

To: Board of Management

From: Robin D. Hale
Chief Operating Officer

Subject: **ROUGE VALLEY FOUNDATION WIND TURBINE**

Date: 2010-01-08

Summary:

This report requests approval by the Board of Management for the Rouge Valley Foundation to erect a wind turbine beside their Conservation Centre located on the Zoo grounds.

Recommendation:

It is recommended that approval be granted to the Rouge Valley Foundation to erect a wind turbine on the leased property of the Board.

Background:

Since 1996, the Rouge Valley Foundation (RVF) has leased the Pearse House from the Zoo. The property is located on the east side of Meadowvale Road next to Lot #4. The lease agreement with RVF was renewed in October, 2009, for a further 5 year period ending December, 2014.

In recent years RVF has endeavoured to make their operations energy efficient and employ green energy, similar to initiatives completed and underway at the Toronto Zoo.

In their attached communication RVF has requested approval to install a wind turbine with solar panels beside the building.

Comments / Discussion:

This request is in keeping with the approval of the Board of management at its meeting of 2009-10-29 to implement small scale (1-25 KW) wind turbines for education and demonstration purposes.

The 50 foot wind turbine will be near the proposed location for the biogas facility which will be built by a third party as a design/build/own/operate project, subject to satisfactory conclusion of the RFP process. The Biogas Facility RFP calls for the successful proponent to install an educational display for the biogas facility which can also interpret the wind turbine and solar panels on the adjacent Rouge Valley Conservation Centre.

R. D. Hale
Chief Operating Officer

List of Attachments:

Letter from M. Johnston, President, RVF

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TORONTO ZOO

2009 HEALTH & SAFETY STATUS REPORT

JOINT HEALTH & SAFETY COMMITTEE

A. Joint Health & Safety Committee:

In 2009 the Toronto Zoo's Joint Health & Safety Committee held nine meetings. A total of 46 new agenda items were raised through inspection or reporting systems. Forty items were discussed and actions were taken to resolve them by management staff.

The Health & Safety Committee continued throughout the year with an initiative to bring health & safety into individual work areas. This was accomplished with the creation of identifiable health & safety bulletin boards across the site. It is hoped that this effort will improve the effectiveness of our Health & Safety Program.

Some key issues that were before the Committee in 2009 included: Bi-annual Air Quality testing of pavilions and high occupancy office areas, a staff work refusal at the Grizzly Bear holding and its successful conclusion, issues with respect to uniform composition and heat retention during humid conditions, and Pandemic Influenza. The Committee also reviewed 10 safety related Draft Zoo Policies.

Division Heads are briefed on current issues discussed at the JHSC on a regular basis.

B. Inspections, Orders & Charges:

In November 2009, repairs were initiated by Management staff to address damage at the Grizzly Bear Holding, created by our male Grizzly Sampson. Meetings subsequently transpired between Management and workers and an action plan was put into place to have various items repaired. Despite the efforts, the Joint Occupational Health & Safety Committee received a hazard report stating the Grizzly Bear House was in disrepair and that a work refusal was "imminent". With the commencement of these repairs, it was believed that the situation was resolved, however a work refusal was commenced by staff citing safety concerns with the holding. A Ministry of Labour (MOL) inspector visited the site after receiving an anonymous complaint and was satisfied that discussions and actions were underway to rectify the issues and assisted with resolving the situation. No orders or charges were issued. The visit remains listed as a "complaint" with the MOL.

OCCUPATIONAL HEALTH & SAFETY TRAINING PROGRAMS

C. General Safety Training Programs:

In 2009, the Safety & Security Branch conducted Occupational Health & Safety related training programs for employees. The course type and total number of employees trained are identified below:

<u>Course</u>	<u>Staff Trained</u>
Back Care & Repetitive Strain Injury	221
Administered Seasonal Refresher Exams	174
Seasonal Health & Safety Orientation	126
First Aid/CPR/AED	95
Infection Control/Hand Washing Techniques	107
Robbery Prevention	65
Safe Driving Program (New drivers)	65
Respirator Fit Testing	36
Fire Extinguisher Training	33
Zoomobile Driver Training	25
Workplace Hazardous Materials Information Systems (WHMIS)	18
Defensive Driving Course	18
Firearms Safety Training & Qualification Shoot	17
Smart Serve	9
Bear Spray Training	5
Commercial Vehicle Operator Registration (CVOR)	3
Total Participants	1,017

A total of 1,017 participants attended training sessions instructed by staff of the Safety & Security Branch. Comparatively, 1,053 staff attended training in 2008. Attaining participation in training programs that are legislated or mandatory by work practice continues to be a significant challenge due to operating requirements.

