioso & Sons, Inc., v. OSHRC*, 115 F.3d 100, 109 (1st Cir. 1997). Further, it is only after taking all reasonable measures to prevent employees

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respirator will help protect an employee while he is working then it is required. (Tr. 1347).

[44]In making this finding, I have noted Mr. Small's testimony that, at the time of the inspection, no designation had been made that respirators were required for employees. (Tr. 1432-33). In light of my credibility findings *supra*, I do not credit Mr. Small's testimony. In addition, I have considered his testimony that new cartridges or filters were required for every use of a respirator. (Tr. 1437-38). C-13 does state that respirators must be cleaned after use and that new filters or cartridges must then be inserted prior to use. (C-13, pp. 6-7). However, based on the record, Six Flags did not communicate or enforce this policy at the facility.

from violating the rule that the employer may evade liability for the violation. *American Dental Ass'n v. Martin*, 984 F.2d 823, 829 (7th Cir. 1993). *See* S. Brief, p. 78.

As set out in footnote 44, Mr. Small testified about the facility's rule in C-13, as to inserting a new cartridge or filter in a respirator prior to use. (Tr. 1437-38). However, as also set out in that footnote, it is clear from the evidence that the rule was not communicated or enforced. Six Flags' employee misconduct defense is rejected, and Item 3 is affirmed as a serious violation. The record shows employees were exposed to hazardous chemicals, and, as the IH testified, not having a change schedule for respirator cartridges was a serious hazard as the contaminant could de-sorb into the face mask and be inhaled. (Tr. 965). The IH also testified that the violation was high gravity and lower probability, resulting in a proposed penalty of $2,500.00. (Tr. 967). I agree with the gravity determination, and I find the proposed penalty appropriate. A penalty of $2,500.00 is assessed.

Item 4

Item 4 alleges a violation of 29 C.F.R. 1910.134(e)(1), which requires the employer to provide a medical evaluation to determine the employee's ability to use a respirator, before the employee is fit-tested or required to wear the respirator. IH Nash testified that during the inspection she requested records relating to the medical evaluations. Upon reviewing the records, she saw that evaluations had been done for a number of individuals in 2005 but that no evaluations had been done for ***{Redacted}*** and ***{Redacted}***; both employees had been at the facility for about four months, and both used respirators. The IH further testified that not having a medical evaluation was a serious hazard; respirators can put stress on the respiratory and cardiovascular systems, and the evaluation looks at the employee's history in regard to those systems. (Tr. 967-71).

Respondent contends the cited condition was due to the unpreventable employee misconduct of Bernie Leonard, its prior safety supervisor. It notes that its respiratory protection program requires a medical determination that an employee, before using a respirator, is physically able to wear one. *See* C-13, p. 1. It also notes Mr. Small's testimony about Mr. Leonard. R. Brief, pp. 25-26. Mr. Small testified that Mr. Leonard had primary responsibility for safety and health matters in the maintenance building, including respirator, chemical safety and BBP requirements. He noted that at the beginning of 2006 Mr. Leonard was doing a good job, but, about mid-year, he began showing signs of not meeting his responsibilities, such as not finishing assignments. Mr. Small began documenting the

problems, and he counseled Mr. Leonard about them. By early 2007, after other problems had occurred, like Mr. Leonard not showing up for work, Mr. Small told his superiors "he was done," and he provided all the information he had to the human resources staff for the process to be finalized; in the meantime, he began searching for a replacement and selected Mr. Ferretti. Mr. Small said Mr. Leonard took part in the earlier inspection in 2007, as a last effort to give him a chance, but, as that inspection unfolded, Mr. Leonard's failures became even more apparent; Mr. Leonard did not take part in IH Nash's inspection. Mr. Small also said that while Six Flags was going to terminate him, Mr. Leonard ultimately resigned, on May 16, 2007. Mr. Small indicated he used the facility's disciplinary program to address the situation with Mr. Leonard. (Tr. 1390-92, 1407-10, 1460-64).

IH Nash agreed that during her inspection, she learned about Mr. Leonard and that he had been fired for not doing his job; however, she did not know any details in that regard. (Tr. 1327-34). Further, Respondent presented R-17, its disciplinary program, at the hearing; R-17 states employees are responsible for doing their jobs in a safe manner and following safety directives; it also states that safety violations will be investigated and that progressive action, depending on the circumstances, may include verbal warnings, written warnings, suspension and discharge. I have considered this evidence, together with Mr. Small's testimony, and I conclude that Six Flags has not met its burden of showing unpreventable employee misconduct. I find it difficult to believe that Mr. Leonard was allowed to stay in his position for nearly a year, from mid-2006, when problems first surfaced, to mid-May 2007, when he resigned. This is especially so in light of actions such as not completing assignments and not showing up for work; in addition, Mr. Small also said that Mr. Leonard was behaving unprofessionally with other managers and was even falsifying documents. (Tr. 1408-09). In view of the claimed situation, I cannot imagine why Mr. Leonard was simply not fired earlier and why he would have been permitted to participate in the first inspection, which began March 26, 2007. (Tr. 1350-51). After careful review of the record, I do not find it credible that Six Flags would have taken the time indicated to terminate such an obviously unsatisfactory employee, and, if it did, the failure to act earlier was not reasonable. I also note that Six Flags presented no documentary evidence to support Mr. Small's testimony about Mr. Leonard. I find, therefore, that Respondent has not proved that this citation item and others were due to unpreventable employee misconduct.

Based on the record, this item is affirmed as a serious violation. The proposed penalty for this item is $2,000.00. The IH testified that she considered this item to be of medium gravity and lesser probability because the employees who had not had medical evaluations had not been working long in their respective areas. (Tr. 972). I agree with the IH's gravity determination, and I find the proposed penalty appropriate. A penalty of $2,000.00 is accordingly assessed.

Item 5

Item 5 alleges a violation of 29 C.F.R. 1910.134(f)(1), which requires the employer to ensure that employees using tight-fitting face-piece respirators pass an appropriate qualitative or quantitative fit test. IH Nash testified that she requested records for respirator fit-testing and that the records she received showed employees had last been fit-tested in March 2006. ***{Redacted}*** and ***{Redacted}*** had not had fit tests at all, and ***{Redacted}*** and ***{Redacted}*** had not had such tests since March 2006. The IH said fit-testing is required annually and that Six Flags' program, C-13, so stated on page 2. She also said not providing fit-testing is a serious hazard; if a respirator fits improperly and there is leakage, the employee is not adequately protected from air contaminants. (Tr. 973-78).

Respondent contends this item was due to Mr. Leonard's unpreventable misconduct. That claim has been considered and rejected *supra*. Item 5 is affirmed as a serious violation. The Secretary has proposed a penalty of $2,500.00 for this item. The IH testified that this item had high gravity and low probability because of the chemicals used and the ability to inhale those chemicals if respirators did not fit properly. (Tr. 980). I agree. The proposed penalty is appropriate and is assessed.

Items 6a and 6b

Item 6a alleges a violation of 29 C.F.R. 1910.134(h)(1), which requires the employer to ensure that respirators are cleaned and disinfected by using the procedures in Appendix B-2 to § 1910.134 or those recommended by the manufacturer. Item 6b alleges a violation of 29 C.F.R. 1910.134(h)(2)(i), which requires respirators to be stored to protect them from damage, contamination, dust, sunlight, extreme temperatures, excessive moisture, and damaging chemicals; it also requires they be stored to prevent deformation of the face piece and exhalation valve.

Richard Dub is the OSHA compliance officer ("CO") who conducted the safety inspection of the facility in March 2007. He testified that on March 28, 2007, he observed a tool room area with a cabinet in it; Mr. Small was with him, as was Scott Cicada, an employee in the paint/fiberglass

area. The CO opened the cabinet and saw a North 7700 half-mask air-purifying respirator inside; the respirator was dirty, the shelf it was on was also dirty, and there were rags on the respirator. Mr. Cicada told him the cabinet was his, as was the respirator; he also told him he had last used the respirator two weeks before, that he used it for sanding and grinding, and that did not clean the respirator until he used it again. The CO identified Exhibit 15 as a photo of the respirator, which he described as dusty and having paint on it. He said he had reviewed Six Flags' respiratory protection program and that it required employees to clean respirators after each use and to store them in plastic bags. He also said the respirator's condition violated the cited standards. (Tr. 1349-65).

