

Alaska Airlines Evaluation of Customer Service Agents

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STATE OF WASHINGTON
DEPARTMENT OF LABOR AND INDUSTRIES

Ergonomics Demonstration Project Alaska Airlines



**Evaluation of the
Customer Service Agents**

Executive Summary

This demonstration project evaluated Customer Service Agents (CSAs) at one airline at SeaTac International Airport. Interviews with safety personnel and union representatives were used to determine the goal of the demonstration project. CSAs are the first in a chain of airline employees who handle customer baggage, and are therefore at risk for back and shoulder injuries. The goal of this demonstration project was to show that an airline could apply the Ergonomics Rule (WAC 296-62-051) to:

- identify risk factors in a job class;
- determine whether risk factors reach caution zone or hazard levels;
- evaluate existing solutions to see if they reduce hazards below the hazard level, and;
- identify other potential solutions to reduce hazards.

Labor and Industries' ergonomists worked with safety personnel and union representatives from the airline to videotape and analyze the job and identify solutions. The project was able to successfully identify caution and hazard zone jobs. This project was also successful in identifying some existing solutions and best practices that would reduce hazards and achieve rule compliance for CSA positions.

The following are the project's findings:

1. Airline personnel were able to correctly identify the CSA position as a caution zone job. They were also able to correctly identify lifting hazards, and in fact had already begun testing out solutions to reduce those hazards.
2. Airline personnel, along with Labor and Industries' ergonomists, were able to identify improvements to existing solutions as well as additional best practices, outlined in the following table:

Risk Factor	Caution or Hazard Zone	Solutions
Neck Bent	Caution Zone for employees working with low monitors	Voluntary Improvements (Not required for rule compliance)
		<ul style="list-style-type: none"> • No solutions required (caution zone jobs do not require changes). Voluntary improvements could include raising monitors and reinforcing the importance of adjusting worksurfaces with CSAs.
Heavy Lifting	Hazard Zone for bags weighing more than 60-77 lbs., depending on lifting posture	Best Practices
		<ul style="list-style-type: none"> • Have an area available where passengers can weigh their bags and be informed to take overweight bags to positions with existing rollers. • Install scales at all positions so that bag weight can be determined by CSAs, and overweight bags sent to positions with rollers • Install rollers at all positions. • Redesign the check-in area to include powered conveyor belts to eliminate the need to handle baggage at this position (long term solution).
		Acceptable Practices (To be used only if Best Practices are not feasible)

		<ul style="list-style-type: none"> • Team lift all overweight bags (interim work practice control, not a preferred solution)
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3. These findings are most likely generalizable to other airlines and other airports, given the similarities in check-in procedures at most airports, and it is expected that future work with this industry will confirm this.

Introduction

Air transportation is one of the twelve industries that are covered under the earliest implementation dates of Washington State's ergonomics rule (WAC 296-62-051). In order to understand what the industry will be required to do in order to comply with the rule, representatives from Alaska Airlines Occupational and Operational Safety, along with selected union representatives, have agreed to work with ergonomists from the Department of Labor and Industries on a demonstration project.

The agreed upon goal of this project was an evaluation of the customer service agents (CSAs). A preliminary analysis of the job by the airline identified it as one that will be covered by the Washington state ergonomics rule. The goal of the evaluation phase was to determine whether the job is covered by the rule (i.e., if it is a "caution zone job"), and determine under what conditions it would reach the hazard zone where changes to reduce the hazardous exposures would be required. A further goal for the project was then to work with the airline to identify feasible solutions that could be implemented in order to comply with the rule, as well as identify any additional, (non rule related), and therefore non-mandatory, recommendations that would help with safety, productivity, comfort and morale.