SAFE DRIVING PROGRAM

D. Safe Driving Program – Evaluations:

In accordance with the Safe Driving Program, all Zoo employees and Compass Foods employees that are required to drive a vehicle on site must fulfill the following requirements that are administered by the Safety & Security Branch. Following the completion of a driver's abstract, the employee's supervisor orientates the employee to the vehicles he/she is required to drive. The Safety & Security Branch then administers a written exam to ensure basic knowledge of Zoo policies and road awareness. Lastly, an in-vehicle evaluation is conducted by Safety & Security's licensed Driving Instructor.

During 2009, a total of 65 new drivers were processed by the Safety & Security Branch. The majority of these were seasonal employees.

E. Zoomobile Training:

An in-house Zoomobile Training Program has been in operation since 2003. This program includes classroom training combined with field experience and driver evaluations conducted by the Safety & Security Driving Instructor.

During 2009, three courses were held for 25 employees participating in this program.

F. Defensive Driving Training:

The intention of the Defensive Driving Program is to make drivers aware of issues that will aid in improving their personal driving skills. Drivers that have had a Motor Vehicle Collision are directed to attend these training sessions. The Defensive Driving Program is open to all Toronto Zoo drivers and includes theoretical and practical classroom discussions concerning driving habits. The program has been expanded to include training on backing and ground guide use.

G. Motor Vehicle Collisions:

In 2009, there were 28 motor vehicle collisions compared with 36 in 2008. Of the 28 collisions, 26 were deemed preventable. Thirteen resulted from failing to correctly judge surroundings, eight from failure to be aware of surroundings, four from failing to maintain sufficient care and control of vehicle and one from failing to drive to weather conditions.

The 28 collisions occurred in the following Units: Horticulture (15), Safety & Security (4), Facilities & Services (3), Retail & Rides (3), Animal Care (2), and Public Relations (1).

Areas that had decreased Motor Vehicle collisions in 2009 when compared to 2008 were Horticulture (15 vs. 16), Facilities & Services (3 vs. 6), Animal Health (0 vs. 3). Compass Canada and Human Resources each had an increase of one collision and Safety & Security remained unchanged with four.

OCCUPATIONAL HEALTH & SAFETY PROGRAMS

H. Policy & Program and Testing Initiatives:

A Hazard Assessment is a process of identifying hazards in the work site, determining risk levels and instituting corrective action to eliminate or control the hazards. In 2009, Hazard Assessments were undertaken in areas including Utilities, Plumbing & Electrical, General Maintenance, Transit & Fleet, Graphics, Horticulture and Animal Health. Assessments will continue into 2010.

A Physical Demands Analysis (PDA) is a systematic procedure to quantify, and evaluate all of the physical and environmental demand components of all essential and non-essential tasks of a particular job. PDA is a process of establishing workers physical abilities to perform demands of the job that complies with the Ontario Human Rights Code. The primary goal of the PDA is to obtain an injured worker's functional abilities to facilitate the worker's timely return to work.

In 2010, the Safety & Security Branch coordinated the completion of 10 Physical Demands Analyses on targeted job functions throughout the Zoo. The process will continue with the goal of completing all areas by the end of 2010.

In January 2009, an action plan was developed in consultation with the Disability Prevention Branch of the Workplace Safety & Insurance Board (WSIB). The plan was designed to assist in addressing program gaps and improvement opportunities in the Zoo's hazard management and return to work programs. Our Disability Prevention Specialist, recognizing that a large portion of the hazard assessment process has been completed, has commended us for our efforts and referred us to our Health & Safety Association to assist in future improvements to our Health & Safety Programs.

In May of this year, the Security & Safety Branch changed its name to Safety & Security to emphasise the safety aspect of the role and to meet legislated changes to uniform requirements under the Private Security & Investigative Services Act.

