Indiana Department of Labor
Advancing the safety, health and prosperity of Hoosiers in the workplace

MITCHELL E. DANIELS, Jr., GOVERNOR
Lori A. Torres, Commissioner

402 West Washington Street, Room W195
Indianapolis, Indiana 46204-2751

Phone: (317) 232-2655
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July 05, 2011

Jeff Crawley
Colorcon, Inc.
3702 East 21st Street
Indianapolis, IN 46218

Re: Inspection No. 314739996

Dear Jeff Crawley:

An inspection of your workplace at Colorcon, Inc., located at 3702 East 21st Street, Indianapolis, Indiana was initiated on January 19, 2011, based on an allegations (complaints) concerning employee exposure to potential combustible dust hazards. Various processes and machinery located throughout the Starch Plants modify regular corn starch (a Class II, Group G combustible dust) and transform it into gelatinized corn starch. In order to produce the gelantinized corn starch, vast quantities of regular corn starch are used and stored throughout the facility. Employees interviewed said that they use approximately 90,000 pounds of corn starch per day in the Starch Plants. Approximately 180,000 pounds of corn starch are also stored in three silos located directly outside of the Starch Plants. Starch dust is suspended periodically and intermittently under normal operating conditions throughout the Starch Plants. The suspended fugitive starch dust located throughout the Starch Plants was mainly emitted by machinery such as, but not limited to the K-Trons and the two large blenders.

Several resources including, but not limited to the Occupational Safety and Health Administration's (OSHA) Compliance Directive on Combustible Dust (CPL 03-00-008 *Combustible Dust National Emphasis Program (Reissued)*) and the National Fire Protection Association's (NFPA) *Standard for the Prevention of Fire and Dust Explosions in Agricultural and Food Processing Facilities* (NFPA 61-2008) state that (corn) starch dust is combustible. Colorcon, Inc., hired an outside contractor, Chilworth Technology, to determine if their starch dust products were considered combustible dusts. Starch 1500, Starch 1500 LM and Starcap 1500 were determined to be combustible dusts with K_{st} values ranging between 128 bar.meters per second (b.m/s) and 143 b.m/s.

On January 19, 2011, the CSHO collected a one-liter bulk sample of starch dust which had accumulated on the floor and other surfaces in Starch Plant #2. Specifically, the CSHO filled the one-liter plastic bottle with starch dust that had accumulated on the floor of the 2W Mill Room and with starch dust which was contained inside of a plastic bin located directly beneath the K-Tron in the 2W Area of Starch Plant #2. All of the electrical equipment and installations located inside of each of the

Starch Plants was rated for a Class 2, Division 1 hazardous location. Therefore, the CSHO requested that the bulk sample be analyzed to determine its explosibility rating (K_{st} value). The Federal OSHA Lab in Salt Lake City (SLC) determined that the bulk sample of starch dust was explosive. Specifically, 100% of the dust passed through a 40 mesh sieve and 20 mesh sieve respectively, and 35% of the dust passed through a 200 mesh sieve. The K_{st} value of the starch dust was 75.53 b.m/s. Based on this K_{st} value, the starch dust falls under the St 1 Dust Explosion Class and could cause a weak explosion if ignited.

The first complaint item listed on Indiana OSHA (IOSHA) Complaint Number 207526179 states that the blower for the silos is not interlocked with the Fenwal system, and starch would continue to be fed into the process system after the Fenwal system activates. Section 10.4.6 of NFPA's *Standard on Explosion Prevention Systems* (NFPA 69-2008) states that "upon activation, the suppression system shall initiate an immediate, automatic shutdown of the protected process." Both the employer and employees interviewed stated that none of the Fenwal systems located throughout the facility were currently interlocked with the silo blowers. Thus, if any of the Fenwal systems were activated, the blowers on each of the silos would continue to feed unprocessed corn starch into the Supply Tanks and throughout the system. The blowers on each of the silos would continue to feed unprocessed corn starch into the system until one of the choke valves on the Pellet Tanks were activated. Once one of the choke valves is activated, the entire processing system (including the silo blowers) shuts down.

It is difficult to determine if the lack of interlocks between the blowers for each silo and the deflagration suppression systems (Fenwal systems) would create a hazard. All potential sources of ignition located throughout the starch delivery and return systems were either eliminated or adequately controlled. Due to the effectiveness of the chemical agent(s) and minuscule discharge time (milliseconds) of the deflagration suppression systems, the deflagration suppression systems would extinguish a deflagration in its early stages and would most likely eliminate the source of ignition that caused the deflagration. Thus, after a deflagration suppression system(s) discharged, the starch dust currently in the processing system being moved by the blower in each silo would be blowing starch onto the chemical agent and not onto a propagating flame-front.