Date of evaluation: December 27, 2000

Job reviewed: Customer Service Agent

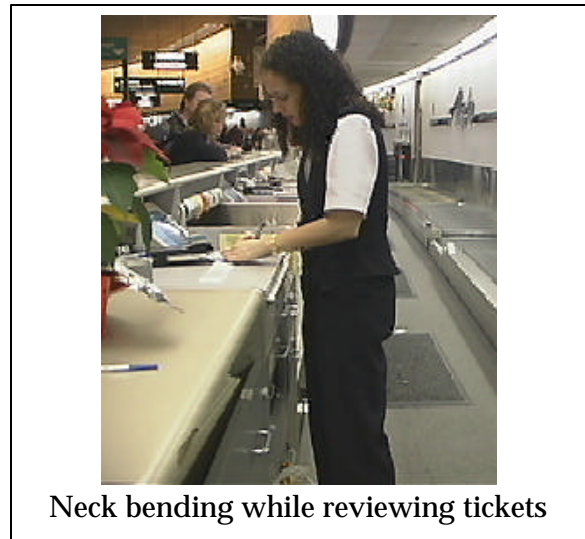
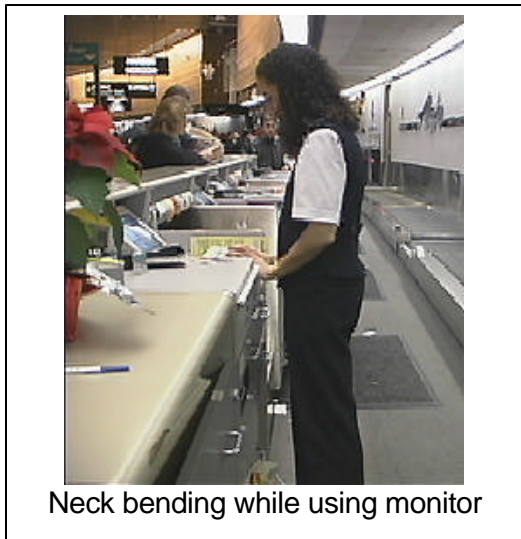
Methods: CSAs were videotaped for an hour at a time of day that was considered representative of a typical work pace. Weights of customer baggage were written down as they were being checked in. The videotape was then analyzed to determine percentage of time spent in specific postures, as well as the frequency and duration of lifting. Exposures were analyzed using the description of caution zone jobs and the Appendix B Hazard Analysis from the Washington State ergonomics rule. Several solutions were identified by the safety and union representatives and then incorporated into this report.

Description: The CSAs are responsible for ticketing and checking in passengers as well as baggage. Major tasks include interacting with customers, reviewing tickets, interacting with computer terminals, tagging baggage and moving it from the pass-through to the conveyor.

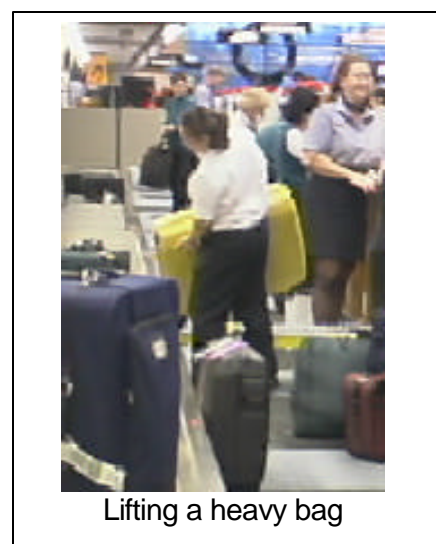
Risk factors based on the rule (Caution Zone Jobs):

Working with the neck or back bent more than 30 degrees (without support and without the ability to vary posture) more than 2 hours total per day.

This risk factor was seen with the one CSA who was the primary focus of the analysis. She was required to bend at the neck in order to view the computer monitor, which was located below the counter and tilted up towards her. She also looked down when reviewing and assembling tickets, which she laid flat on the worksurface. This posture probably would not reach the caution zone duration of two hours for the employees at other workstations where the monitors were higher.