Enhancements to our Back Care & Repetitive strain Injury Prevention Program have been well received by staff. The course content is reviewed regularly and the program continues to have a goal of decreasing ergonomic workplace hazards.

The above points are in addition to the ongoing administrative and training programs conducted by the Safety & Security Branch and the efforts of individual Branches of the Toronto Zoo.

I. New & Pending OH&S Developments:

Occupational Health & Safety legislation continues to change placing more requirements on employers for specific safety programs that require large amounts of documentation and administrative support to run effectively.

Bill 168, which amends Ontario's Occupational Health and Safety Act with respect to workplace violence and harassment, received a third and final reading in the Ontario legislature in December 2009 and has since received Royal Assent. It will come into force on 2010-06-15.

Under this new legislation, there are specific requirements placed on employers to develop workplace violence and harassment policies and programs, take reasonable precautions to protect workers from domestic violence in the workplace, and allow workers to remove themselves from violent situations if they have reason to believe they are at risk or imminent danger.

J. Pandemic Planning

In the spring of 2009, the World Health Organization (WHO) began the process of monitoring the progress of the H1N1 Swine Flu virus. As a result of the global spread of the virus, the WHO raised their alert level to a Level Six in June in reaction to an increase in the sustained human to human spread of the virus.

The Toronto Zoo has worked closely with the City of Toronto's Office of Emergency Management (OEM), to ensure consistent information is relayed to staff with respect to the virus and its spread.

Initiatives with respect to flu prevention during the year included:

- Bulletins forwarded to all staff to communicate vital information on the H1N1 Virus.
- Maintained the internal "stockpile" of emergency supplies that was initiated at the beginning of the pandemic.
- Completion of a Risk Assessment on the exposure levels to all staff.
- Distribution of personal hand sanitizer to all staff.
- Distribution and posting of proper hand washing techniques posters in all Zoo washrooms.
- Commenced monitoring of staff absences to ensure consistent staffing levels were maintained.
- Training of front line cash handling staff on hand washing and hygiene techniques.

ACCIDENT HISTORY

In 2009, there were 99 employee accidents. This represents an increase of 15 employee accidents in 2009 when compared to 2008. The charts and graphs in this report will provide a means of comparing accident frequencies, injury types, as well as lost time, and claims management.

K. Year End Branch Accident Summary:

The Branch Accident Frequency Rate (BAF) is determined by dividing the number of accidents a Branch has by the budgeted number of full time equivalent employees (FTE's including permanent and non-permanent staff). The BAF can be useful in identifying accident trends while excluding the effect of staffing levels and, is therefore, a relevant manner of comparing reported accidents by Branch.

<u>Branch</u>	<u>2008</u>	<u>B.A.F.</u>	<u>2009</u>	<u>B.A.F.</u>
Animal Care	24	.27	27	.30
Horticulture	15	.44	24	.69
Facilities & Services	12	.21	19	.30
Animal Health	12	.54	10	.41
Safety & Security	10	.37	10	.37
Retail & Rides	4	.14	4	.14
Education	3	.18	4	.21
Member & Guest Services	2	.08	1	.03
Project Management	1	.09	0	0.0
Financial Services	1	.07	0	0.0
Totals:	<u>84</u>		<u>99</u>	

Decreases in the frequency of accidents in 2009 versus 2008 were reported by Animal Health (10 vs. 12), Member & Guest Services (1 vs. 2), Project Management (0 vs. 1) and Financial Services (0 vs. 1).