Since no IOSHA standard applies and it is not considered appropriate at this time to invoke Indiana Code (IC) 22-8-1.1, Section 2, the General Duty Clause of the Indiana Code, no Safety Order(s) will be issued for these hazards. However, in the interest of workplace safety and health, IOSHA recommends that you take the following steps voluntarily to eliminate or reduce your employee's exposure to the hazards described above:

- Install an interlock system(s) that connects the blower on each silo to the deflagration suppression systems located throughout the facility.
- Assure that all parts of the deflagration suppression systems (including the interlocks) located throughout the facility are inspected and maintained in accordance with NFPA's *Standard on Explosion Prevention Systems* (NFPA 69-2008).

The second complaint item states that large amounts of starch dust have accumulated on surfaces and floors located throughout the Starch Plants. Section 8.2.1.2 of NFPA's *Standard for the Prevention of Fire and Dust Explosions from the Manufacturing, Processing, and Handling of Combustible Particulate Solids* (NFPA 654-2006) states that "regular cleaning frequencies must be established for walls, floors, and horizontal surfaces such as, equipment ducts, pipes, hoods, ledges, beams, and above suspended ceilings and other concealed surfaces to minimize dust accumulations within operating areas of the facility." Annex D of NFPA 654-2006 also states that "it has been calculated that a dust layer averaging 1/32 of an inch (0.8 mm) thick and covering the floor of a building is sufficient to produce a uniform dust cloud of optimum concentration, 10 ft (3 m) high, throughout the building" (D.1). Annex D of NFPA 654-2006 also states that "dust layers 1/32 of an inch (width of a paper clip wire) thick can be sufficient to warrant immediate cleaning of the area" (D.2(1)).

An initial (primary) explosion in processing equipment or in an area were fugitive dust has accumulated may shake loose more accumulated dust, or damage a containment system (such as a duct, vessel, or collector). As a result, if ignited, the additional dust dispersed into the air may cause one or more secondary explosions. These can be far more destructive than a primary explosion due to the increased quantity and concentration of dispersed combustible dust. Thus, good housekeeping procedures are of vital importance when working with and/or around combustible dust. However, the Compliance Officer observed significant amounts of starch dust on several surfaces located throughout the Starch Plants. Specifically, the Compliance Officer observed average starch dust layer heights up to approximately 4.0-inches and 0.75-inches high on the surfaces (ledges, pipes, beams, machinery, etc.) and floor areas respectively. The Compliance Officer also observed starch dust leaking from process machinery such as, but not limited to the Pellet Mills, the 2W K-Tron and Blenders (especially Blender #2).

Although the Compliance Officer observed average starch dust layers throughout the Starch Plants above 1/32 of an inch thick, all potential sources of ignition were either eliminated or adequately controlled. All primary explosion (deflagration) hazards were also controlled through the use of engineering controls. All dust collectors (cyclones, baghouses, etc.) located inside and outside of the facility were equipped with either deflagration (explosion) venting or deflagration suppression systems per Section 6.3 of NFPA 61-2008. All dust collection systems were also equipped with chemical isolation systems that met the design requirements listed in NFPA's *Standard on Explosion Prevention Systems* (NFPA 69-2008). Because the primary explosion hazards present inside of the processing machinery had been controlled, the probability of dispersing and igniting the settled dust layers located throughout the Starch Plants is relatively low (i.e. low degree of hazard for secondary explosions). Thus, it is not considered appropriate at this time to issue Safety Orders for the hazards listed in 29 CFR 1910.22(a)(1) and/or 29 CFR 1910.22(a)(2). However, in the interest of workplace safety and health, IOSHA recommends that you take the following steps voluntarily to eliminate or reduce your employee's exposure to the hazards described above:

- Develop and implement a cleaning schedule which maintains all accumulated dust layer thicknesses below 1/32 of an inch on all surfaces (ledges, pipes, beams, machinery, walls, etc.) and floor areas located throughout the facility. This cleaning schedule should be documented to ensure that all surfaces and floor areas are free from

excessive accumulations of starch dust.

