Results. Currently the ATR has information for 20,842 cases from January 1991 through December 1995; 2,421 (12%) of these injuries were classified as occupational injuries. There are 40 fatalities among the occupational injuries (1.7%). Commercial fishing, construction, and logging led the industry categories for number of occupational injuries. The most common causes of injuries in the fishing industry were caused by machinery onboard vessel (74), fall between levels (38), and cuts (13). There are a wide variety of machines used on fishing vessels: a hydraulic lifting platform known as a crab pot launcher was the most common machine mentioned in causing injury. In the construction industry, different types of falls lead all causes with falls from or out of building or other structure (64), fall on or from ladder (43), and fall on or from scaffolding (36). The top three causes in the logging industry were being struck by an object (94), falls (33), and machinery (28).

Conclusions. The main causes of occupational fatalities in Alaska have been drowning (primarily in commercial fishermen) and trauma related to aircraft crashes. With the emphasis of the ATR primarily on non-fatal injuries, we have identified further areas of study for crab fishing injuries, falls in construction, and logging-related injuries in Alaska. As it is population-based, ATR data can be used to calculate injury incidence rates. The use of rates in injury surveillance will make the ATR data useful for industries to prioritize areas for injury prevention.

Session 15: Occupational Injuries in Automobile Manufacturing

Using Injury Surveillance and Workers' Compensation Data to Facilitate Injury Prevention Activities—Pastula S, Reeve G

During the past five years, the authors have directed an effort to design a near real-time data analysis system for occupational injuries in the North American locations of a major automobile manufacturer. The major obstacle for the project was obtaining conceptual support from certain areas within the company that did not initially accept the premise that such a data system was really needed in order to reduce injuries. This initial lack of support was based on a fundamental misconception about the utility of injury incidence data in the real-time environment of large manufacturing plants. The rationale of this misconception is best illustrated by the following statement: "You don't need a sophisticated data system to reduce injuries. You go out on the shop floor, look at the jobs, make a list of the "bad" jobs, and then fix them." However, in a plant with 3,000 to 5,000 workers, the number of "bad" jobs always exceeds the available capacity to fix them. Therefore, timely plant-based injury surveillance is critical to correctly prioritize the redesign of jobs that can or do cause injuries. Injury surveillance must include not only data about rates and types of injuries, but also cost information for all occupational injuries regardless of OSHA recordability. In addition, surveillance must continue after the "bad" job has been redesigned in order to determine: whether the changes have decreased the injuries of initial concern; and, did not result in a subsequent increase in injuries of a different type.

Several examples which illustrate the need for timely injury surveillance data in the manufacturing environment will be presented. These examples include: the occurrence of a new set of injuries following a process change that was made to solve a specific injury problem; an effective use of injury cost data to facilitate a product design change; and, a rapid evaluation of a work-hardening program which prevented its company-wide implementation.

Fatal and Non-Fatal Incidents Associated with Forklifts and Other Powered Industrial Vehicle Incidents—Collins JW, Baker SP, Smith GS, Kisner SM, Landen DD, Warner M, Johnston, JJ

This research examines the circumstances of work-related injuries and fatalities involving powered industrial vehicles (PIVs), which include forklifts or other mobile power-driven vehicles used to carry, push, pull, lift, or stack material. Descriptive analyses were conducted on 946 PIV-related fatalities in the National Traumatic Occupational Fatality (NTOF) surveillance system from 1980 through 1993 and 916 incidents in 54 U.S. automobile manufacturing plants from July 1989 to June 1992. The NTOF surveillance system provides data from death certificates from the 50 states, the District of Columbia, and New York City. Death Certificates are collected for persons 16 years of age and older who died of external causes and for whom the certifier indicated that the fatality was associated with an injury while on the job. The automotive surveillance system is run jointly by the medical and safety departments in the plant and includes information on employee characteristics, characteristics of the workplace and injury-producing event, and description of the injury.

The three most common types of fatal incidents in the NTOF database involved PIV overturns (22%), pedestrian struck by PIV (20%), and decedent crushed by forklift (17%). The highest frequency of fatalities by industry division occurred in manufacturing (33%), transportation, communication and public utilities (16%), and construction (14%). The highest fatality rate by industry occurred in wholesale trade, mining, and agriculture/forestry/fishery. The highest forklift-related fatality rates by occupation occurred to laborers and transport operators.

The 916 PIV-related incidents in the automotive surveillance system resulted in 913 injuries and three fatalities. Of the 913 injury incidents, 41% (372 of 913) of the injuries resulted in an employee missing work. The 372 lost workday incidents resulted in a total of 22,730 lost workdays, an average of 61 days away from work per lost workday incident. The three most common types of injury incidents in the automotive manufacturing surveillance system involved pedestrians being struck by PIVs (n=35%), PIV collisions with fixed objects/other PIVs (n=16%), and mounting/dismounting PIVs (15%). Recommendations are presented with regard to the factory environment, vehicle safety features, and driver and pedestrian training for reducing the risk of powered industrial vehicle incidents.

The Incidence of Injuries Involving Robots in a Large Manufacturing Company—Pastula S, Howe J, Smitt R, Reeve G

Robots are in wide-spread use in the automotive manufacturing environment. Robots work side by side with people in the plants, and the robots are programmed and repaired by these same workers. In recent years, there has been a growing discussion of the possibility to change safety standards for robots. This discussion has been driven in large part by a presumable absence of reports of