

# ERGONOMIC JOB ANALYSIS

Date: September 29, 2004

## I. DESCRIPTION OF COMPANY:

XXXXX, Limited is a federally registered processing plant which is in the business of primary poultry processing. The company services customers throughout British Columbia, Western Canada, Central Canada, and the United States.

### **Objectives of Analysis:**

1. To identify risks associated with the job
2. Decrease risk factors through recommendations

### **Basic Job Description:**

**Job Title:** Loader

**Work Schedule:** Shift work: 6 am to 2:30 pm; 3 pm to 11:30 pm

**Production:** Poultry are loaded onto a conveyor system at a rate of approximately 19 to 31 per minute for 2 hour intervals (4 hours maximum).

**Break Schedule:** 2-15 minute coffees & 1-30 minute lunch break

### **General Job Analysis:**

#### **Physical Environment:**

The loader works in an indoor environment. The temperature is cool between 8 and 10 degrees Celsius. Lighting levels are adequate. Floors may be slippery due to moisture and chicken debris.

#### **Specific Job Duty:**

The loader position involves placing poultry on slots along a moving conveyor system in preparation for shoulder cutting. A recessed bin of poultry is on the right side while the conveyor is to the left. The conveyor is moving in the left to right direction. The loader only stands on one side of the conveyor. Poultry are loaded onto the conveyor one at a time.

#### **Room and Material Dimensions:**

Height of conveyor belt: 37"

Chicken Weight: approx. 2.5 to 3 lbs

Bin: (located to the right of the worker)

**Force Measures:**

The grip dynamometer (JAMAR pos #5) was used by the loader to compare the grip required to load chickens. Average grip measured 6 to 8 lbs.

**II. JOB ANALYSIS:**

The ASC Z365 revealed an increased risk of CTDs at the hand interface with grasp, shoulder, wrist, forearm, and neck.

**Identification of Risk Factors and Recommendations****A. Sustained / Repeated Exertions and Awkward Postures:**

**Risk Factor 1:** Repeated neck rotation while loading poultry onto conveyor system.

**Recommendations:**

- 1) Reduce horizontal distance between poultry bin and conveyor system.
- 2) Postural education: Neutral head positions are strongly encouraged whenever possible.
- 3) Perform stretches for the neck to offer relief from repetitive motions.
- 4) Pivot at the feet to minimize rotation at the neck.

**Risk Factor 2:** Repetitive wide grasp to load poultry onto conveyor system.

**Recommendations:**

- 1) Perform stretches for the hand and thumb during 'gaps' in the production line to offer relief from repetitive gripping.
- 2) Reduce speed of production line.
- 3) Load chicken onto every other slot.
- 4) Job rotation every 1 to 2 hours to an alternate task.
- 5) Allow workers to take short breaks for stretching.

**Risk Factor 3:** Forceful grasp to load poultry onto conveyor system.

**Recommendations:**

- 1) Perform stretches for the hand and thumb during 'gaps' in the production line to offer relief from forceful gripping.
- 2) Increase friction at the hand-poultry interface to reduce gripping forces (e.g. textured glove).
- 3) Load chicken onto every other slot.
- 4) Job rotation every 1 to 2 hours to an alternate task.

**Risk Factor 4:** Throwing motion involved while loading poultry onto conveyor system.

**Recommendations:**

- 1) Slide or place poultry onto slots.

**Risk Factor 5:** Repetitive bending at the elbow while loading poultry onto the conveyor system.

**Recommendations:**

- 1) Encourage workers to perform stretches for the elbow during ‘gaps’ in the production line to offer musculoskeletal relief.
- 2) Reduce speed of production line.
- 3) Load poultry onto every other slot.
- 4) Job rotation every 1 to 2 hours to an alternate task.
- 5) Rotation to opposite side of conveyor to offer movement variety during loading.

**Risk Factor 6:** Repetitive shoulder motions involved while loading poultry onto the conveyor system.

**Recommendations:**

- 1) Postural education: Neutral shoulder postures are strongly encouraged as much as possible.
- 2) Encourage workers to perform stretches for the shoulder during ‘gaps’ in the production line to offer musculoskeletal relief.
- 3) Reduce speed of production line.
- 4) Load poultry onto every other slot.
- 5) Job rotation every 1 to 2 hours to an alternate task.
- 6) Rotation to opposite side of conveyor to offer movement variety during loading.

**Risk Factor 7:** Wrist deviations while loading poultry onto conveyor system.

**Recommendations:**

- 1) Postural Education: Neutral wrists are strongly encouraged whenever possible.
- 2) Perform stretches for the wrist during ‘gaps’ in production to offer rest from awkward postures.

**Risk Factor 8:** Repetitive forearm twisting while loading poultry onto conveyor system.

**Recommendations:**

- 1) Perform regular stretch or micro breaks for the forearm during ‘gaps’ in the production line to offer relief from repetitive motions.
- 2) Job rotation every 1 to 2 hours to an alternate task.
- 3) Decrease speed of production line.
- 4) Load poultry onto every other slot.

**Risk Factor 9:** Sustained standing at workstation.

**Recommendations:**

- 1) Provide a step stool or employ a foot rail to offer relief from sustained standing.
- 2) Provide anti-fatigue mat.

**B. Environment:**

**Risk Factor 1:** Slippery floors from poultry debris / excess moisture.

**Recommendations:**

- 1) Keep workstation clear of slipping hazards at all times to reduce risk of slipping.

**Risk Factor 2:** Exposure to cool temperatures.

**Recommendations:**

- 1) Workers are encouraged to always wear cotton gloves beneath the rubber gloves to offer increased warmth to the hand.
- 2) Wear appropriate clothing to stay warm.

**OVERALL SUMMARY:**

Significant risk factors of this job were associated with the continuous and repetitive nature of the task.

EXAMPLE: The work is machine paced thus does not allow the worker to voluntarily take micro-breaks as required in repetitive and monotonous tasks. Working heights are ideal for the average height person. Quality of coupling between the worker's hand and the poultry is poor (e.g. wide and slippery).

**OUTCOMES:**

The recommendation to slow down production lines was not an option. The clients were provided education regarding repetitive strain injuries and proper body mechanics. Training protocols are currently being revised to ensure new workers are well aware of the risk factors surrounding the job.