- Paint all surfaces and floors in both of the Starch Plants a color other than white. Currently, all surfaces and floors in both of the Starch Plants are painted white which is the same color as the starch dust. If the surfaces and floors were painted a different color, it be easier to visually determine if the surface or floor area warranted immediate cleaning.
- Eliminate horizontal projections or surfaces such as, but not limited to girders and beams per Section 6.3.3 of NFPA's *Standard for the Prevention of Fire and Dust Explosions from Manufacturing, Processing, and Handling of Combustible Particulate Solids* (NFPA 654-2006).
- Eliminate all starch dust leaks in processing equipment such as, but not limited to the K-Trons, Pellet Mills and Blenders per Section 10.3.1 of NFPA 61-2008. Any processing equipment that allows the escape of starch dust into the surrounding environment should be taken out of service until the equipment is rendered dust-tight.

The fifth complaint item states that employees have to manually dump 50 kilogram (kg) drums of starch into the Pellet Tanks. In order to rework starch, Starch Operators first use a forklift to raise a pallet full of several drums of starch (i.e. rework) up to the 2nd Floor of the Starch Plants. Starch Operators then lift and carry (or roll) the starch drums from the forklift and dump them into the to the Pellet Tanks. Each of the starch drums weighs between approximately 100 pounds and 120 pounds. During the rework process, Starch Operators can lift, carry and dump as many as 70 drums of starch.

Employees who performed rework operations stated that they were experiencing injuries and/or illnesses such as, but not limited to lower back pain and strain, shoulder pain and strain, and neck pain. Employees also stated that all of these injuries and/or illnesses occurred (or were aggravated) while lifting, moving and dumping the drums full of "reworked" starch. Injury and illness descriptions that reflect ergonomically-related disorders include, but are not limited to carpal tunnel syndrome, tenosynovitis, swollen wrist(s) or elbow(s), back strain/sprain, lumbar or back strain/sprain/pain, tendinitis, rotator cuff tendinitis, sprain or pain injury to the L5/S1 disc, and herniated/ruptured disk.

Since no IOSHA standard applies and it is not considered appropriate at this time to invoke IC 22-8-1.1. Section 2, the General Duty Clause of the Indiana Code, no safety order will be issued for these hazards. However, in the interest of workplace safety and health, I recommend that you take the following steps voluntarily to eliminate or reduce your employee's exposure to the hazards described above:

- Perform an ergonomic job analysis to determine the key stressors and contributors to the development of MSDs in the job and work tasks associated with the rework process.
- Purchase and/or use lifting assistive devices to reduce highly repetitive manual lifting of heavy awkward loads (i.e. starch drums). Lifting assistive devices that could be used during the rework process include, but are not limited to vertical drum dumpers and lifters, drum trucks, and drum dispensing vacuum lifters and systems.

- Consider implementing a job rotation schedule or using multiple employees when there are a significant number of starch drums to be "reworked."

The sixth complaint item states that starch dust enters the starch dryers from the Pellet Mills, but the starch dryers are not equipped with Fenwal systems. The starch that enters each of the Paddle Dryers is supposed to pelletized, and a high concentration of starch dust should not be present inside of the Paddle Dryers. However, employees interviewed said that raw starch is being pulled into the Paddle Dryers from the Pellet Mills. On January 19, 2011, the Compliance Officer also observed what appeared to be starch dust falling past the magnetic separator and into the Paddle Dryer in Starch Plant #2.

Although the dust concentration inside of the Paddle Dryers may approach or exceed the Minimum Explosible Concentration (MEC) for starch dust, all potential sources of ignition were either eliminated or adequately controlled inside of the Paddle Dryers. The Paddle Dryers use a combination of physical movement and air pressure to dry the starch pellets, and no or very little heat (steam) is used to dry the starch pellets. All of the Paddle Dryers are also sufficiently grounded which limits the static potential of the Paddle Dryers. Each of the Paddle Dryers is also connected to a dust collection system. All of these dust collection systems are equipped with either deflagration (explosion) venting or deflagration suppression systems per Section 6.3 of NFPA 61-2008. All dust collection systems were also equipped with chemical isolation systems that met the design requirements listed in NFPA 69-2008.