Respondent's respiratory protection program, C-13, states on page 6 that respirators must be cleaned and disinfected after use by each individual. It also states that, after cleaning and air drying, the respirator must be placed in a clean dry plastic bag or container for storage in an assigned area. Based on C-13 and the CO's testimony, Mr. Cicada did not follow Six Flags' program. However, the CO agreed the cited standard did not require cleaning respirators after each use but rather as often as necessary so they are sanitary. (Tr. 1368-69). *See also* 29 C.F.R. 1910.143(h)(1)(ii). He also agreed he had no reason to doubt what Mr. Cicada told him. (Tr. 1368). Finally, the CO agreed respirators do not have to be stored in plastic bags and that, if Mr. Cicada cleaned the respirator as he said before use, storing it as it was in the cabinet did not harm it. (Tr. 1369-75). In view of the record, I find the Secretary has not proved the alleged violations. Items 6a and 6b are vacated.

Item 7

Item 7 alleges a violation of 29 C.F.R. 1910.134(i)(8), which requires breathing air couplings to be incompatible with outlets for non-respirable work-site air or other gas systems. IH Nash testified that in the paint/fiberglass area, there were two different sets of ports into which hoses could be inserted to supply air. She noted that, as depicted in C-16, the left-hand set was labeled as "Breathable Air Grade D," while the right-hand set had no label; she further noted that three of the left-hand ports had hoses attached to them that employees used for the breathing air going to their air-line hoods, while one of the right-hand ports had a hose attached that supplied compressed air for employees to use with their tools.[45] The IH said the couplings on the ends of the breathing air

[45]The IH determined the right-hand ports were not Grade D breathable air as there was no filter between the compressor and the ports. (Tr. 989).

hoses and those on the ends of the compressed air hoses were the same, such that an employee could attach his breathing air line to the coupling for the compressed air hose, which did not provide Grade D breathing air.[46] She also said the condition was serious, in that an employees could use the wrong air hose and be exposed to air contaminants. The IH spoke to both Mr. Schultz, the manager in the area, and Mr. Cicada, who used the air lines for breathing air; they agreed the couplings were all the same and that they would be changed. (Tr. 984- 95, 1108-13).

Mr. Small testified that he could not conceive of how an employee could confuse where the breathable air was; the employees knew where the breathable air station was, and it was clearly marked. He referred to the air from the other station as "park air" or "building air." He said it was not contaminated in any way and that the device that compressed the air was electric. (Tr. 1141-46).

I find that the Secretary has proved the alleged violation. The IH testified the couplings on the ends of the hoses were all the same and that Mr. Schultz and Mr. Cicada confirmed this was so. (Tr. 993-94). She also testified the compressor for the compressed air was at least 100 feet from the air station and that the employer could not guarantee that air was not contaminated; in this regard, I note her statement that there was no filter between the compressor and the compressed air ports. (Tr. 989, 994). Finally, the IH's testimony indicates that the coupling end of an air hose could be some distance from the air station area, such that an employee would not know which air hose he was about to use, and that the employee could thus connect his breathing air line to the wrong hose. (Tr. 991). This item is affirmed as serious, due to the fact an employee could breathe contaminated air; further, I agree that the violation had high gravity and lower probability. (Tr. 994-95). I find the proposed penalty of $2,500.00 to be appropriate, and it is therefore assessed.

Item 8

Item 8 alleges a violation of 29 C.F.R. 1910.134(k)(1), which requires the employer to provide respirator training to ensure that each employee can demonstrate knowledge of, *inter alia*, why the respirator is necessary and how improper fit, usage, or maintenance can compromise the protective effect of the respirator. IH Nash testified that employees in the sign shop/mill area were using North 7700 and Wilson safety fit respirators and had not been trained in using the respirators.

[46]C-16a shows the coupling at the end of the compressed air hose; it is the same as those on the breathing air hoses, one of which is circled at the bottom of C-16. (Tr. 992-94, 1108-13).

{Redacted} told her he had been working at the facility four months, that Mr. Leonard had told him to wear the North 7700 respirator when he painted, and that he had not been trained in using it; he also used the respirator for sanding and was unaware that for that work he needed a pre-filter with the respirator. ***{Redacted}*** told her he had been using a Wilson safety fit respirator to prepare the glue to make doors and counter tops and to heat the items in an oven; the IH said that particular respirator was not approved for formaldehyde vapors, which the glue can give off when heated.[47] She also said the hazard of not being trained was that the employees believed they were protected when they were not. IH Nash noted that while C-13 set out respirator training requirements, the employer could provide her no information to show the employees were properly trained. (Tr. 995-1012).

Respondent contends that this violation was due to the unpreventable employee misconduct of Mr. Leonard, its previous safety supervisor. This contention has been considered and rejected *supra*. This item is affirmed as a serious violation; the foregoing, along with the discussions in Item 3, *supra*, and Items 26 and 27, *infra*, establish that at least one paint used in the sign shop and the glue used in the mill contained hazardous chemicals and that employees were not trained as required in the respirators used for working with the chemicals. The IH testified she considered the gravity of this item to be medium and the probability lower. (Tr. 1013). I agree with the IH and conclude that the proposed penalty of $2,000.00 is appropriate. That penalty is assessed.

Items 19 through 25 – Alleged Violations of OSHA's BBP Standard

Item 19

Item 9 alleges a violation of 29 C.F.R 1910.1030(c)(1)(iv), which states that:

> The Exposure Control Plan shall be reviewed and updated at least annually and whenever necessary to reflect new or modified tasks and procedures which affect occupational exposure and to reflect new or revised employee positions with occupational exposure.

IH Nash testified that Six Flags had a BBP exposure control plan that had not been reviewed or updated as required. She identified C-25 as the Six Flags plan; its effective date was June 2004,

[47]C-29, the MSDS for the glue, or resin, states on page 3, in the respiratory protection section, that "[r]espiratory protection may be required if material is used in poorly ventilated areas or if material is heated or to prevent exposure to airborne dust." The IH noted that she had researched the Wilson safety fit respirator on NIOSH's website and learned it was not approved for use with formaldehyde. (Tr. 1095-1100; C-41).

and there was nothing to indicate any reviews or updates. The IH spoke to Mr. Small, who indicated there was a physician Six Flags contracted with who reviewed the facility's first aid procedures annually; however, when she asked Mr. Small for documentation that the plan had been reviewed or updated, none was provided. The IH said the standard required the review or update to be in writing. She also said that Six Flags was aware of the hazards of BBP's; it had a plan that designated employees in certain departments to respond to injuries to employees or guests, and it also had a seasonable handbook that set out the hazards of exposure to BBP's. (Tr. 200-09, 508-09; C-26).

Mr. Small testified that Six Flags' method as to its BBP plan was to review it and to indicate a revision date only if something changed; if nothing changed, there would be no revision date. He also testified that Dr. Skinner was the individual who reviewed the BBP plan. (Tr. 1511-12).

Dr. Benjamin Borak is the expert Respondent retained to testify on the items relating to OSHA's BBP standard. Dr. Borak is a clinical professor of epidemiology and public health at Yale University, an associate clinical professor of medicine at Yale University, and an adjunct clinical professor of medicine at Johns Hopkins University. He is board certified in internal medicine and occupational medicine and toxicology, he was the director of an inner city emergency department and trauma center in New Haven from 1979 to 1988, and he has written BBP programs for hospitals and corporations; he has also implemented such programs in hospitals.[48] (Tr. 782-85).

Dr. Borak testified that it was appropriate for a doctor to review an employer's BBP program. He further testified that he had had several conversations with Dr. Jeffery Skinner, an emergency physician who had a contract with Six Flags to oversee its first aid program; according to Dr. Borak, Dr. Skinner had assured him he had reviewed Six Flags' BBP program annually. However, when asked if that review was limited to first aid employees or if it covered the entire BBP program, Dr. Borak stated that it was his understanding that it covered the entire program but that he could not say so "with 100 percent certainty." (Tr. 794-97).

In view of the above, I find the Secretary has proved the alleged violation. C-25 shows that the effective date of the plan was June 2004. (Tr. 1514). Further, as the IH testified, the review of the BBP plan must be documented; 29 C.F.R 1910.1030(c)(1)(iv)(A)-(B) require the plan to reflect

[48]Dr. Borak's CV, which is extensive, is R-13; he was accepted as an expert. (Tr. 788-91).

changes in technology that eliminate or reduce exposure and the employer to "[d]ocument annually consideration and implementation of appropriate commercially available and effective safer medical devices designed to eliminate or minimize occupational exposure." Moreover, while Dr. Borak believed Dr. Skinner's review covered the entire BBP plan, he conceded he could not say so with 100 percent certainty. (Tr. 797). Finally, Respondent's counsel stated that he would present Dr. Skinner at the hearing to testify in this regard but did not do so. (Tr. 797). Based on the record, Six Flags was in violation of the cited standard, and this item is affirmed.

