WORKER STRUCK BY FRAME HOOD
Type of Incident: Fatality
Date of Incident: January 30, 2010

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SECTION 1.0 DATE AND TIME OF INCIDENT

1.1 January 30, 2010 at approximately 9:30 p.m.

SECTION 2.0 NAME AND ADDRESS OF PRINCIPAL PARTIES

2.1 Owners

2.1.1 APC Nutrition Inc.
9900 6th Street
Montreal, Quebec
T1C 1G2

2.1.2 West Coast Reduction Ltd.
105 Commercial Drive
North Vancouver, British Columbia
V5L 4V7

2.2 Employer

2.2.1 APC Nutrition Ltd.
7115 Odgendale Road, S.E.
Calgary, Alberta
T2C 2A4

2.3 Worker

2.3.1 Separator Operator ([redacted])
[redacted]

SECTION 3.0 DESCRIPTION OF PRINCIPAL PARTIES

3.1.1 APC Nutrition Inc. is a Quebec based company and owns 90 % of APC Nutrition Ltd. This company processes pork blood to produce spray dried plasma and red cell products which are used in animal feed and aquaculture.

3.1.2 West Coast Reduction Ltd. is a British Columbia based company and owns 10 % of APC Nutrition Ltd. This company processes slaughterhouse waste into animal protein for animal feed.

3.2 APC Nutrition Ltd. is a Calgary based company which processes pig blood to make animal feed and fertilizer. The company employs approximately 14 workers.

3.3 The worker ([redacted]) was a separator operator at the time of the incident. He

had been working for APC Nutrition Ltd. for approximately 2.75 years. The separator operator ([redacted]) received training to operate equipment which included review of standard operating procedures as well as job-shadowing other operators.

SECTION 4.0 LOCATION OF INCIDENT

4.1 The incident occurred in the processing area of the APC Nutrition Ltd. facility located at 7115 Odgendale Road, S.E., Calgary Alberta (Refer to Attachment A – Map).

SECTION 5.0 EQUIPMENT, MATERIAL AND OBSERVATIONS

5.1 Equipment and Material

5.1.1 The equipment involved in the incident was an Alfa Laval separator BPM 209H-74 serial # 4103185/1998 SEP-2 (separator). This separator used centrifugal force to separate pig blood into plasma and red blood cell streams. The separator consisted of a rotating bowl assembly (bowl) housed in a cast iron frame. The bowl contained a series of stacked discs and rotated at approximately 6200 revolutions per minute when the separator was in full operation. The bowl was spinning when the incident occurred (Refer to Attachment B – Photograph 1).

5.1.2 The frame was equipped with a bell-shaped, stainless steel hood (frame hood). The frame hood weighed approximately 13.6 kilograms. The frame hood was approximately 17.4 centimetres in diameter at the top, 48.6 centimeters in diameter at the base and 31 centimetres high. The frame hood was equipped with two lock screws used to secure it in place. The frame hood lock screws were loosened prior to the incident.

During the incident, the frame hood came off of the separator and struck the separator operator ([redacted]) (Refer to Attachment B – Photographs 2, 3 and 4).

5.1.3 Pig blood was pumped into the separator through an inlet pipe located at the base of the frame. Plasma and red blood cell streams were discharged from the separator through two outlet pipes located at the top of the frame hood. The inlet and outlet pipes were removed prior to the incident (Refer to Attachment B – Photograph 5).

5.1.4 The separator was equipped with a tachometer which measured the motor speed in revolutions per minute. This tachometer was located in front of the separator and was used by separator operators as an indicator to ensure that the bowl had come to a complete stop prior to starting work on the separator (Refer to Attachment B – Photograph 4).

5.1.5 A brake was located at the bottom of the frame which was used to slow down and stop the separator. The separator brake was found in the engaged position after the incident (Refer to Attachment B – Photographs 3).

The manufacturer's specifications stated that the separator stopping time when the brake was engaged was approximately 3 to 4 minutes. The manufacturer's specifications were not made available to the separator operator ([redacted]).

5.1.6 The separator could be turned off using a shut-off switch located on an electrical panel behind the separator. The shut-off switch for the separator was in the off position after the incident. Next to the electrical panel was the electrical lock-out box for the separator. The electrical box switch was in the off position and was not locked out after the incident (Refer to Attachment B – Photographs 6 and 7).

5.2 Observations

5.2.1 The manufacturer's specifications stated that the instruction manual should be read before operation and that failure to strictly follow instructions could result in serious accidents. The manufacturer's specifications also warned users to make sure that rotating parts had come to a complete standstill before starting any dismantling work. The specifications referred to safety labels which should be placed on the separators with these warnings. At the time of the incident, there were no safety labels on the separator.

5.2.2 Following the incident, the manufacturer inspected the separator and prepared a report. The report stated that the degree of damage to the separator indicated that the unit was operating at full speed when the incident occurred.