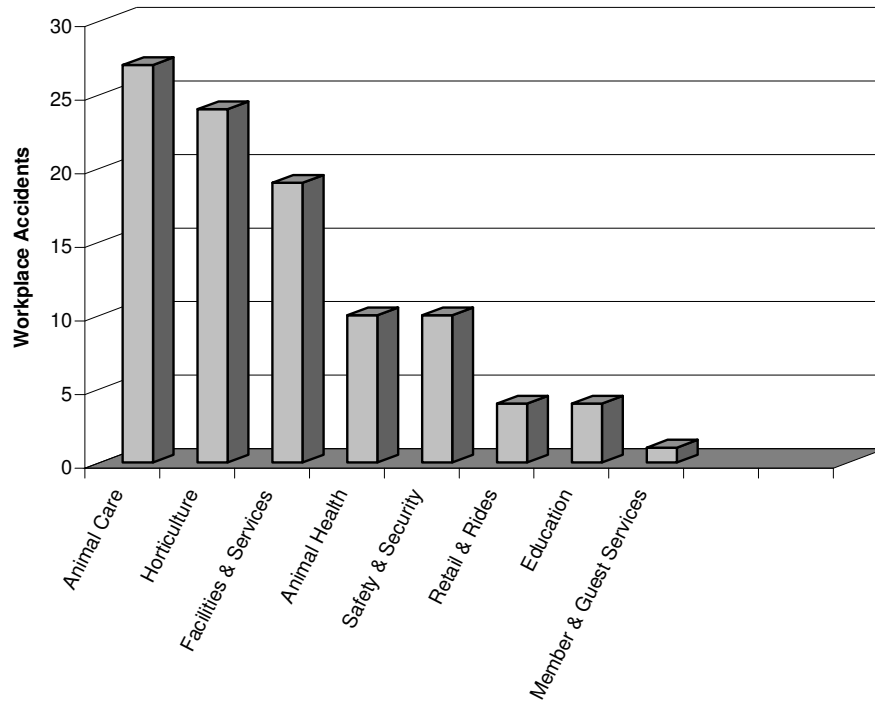
Increases in the frequency of accidents in 2009 versus 2008 were reported by Animal Care (27 vs. 24), Horticulture (24 vs. 15), Facilities & Services (19 vs. 12) and Education (4 vs. 3).

Safety & Security and Retail & Rides remained unchanged with 10 and four accidents respectfully.

The contrast between the 2009 Branch Accident Summary and BAF is illustrated in Figures 1 & 2.

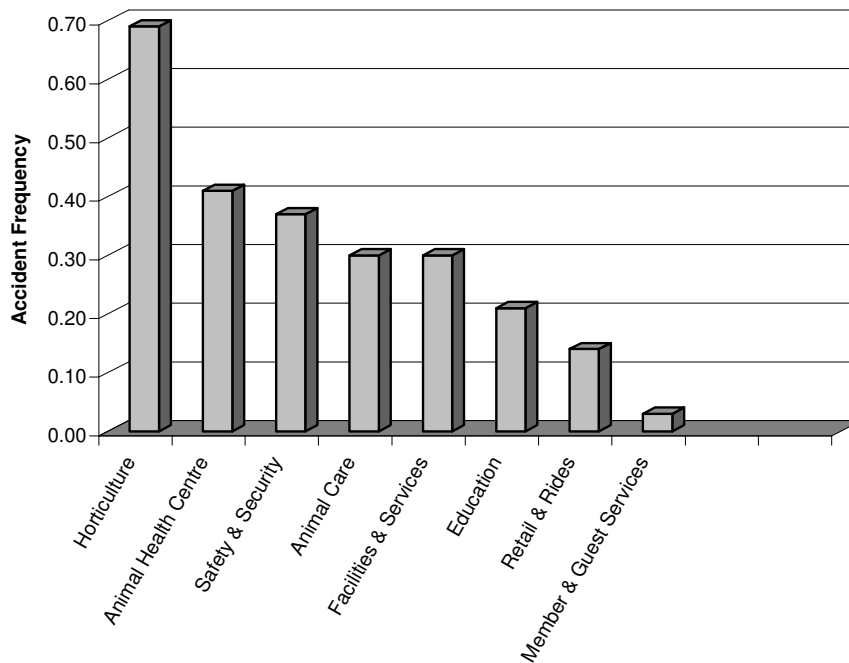
2009 Branch Accident Summary

Figure 1



2009 Branch Accident Frequency

Figure 2



L. 2009 Accidents by Type:

<u>Type</u>	<u>2008</u>	<u>Percent</u>	<u>2009</u>	<u>Percent</u>
Contact	31	37.0	25	25.2
Slips/falls	24	28.6	18	18.2
Strains	18	21.4	30	30.3
Animal Action	9	10.7	11	11.1
Exposure	2	2.3	15	15.2
Totals:	<u>84</u>	<u>100.0</u>	<u>99</u>	<u>100.0</u>

