



Department of Energy

Washington, DC 20585

November 22, 2016

VIA OVERNIGHT UPS MAIL CARRIER

Dr. Peter B. Littlewood, President
UChicago Argonne, LLC
Argonne National Laboratory
9700 S. Cass Avenue
Lemont, Illinois 60439

WEA-2016-04

Dear Dr. Littlewood:

This letter refers to the U.S. Department of Energy (DOE) investigation into the facts and circumstances associated with the potential deficiencies in UChicago Argonne, LLC's (UChicago Argonne) implementation of machine guarding program requirements at Argonne National Laboratory, and the August 13, 2015, event involving a machinist whose finger was nearly amputated while operating a horizontal band saw. The DOE Office of Enterprise Assessments' Office of Enforcement provided the results of the investigation to UChicago Argonne in an investigation report dated August 11, 2016. An enforcement conference was convened on September 21, 2016, with you and members of your staff to discuss the report's findings and UChicago Argonne's response. A summary of the enforcement conference and list of attendees are enclosed.

DOE considers the near amputation injury event and widespread machine guarding deficiencies to be of high safety significance. An employee started the horizontal band saw, and before the fabrication activity began, the employee's left index finger made contact with the moving, unguarded blade, causing a near amputation of the left index finger requiring surgical repair. The event resulted in a serious injury that could have been more severe. The event revealed deficiencies in: (1) management responsibilities, (2) hazard identification and assessment, (3) hazard prevention and abatement, and (4) training and information.

Based on an evaluation of the evidence in this matter, including information presented at the enforcement conference, DOE concludes that UChicago Argonne violated requirements prescribed under 10 C.F.R. Part 851, *Worker Safety and Health Program*. Accordingly, DOE hereby issues the enclosed Preliminary Notice of Violation (PNOV), which cites three Severity Level I violations and one Severity Level II violation with a total proposed base civil penalty, before mitigation, of \$280,000.



Because the violations were identified through a self-disclosing event, DOE is not granting mitigation for timely self-identification and reporting. DOE acknowledges UChicago Argonne's post-incident measures, which included a comprehensive, laboratory-wide extent-of-condition review of machining equipment. DOE also recognizes that UChicago Argonne initiated actions to mitigate the immediate hazards and integrate improved processes to prevent recurrence. To this end, UChicago Argonne enlisted the assistance of external subject matter experts to identify and address weaknesses in machine guarding, machining operations, and the hearing conservation program.

In consideration of these factors, DOE has concluded that 50 percent mitigation is warranted for UChicago Argonne's actions addressing the Part 851 violations cited in the enclosed PNOV. As a result, the proposed mitigated civil penalty is \$140,000.

Pursuant to 10 C.F.R. § 851.42, *Preliminary Notice of Violation*, you are obligated to submit a written reply within 30 calendar days of receipt of the enclosed PNOV and to follow the instructions specified in the PNOV when preparing your response. If you fail to submit a reply within 30 calendar days, then in accordance with 10 C.F.R. § 851.42(d), you relinquish any right to appeal any matter in the PNOV, and the PNOV will constitute a final order.

After reviewing your reply to the PNOV, including any proposed additional corrective actions entered into DOE's Noncompliance Tracking System, DOE will determine whether any further activity is necessary to ensure compliance with DOE worker safety and health requirements. DOE will continue to monitor the completion of corrective actions until this matter is fully resolved.

Sincerely,



Steven C. Simonson
Director
Office of Enforcement
Office of Enterprise Assessments

Enclosures: Preliminary Notice of Violation (WEA-2016-04)
Enforcement Conference Summary
Enforcement Conference List of Attendees

cc: Joanna Livengood, SC-ASO
Stuart Meredith, UChicago Argonne, LLC

Preliminary Notice of Violation

UChicago Argonne, LLC
Argonne National Laboratory

WEA-2016-04

The U.S. Department of Energy (DOE) conducted an investigation into the facts and circumstances associated with an August 13, 2015, event at Argonne National Laboratory in which a machinist in the Facilities Management and Services (FMS) Division Central Shops experienced a near amputation while operating a horizontal band saw. The investigation revealed multiple violations of DOE worker safety and health requirements by UChicago Argonne, LLC (UChicago Argonne). DOE provided UChicago Argonne with an investigation report dated August 11, 2016, and convened an enforcement conference on September 21, 2016, with UChicago Argonne representatives to discuss the report's findings and UChicago Argonne's response. A summary of the conference and list of attendees are enclosed.