The Secretary has proposed a penalty of $2,500.00 for this item. The IH testified that this item was a high-gravity, lesser-probability serious violation, due to the hazard of exposure to BBP's, which can cause serious illness or death. (Tr. 212-13). I agree. While I conclude that Dr. Skinner did in fact review the facility's first aid BBP procedures on an annual basis, there is no evidence he reviewed the rest of the BBP plan. Further, there is no evidence that Dr. Skinner's review complied with the specific provisions of 29 C.F.R 1910.1030(c)(1)(iv)(A)-(B), set out above. In view of the record, I find that the proposed penalty of $2,500.00 is appropriate. That penalty is assessed.

Item 20

Item 20 alleges a violation of 29 C.F.R. 1910.1030(c)(1)(v), which provides as follows:

> An employer, who is required to establish an Exposure Control Plan shall solicit input from non-managerial employees responsible for direct patient care who are potentially exposed to injuries from contaminated sharps in the identification, evaluation, and selection of effective engineering and work practice controls and shall document the solicitation in the Exposure Control Plan.

IH Nash testified that employees in Six Flags' first aid department treat injured guests and employees and that that treatment at times involves the use of needles and other "sharps." She spoke to Tom Willming and Rick Glavey, supervisor paramedics in the first aid department; she also spoke to Michael Pals, an EMT in that department. All three said they used devices such as IV's and lancets in their work and that they were not involved in selecting the devices; Mr. Willming also said they had been using the same devices for about three years. When she asked management about this issue, Messrs. Small and Ferretti told her Bernie Leonard was in charge of the first aid department; further, when she asked for documentation as to the selection of the devices, none was provided. The IH determined the condition was serious, in that first aid employees were at risk for exposure to

BBP's and were not involved in selecting the devices. She noted that while the employees were using appropriate "safer medical devices," there was nothing to show that a review had been made to determine if newer technology was available. (Tr. 214-20, 500-07).

Mr. Small testified that there were first aid employees at Six Flags who were professionally-certified emergency responders; these employees belonged to a professional organization in the area that governed their activities, and at least two of them, one of whom was a medical officer, attended the professional meetings in which first aid best practices were determined. He further testified that one of these individuals was responsible for advising Six Flags what devices were needed and that there were conversations "all the time" in the first aid department about the best practices and best available equipment. Mr. Small indicated that Dr. Skinner oversaw the evaluation and selection of medical devices used in Six Flags' first aid department. (Tr. 1517-18).

Respondent asserts the IH's conclusions were based on discussions with three of many first aid employees; in this regard, the IH agreed she was told there were 35 employees in the first aid department and approximately 175 employees in emergency response and security. (Tr. 507). Respondent notes that the IH herself conceded the devices used were appropriate and there was no requirement they be changed yearly; she also agreed that the only criticisms she recalled were one employee stating that they had been using the same devices for three years and another stating that he didn't mind the devices in use but thought there were better ones out there. (Tr. 220, 506-09). Respondent concludes the Secretary has not proved the alleged violation. R. Brief, pp. 77-78.

I disagree. The cited standard explicitly requires the employer to solicit input from non-managerial employees who are responsible for direct patient care and who have potential exposure to contaminated sharps in the identification, evaluation and selection of appropriate medical devices; the standard also explicitly requires this input to be documented. Despite Mr. Small's testimony, I find there is no evidence in the record to show that Respondent complied with the standard, and the IH's testimony supports a conclusion it did not. The violation is therefore affirmed. The IH testified this item was serious, with high gravity and lesser probability, as BBP's can cause serious illness and death. (Tr. 219-20, 239). I agree. Failure to comply with the standard could result in first aid employees having greater exposure to BBP's if the devices in use are not the latest technology that provides the highest degree of protection. In this regard, I note the evidence showing that the same

devices had been in use for three years and my finding in Item 19, *supra*, that there was no evidence that Dr. Skinner's review of Six Flags' first aid procedures met the provisions of the standard cited therein. I find the proposed penalty of $2,500.00 to be appropriate; that penalty is assessed.

Item 21

Item 21 alleges a violation of 29 C.F.R. 1910.1030(c)(2)(i)(C), which requires an employer with employees who have occupational exposure to prepare an exposure determination containing:

> A list of all tasks and procedures or groups of closely related tasks and procedures in which occupational exposure occurs and that are performed by employees in job classifications listed in accordance with the provisions of paragraph (c)(2)(i)(B) of this standard.

IH Nash testified that in reviewing C-25, Six Flags' exposure control plan, she noted there were three categories of employees indicating the levels of exposure for those individuals; in Category 2, which referred to jobs in which associates had some occupational exposure and included rides personnel, custodial function and selected maintenance personnel, there was no list of the tasks and procedures that would put those employees at risk for exposure. Darryl Weisenhaus, a park services supervisor who trained rides personnel, told her that rides "leads" and supervisors had jobs with occupational exposure and were trained to clean up blood. ***{Redacted}***, a rides supervisor, told the IH she cleaned up blood about once a month and that leads would do so once or twice a week, and ***{Redacted}***, a rides lead, told her she cleaned up blood in her area. Kristy Moses, a water park manager, told the IH that leads and supervisors in her area were responsible for cleaning up blood. The IH said the standard required the listing of tasks and procedures in which occupational exposure would occur; she also said the condition was serious because of the risk of exposure to BBP's, which can cause serious diseases like hepatitis B. (Tr. 227-37, 246-50).

Respondent contends it was not in violation of the cited standard, noting the testimony of Dr. Borak. R. Brief, pp. 78-80. Dr. Borak testified that the accepted medical approach was to classify workers based on expected duties and probability of exposure. He further testified he had reviewed C-25, Six Flags' plan, and that in his opinion it was a fairly standard way of classifying workers and was consistent with OSHA requirements and accepted medical practice. Dr. Borak stated that rides personnel, who had some exposure to BBP's, were properly in Category 2 of C-25 and that the job tasks were "subsumed in the job categories." He also stated that C-25, which included training in

universal precautions for all employees and other training requirements (set out on pages 10-11 of C-25), appeared complete and met accepted medical practice. (Tr. 797-800, 805-13).

Despite Dr. Borak's testimony, I find that C-25 did not meet the cited standard. C-25 properly classified rides personnel as employees having some occupational exposure. However, it did not set out the tasks and procedures in which their exposure occurred, which is the specific requirement of the standard. This item is thus affirmed as serious; I find the failure to set out the explicit tasks and procedures in which rides and water park workers were exposed to BBP's is serious as the standard's intent is to protect against life-threatening diseases. I do not agree that the gravity of the violation was high. (Tr. 238). The record shows Mr. Westerhaus trained park services, rides and water park employees in how to clean up blood. (Tr. 246-50, 256-57). It also shows employees were trained in universal precautions, such as wearing gloves. (Tr. 1520-21). Further, the citation has no allegations relating to universal precautions. (Tr. 810). I conclude the violation had medium gravity and low probability. A penalty of $2,500.00 has been proposed for this item. In view of the medium gravity, I find a penalty of $1,500.00 to be appropriate. A penalty of $1,500.00 is therefore assessed.

Item 22

Item 22 alleges a violation of 29 C.F.R. 1910.1030(d)(4)(ii)(A), which requires contaminated work surfaces to be decontaminated with an appropriate disinfectant after completion of procedures. IH Nash testified that employees were using diluted bleach as a disinfectant to clean surfaces contaminated with blood and the solution was not made up daily, or every 24 hours. She noted that C-25, Six Flags' BBP exposure control plan, stated that personnel should clean items with soap and water and then apply a disinfecting solution such as a bleach and water 1:10 solution; it also stated that a fresh bleach solution should be made every day. *See* C-25, p. 2. The IH also testified she took C-27, which shows a bucket, a bottle of bleach solution, and other items "leads" and supervisors in a rides area used to clean up blood and other materials; she spoke to employees in the water park and in the rides department who used such solutions. (Tr. 240-44).

Dr. Borak opined that changing a 10 percent bleach solution weekly would be sufficient to retain its effectiveness, as long as it was stored in an opaque bottle; he further opined, upon viewing C-27, that the bottle with the bleach solution was opaque. Dr. Borak had reviewed C-25, the Six

Flags plan, and he agreed it stated the bleach solution should be made up daily, but it was his conclusion that that was not necessary in the circumstances at Six Flags. (Tr. 824-26, 838-51).