Since no IOSHA standard applies and it is not considered appropriate at this time to invoke Indiana Code (IC) 22-8-1.1, Section 2, the General Duty Clause of the Indiana Code, no Safety Order(s) will be issued for these hazards. However, in the interest of workplace safety and health, IOSHA recommends that you take the following steps voluntarily to eliminate or reduce your employee's exposure to the hazards described above:

- Maintain the interior heated surface of the Paddle Dryers below a thickness or depth of 0.5-inches per Section 8.4.2.1 of NFPA 61-2008.
- Inspect and clean all interior surfaces of the Paddle Dryers at a frequency that minimizes excessive starch dust accumulations (8.4.2.3 of NFPA 61-2008).
- Install detection systems inside of each of the Paddle Dryers that indicate the presence of potential of a fire (8.4.3.1 of NFPA 61-2008).
- Protect each Paddle Dryer with a permanently installed fire protection system and explosion suppression system(s) in accordance with applicable NFPA standards (8.4.4.1 of NFPA 61-2008).

During the inspection, the Compliance Officer also observed that a new walkway had been installed directly above each of the three silos located directly outside of the Starch Plants. The three silos hold all of the unprocessed corn starch that is used throughout the facility. Each of the silos has a capacity of approximately 80,000 pounds of corn starch, and each of the silos are approximately 75% full. Each of the silos are equipped with a dust collector. Each of the dust collectors are located on the steel

walkway, and the dust collectors are connected to the silos with metal tubing. None of the dust collectors are equipped with explosion protection such as, but not limited to deflagration venting or deflagration suppression systems. Maintenance Technicians change the filter cartridges inside of each of the dust collectors approximately once a month.

Each of the silos are designed to be structurally weaker at the top. Thus, the flame-front and pressure wave generated during a deflagration would propagate up and out of the top of each of the silos. A portion of the deflagration could potentially propagate up and through the steel walkway, which would severely burn any employee standing on the walkway directly above the silos. A portion of the deflagration could also potentially propagate up and into the dust collector(s) because the only thing separating the dust collector(s) and the silo(s) is metal grating. Any portion of the deflagration that propagated into the dust collector could severely burn or destroy anything (or anyone) inside of or near the dust collector(s).

According to the employer, the walkway is designed to withstand the force of an explosion. The employer also stated that the flame-front emitted during a deflagration would not propagate straight up towards the walkway, and would instead propagate out at an angle from the top of the silo(s). However, the Compliance Officer feels that the potential exists for the flame-front to propagate up and onto the walkway during a vented deflagration. The Compliance Officer also could not determine if each of the dust collectors were included in the employer's engineering/venting calculations for each of the silos.

It is not considered appropriate at this time to issue Safety Orders for the potential hazards associated with the walkway above the silos. It is also not considered appropriate at this time to invoke IC 22-8-1.1, Section 2, the General Duty Clause of the Indiana Code, for the hazards associated with the explosion venting design of the silos. However, in the interest of workplace safety and health, IOSHA recommends that you take the following steps voluntarily to eliminate or reduce your employee's exposure to the hazards described above:

- Make sure that each of the dust collectors are included in any explosion containment or explosion venting calculations for the silos. If each of the dust collectors were not included in the explosion containment or explosion venting calculations for the silos, then each of the dust collectors must be protected in accordance with Section 6.3 of NFPA 61-2008. All explosion containment or explosion venting designs should also follow the requirements listed in NFPA's *Standard on Explosion Protection by Deflagration Venting* (NFPA 68-2007).
- Assure that no portion of the flame-front emitted during a vented deflagration from the top of the silos could contact any portion of the walkway that runs above the silos. This can be done through either calculations, or by installing engineering controls such as, but not limited to flame-front diverters above or onto the top of each of the silos.

Your interest in workplace safety and health is appreciated.

Sincerely,

Jeffry S. Carter
IOSHA - Deputy Commissioner

JSC:cmk:jpr

Certified Receipt No.: 7003 1010 0003 5731 8049
7-5-11 jto

Indiana Department of Labor
Indiana Occupational Safety and Health Administration
402 West Washington Street
Room W195
Indianapolis, IN 46204-2751
Phone: 317/232-1979 Fax: 317/233-8509

certified mail # 7003 1010 0003 5731 8849 7-5-11 JH

Safety Order and Notification of Penalty

To:

Colorcon, Inc.,
and its successors
3702 East 21st Street
Indianapolis, IN 46218

Inspection Site:

3702 East 21st Street
Indianapolis, IN 46218

Inspection Number: 314739996

Inspection Date(s): 01/19/2011 - 06/09/2011

Issuance Date: 07/05/2011

The violation(s) described in this Safety Order and Notification of Penalty is (are) alleged to have occurred on or about the day(s) the inspection was made unless otherwise indicated within the description given below.