Pursuant to Section 234C of the Atomic Energy Act of 1954, as amended, and DOE regulations set forth at 10 C.F.R. Part 851 (Part 851), *Worker Safety and Health Program*, DOE hereby issues this Preliminary Notice of Violation (PNOV) to UChicago Argonne. The violations cited in this PNOV include deficiencies in: (1) management responsibilities, (2) hazard identification and assessment, (3) hazard prevention and abatement, and (4) training and information. DOE has grouped and categorized these deficiencies as three Severity Level I violations and one Severity Level II violation.

Severity Levels are explained in Part 851, Appendix B, *General Statement of Enforcement Policy*. Subparagraph VI(b)(1) states that “[a] Severity Level I violation is a serious violation. A serious violation shall be deemed to exist in a place of employment if there is a potential that death or serious physical harm could result from a condition which exists, or from one or more practices, means, methods, operations, or processes which have been adopted or are in use, in such place of employment.”

Subparagraph VI(b)(2) states that “[a] Severity Level II violation is an other-than-serious violation. An other-than-serious violation occurs where the most serious injury or illness that would potentially result from a hazardous condition cannot reasonably be predicted to cause death or serious physical harm to employees but does have a direct relationship to their safety and health.”

Because the violations were identified through a self-disclosing event, DOE is not granting mitigation for timely self-identification and reporting. DOE acknowledges UChicago Argonne's post-incident measures, which included a comprehensive, laboratory-wide extent-of-condition review of machining equipment. DOE also recognizes that UChicago Argonne initiated actions to mitigate the immediate hazards and integrate improved processes to prevent recurrence. To this end, UChicago Argonne enlisted the assistance of external subject matter experts to identify

and address weaknesses in machine guarding, machining operations, and the hearing conservation program.

In consideration of mitigating factors, DOE has concluded that 50 percent mitigation is warranted for UChicago Argonne's actions addressing the Part 851 violations cited in this PNOV. As a result, the proposed mitigated civil penalty is \$140,000.

As required by 10 C.F.R. § 851.42(b) and consistent with Part 851, Appendix B, the violations are listed below. If this PNOV becomes a final order, then UChicago Argonne may be required to post a copy of this PNOV in accordance with 10 C.F.R. § 851.42(e).

I. VIOLATIONS

A. Management Responsibilities

Title 10 C.F.R. § 851.10, *General requirements*, subsection (a), states that “[w]ith respect to a covered workplace for which a contractor is responsible, the contractor must:...(2) [e]nsure that work is performed in accordance with: (i) [a]ll applicable requirements of [10 C.F.R. Part 851]; and (ii) [w]ith the worker safety and health program for that workplace.”

Title 10 C.F.R. § 851.20, *Management responsibilities and worker rights and responsibilities*, subsection (a), *Management responsibilities*, states that “[c]ontractors are responsible for the safety and health of their workforce and must ensure that contractor management at a covered workplace:...(3) [a]ssign worker safety and health program responsibilities, evaluate personnel performance, and hold personnel accountable for worker safety and health performance.”

Title 10 C.F.R. § 851.23, *Safety and health standards*, subsection (b), states that “[n]othing in [Part 851] must be construed as relieving a contractor from complying with any additional specific safety and health requirement that it determines to be necessary to protect the safety and health of workers.”

Laboratory-Wide Argonne Procedure LMS-PROC-65, Rev. 6, *Skill-of-the-Worker* (effective December 16, 2014), subsection 3.2.1, requires supervisors to “[e]valuate each work task to determine if it meets the definition of work that can be performed under skill-of-the-worker, under the local work planning and control procedure.”