Angeline Loftus is IH Nash's supervisor and also the lead IH in her office; she reviewed the citation in this matter before it was issued. She testified that OSHA's compliance directive as to the BBP standard recommended making up bleach solutions daily to ensure efficacy. She further testified that the cited condition was a violation; the solution was not made up daily, and the bottle in C-27 "allowed the light to go through." (Tr. 1274-77, 1280-83).

The above shows Six Flags did not comply with its BBP plan requiring the bleach solution used for disinfection to be made up daily. Further, I find the bottle in which the solution was stored was not opaque. As Dr. Borak indicated, "opaque" means not clear or transparent. (Tr. 838-41). IH Loftus and Mr. Small both viewed C-27; IH Loftus said the bottle allowed the light to go through, and Mr. Small said he could see the liquid in the bottle. (Tr. 1283, 1522). I have viewed C-27 myself and do not consider the bottle opaque. Based on the record, the Secretary has proved the alleged violation. Item 22 is affirmed as serious, and I agree with the IH's testimony that this item had high gravity and lower probability.[49] (Tr. 239). The proposed penalty of $2,500.00 is assessed.

Item 23

Item 23 alleges a violation of 29 C.F.R. 1910.1030(f)(1)(i), which states that:

> The employer shall make available the hepatitis B vaccine and vaccination series to all employees who have occupational exposure, and post-exposure evaluation and follow-up to all employees who have had an exposure incident.

IH Nash testified that in speaking to employees in various departments, she learned they had occupational exposure to blood and other potentially infectious materials and had not been offered the hepatitis B vaccine. Mr. Weisenhaus, the park services supervisor, told her employees could be required to clean up blood up to two to three times per day, and Victor Uriostegui, a "lead" in park services, told her he was trained to clean up blood; Mr. Weisenhaus also told her he does the training for park services, rides and water park employees and that while those employees had been offered the vaccine up to six years ago, it had not been offered since then. ***{Redacted}***, a rides supervisor,

[49]Respondent's contention that this item was due to unpreventable employee misconduct is rejected, for the reasons I have stated previously.

told the IH she cleaned up blood about once a month and that leads would do so once or twice a week; she also said employees in her department were not offered the vaccine. Kristy Moses, a water park manager, told the IH that leads and supervisors in her area were responsible for cleaning up blood.[50] IH Nash noted that C-25, Six Flags' exposure control plan, required that the vaccine be provided at no cost to all associates with occupational exposure to blood and other body fluids and also required post-exposure evaluation and follow-up to be provided. *See* C-25, pp. 12-13. She also noted that she discussed the vaccine with Mr. Small, who told her it had not been made available for the last one to two years. The IH stated that when she asked for documents related to any previous vaccinations for employees, none was provided, except one form showing an employee had declined the vaccine. She further stated that the condition was serious, in that employees could be exposed to hepatitis B, which can cause serious disease or death. (Tr. 245-54).

The foregoing establishes the alleged violation, based on what IH Nash learned during her inspection and my findings as to her credibility. Dr. Borak testified about Category 1 and 2 employees, as set out in C-25, noting that the first category would receive the vaccine within ten days of hire, while the second would receive it after a potential exposure; he also noted that the pre- and post-exposure vaccines are equally effective. Dr. Borak further testified that a rides employee who responded to a guest injury involving blood, *i.e.*, holding a towel or napkin to the injury until a first aid responder arrived, should have post-exposure prophylaxis. (Tr. 800-02, 805-06). Regardless, the record clearly shows the hepatitis B vaccine was not offered at all at the facility and had not been offered for six years. This item is affirmed as a serious violation. A penalty of $2,500.00 has been proposed for this item, and I agree with the IH's testimony that the condition had high gravity and lower probability. (Tr. 239). A penalty of $2,500.00 is assessed for this item.

Item 24

Item 24 alleges a violation of 29 C.F.R. 1910.1030(g)(2)(vii), which requires employees with occupational exposure to be trained and that the training include: information on the hepatitis B vaccine, including information on its efficacy, safety and method of administration; and information on the post-exposure evaluation and followup the employer must provide after an exposure incident.

[50]The IH also spoke to first aid employees; she said that those employees all had other jobs that required the vaccine and that she was thus confident they were protected. (Tr. 245-46).

IH Nash testified that in speaking to employees in park services, security, rides and the water park, she learned their BBP training did not include information on the hepatitis B vaccine and on post-exposure evaluation and followup. Mr. Weisenhaus, the park services supervisor, told her that he trained employees in park services, rides and the water park and that his BBP training addressed only methods of cleaning up blood. Jay Zipper, an assistant manager in security, showed her the written materials he covered in his BBP training of security personnel; the IH described that training as "fairly good" but noted that when she asked about training in the hepatitis B vaccine and post-exposure evaluation and followup, Mr. Zipper told her those elements were not in his training. The IH said that C-25, the Six Flags exposure control plan, had all of the elements required to be in an employer's BBP training, including those addressing the hepatitis B vaccine and the post-exposure evaluation and followup. *See* C-25, pp. 10-15. She also said the failure to cover those particular elements in employee training was a serious hazard. (Tr. 255-59).

Respondent contends it did not violate the cited standard, noting its extensive training in BBP's, which included universal precautions; in this regard, Mr. Small testified that all employees were trained in universal precautions and proper protection, such as gloves. (Tr. 1520-21). Respondent also notes Dr. Borak's testimony that Six Flags' plan and practices complied with industry practice. (Tr. 802-08). R. Brief, p. 85. Regardless, the cited standard specifically requires BBP training to include information on the hepatitis B vaccine and post-exposure evaluation and followup. The IH's testimony clearly establishes that Respondent's BBP training did not include those elements, and her testimony set out in Item 23, *supra*, shows the employees referenced above had occupational exposure to blood. This item is affirmed as serious. A penalty of $2,500.00 has been proposed for this item. The IH testified this item had high gravity and lower probability. (Tr. 239). I agree and find the proposed penalty appropriate. That penalty is assessed.

Items 25a and 25b

Item 25a alleges a violation of 29 C.F.R. 1910.1030(h)(1)(ii)(B), which requires the employer to establish and maintain accurate records for employees with occupational exposure, including:

> (B) A copy of the employee's hepatitis B vaccination status including the dates of all the hepatitis B vaccinations and any medical records relative to the employee's ability to receive vaccination as required by paragraph (f)(2).

Item 25b alleges a violation of 29 C.F.R. 1910.1030(h)(2)(ii), which requires that employee training records in BBP's be maintained for three years from the date on which the training occurred.

IH Nash testified she requested records as to the hepatitis B vaccination of employees with occupational exposure and was given no records.[51] Mr. Ferretti told her Mr. Leonard had been in charge of the records and that he himself had looked and could not find any such records. The IH also testified she requested training records for the last three years for employees with occupational exposure; she asked Messrs. Weisenhaus, Zipper, Small and Ferretti for the records, and while Messrs. Weisenhaus and Zipper gave her some, *i.e.*, security employee records and recent (within a year) records for rides and park services employees, no training records were provided for first aid or water park employees. The IH noted that C-25, Six Flags' exposure control plan, required that the hepatitis B vaccine be given to employees with occupational exposure and that the records be kept for 30 years. She further noted the plan also required that employees be trained in BBP exposure and that the records of that training be kept for three years. (Tr. 261-70). *See also* C-25, p. 12.

The IH's testimony, which I found credible and Respondent did not rebut, establishes the alleged violations. Respondent contends that the cited conditions were caused by the unpreventable misconduct of Mr. Leonard. This contention has been considered and rejected *supra*. Respondent further contends that the cited conditions were "paperwork" violations that were insufficient to be found serious.[52] R. Brief, pp. 86. I disagree. The IH indicated these items were not as serious as not providing the vaccine or the training. She determined the violations were nonetheless serious but with medium gravity, in that they were "not necessarily likely to cause death or serious physical harm." (Tr. 264, 269-70). Dr. Borak's testimony supports that of the IH; he agreed that in the event of an exposure, it would be important for a treating physician to know an employee's vaccination status and history. (Tr. 862). I find the training records to be equally important, in that, without them, an employer would not know which employees had received the necessary training under the BBP

[51]As noted *supra*, the IH said the only record she was provided related to an employee who had declined the vaccine. (Tr. 262).

[52]In this regard, Respondent notes the testimony of IH Loftus that these items were paperwork violations. (Tr. 1275-76). However, that they were paperwork violations does not mean that they were not serious.

standard. Based on the record, these items are affirmed as serious. I find the proposed penalty of $1,500.00 to be appropriate, and it is consequently assessed.