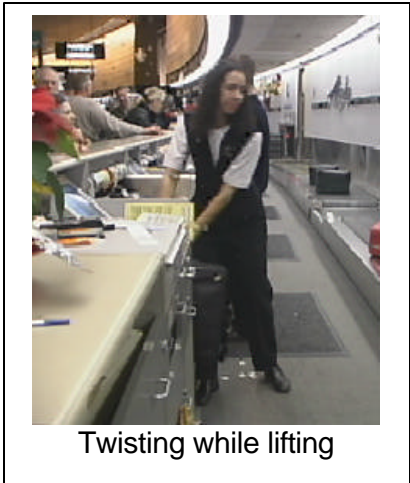
Lifting objects weighing more than 75 pounds once per day or more than 55 pounds more than 10 times per day. The average weight of bags lifted is 25 pounds, and during the observation the CSA did not lift any bags heavier than 55 pounds. While this risk factor was not observed during the analysis period, it was generally acknowledged that heavy bags are checked in on a regular basis and it seems likely that it would occur often enough to qualify as a caution zone job. This risk factor does not occur at the positions that have rollers between the pass-through and the conveyor, as CSAs at these positions would be able to slide heavy bags instead of lifting them.



Under the regulation, employees in caution zone jobs and their supervisors must be given ergonomics awareness education. In addition, management must work with employees to further analyze these jobs for WMSD hazards.

Probable WMSD hazards:

Heavy lifting: The lifting task was analyzed using the method in Appendix B of the ergonomics rule. Given the frequency and duration of lifting observed, the calculation gives a lifting weight limit for this job of 76.5 pounds if the best possible posture is used, and a limit of 65 pounds if the CSA twists while lifting. Twisting was observed, although typically only with lighter bags, and was due primarily to the conveyor being located directly behind the CSAs. All of the bags lifted during the analysis period had handles, and were lifted close to the body and between knee and waist height. However, some bags such as duffels or small boxes may need to be lifted from below knee level, and these would have a weight limit of 60 pounds.



Under the rule, management must work with employees to identify and implement controls for jobs with WMSD hazards in order to reduce risk factors below the hazard level, or to the degree technologically and economically feasible. The airline must therefore work with the CSAs in implementing and evaluating best or acceptable practices in order to reduce hazards.

Recommended solutions:

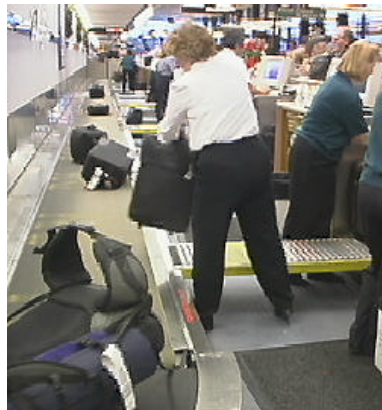
Once it was determined that lifting heavier baggage creates a hazard, airline personnel and L&I ergonomists identified some potential solutions, which follow:

Since the main hazard comes from lifting overweight bags, there are two basic approaches to reducing the lifting hazard - reducing the weight of the bags, or finding an alternative to lifting, such as sliding or use of mechanical assistance. Reducing the weight of the bags would benefit not only the CSAs, but also every other baggage handler further down the line. The airline's existing policy of charging passengers for overweight bags is one method of keeping bag weights low. The best practices listed below are examples of alternatives to lifting that can be used when passengers do bring in overweight bags:

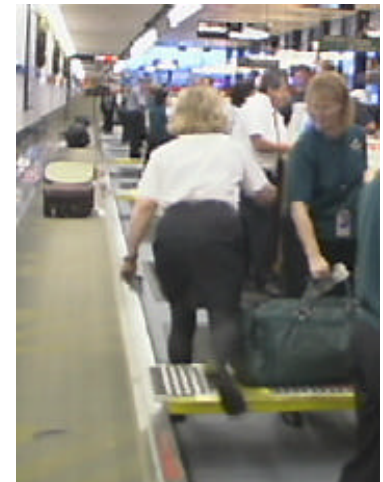
1. A scale could be placed out in front of the check-in area where customers could weigh their own bags if they felt they might be overweight. They could then be directed to take their bags to a position with roller conveyors.
2. Alternatively, having scales available at every position would allow CSAs to determine when baggage exceeds the lifting weight limit.
3. Customers could be instructed to carry overweight bags to positions that already have roller conveyors so that the CSAs do not have to lift the bags. Since heavy bags do not occur very often, this would hopefully not be too disruptive.