Laboratory-Wide Argonne Procedure LMS-PROC-200, Rev. 3, *Local Work Planning and Control Implementing Procedures* (effective February 25, 2013), Section E.1, defines skill-of-the-worker to mean workers who “have the appropriate level of proficiency (training, education, experience, and competency) to identify hazards and develop an appropriate control strategy to mitigate risks associated with the hazards per LMS-PROC-65.” The procedure defines the level of rigor associated with work planning and control based on the complexity of the work and the severity of the potential consequences, with medium rigor as the lowest level for work activities with potentially serious consequences. The procedure further defines a serious consequence as “[s]evere injuries, hospitalization, on-site

environmental release, or damage to system or process affecting reliability resulting in significant work stoppage. Consequence is limited to a single area (area may consist of multiple facilities or buildings).”

The FMS Division Central Shops Procedure FMS-PROC-9, Rev. 1, *Work Planning and Control – Non-Office Work* (effective September 30, 2014), Section 3.2.1, Step 2, requires the responsible manager to “[s]elect and assign workers to perform work per LMS-PROC-65, *Skill of the Worker*, by verifying that assigned workers have been documented on Form ANL-804 [*Skill of the Worker – Documentation of Worker Proficiency*] per Section 3.4.8, with the proper qualifications to complete the task.”

FMS – Central Shops Local Work Planning and Control Procedure Summary, FMS-PROC-09-01 (effective November 4, 2014) defines “[i]n-shop fabrication of common metals and plastics using mills, lathes, presses, shears, grinders, saws, and other shop equipment and tooling in compliance with the associated equipment manufacturer guidelines” as low rigor activities that are skill-of-the-worker and can be performed without work control documentation. This matrix further states that medium rigor activities require an “[a]pproved procedure OR job hazard analysis & applicable permits/checklists.”

American National Standards Institute (ANSI) Standard B11.10-2003 (R2015), *Safety Requirements for Metal Sawing Machines*, Clause 4.2, *User’s Responsibility*, states that “[t]he user shall be responsible for the overall workplace safety of personnel.”

DoAll Instruction Manual – Power Saw Model C-1216M (Machine Ser. No. 374-78115), *Daily Checklist* requires users to “check saw guide arm clamps for tightness and correct position of arms.” The Operations chapter describes the blade guard assembly as “a safety device which covers the exposed portion of the saw blade between each saw guide arm and the wheel covers. Right and left-hand blade guards are available. Each is attached to the appropriate saw guide arm and is adjustable should band changing become necessary.”

Contrary to these requirements and as evidenced by the following facts, UChicago Argonne did not adequately implement procedures to address serious risks associated with machining activities and ensure that the assigned work was performed safely.

1. The FMS Division classifies the in-shop fabrication of common metals and plastics using mills, lathes, presses, shears, grinders, saws, and other shop equipment and tooling as low rigor activities. Management authorizes this type of work to be conducted under skill-of-the-worker. However, the potential consequences associated with machining operations include crushed fingers or hands, amputations, lacerations, blunt force trauma, and other potentially severe injuries. Under the UChicago Argonne work planning and control procedures, this type of work requires an approved procedure or job hazard analysis, along with applicable permits and/or checklists even for low complexity work.

2. FMS Division management permitted a horizontal band saw to be operated in Building 363B without proper guards on both sides of the point of operation. During the operation of the saw on August 13, 2015, an employee suffered a near amputation of the left index finger due to contact with the unguarded portion of the blade.
3. FMS Division management permitted the in-shop fabrication of common metals and plastics using mills, lathes, presses, shears, grinders, saws, and other shop equipment by workers who did not have an approved Form ANL-804 to conduct those activities. The two Central Shops repair machinists were permitted to operate equipment to fabricate parts for equipment repair and machine items for customers from other divisions at Argonne National Laboratory. However, the two ANL-804 forms for the workers only authorized them to perform maintenance, troubleshooting, and repair of shop equipment, including related electrical work.

Collectively, these noncompliances constitute a Severity Level I violation.