An inspection of your place of employment has revealed conditions which we believe do not comply with the provisions of the Indiana Occupational Safety and Health Act (Indiana Code Chapter 22-8-1.1) or the standards or rules adopted thereunder. Accordingly, enclosed please find safety order(s) and notification(s) of penalty describing such violation(s) with references to applicable standards, rules, or provisions of the statute and stating the amount of any penalty(ies).

Informal Conference - Please be advised that it may be possible to informally settle any potential dispute without initiating the more elaborate proceedings brought on by a petition for review. Prior to filing a petition for review, you may request an informal conference concerning any of the results of the inspection (safety orders, penalties, abatement dates, etc.) by contacting the Indiana Department of Labor/IOSHA, preferably by telephone, in a prompt manner. Please be advised that a request for an informal conference cannot extend the fifteen working day period for filing a petition for review. Informal conferences frequently resolve any possible disputes, and therefore you are urged to take advantage of this opportunity. Because of the limited time period and in order to facilitate scheduling, any requests for an informal conference should be made promptly upon your receipt of the safety order(s) and notification(s) of penalty.

Right to Contest - You are hereby also notified that you are entitled to seek administrative review of the safety order(s), penalty(ies), or both by filing a written petition for review at the above address postmarked within fifteen working days of your receipt of the safety order(s) and notification(s) of penalty. ("Working days" means Mondays through Fridays, but does not include Saturdays, Sundays, legal holidays under a state statute or days

on which the Indiana Department of Labor's offices are closed during regular business hours). If you do not file such a petition for review (contest), the safety order(s) and penalty(ies) shall be deemed final orders of the Board of Safety Review and not subject to review by any court or agency. The issuance of a safety order does not constitute a finding that a violation has occurred unless no petition for review is filed, or if a petition for review (contest) is filed, it must contain a statement of its basis and should reference the above inspection number. Upon receipt of your petition for review, we will affirm, amend or dismiss the safety order(s) and notification(s) of penalty. If we affirm, your petition for review will be granted (unless it was not timely) and the dispute will be certified by the Board of Safety Review for further proceedings. The Board of Safety Review is an independent agency appointed by the governor with authority to conduct hearings and to issue decisions concerning disputed safety order(s) and notification(s) of penalty. If we amend the safety order(s) or notification(s) of penalty, your petition for review shall be deemed moot. However, you will then be given an opportunity to file a petition for review concerning the amended safety order(s) and notification(s) of penalty.

Please be advised that an employee or representative of employees may file a petition for review to contest the reasonableness of the time stated in the safety order(s) for the abatement of any violation.

Posting - Upon receipt of any safety order(s) you are required to post such safety order(s), or a copy thereof, unedited, at or near each place an alleged violation referred to in the safety order(s) occurred. However, if your operations are such that it is not practicable to post the safety order(s) at or near each place of alleged violation, such safety order(s) shall be posted, unedited, in a prominent place where it will be readily observable by all affected employees. For example, if you are engaged in activities which are physically dispersed, the safety order(s) may be posted at the location from which the employees operate to carry out their activities. You must take steps to ensure that the safety order is not altered, defaced, or covered by other material. Posting shall be until the violation is abated, or for three working days, whichever is longer.

Penalties - Penalties are due within fifteen (15) working days of receipt of this notification unless contested. Abatement does not constitute payment of penalties.

Abatement - The conditions cited in the safety order(s) must be corrected (abated) on or before the date shown for each item on the safety order(s) and notification(s) of penalty unless:

(1) You file a petition for review concerning the violation, in which case the full abatement period shall commence from the issuance of a final decision by the Board of Safety Review or the courts which requires compliance with the safety order; or

(2) The abatement period is extended by the granting of a petition for modification of abatement date.

PMAs - The petition for modification of abatement date is a manner in which you may seek additional time to correct (abate) a violation without having to file a petition for review concerning the safety order, or after the expiration of the time period to file such a petition for review when it becomes apparent that you need extra time to abate the violation. A petition for modification of abatement date shall be in writing and shall include the following information:

(1) All steps you have taken, and the dates of such actions, in an effort to achieve compliance during the

prescribed abatement period.

(2) The specific additional abatement time necessary in order to achieve compliance.

(3) The reasons such additional time is necessary, including the unavailability of professional or technical personnel or of materials and equipment, or because necessary construction or alteration of facilities cannot be completed by the original abatement date.

(4) All available interim steps being taken to safeguard employees against the cited hazard during the abatement period.

(5) A certification that a copy of the petition has been posted, and if appropriate, served on the authorized representative of affected employees, and a certification of the date upon which such posting and service was made.