Rollers provide a place to rest bags until an opening appears on the conveyor



A bag with wheels that got caught in the rollers and had to be lifted



Stepping over the rollers

4. Placing rollers at every position would allow CSAs to slide overweight bags instead of lifting them. Observation of those positions that currently have rollers showed that the CSAs did tend to use them to move the larger, and presumably heavier, bags. The rollers were also used as a place to stage the bags during those times when the conveyor was full or stopped, something that occurred fairly regularly during the observation period. Some problems were noted with the rollers, the primary one being the height and width of them, which makes them a trip hazard. Another problem was the area without rollers, intended as a step (although most CSAs just stepped completely over them) which some bags would get caught on. Also, the wheels on some bags tended to interfere with the rollers. Some minor redesign of the rollers might make them easier to use and to step over. A raised floor behind the counter might also make the rollers easier to step over.
5. CSAs could team lift overweight bags. Please note that this is not a preferred control under the ergonomics rule, and would be an acceptable practice only if other engineering and administrative controls were not feasible. This control would need to be accompanied by training on the importance of team lifting and on safe lifting techniques.
6. A long-term goal may be to redesign the check-in counters to eliminate the need to lift bags when the counters are due for remodeling. Several European and North American airports currently use powered conveyor belts to take bags from the check-in area to the main conveyor. It may also be possible to reorient the check-in counter to minimize the transfer distance to the belt so that bags

can be slid over instead of lifted. Another option would be to place the pass-through higher than the conveyor and to use rollers or a chute for a gravity-assisted transfer. The Spokane airport is currently planning a redesign of their check-in counters, so it may be possible to use some of their design decisions in any future SeaTac redesigns.

Risk factors not covered by the rule:

Working with the neck bent was only in the caution zone, so no changes would be required. In addition, the CSA evaluated had her wrists bent back in extension whenever she used the keyboard, but the keyboard surfaces are adjustable so this is easily addressed with training. All of the CSAs work in a standing position with little opportunity to walk around, and this can result in circulatory problems in the leg, as well as leg and low back discomfort and fatigue. To address this issue, the airline has provided anti-fatigue mats and a low bar to allow CSAs to prop up one foot in order to vary posture.

Recommended voluntary improvements (not required by the rule):

- Monitors could be placed in a compromise position, where they are higher than the ones set below the counter, but not high enough to interfere with customer eye contact. They could be placed off at a slight angle so as not to interfere with passing tickets over the counter, as well.
- Training in proper technique for adjusting keyboard surfaces will help to eliminate awkward postures at the keyboard. Future redesigns should ensure that adjustability features are kept as part of the design of monitor and keyboard surfaces.
- Future redesigns could consider the possibility of sit/stand stools or a seated CSA workstation. Some difficulties could arise in bringing stools into the current workstation, including other postural issues such as increased reaching and twisting, as well as safety issues such as tripping hazards. Sit/stand stools would only be appropriate at counters where enough room was designed in for their use. Given the counter design as it now stands, stools would only create a trip hazard and would otherwise limit mobility. A seated CSA workstation would only work if handling of bags were eliminated through use of an automated conveyor system.

Conclusions:

Airline CSAs do have exposures that place them in a caution zone job, and they are therefore covered by the ergonomics rule. While not observed, it was reported that baggage can be heavy enough to create a hazard according to Appendix B of the rule, and therefore solutions to reduce the hazard are necessary. Several solutions are available, including increased use of existing solutions, as well as short-term, lower cost solutions that the airline could implement in order to come into compliance with the ergonomics rule. Future work with this industry should focus on implementation and evaluation of one or more of these solutions, as well as repeating the process used in this study with other airline employees in the baggage handling chain.

For more information on baggage handling risk factors and solutions, visit the OSHA web site:
http://www.osha-slc.gov/SLTC/baggagehandling_ecat/index.html.

Or, read the following industry articles:

http://flightsafety.org/ao/ao_sept_oct98.pdf

<http://www.ipso.asn.au/vol1/ISSUE3/ab3.htm>

<http://www.ipso.asn.au/vol2/issue2/ab6.htm>

http://216.89.160.158/issues_by_month/articles/090153.html