Base Civil Penalty - \$80,000

Proposed Civil Penalty (as adjusted) - \$40,000

B. Hazard Identification and Assessment

Title 10 C.F.R. § 851.21, *Hazard identification and assessment*, subsection (a), states that “[c]ontractors must establish procedures to identify existing and potential workplace hazards and assess the risk of associated workers injury and illness” and “[p]rocedures must include methods to: . . . (5) [e]valuate operations, procedures, and facilities to identify workplace hazards; [and] (6) [p]erform routine job activity-level hazard analyses.” Subsection (c) states that “[c]ontractors must perform the activities identified in [subsection] (a) of this section, initially to obtain baseline information and as often thereafter as necessary to ensure compliance with the requirements in this Subpart.”

Laboratory-Wide Argonne Procedure LMS-PROC-78, Rev. 8, *Machine Guarding and Operation* (effective November 6, 2013), Section 3.2, Step 5, states that machine tool operators “[o]perate machine tools or equipment only if formally qualified to do so as in Step 3 and only after verifying that the tools/equipment are guarded in accordance with OSHA [Occupational Safety and Health Administration] or ANSI [American National Standards Institute] standards.” It further states, “[i]f a machine tool or equipment item is not properly guarded, stop work and report the unsafe condition to the supervisor.”

In the same procedure, Section 3.2, Step 2.3 states that the responsible individual shall “[p]erform periodic inspections, at least annually, of machine tools and equipment and record the results in the Issues Management Tracking System (IMTS) or FMAX [Facility Max computerized maintenance management system]. If you use optional form ANL-764A, *Self-Assessment Activity Report*, inspection results will automatically upload in IMTS. Track unsatisfactory results to resolution or closure in the system you have chosen.”

ANSI Standard B11.10-2003 (R2015), *Safety Requirements for Metal Sawing Machines*, Clause 4.2, *User's Responsibility*, states that the “[u]ser shall ensure that: a) The recognized hazards for the tasks to be implemented on the machine are identified... c) A procedure for the inspection and maintenance is established so that the machine, its guards and protective devices are used in accordance with the supplier’s recommendations and are in safe operating condition and adjustment; [and] d) Safe working procedures are established and followed.”

Contrary to these requirements and as evidenced by the following facts, UChicago Argonne did not ensure that required machine guarding inspections were effective in identifying deficiencies or ensuring that improperly guarded equipment was removed from service.

1. The Central Shops Safety Subcommittee conducts monthly safety inspections of the machine shops operated by FMS Division’s Central Shops. During the six months before the August 13, 2015, near amputation event, these inspections identified only one machine guarding deficiency: a pinch point hazard on the Building 401 hand shear. That deficiency was identified during the March 25, 2015, inspection and was corrected a little over two months later, but it was not entered into or tracked through IMTS or FMAX. No machine guarding deficiencies were identified through these inspections in Building 363 shops during the same period, including the inspection conducted on the day of the near amputation event. However, the extent-of-condition review that UChicago Argonne conducted in the Central Shops areas shortly after the event identified 30 machines with machine guarding deficiencies, representing 14 percent of the machines inspected.
2. UChicago Argonne’s work planning and control processes were ineffective in identifying the hazards present during the operation of machining equipment and controlling them through guarding and safe work practices. Approximately 180 of the 800 pieces of equipment that were in service at the time of the incident lacked appropriate guarding, shielding, and/or anchoring to control hazards to workers.
 - a. The FMS Division conducted in-shop fabrication of common metals and plastics using mills, lathes, presses, shears, grinders, saws, and other shop equipment and tooling under skill-of-the-worker without either a job hazard analysis or a task-specific work document. For these activities, management had authorized the approved workers to independently identify hazards, implement controls, and safely complete work tasks. The post-event extent-of-condition review showed that 51 (15 percent) of the 336 pieces of equipment assigned to the FMS Division (including the Central Shops) lacked proper guarding, did not have adequate chip shields, or were not securely anchored.
 - b. The Nuclear Engineering Division has established written procedures for various machining activities but does not specify the hazards of moving machine components and the associated machine guarding requirements. For example, document AMFF/ESH-1/10-Rev.0, *Environmental, Safety, and Health Guide for Manufacturing of Nuclear Fuel Plates in the Advanced Materials Fabrication Facilities*, authorizes operation of presses, mills, shears, and machine tools (saws, grinders, drill presses, sanders, etc.). This document provides general operating procedures for the press and

various rolling mills, including general step-by-step operating instructions, but does not identify specific guarding requirements for this equipment and does not contain operating procedures for shears and other machine tools that it authorizes for use. The post-event extent-of-condition review showed that 35 (38 percent) of the 92 pieces of equipment lacked proper guarding or were not securely anchored.