A petition for modification of abatement date shall be filed with the Indiana Department of Labor/IOSHA no later than the close of the next working day following the date on which abatement was originally required. A later-filed petition shall be accompanied by the employer's statement of exceptional circumstances explaining the delay. A copy of such petition shall be posted in a conspicuous place where all affected employees will have notice thereof or near such location where the violation occurred. The petition shall remain posted until the time period for the filing of a petition for review of the Commissioner's granting or denying the petition expires. Where affected employees are represented by an authorized representative, said representative shall be served a copy of such petition.

Notification of Corrective Action - Correction of the alleged violations which have an abatement period of thirty (30) days or less should be reported in writing to us promptly upon correction. A "Letter of Abatement" form and an "Abatement Photographs" worksheet are enclosed for your assistance in providing adequate documentation of abatement. Reports of corrections should show specific corrective action on each alleged violation and the date of such action. On alleged violations with abatement periods of more than thirty (30) days, a written progress report should be submitted, detailing what has been done, what remains to be done, and the time needed to fully abate each such violation. When the alleged violation is fully abated, we should be so advised. Timely correction of an alleged violation does not affect the initial proposed penalty.

Followup Inspections - Please be advised that a followup inspection may be made for the purpose of ascertaining that you have posted the safety order(s) and corrected the alleged violations. Failure to correct an alleged violation may result in additional penalties for each day that the violation has not been corrected.

Employer Discrimination Unlawful - The law prohibits discrimination by an employer against an employee for filing a complaint or for exercising any rights under this Act. An employee who believes that he/she has been discriminated against may file a complaint no later than 30 days after the discrimination occurred with the Indiana Department of Labor/IOSHA at the address shown above.

Notice to Employees - The law gives an employee or his/her representative the opportunity to object to any abatement date set for a violation if he/she believes the date to be unreasonable. The contest must be mailed to

the Indiana Department of Labor/IOSHA at the address shown above within fifteen (15) working days (excluding weekends and State holidays) or receipt by the employer of this safety order and penalty.

If you wish additional information, you may direct such requests to us at the address or telephone number stated above.

NOTICE TO EMPLOYEES OF INFORMAL CONFERENCE

An informal conference has been scheduled with IOSHA to discuss the safety order(s) issued on 07/05/2011. The conference will be held at the IOSHA office located at 402 West Washington Street, Room W195, Indianapolis, IN 46204 on _____ at _____. Employees and/or representatives of employees have a right to attend an informal conference.

The alleged violations below have been grouped because they involve similar or related hazards that may increase the potential for illness or injury resulting from an accident.

Safety Order 1 Item 1a Type of Violation: **Serious**

29 CFR 1910.132(a): Protective equipment was not used when necessary whenever hazards capable of causing injury and impairment were encountered:

Outside In Front of the South Wall of Starch Plants #1 & #2 - Maintenance Technicians changed and/or cleaned the filter cartridges used inside the dust collectors located above the three silos outside of the facility. While performing these cleaning operations, a potential flash fire hazard existed inside of the dust collectors due to the significant airborne concentrations of starch dust, a Class II Group G combustible dust, which was suspended or dispersed throughout the inside of the dust collectors. While performing these cleaning operations on the dust collectors, Maintenance Technicians wore uniforms consisting of long-sleeve shirts, pants and nylon hairnets which were not designed or engineered to be flame-resistant (FR). The uniforms worn by Maintenance Technicians could potentially melt and shrink if exposed to a flame, which could cause the wearer to experience severe burns.

ABATEMENT NOTE: Any flame-resistant clothing (FRC) or flame-resistant garments (FRGs) purchased or used by the employer must meet the minimum elements listed in the National Fire Protection Association's (NFPA) *Standard on Flame-Resistant Garments for Protection of Industrial Personnel Against Flash Fire* (NFPA 2112-2010)

Date By Which Violation Must be Abated: **08/02/2011**
Proposed Penalty: **$5,000.00**

Safety Order 1 Item 1b Type of Violation: **Serious**

29 CFR 1910.146(c)(1): The employer did not evaluate the workplace to determine if any spaces were permit-required confined spaces:

Outside in Front of the South wall of Starch Plants #1 & #2 - Maintenance Technicians entered permit-required confined spaces (PRCSs) such as, but not limited to the dust collectors located above the silos approximately once a month to change the filter cartridges inside of each of the dust collectors.