Item 1 - Alleged Section 5(a)(1) Violation

Item 1 alleges a violation of the general duty clause, section 5(a)(1) of the Act, in that, in the paint/fiberglass area, containers of Superox 46-702 (containing methyl ethyl ketone peroxide) were stored within 25 feet of flammable liquids and were not stored within the recommended storage temperature range (80 degrees Fahrenheit or below). IH Nash testified that during her inspection, she observed a storage cabinet in a room adjacent to the paint room.[53] In the cabinet, she saw containers of Superox 46-702 stored on the bottom shelf; the other shelves held flammable items such as paints, and C-2 is the IH's photo of the open cabinet and the stored items.[54] The IH asked Mr. Ferretti, who was with her, for the MSDS for the Superox material, and he gave her C-4; C-4 states the Superox is 34 percent methyl ethyl ketone peroxide ("MEKP"). The IH said C-4 indicated that storage at 80 degrees Fahrenheit or below was recommended for longer shelf life and stability and that storage near flammable or combustible materials was to be avoided. C-4 also referred the user to the NFPA 432 Code for further information; C-5, the NFPA 432 Code for the Storage of Organic Peroxide Formulations, states in section 4.11.3.1, that "[i]ncompatible materials and flammable liquids shall not be stored within 25 ft. (7.6 m) of organic peroxide formulations." When the IH questioned Mr. Schultz, he told her the temperature in the room could be 83 degrees in the summer; she also learned the temperature on May 23, 2007, for the Waukegan Regional Airport, the closest reporting station to Gurnee, was 86 degrees.[55] The IH determined that other materials in the cabinet were flammable by going to the websites for some of those materials; for example, the websites for Krylon and 3M revealed the Krylon tough coat, the 3M undercoating and the Krylon satin paint were all flammable, having flashpoints of less than zero degrees Fahrenheit. IH Nash said the condition was a serious

[53]The IH said the room was approximately 50 feet by 30 feet. (Tr. 907).

[54]C-2 shows two Superox containers and a box on the right that also contains peroxide.

[55]C-3, a printout of the IH's research, is from NOAA's National Climatic Data Center for May 2007; it shows the maximum temperature on May 23, 2007, was 86 degrees. (Tr. 921-22).

hazard due to the potential for a fire to occur and that employees who did painting in the next room, like ***{Redacted}***, were exposed the hazard. (Tr. 904-32, 980-81, 1086-89).

Mr. Small testified that the Gurnee Fire Department inspected the park and all of its buildings about eight times a year. He said the inspections included chemical storage and looking inside storage cabinets and that the Fire Department had never mentioned the MEKP in the cabinet as being a problem. He further testified he had no reason to believe the cabinet was not proper storage for the Superox; the cabinet was made for flammable items, and, based on the MSDS, he believed that 100 degrees was the temperature that would cause degradation. (Tr. 1398-1402, 1434-37, 1480-81).

Respondent disputes the alleged violation. It contends that C-4 specifies prolonged storage at 100 degrees and higher as the condition to avoid. It also contends that C-5 does not apply to the storage cabinet area and that C-4 only suggests storage "away from" combustible and incompatible materials. R. Brief, pp. 7-8.

To prove a violation of the general duty clause, the Secretary must show that (1) a condition or activity in the employer's workplace presented a hazard to employees, (2) the cited employer or the employer's industry recognized the hazard, (3) the hazard was causing or likely to cause death or serious physical harm, and (4) feasible means existed to eliminate or materially reduce the hazard. *See, e.g., Well Solutions, Inc.*, 17 BNA OSHC 1211, 1213 (No. 91-340, 1995). As to the first element, C-4, the MSDS for the Superox, states on page 2 (in sections 7 and 10) as follows:

> **STORAGE**
>
> The stability of MEKP formulations is directly related to the shipping and storage temperature history. Cool storage at 80°F (27°C) or below is recommended for longer shelf life and stability. Prolonged storage at elevated temperatures of 100°F (38°C) and higher will cause product degradation, gassing and potential container rupture which can result in a fire and/or explosion. Store out of direct sunlight in a well ventilated area away from combustible and incompatible materials....Refer to NFPA 432 Code for the Storage of Organic Peroxide Formulations from the National Fire Protection Association for additional storage information.
>
> **STABILITY**
>
> Stable when kept in original, closed container, out of direct sunlight at temperatures below 80°F (27°C).
>
> **CONDITIONS TO AVOID**
>
> Contamination. Direct sunlight. Open flames. Prolonged storage above 100°F (38°C). Storage above SADT. Storage near flammable or combustible materials.

In addition, C-5, the NFPA 432 Code states in section 4.11.3.1, in relevant part, as follows:

> Incompatible materials and flammable liquids shall not be stored within 25 ft. (7.6 m) of organic peroxide formulations.

I find that C-5 applies to the storage cabinet in this case. C-4, the MSDS for the Superox, specifically refers the user to the NFPA 432 Code for additional storage information. Moreover, section 1.1.2 of C-5, the part of the NFPA 432 Code upon which Six Flags relies to support its contention that C-5 does not apply, states that:

> This code shall not apply to the storage of such formulations in process areas where they are manufactured or used.

The room where the storage cabinet was located was clearly not an area where organic peroxide formulations were manufactured. Further, IH Nash testified that the cabinet was in a room (about 50 feet by 30 feet) that was adjacent to the room where painting was performed. (Tr. 904-07). Although Respondent asserts the cabinet was in a process area where the MEKP was used, the record does not support this assertion. In addition, while I have considered Mr. Small's testimony about the Fire Department inspecting the site and never mentioning the MEKP in the storage cabinet, that testimony, without more, is not sufficient to persuade me the condition was not a hazard; for example, the Fire Department may not have specifically looked in the cabinet, or it may not have noticed the MEKP on the bottom shelf. Regardless, Respondent's assertion that C-5 does not apply to the cited condition is rejected, and, because the MEKP was stored with flammable materials, the Secretary has shown the first element of the alleged 5(a)(1) violation.

I further find that a fair reading of the above-noted provision in C-4 is that the Superox should be stored at 80 degrees or below, for longer shelf life and stability, and that prolonged storage at 100 degrees or more must be avoided as it will cause product degradation that can result in a fire or explosion. Stability is plainly related to product degradation. I therefore agree with the IH that storing the MEKP in an area that could reach over 80 degrees was a hazard. That it was a hazard is supported by the IH's testimony that she looked at how the Superox was stored after an employee told her that the Superox had been used out in the park and had spontaneously ignited and that he was unsure if that was caused by the temperature. (Tr. 1088).

The Secretary has also shown the second element of the alleged violation, in that the MSDS, which Mr. Small agreed was received with the product, advised the employer of the hazard of storing

the MEKP as Six Flags stored it. (Tr. 1480-81). Finally, the Secretary has shown the third and fourth elements; the cited condition could have caused serious physical harm or death, and the hazard could have been abated by storing the Superox at least 25 feet away from flammable liquids and where the temperature would not exceed 80 degrees. This item is affirmed as a serious violation.[56]

The Secretary has proposed a penalty of $2,500.00 for this item. The IH testified that this item had high gravity and lower probability. (Tr. 932). I find the proposed penalty appropriate. It is accordingly assessed.

Item 2 – Alleged Use of Inappropriate Gloves

Item 2a alleges a violation of 29 C.F.R. 1910.132(d)(1)(i), which states as follows:

> (1)The employer shall assess the workplace to determine if hazards are present, or are likely to be present, which necessitate the use of personal protective equipment (PPE). If such hazards are present, or likely to be present, the employer shall: (i) Select, and have each affected employee use, the types of PPE that will protect the affected employee from the hazards identified in the hazard assessment....

Item 2b alleges a violation of 29 C.F.R. 1910.138(a), which provides that:

> Employers shall select and require employees to use appropriate hand protection when employees' hands are exposed to hazards such as those from skin absorption of harmful substances....

IH Nash testified that ***{Redacted}*** wore gloves to mix the paints he used and to paint the rafts. She looked at the gloves, as shown in C-6a, and saw they were latex. She also looked at the MSDS's and recipe cards for the paints ***{Redacted}*** used and saw that both the paint and the primer contained isocyanate, as shown in C-7, C-8 and C-10.[57] The IH noted that ***{Redacted}*** got the gloves in a room adjacent to the paint room, from a box of gloves labeled as latex; she also noted there was a box of gloves labeled as latex depicted in C-6a.[58] IH Nash said the gloves were not appropriate for working

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[56]In affirming the violation, I have considered Respondent's contention that a specific standard applied to the cited condition, requiring vacation of the alleged 5(a)(1) violation. The Secretary notes, however, that that standard, set out at 29 C.F.R. 1910.107(m), is applicable to spraying operations that involve organic peroxides and dual component coatings in spray booths. I agree with the Secretary that that standard does not apply here.