5.2.3 The frame hood had been moved by the receiving area operator ([redacted]) prior to the arrival of Occupational Health and Safety (OHS) to allow Emergency Medical Services (EMS) access to the operator ([redacted] . The employer repositioned the frame hood in the approximate position that it was found by operators immediately following the incident.

SECTION 6.0 NARRATIVE DESCRIPTION OF THE INCIDENT

6.1 On January 30, 2010, at approximately 8:00 p.m., the separator operator ([redacted]) and the receiving area operator ([redacted] started the task of shutting down, disassembling and cleaning the separator.

6.2 At approximately 8:30 p.m., the separator operator ([redacted] and the receiving area operator ([redacted]) finished cleaning and reassembling the separator.

6.3 The separator operator ([redacted] restarted the separator. The receiving area operator ([redacted]) then left the processing area.

6.4 The bagging area operator ([redacted]) was in the bagging area bagging plasma. When he looked through the window between the bagging area and the processing area, he observed the separator operator ([redacted]) with his arms positioned around the frame hood of the separator. The bagging area operator ([redacted]) then continued with his bagging activities.

6.5 A few minutes later, the bagging area operator ([redacted] heard a loud noise coming from the processing area. He looked through the window and saw the separator operator ([redacted]) lying on the platform behind the separators.

6.6 The bagging area operator ([redacted]) went to help the separator operator ([redacted]). After determining that the separator operator ([redacted]) was seriously injured, the bagging area operator ([redacted]) left the processing area to find help. He found the receiving area operator ([redacted] and the lead hand ([redacted]) in the lunch room.

6.7 The receiving area operator ([redacted]) and the lead hand ([redacted] went to the processing area to attend to the separator operator ([redacted]).

6.8 The receiving area operator ([redacted]) called 911 and the supervisor ([redacted]).

6.9 The bagging area operator ([redacted]) then went to the front door of the facility to meet Emergency Medical Services (EMS).

6.10 At approximately 9:35 p.m., EMS and Calgary Fire Department responded to the site. Shortly after, Calgary Police Services responded to the site.

6.11 EMS transported the separator operator ([redacted]) to Foothills Hospital where he died on January 31, 2010.

6.12 The supervisor ([redacted]) arrived at the site and placed a lock on the electrical box switch for the separator.

SECTION 7.0 ANALYSIS

7.1 Direct Cause

7.1.1 The separator operator ([redacted] sustained fatal injuries when he was struck by the frame hood that came off of the separator.

7.2 Contributing Factors

7.2.1 The separator operator ([redacted]) started to work on the separator when it was still spinning.

7.2.2 The employer's operating procedure did not include safety instructions and warnings from the manufacturer's specifications regarding the attaching of these safety labels to ensure rotating parts had come to a full halt prior to servicing equipment.

7.2.3 The employer did not conduct a formal hazard assessment for operation and maintenance of the separator.

SECTION 8.0 FOLLOW-UP/ ACTION TAKEN

8.1 Employment and Immigration, Occupational Health and Safety

8.1.1 On January 30, 2010, Occupational Health and Safety (OHS) received an incident notification, attended the site and commenced an incident investigation.

8.1.2 On January 31, 2010, OHS issued the following orders to APC Nutrition Ltd.:
- Conduct an incident investigation and prepare a report outlining the circumstances, causes and preventative measures
- Conduct a hazard assessment for operation and maintenance of the separators
- Stop use order on the separator involved in the incident until the equipment could be inspected and repaired in accordance with the manufacturer's specifications
- Ensure that the separators are operated, adjusted and dismantled in accordance with the manufacturer's specifications

8.1.3 On February 3, 2010, OHS received the hazard assessment.

8.1.4 On February 5, 2010, OHS received documentation related to the employer ensuring that operators followed the manufacturer's specifications regarding operation and maintenance of the separator.

8.1.5 On February 12, 2010, OHS received an incident investigation report from APC Nutrition Ltd.

8.2 Industry

8.2.1 On January 30, 2010, following the incident, APC Nutrition Ltd. voluntarily stopped using the separator until an incident investigation could be conducted.

8.2.2 On January 30, 2010, APC Nutrition Ltd. shut down the facility until they could perform a safety evaluation of other equipment at the site.

8.2.3 On February 3, 2010, APC Nutrition Ltd. submitted the hazard assessment.

8.2.4 On February 5, 2010, the employer submitted documentation related to ensuring that operators followed the manufacturer's specifications regarding operation of the separator.

8.2.5 On February 12, 2010, the employer submitted an incident investigation report.

8.1.6 The separator was taken out of service and sent to the manufacturer, Alfa Laval for evaluation to determine if some components could be reused.

8.1.7 The employer complied with all orders issued by OHS.

8.3 Additional Measures

8.3.1 No additional measures were taken.

SECTION 9.0 SIGNATURES

[redacted], Lead Investigator — Date [redacted]

[redacted], Reviewer — Date [redacted]

[redacted], Director South Region — Date [redacted]

SECTION 10.0 ATTACHMENTS:

Attachment A - Map
Attachment B - Photographs