Date By Which Violation Must be Abated: **08/02/2011**

Safety Order and Notification of Penalty
Company Name: Colorcon, Inc.
Inspection Site: 3702 East 21st Street, Indianapolis, IN 46218

Safety Order 1 Item 1c Type of Violation: **Serious**

29 CFR 1910.146(c)(2): The employer did not inform exposed employees, by posting danger signs or by any other equally effective means, of the existence and location of and the danger posed by the permit spaces:

Outside in Front of the South wall of Starch Plants #1 & #2 - Maintenance Technicians entered permit-required confined spaces (PRCSs) such as, but not limited to the dust collectors located above the silos approximately once a month to change the filter cartridges inside of each of the dust collectors.

Date By Which Violation Must be Abated: **08/02/2011**

Safety Order 1 Item 1d Type of Violation: **Serious**

29 CFR 1910.146(d)(9): Under the permit-required confined space program required by 29 CFR 1910.146(c)(4), the employer did not develop and implement procedures for summoning rescue and emergency services, for rescuing entrants from permit spaces to rescued employees, and for preventing unauthorized personnel from attempting a rescue:

Facility Wide - The employer's written Permit-Required Confined Space (PRCS) Entry Program stated to summon rescue and other emergency services by dialing 911. However, the employer's PRCS Entry Program did not state which outside rescue service was to be used, or when to call them in case of an emergency. The employer also did not evaluate the prospective rescue service's ability to respond to a rescue summons in a timely manner, as well as the rescue service's proficiency with rescue-related tasks and equipment.

Date By Which Violation Must be Abated: **08/02/2011**

Safety Order and Notification of Penalty
Company Name: Colorcon, Inc.
Inspection Site: 3702 East 21st Street, Indianapolis, IN 46218

The alleged violations below have been grouped because they involve similar or related hazards that may increase the potential for illness or injury resulting from an accident.

Safety Order 1 Item 2a Type of Violation: **Serious**

29 CFR 1910.147(d)(4)(i): Lockout or tagout devices were not affixed to each energy isolating device by authorized employees:

Starch Plants #1 & #2 - Starch Operators and maintenance employees used tools such as, but not limited to hammers, chisels and crowbars (pry bars) to unplug the Pellet Mills which had become clogged/jammed with starch. Prior to unclogging the Pellet Mills, employees did not turn the power off to each Pellet Mill, or affix locks or similar devices to the main electrical disconnect(s) for each Pellet Mill.

Date By Which Violation Must be Abated: **08/02/2011**
Proposed Penalty: **$5,000.00**

Safety Order 1 Item 2b Type of Violation: **Serious**

29 CFR 1910.305(j)(4)(ii): Disconnecting means for motors were not located in sight from the controller location:

Fifth Sub-Floor of Starch Plants #1 & #2 - The main electrical disconnects for each of the Pellet Mills were located inside of the MCC Rooms, which were located approximately 50-60 feet away from the Pellet Mills on the ground floor.

Date By Which Violation Must be Abated: **08/02/2011**

Safety Order and Notification of Penalty
Company Name: Colorcon, Inc.
Inspection Site: 3702 East 21st Street, Indianapolis, IN 46218

Safety Order 2 Item 1 Type of Violation: **Knowing**

29 CFR 1910.1200(g)(2)(iii): Each material safety data sheet (MSDS) for hazardous chemicals did not contain at least the physical hazards of the hazardous chemical, including the potential for fire, explosion, and reactivity:

Facility Wide - Colorcon, Inc., manufactured and produced modified corn starch products including, but not limited to Starch 1500 Partially Pregelatinized Maize Starch (Product Code 2001), Starch 1500 Low Moisture (LM) Partially Pregelatinized Maize Starch (Product Code 2002) and Starch 1500 G Partially Pregelatinized Maize Starch (Product Code 2003). The material safety data sheets (MSDSs) initially developed by Colorcon, Inc., and supplied to their customers for each of the these starch products did not include specific information about the potential deflagration (explosion) and fire hazards associated with starch dust, a Class II Group G combustible dust. On or about March 9, 2009, Colorcon, Inc., updated each of the MSDSs for these starch products to adequately reflect the potential deflagration (explosion) and fire hazards associated with starch dust. Although each of the MSDSs for these starch products were updated, Colorcon, Inc., did not supply these updated MSDSs to their customers until on or after January 26, 2011.