[57]The IH pointed out that C-8, on page 2, stated as follows: "Wear gloves which are recommended by glove supplier for protection against materials in Section 2." (Tr. 938).

[58]The box of gloves is visible on the left side of C-6a, but the words are not discernible.

with materials containing isocyanate, which can permeate latex and expose employees to the hazards of skin allergies and serious respiratory illnesses like asthma. She also said she had learned that latex was not recommended for use with isocyanate by reading about it and during inspections; for example, in an inspection of another company, she saw employees using latex gloves to apply truck bed liners containing isocyanate, and, on her follow-up inspection, the workers wore more protective nitryl gloves. The IH stated that she discussed the gloves with Mr. Ferretti during the inspection and with the managers present at the closing conference; two of those managers, Messrs. Wolocek and Tiddens, indicated that some employees were allergic to latex and that they would dispose of the gloves. The IH further stated that the condition was serious due to the hazards to which employees such as ***{Redacted}*** were exposed. (Tr. 932-46).

IH Loftus agreed with IH Nash that isocyanate could permeate latex gloves and that other gloves, such as nitryl gloves, would protect against a breakthrough. She said there was no evidence there had been a breakthrough in regard to ***{Redacted}*** or that he had become sensitized to any material, but she noted that the citation went to the improper selection of gloves. (Tr. 1230-35).

Mr. Small testified that before the inspection, he had no reason to believe the gloves ***{Redacted}*** wore were inappropriate for his work. He said that Six Flags orders equipment from its supplier and tells the supplier what the equipment will be used for; he also said that Mr. Leonard would have ordered the gloves and should have gone through the same process with the supplier. Mr. Small further testified that Six Flags had other gloves, including nitryl or chemical gloves, and that gloves were available for whatever exposures were in the facility. (Tr. 1428-30, 1481-82).

Respondent contends the IH did not "credibly and convincingly" identify the type of gloves ***{Redacted}*** wore and that her opinion the gloves were inappropriate for use with isocyanate was speculation. R. Brief, pp. 16-18. I disagree. The IH testified she knew what latex gloves looked like and that the gloves were latex. (Tr. 1212). Her testimony about the box of latex gloves shown in the background of C-6a provides further evidence the gloves were latex. (Tr. 934-37, 1212). In addition, IH Nash's testimony about latex gloves not protecting against isocyanate permeating the gloves was supported by the testimony of IH Loftus. (Tr. 1231-33). The IH also testified credibly about how she learned latex gloves did not protect against isocyanate permeating the gloves. (Tr. 939-40, 945-46). I found the testimony of IH Nash and IH Loftus credible and convincing and conclude the Secretary

has proved the alleged violations. Respondent asserts there was no evidence of a breakthrough and thus no hazard; however, as both IH's indicated, the violations go to the improper selection of gloves and not to whether an actual breakthrough had occurred. (Tr. 933, 941, 1213-14, 1235, 1310-11). Finally, IH Nash agreed that although there were nitryl gloves available at the facility, and while Six Flags had a written PPE program that she reviewed, the appendix that was supposed to specify the proper gloves to be used for different tasks was blank. (Tr. 1220-22). Six Flags claims it had no knowledge of the violations. However, in view of the MSDS's for the paints used and its own PPE program, Six Flags should have known of the violations; also, as to its claim that the violations were due to Mr. Leonard's unpreventable misconduct, that claim has been considered and rejected *supra*. Based on the record, the violations are affirmed as serious; the IH testified about the potential for isocyanate to permeate the gloves and cause dermatitis or respiratory illness. (Tr. 941-45).

The Secretary has proposed a penalty of $2,500.00 for these two grouped items. IH Nash testified that these items had high gravity and lower probability. (Tr. 943-46). I agree with this determination and find the penalty appropriate. A penalty of $2,500.00 is accordingly assessed.

Items 17 and 18 – Alleged Violations of OSHA's Chromium Standard

Item 17 alleges a violation of 29 C.F.R. 1910.1026(d)(1), which provides that:

> Each employer who has a workplace or work operation covered by this section[59] shall determine the 8-hour TWA exposure for each employee exposed to chromium (VI). This determination shall be made in accordance with either paragraph (d)(2) or paragraph (d)(3) of this section.

Items 18a and 18b allege violations of 29 C.F.R. 1910.1026(l)(2)(i)(A) and (l)(2)(ii), respectively. Those provisions state as follows:

> (i) The employer shall ensure that each employee can demonstrate knowledge of at least the following: (A) The contents of this section.
>
> (ii) The employer shall make a copy of this section readily available without cost to all affected employees.

IH Nash testified there were three areas in the facility where employees were exposed to chromium: in the paint area, where ***{Redacted}*** used paint containing chromium; in the mill, where

[59]29 C.F.R. 1910.1026(a)(1) states that the standard "applies to all occupational exposures to chromium (VI) in all forms and compounds in general industry...."

employees worked with wood treated with chromated copper arsenic ("CCA"); and in the welding area, where employees did arc welding on stainless steel, which gives off chromium.[60] She noted that C-17, the MSDS for some of the paint ***{Redacted}*** used, showed it contained chromium. She also noted that in the mill, ***{Redacted}*** told her that he experienced symptoms when he fabricated treated wood; she went to a shed outside the mill where the wood was kept, saw that the pieces of wood had tags indicating the treatment process, and observed two tags that indicated treatment with CCA, as shown in C-23.[61] She further noted that as to the welding, she spoke to Bob Holback, a foreman in the rides area who spent a lot of time in the welding area; he told her employees spent 24 man hours a day welding, from November 2006 to March or April 2007, and that about 10 percent of that work was arc welding on stainless steel. The IH said the electrodes used in that welding gave off fumes containing chromium, as shown in C-24, the MSDS for the electrodes.[62] (Tr. 1014-19, 1025-38).

IH Nash further testified that when she asked about monitoring for exposure to chromium, she learned none had been done. She monitored for chromium when she put the sampling equipment on ***{Redacted}*** and ***{Redacted}*** in the paint department; that sampling revealed no overexposure to chromium. She did no monitoring of the work with the wood in the mill or of the welding because that work was not taking place when she was at the facility. The IH said that monitoring of the cited tasks was required because chromium is a known lung carcinogen and can also cause respiratory problems with symptoms resembling asthma. She also said the standard was not made available to

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[60]In this discussion, chromium refers to chromium (VI), or hexavalent chromium, as set out in the standard. *See* 29 C.F.R. 1910.1026(b).

[61]The IH stated that Mr. Ferretti, who was with her, pulled tags off of several pieces of wood; two tags indicated the wood was treated with CCA, and the manufacturers were shown as Quality Wood and Walker-Williams. She also stated that she spoke to a Mr. DeVenzio at Arch Wood, another manufacturer, who said that Quality Wood and Walker-Williams were no longer in business; he indicated that CCA-treated wood was not as common as it had been but that it was still used for some functions, like roller coasters. (Tr. 1025-32).

[62]The IH noted that although welders wear helmets, a welding helmet has an opening on the side that can let in contaminants. (Tr. 1043).

employees and that, when she asked them, ***{Redacted}***, ***{Redacted}*** and Holback were not aware of the health effects of exposure to chromium.[63] (Tr. 1015-17, 1034, 1041-42, 1045-52).

Mr. Small testified that no monitoring for chromium had been done but that there was no hazardous exposure to chromium in the facility that he knew of. He noted that IH Nash's monitoring revealed no exposure over the action level or PEL for chromium. He also noted that the welding the IH was concerned about involved mostly refrigerator doors and queue lines when there was time for such work and that it was "not a big deal." Mr. Small said the CCA-treated wood the IH addressed was roller coaster track wood that would not have been used for other purposes as it was more expensive than other wood. He also said the roller coaster track work was done mainly by contractors and that ***{Redacted}*** did not normally do that work. Mr. Small later indicated that the CCA-treated wood in the shed was left over from roller coaster projects. (Tr. 1430-32, 1455-58, 1506-08).