- c. The post-event extent-of-condition review of the remaining divisions showed that 101 (27 percent) of the 371 pieces of equipment examined lacked proper guarding or were not securely anchored.

Collectively, these noncompliances constitute a Severity Level I violation.

Base Civil Penalty - \$80,000

Proposed Civil Penalty (as adjusted) - \$40,000

C. Hazard Prevention and Abatement

Title 10 C.F.R. § 851.22, *Hazard prevention and abatement*, subsection (a), states that “[c]ontractors must establish and implement a hazard prevention and abatement process to ensure that all identified and potential hazards are prevented or abated in a timely manner.” Subsection (a) further states that: “(2) [f]or existing hazards identified in the workplace, contractors must: . . .(iii) [p]rotect workers from dangerous safety and health conditions.” Subsection (b) states that “[c]ontractors must select hazard controls based on the following hierarchy: (1) [e]limination or substitution of the hazards where feasible and appropriate; (2) [e]ngineering controls where feasible and appropriate; (3) [w]ork practices and administrative controls that limit worker exposures; and (4) [p]ersonal protective equipment.” In addition, subsection (c) states that “[c]ontractors must address hazards when selecting or purchasing equipment, products, and services.”

Title 10 C.F.R. § 851.23, *Safety and health standards*, subsection (a), states that “[c]ontractors must comply with the following safety and health standards that are applicable to the hazards at their covered workplace: . . .(3) Title 29 [C.F.R.] Part 1910, ‘*Occupational Safety and Health Standards*.’”

Title 29 C.F.R. § 1910.212, *General requirements for all machines*, paragraph (a)(1), states that “[o]ne or more methods of machine guarding shall be provided to protect the operator and other employees in the machine area from hazards such as those created by point of operation, ingoing nip points, rotating parts, flying chips and sparks.” In addition, subparagraph (a)(3)(ii) states that “[t]he point of operation of machines whose operation exposes an employee to injury, shall be guarded. The guarding device shall be in conformity with any appropriate standards therefor, or, in the absence of applicable specific standards, shall be so designed and constructed as to prevent the operator from having any part of his body in the danger zone during the operating cycle.” In addition, subsection (b) requires that “[m]achines designed for a fixed location shall be securely anchored to prevent walking or moving.”

Title 29 C.F.R. § 1910.215, *Abrasive wheel machinery*, paragraph (a)(4), states that “[w]ork rests shall be kept adjusted closely to the wheel with a maximum opening of one-eighth inch to prevent the work from being jammed between the wheel and the rest, which may cause wheel breakage.”

ANSI Standard B11.10-2003 (R2015), *Safety Requirements for Metal Sawing Machines*, Clause 4.2, *User’s Responsibility*, states that “[t]he user shall ensure that...protective measures required to eliminate or control the hazards are provided and used.” In addition, clause 8.6, *Safe Work Procedures*, states that “[t]he use of safe work procedures shall protect personnel from the hazards associated with set-up, operation and maintenance of the machine by reducing the exposure to a hazard(s).”

Contrary to these requirements and as evidenced by the following facts, UChicago Argonne did not implement an effective process to abate machining hazards in a timely manner or protect workers from dangerous conditions resulting from inadequately guarded machines.

1. Processes were not effective in ensuring timely correction of inadequate machine guarding or anchoring of machining equipment when placed into service or relocated. Numerous machine guarding issues in specific pieces of equipment were identified during a 2003 inspection by OSHA and again during a 2007 assessment by an outside consultant retained by UChicago Argonne. Following each effort, UChicago Argonne addressed most of the identified issues, however, processes were not effective in preventing recurrence and inadequate machine guarding issues recurred and, in many cases, remained unabated. Thus, the post-event extent-of-condition review identified numerous machine guarding deficiencies: 51 of 181 inspected saws had guarding deficiencies, and out of 618 other pieces of inspected equipment, 102 had inadequate guarding, 26 were not securely anchored, and 8 had inadequate chip guarding.
2. On April 5, 2016, two grinding wheels on a grinder in Building 363B exhibited cupping due to excessive wear in the center of the stones, and their tool rests were more than one-eighth inch from the grinding surface. Proper adjustment of the tool rests would require dressing or replacement of the wheels, but the grinder remained available for use by workers.