Date By Which Violation Must be Abated: **08/02/2011**
Proposed Penalty: **$70,000.00**

Safety Order 2 Item 2 Type of Violation: **Knowing**

29 CFR 1910.1200(g)(5): Significant new information regarding the hazards of a chemical or ways to protect against the hazards was not added to the material safety data sheet within three months after the employer became aware of such information, or before the chemical was introduced into the workplace again:

Facility Wide - Colorcon, Inc., manufactured and produced modified corn starch products including, but not limited to Starch 1500 Partially Pregelatinized Maize Starch (Product Code 2001), Starch 1500 Low Moisture (LM) Partially Pregelatinized Maize Starch (Product Code 2002) and Starch 1500 G Partially Pregelatinized Maize Starch (Product Code 2003). The material safety data sheets (MSDSs) initially developed by Colorcon, Inc., and supplied to their customers for each of the these starch products did not include specific information about the potential deflagration (explosion) and fire hazards associated with starch dust, a Class II Group G combustible dust. On or about March 9, 2009, Colorcon, Inc., updated each of the MSDSs for these starch products to adequately reflect the potential deflagration (explosion) and fire hazards associated with starch dust. Although each of the MSDSs for these starch products were updated, Colorcon, Inc., did not supply these updated MSDSs to their customers until on or after January 26, 2011.

Date By Which Violation Must be Abated: **08/02/2011**
Proposed Penalty: **$70,000.00**

Indiana Department of Labor

Occupational Safety and Health Administration

Inspection Number:	314739996
Inspection Dates:	01/19/2011 - 06/09/2011
Issuance Date:	07/05/2011

Safety Order and Notification of Penalty

Company Name: Colorcon, Inc.
Inspection Site: 3702 East 21st Street, Indianapolis, IN 46218

Safety Order 3 Item 1 Type of Violation: **Repeat**

29 CFR 1910.212(a)(1): Machine guarding was not provided to protect operator(s) and other employees from hazard(s) created by rotating parts:

a) Starch Plant #2 - Metal strips were arranged to form an "X" on both of the openings on the right side of Paddle Dryer #2. However, the "X" formed by the metal strips exposed several portions of the rotating shaft on Paddle Dryer #2.

b) Starch Plant #1, First Floor - Although the West Pulvacron was equipped with a guard, this guard did not enclose all of the portions of the rotating shaft. Specifically, approximately 3.25-inches of the rotating shaft located behind the guard was completely exposed and unguarded.

c) Starch Plant #2, First Floor - Although the Pulvacron was equipped with a guard, this guard did not enclose all of the portions of the rotating shaft. Specifically, approximately 1.25-inches and 1.50-inches of the rotating shaft located in front of and behind the guard respectively were completely exposed and unguarded.

Colorcon, Inc. was previously cited for a violation of this Occupational Safety and Health Standard or its equivalent Standard 1910.212(a)(1), which was contained in OSHA inspection number 312091473, citation number 1, item number 6, issued on 03/04/2009, with respect to a workplace located at 3702 East 21st Street, Indianapolis, IN 46218.

Date By Which Violation Must be Abated: **08/02/2011**
Proposed Penalty: **$10,000.00**

Jeffry S. Carter
IOSHA - Deputy Commissioner

Indiana Department of Labor
Indiana Occupational Safety and Health Administration
402 West Washington Street
Room W195
Indianapolis, IN 46204-2751
Phone: 317/232-1979 Fax: 317/233-8509

INVOICE/DEBT COLLECTION NOTICE

Company Name: Colorcon, Inc.
Inspection Site: 3702 East 21st Street, Indianapolis, IN 46218
Issuance Date: 07/05/2011

Summary of Penalties for Inspection Number 314739996

Safety Order 01, Serious	=	$10,000.00
Safety Order 02, Knowing	=	$140,000.00
Safety Order 03, Repeat	=	$10,000.00
Total Proposed Penalties		$160,000.00

Penalties are due within fifteen (15) working days of receipt of this notification unless contested. Make your check o money order payable to: "Indiana DOL/IOSHA". Please indicate IOSHA's Inspection Number (indicated above) on the remittance.

IOSHA does not agree to any restrictions or conditions or endorsements put on any check or money order for less than full amount due, and will cash the check or money order as if these restrictions, conditions, or endorsements do exist.

Corrective action, taken by you for each alleged violation should be submitted to this office on or about the abatemei dates indicated on the Safety Order and Notification of Penalty.

A work sheet has been provided to assist in providing the required abatement information. A completed copy of this work sheet should be posted at the worksite with the safety order(s).

Jeffry S. Carter
IOSHA - Deputy Commissioner

07/05/11
Date