Respondent suggests it was not required to monitor for chromium due to objective data it had. R. Brief, pp. 72-73. An employer is excepted from complying with the standard, at 29 C.F.R. 1910.1026(a)(1):

> Where the employer has objective data demonstrating that a material containing chromium or a specific process, operation, or activity involving chromium cannot release dusts, fumes, or mists of chromium (VI) in concentrations at or about 0.5 µgm/m3 as an 8-hour time-weighted average (TWA) under any expected conditions of use.

However, Respondent presented no evidence of any objective data that would meet the above exception. Moreover, while the IH's monitoring of ***{Redacted}*** and ***{Redacted}*** revealed no exposure over the standard's action level or PEL, I find that Six Flags was nonetheless required to monitor for chromium exposure due to the use of the paint that contained chromium. I also find that monitoring of the wood fabrication in the mill was required, when CCA-treated wood was used. The IH testified that that wood was available for use and that employees stated they used the wood in the shed daily; ***{Redacted}*** told her that when he pulled out a piece of wood for fabrication he paid no attention to its treatment process, and Steve Ron, the mill supervisor, told her the same thing. (Tr. 1028-29). Finally, I find that monitoring of the arc welding on stainless steel was required due to the use of the

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[63] ***{Redacted}***, another mill employee she spoke to, was also unaware of the health effects of chromium. (Tr. 1048-49).

stainless steel electrodes, as the IH testified. Mr. Small admitted that no monitoring for chromium was done.[64] Respondent was thus in violation of 29 C.F.R. 1910.1026(d)(1).

Respondent was also in violation of 29 C.F.R. 1910.1026(l)(2)(i)(A) and (l)(2)(ii). Six Flags makes the same argument here that it did as to the lead standard in regard to the standard availability requirement, *i.e.*, that employees could access OSHA standards via computers at the facility. That argument has already been considered and rejected, *supra*. Six Flags also argues that Mr. Leonard's HAZCOM training should have included the hazards of chromium through the MSDS's in the facility. This argument is also rejected, as Mr. Small admitted he did not know what Mr. Leonard's training covered. (Tr. 1508). In any case, the IH testified that, based on her questioning them, employees did not have knowledge of the standard; for example, they were not aware of the health effects of chromium. (Tr. 1047-50). She also testified that when she spoke to management at the closing conference, no one indicated the standard was available to employees. (Tr. 1050). The IH's testimony is credited, based on my credibility findings, *supra*. These items are affirmed.

I find that the violations are properly classified as serious. The IH testified about the serious effects of exposure to chromium. (Tr. 1015, 1038-39, 1045, 1052). Although employees were not overexposed when using the paint containing chromium, the employer did not monitor to ensure that this was the case. In addition, because no monitoring was done of the wood fabrication and welding processes, it is unknown if those processes overexposed employees to chromium. All three of the alleged violations are affirmed as serious.

The Secretary has proposed a penalty of $2,500.00 for Item 17 and a penalty of $2,000.00 for grouped Items 18a and 18b. The IH testified that Item 17 had high gravity, that Item 18 had

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[64]I have considered Mr. Small's testimony that the chromium at the facility was not a hazard that he was aware of. However, the standard's terms clearly required monitoring in the circumstances at Six Flags, and Respondent should have known of the requirement due to the MSDS's for the paint and the electrodes, and the tags on the wood. I have also considered the testimony of IH Loftus that, as there was no exposure over the standard's action level or PEL, there was no hazard to employees. (Tr. 1264-65). While there was no hazard to employees from the paint, based on the sampling results and the PPE used, Six Flags was nonetheless required to monitor to ensure that there was no overexposure. Furthermore, as the wood fabrication and arc welding processes were not monitored, it is unknown whether those processes were hazardous.

medium gravity, and that the probability of both items was lesser. (Tr. 1045-46, 1051-53). I find the proposed penalties to be appropriate. They are therefore assessed.

Items 26 and 27 – Alleged Violations of OSHA's Formaldehyde Standard

Item 26 alleges a violation of 29 C.F.R. 1910.1048(d)(1)(i), which states that:

> Each employer who has a workplace covered by this standard[65] shall monitor employees to determine their exposure to formaldehyde.

Item 27 alleges a violation of 29 C.F.R. 1910.1048(n)(1), which provides as follows:

> The employer shall assure that all employees who are assigned to workplaces where there is exposure to formaldehyde participate in a training program, except that where the employer can show, using objective data, that employees are not exposed to formaldehyde at or above 0.1 ppm, the employer is not required to provide training.

IH Nash testified that at the end of her first day at the facility, she entered the mill area; three employees approached her and showed her a canister of powdered resin that contained formaldehyde. They explained that they mixed the resin with water to form an adhesive used to make doors and counter tops; the adhesive was applied to pressed board, Formica or other material was laid over the board, and the item was put in a press that heated it at 140 degrees Fahrenheit. The IH said the resin was a National Casein product, as shown in C-28a . She also said ***{Redacted}*** told her he had been in the mill at least two years, that two to three of the 28-pound canisters were used each year, and that when an item came off the press it was irritating to his eyes, nose and throat; the IH said she herself had experienced such symptoms from formaldehyde being heated.[66] When the IH asked him, Mr. Small indicated no monitoring for formaldehyde had been done.[67] Further, since the employees had approached her and described their symptoms from working with the resin, the IH concluded that, except for reading the canister label, they were unaware of its health effects. (Tr. 1053-60).

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[65]The standard "applies to all occupational exposures to formaldehyde." *See* 29 C.F.R. 1910.1048(a).

[66]The IH also spoke to ***{Redacted}***, another employee in the mill. (Tr. 1055).

[67]The IH stated that she did not conduct air monitoring because, although she asked to be notified if the resin was going to be used, no one ever notified her in that regard. She also stated that ***{Redacted}*** told her he had used the resin to make a counter top three weeks before her arrival and had made 25 to 40 doors between November 2006 and February 2007. (Tr. 1145-52).

Mr. Small admitted that no monitoring for formaldehyde had been done. He testified that, based on the canister's label, the facility did not believe the resin was a hazard. He further testified that Mr. Leonard should have known there was formaldehyde in the resin. (Tr. 1526).

The record shows Six Flags did no monitoring for formaldehyde. The first cited standard, set out above, requires monitoring to determine exposure to formaldehyde. Again, Respondent suggests it was not required to monitor due to objective data it had. R. Brief, pp. 87-88. An exception to the monitoring requirement is set out at 29 C.F.R. 1910.1048(d)(1)(ii), as follows:

> *Exception*. 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 exposures to formaldehyde.

The action level under the standard is "a concentration of 0.5 part formaldehyde per million parts of air (0.5 ppm) calculated as an eight (8)-hour time-weighted average (TWA) concentration." *See* 29 C.F.R. 1910.1048(b). The STEL (short-term exposure limit) is "an airborne concentration of formaldehyde which exceeds two parts formaldehyde per million parts of air (2 ppm) as a 15-minute STEL." *See* 29 C.F.R. 1910.1048(c)(2). Because Six Flags presented nothing to show that it met the above exception, its suggestion that it was not required to perform monitoring is rejected.

Respondent, however, goes on to note the canister's label, which states that "Overexposure is unlikely from intended normal use." *See* C-28a. Respondent asserts the label constitutes objective data and supports a conclusion that no monitoring was required. I disagree. First, C-28a does not explain what "intended normal use" is. Second, C-28b, another view of the label, states as follows:

> WARNING: INDUSTRIAL CHEMICAL PRODUCT. Avoid Inhalation – Avoid Contact – Contains formaldehyde which is an irritant to human tissue (eyes, nose, throat, lungs and skin), a skin and respiratory sensitizer, and is listed as a group 2A (probable) carcinogen by IARC.

Third, the MSDS for the resin is C-29; the IH reviewed it in evaluating this condition. (Tr. 1145). Near the bottom of page 1, C-29 states: "**Hazardous Decomposition Products:** Formaldehyde. Toxic gases are generated when resin is burned." In the middle of page 2, C-29 states: "**Effects of Overexposure:** Irritation to eyes, nose, throat; tearing in eyes, burning nose, coughing; bronchial spasms, pulmonary irritation; dermatitis, nausea, vomiting, loss of consciousness." In the middle of

page 3, C-29 states: "**Respiratory Protections:** Respiratory protection may be required if material is used in poorly ventilated areas or if material is heated or to prevent exposure to airborne dust." Based on C-29, and on the effects ***{Redacted}*** described, I conclude that, as the resin was used at Six Flags, monitoring was required to determine employee exposure to formaldehyde. I find, therefore, that Respondent was in violation of 29 C.F.R. 1910.1048(d)(1)(i).