Collectively, these noncompliances constitute a Severity Level I violation.

Base Civil Penalty - \$80,000

Proposed Civil Penalty (as adjusted) - \$40,000

D. Training and Information

Title 10 C.F.R. § 851.25, *Training and information*, subsection (a), states that “[c]ontractors must develop and implement a worker safety and health training and information program to ensure that all workers exposed or potentially exposed to hazards are provided with training and information on that hazard in order to perform their duties in a safe and healthful

manner.” Subsection (c) states that “[c]ontractors must provide training and information to workers who have worker safety and health program responsibilities that is necessary for them to carry out those responsibilities.”

ANSI Standard B11.10-2003 (R2015), *Safety Requirements for Metal Sawing Machines*, Clause 4.2, *User’s Responsibility*, states that “[t]he user shall ensure that: . . . (f) All set-up and maintenance personnel and operators are trained to perform the functions for which they are responsible. The training shall include familiarizing the employees with the portions of this standard related to their work.”

Laboratory-Wide Argonne Procedure LMS-PROC-78, Rev. 8, *Machine Guarding and Operation* (effective November 6, 2013), Section 3.2, Step 3.1, states that the responsible supervisor of machine tool/equipment operators shall “[q]ualify machine tool/equipment operators by: [v]erifying that the operator being qualified has read the operating manual or best practices[, w]itnessing the operator demonstrating the ability to safely set up and use the machine tool/equipment[, and v]erifying that the operator has completed required machine guarding training as identified by the operator’s job and hazard questionnaire (JHQ).”

Title 10 C.F.R. § 851.23, *Safety and health standards*, subsection (a), states that “[c]ontractors must comply with the following safety and health standards that are applicable to the hazards at their covered workplace: . . . (9) American Conference of Governmental Industrial Hygienists (ACGIH), “*Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices*,” (2005).

Title 29 C.F.R. § 1910.95, *Occupational noise exposure*, subparagraph b(1), states that “[w]hen employees are subjected to sound exceeding those listed in Table G-16, feasible administrative or engineering controls shall be utilized. If such controls fail to reduce sound levels within the levels of Table G-16, personal protective equipment shall be provided and used to reduce sound levels within the levels of the table.”

ACGIH *Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices* (2005), Table 1, *TLVs for Noise*, establishes an 8-hour time-weighted average TLV of 85 A-weighted decibels (dBA), with a 3 dBA exchange rate for calculating different exposure durations.

Laboratory-Wide Argonne Procedure LMS-PROC-231, Rev. 1, *Noise Control and Hearing Conservation* (effective January 23, 2015), Section 3.2.2, Step 2.3 states that supervisors shall “[p]rovide and supervise the use of personal hearing protection. . . [i]f noise exposures “equal or exceed those in Exhibit B, Table 1 Audible Noise Exposure Limits (85 dBA, 8 hour time-weighted average).”

Contrary to these requirements and as evidenced by the following facts, UChicago Argonne did not ensure that personnel were effectively trained to understand the hazards and controls associated with the safe operation of machining tools and equipment or effectively communicate hearing conservation requirements to supervisory personnel responsible for ensuring the safety of subordinate workers.