I further find that Respondent was also in violation of 29 C.F.R. 1910.1048(n)(1), based on the IH's testimony that, other than what was on the canister label, the employees were unaware of the resin's health effects. (Tr. 1059). Respondent asserts employees were trained in the hazards of formaldehyde through Mr. Leonard's HAZCOM training, which should have included the relevant MSDS's. R. Brief, pp. 89-90. However, as noted *supra*, Mr. Small admitted he did not know what Mr. Leonard's training covered. (Tr. 1508). Respondent also asserts that, if there were violations, they were caused by Mr. Leonard's unpreventable conduct. R. Brief, pp. 90-91. As found above, Respondent has not demonstrated that any of the violations in this case were due to Mr. Leonard's unpreventable conduct. Finally, I find the violations are serious, in light of the IH's testimony that formaldehyde is a potential carcinogen; C-29, the MSDS for the resin, supports the IH's testimony.[68] (Tr. 1057-59). Items 26 and 27 are consequently affirmed as serious violations.

A penalty of $2,500.00 each has been proposed for Items 26 and 27. The IH testified the violations had high gravity and lesser probability. (Tr. 1057-60). I agree with the IH's gravity determination and find the proposed penalties appropriate; those penalties are assessed.

Items 28 and 29 - Alleged Violations of OSHA's Methylene Chloride Standard

Item 28 alleges a violation of 29 C.F.R. 1910.1052(d)(2), which states that:

> Each employer whose employees are exposed to MC[69] shall perform initial exposure monitoring to determine each affected employee's exposure, except under the following conditions:
>
> (i) Where objective data demonstrate that MC cannot be released in the workplace in airborne concentrations at or above the action level or above the STEL. The objective data shall represent the highest MC exposures likely to occur under

[68]In this regard, I note that while ***{Redacted}*** wore a respirator when he worked with the resin, that respirator did not protect against exposure to formaldehyde. *See* Item 8, *supra*.

[69]The standard applies to all occupational exposures to MC. *See* 29 C.F.R. 1910.1052(a).

reasonably foreseeable conditions of processing, use, or handling. The employer shall document the objective data exemption as specified in paragraph (m) of this section.

(ii) Where the employer has performed exposure monitoring within 12 months prior to April 10, 1997 and that exposure monitoring meets all other requirements of this section, and was conducted under conditions substantially equivalent to existing conditions; or

(iii) Where employees are exposed to MC on fewer than 30 days per year (e.g., on a construction site), and the employer has measurements by direct-reading instruments which give immediate results (such as a detector tube) and which provide sufficient information regarding employee exposures to determine what control measures are necessary to reduce exposures to acceptable levels.

Items 29a and 29b allege violations of 29 C.F.R. 1910.1052(l)(1) and (l)(3)(i), respectively, which provide as follows:

> The employer shall provide information and training for each affected employee prior to or at the time of initial assignment to a job involving potential exposure to MC.
>
> The employer shall inform each affected employee of the requirements of this section and information available in its appendices, as well as how to access or obtain a copy of it in the workplace.

IH Nash testified that in the paint/fiberglass area, there was a W. M. Barr CSG14 spray gun cleaner that contained methylene chloride ("MC"); she identified C-30 as her photo of the cleaner, which was the top can of the two stacked cans in C-30. Upon receiving C-31, the MSDS for the cleaner, she learned it was 60 to 80 percent dichloromethane, a synonym for MC.[70] She also learned that no monitoring had been done for MC.[71] Two employees, ***{Redacted}*** and ***{Redacted}***, told her they had used the cleaner; ***{Redacted}*** had used it to clean a can of paint, and ***{Redacted}*** had used it to clean several jars that had paint in them. When she addressed the cleaner at the closing conference, Mr. Pullman, a manager of the buildings department, indicated the cleaner and some other materials in the paint storage room that contained MC were "too available," *i.e.*, employees could use them as often as they wanted; he also indicated those items should be put in another area that was not as accessible. The IH learned there was no training in MC and that the standard was not available to

[70]The IH noted that in the definitions section of the MC standard, the Chemical Abstracts Service Registry Number for MC is shown as 75-09-2. She also noted that that number, 75-09-2, appears alongside dichloromethane on page 1 of C-31. (Tr. 1063, 1068-69).

[71]The IH did not monitor for MC as it was not used when she was there. (Tr. 1162).

employees; no one told her of any training, and ***{Redacted}*** said only that the cleaner was "probably something nasty." The IH said the violations were serious; MC is a carcinogen, and its vapor can affect organs such as the lungs, kidneys, liver, heart, pancreas and spleen. (Tr. 1060-75).

Mr. Small testified that no monitoring had been done for the cited cleaner. He said that two cans of that cleaner were sent to Six Flags by mistake, that one of the cans was returned, and that the other, which he understood had been opened and used to clean a jar, was not returned as the supplier would not accept a can that had been opened. He also said that the other can shown in C-30, which did not contain MC, was what the facility used as a spray gun cleaner. (Tr. 1526-28).

Respondent contends it was not in violation of the cited standards because the cleaner was sent in error and was not approved for use. R. Brief, pp. 91-92. I have noted Mr. Small's testimony in this regard. I have also noted the IH's testimony that she had seen R-15, a Six Flags "Return Authorization" form, during the inspection.[72] She said, however, that management and employees told her the cleaner was ordered to clean the spray guns but did not work; she did not recall being told that the wrong material was sent and that it was not to be used. She also said that while she did not know how much of the cleaner had been used, the PEL for MC was very low. (Tr. 1158-62).

The record shows that Six Flags did not monitor for employee exposure to MC and that none of the exceptions to the monitoring requirement applies. Further, there was no evidence of employee training in MC exposure or that employees had access to the MC standard.[73] I have considered Mr. Small's testimony about the cleaner and R-15, the form indicating the attempted return of two cans of the cleaner. However, even assuming that one can was returned, the IH's testimony shows that the other can remained in the facility, that at least two employees used it, and that, according to a manager, the cleaner and other materials containing MC were accessible to employees in the paint storage room whenever they wanted to use them. I have found the IH to be a credible and convincing

[72]R-15 indicates that Six Flags attempted to return two cans of the cited cleaner to the vendor and that the reason for the return was that the "wrong material" was sent. R-15 also indicates that the attempted return had taken place in March 2007.

[73]Six Flags asserts it provided training in hazardous materials through its HAZCOM and MSDS training programs. It also asserts that employees had access to all OSHA materials on the internet. R. Brief, pp. 69-70, 93. These assertions have been considered and rejected *supra*.

witness, and I credit her testimony about what employees and management told her about the cleaner. I find, accordingly, that Respondent was in violation of all three of the cited standards. I also find that the violations were serious, in light of the serious consequences of exposure to MC, as indicated in C-31, the MSDS for the cited cleaner. Items 28 and 29a and b are therefore affirmed.

The Secretary has proposed a penalty of $2,500.00 for Item 28 and a grouped penalty of $2,500.00 for Items 29a and b. The IH testified that these items had high gravity and lower probability (Tr. 1076-77). I find the proposed penalties appropriate. The proposed penalties are assessed.

Employer Knowledge

While some of the items set out above specifically address the employer knowledge element, others do not. For clarity and completeness of record, I find that the evidence establishes, for all of the items in which violations have been affirmed, that the employer either knew, or could have known with the exercise of reasonable diligence, of the violative conditions. This finding is based upon the materials used at the facility, and the MSDS's for those materials, and the employer's own health programs, such as its respiratory protection, PPE and BBP programs.

ORDER

Based upon the foregoing findings of fact and conclusions of law, it is ordered that:

1. Respondent was in violation of section 5(a)(1) of the Act, as set out in Serious Citation 1, Item 1; Item 1 is affirmed as a serious violation, and a penalty of $2,500.00 is assessed.

2. Respondent was in violation of the standards set out in Serious Citation 1, Items 2-5, 7-8, 10, 15a and 17-29; these items are affirmed as serious violations. A penalty of $2,500.00 each is assessed for Items 2-3, 5, 7, 10, 17, 19-20, 22-24 and 26-29. A penalty of $2,000.00 each is assessed for Items 4, 8 and 18. A penalty of $1,500.00 each is assessed for Items 21 and 25. A penalty of $1,000.00 is assessed for Item 15a.

3. The total penalty assessed for the affirmed items, as set out above, is $50,000.00.

4. Respondent was not in violation of the standards set out in Serious Citation 1, Items 6, 9, 11-14, 15b and 16; these items are vacated.

/s/
Covette Rooney
Judge, OSHRC

Date: April 16, 2009
Washington, D.C.