1. Workers authorized to operate machining equipment were required to complete training course ESH562, *Machine Guarding*, dated October 7, 2009, which provided general information on types of guards and their effectiveness but did not fully address OSHA machine guarding requirements, cover ANSI machine guarding standards, or address equipment-specific guarding requirements. Although LMS-PROC-78 makes machine operators responsible for verifying that the tools/equipment are guarded in accordance with OSHA or ANSI standards before use, many machines remained in active use without proper guarding in place, indicating that training on the responsibilities delineated in this procedure were not effective.
2. Industrial hygiene survey summary reports, which are intended to provide noise exposure results, comparisons to regulatory requirements, and directions for supervisory actions, contained misleading or inaccurate information. The August 30, 2013, industrial hygiene survey summary report on personal noise exposure of three workers during routine machine shop operations in Building 363 provided information to the supervisor that conflicted with requirements for the use of hearing protection.
 - (a) Although the noise exposures exceeded the TLV on two out of five days for one worker and one out of five days for a second worker, the report recommended, rather than required, the use of hearing protection and omitted the requirement to identify and use feasible administrative or engineering controls to reduce exposure.
 - (b) One additional exposure of 84.9 dBA was identified as below the ACGIH TLV. However, the data sheet associated with that exposure identified a total exposure duration of 532 minutes. For that duration, an equivalent exposure at or above 84.5 dBA exceeds the TLV.
 - (c) The report also identified that the OSHA permissible exposure limit, which was not exceeded, was the applicable standard. This statement is not correct for DOE sites subject to Part 851 because the ACGIH TLVs are incorporated by reference in Part 851 and are more protective of workers' health.
 - (d) The report identified that the simple arithmetic averages of daily exposures are considered to be representative of employee exposure and below applicable standards. This conclusion is inaccurate and understates actual worker exposures.

The March 17, 2014, industrial hygiene survey summary report on personal noise exposure of one worker during routine machine shop operations and operation of a Niagara shear in Building 363B provided information to the supervisor that conflicted with requirements for the use of hearing protection.

- (a) Although the noise exposures were at or above the TLV on one out of two days, the report recommended, rather than required, the use of hearing protection and omitted the requirement to identify and use feasible administrative or engineering controls to reduce exposure.

- (b) The report also identified that the OSHA permissible exposure limit, which was not exceeded, was the applicable standard. This statement is not correct for DOE work subject to Part 851 because the ACGIH TLVs, which are incorporated by reference in Part 851, are more protective of workers' health.

Collectively, these noncompliances constitute a Severity Level II violation.

Base Civil Penalty - \$40,000

Proposed Civil Penalty (as adjusted) - \$20,000

II. REPLY

Pursuant to 10 C.F.R. § 851.42(b)(4), UChicago Argonne is hereby obligated to submit a written reply within 30 calendar days of receipt of this PNOV. The reply should be clearly marked as a "Reply to the Preliminary Notice of Violation."

If UChicago Argonne chooses not to contest the violations set forth in this PNOV, then the reply should clearly state that UChicago Argonne waives the right to contest any aspect of this PNOV. In such case, this PNOV will constitute a final order upon the filing of the reply.

If UChicago Argonne disagrees with any aspect of this PNOV, then as applicable and in accordance with 10 C.F.R. § 851.42(c)(1), the reply must: (1) state any facts, explanations, and arguments that support a denial of an alleged violation; and (2) discuss the relevant authorities that support the position asserted, including rulings, regulations, interpretations, and previous decisions issued by DOE. In addition, 10 C.F.R. § 851.42(c)(2) requires that the reply include copies of all relevant documents.

If UChicago Argonne fails to submit a written reply within 30 calendar days of receipt of this PNOV, then pursuant to 10 C.F.R. § 851.42(d), UChicago Argonne relinquishes any right to appeal any matter in this PNOV and this PNOV will constitute a final order.

Please send the appropriate reply by overnight carrier to the following address:

Director, Office of Enforcement
Attention: Office of the Docketing Clerk, EA-10
U.S. Department of Energy
19901 Germantown Road
Germantown, MD 20874-1290

A copy of the reply should also be sent to the Manager of the Argonne Site Office.

III. CORRECTIVE ACTIONS

Corrective actions that have been or will be taken to avoid further violations should be delineated with target and completion dates in DOE's Noncompliance Tracking System.

A handwritten signature in black ink that reads "Steven C. Simonson". The signature is written in a cursive style with a large initial 'S'.

Steven C. Simonson

Director

Office of Enforcement

Office of Enterprise Assessments

Washington, D.C.

This 22nd day of November 2016