Accidents by type have remained fairly consistent when compared to 2009, with the greatest increase being those related to strain injuries. These types of accidents have increased from 18 in 2008 to 30 in 2009. This increase can be contributed to the increased awareness brought to staff during Backcare/Repetitive Strain Injury courses throughout the year. Delivery of training specific programs can often contribute to increases in reported incidents. One of the challenges facing occupational health & safety as the work population ages is effectively dealing with injuries and hazards as they relate to ergonomics and strain related injuries. Individuals bring unique characteristics to the workforce, including size, shape, strength, ability and skill. Because of these differences, the fact that one worker can adequately perform a job task without sustaining an injury does not necessarily mean that every worker will be able to without sustaining injury. The challenge will lie with finding ways to adapt the workplace and processes to the worker with the goal of reducing these types of injuries.

Efforts will continue into 2010 with increased emphasis on reducing repetitive strain injuries through training and awareness. Additional Physical Demands Analyses will be conducted with the goal of completing all prior to the end of 2010.

M. Toronto Zoo Lost Time Accident Rates:

Accident Frequency and Accident Severity are used to monitor increases or decreases of accidents in the workplace.

Accident Frequency Rate (AFR) is calculated based on the number of new lost time injuries multiplied by 200,000 hours, representing the average total hours worked for 100 workers. This is divided by the number of total budgeted hours. This represents the number of disabling injuries per 100 workers, which can be used for comparison purposes.

Accident Severity Rate (ASR) is calculated by the total number of lost days multiplied by 200,000 hours representing the average total hours worked for 100 workers. This is divided by the number of total budgeted hours. Severity relates the amount of the lost time to the number of accidents for comparison purposes.

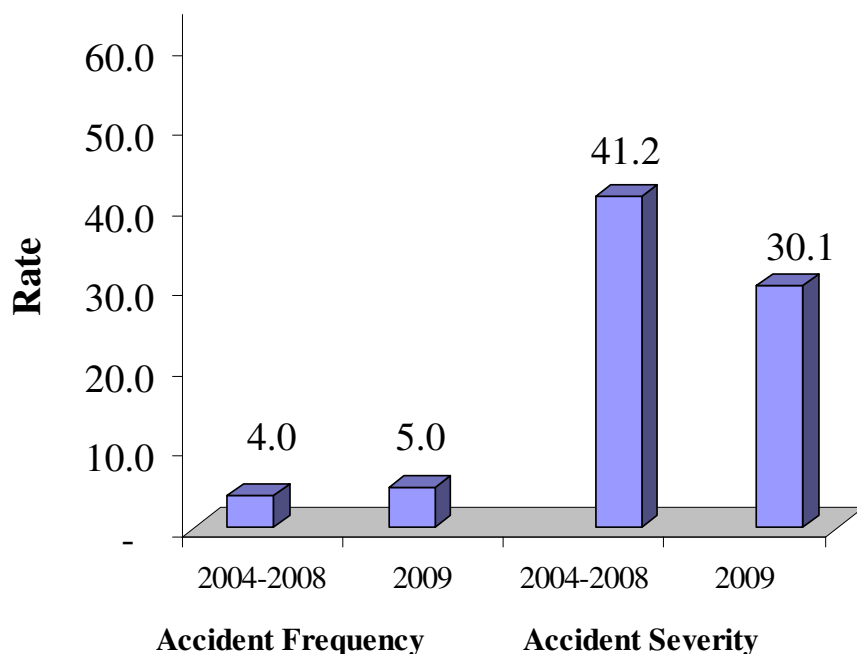
<u>Year</u>	<u>Accident Frequency Rate</u>	<u>Accident Severity Rate</u>
2004	4.3	22.8
2005	3.8	65.0
2006	3.5	55.6
2007	3.8	8.1
2008	4.8	54.3
AVERAGE	4.0	41.2
2009	5.0	30.1

Accident Frequency of 5.0 for 2009 is above the five year average of 4.0. Accident Severity of 30.1 for 2009 is below the five year average of 41.2.

Accident Frequency and Accident Severity are illustrated in Figure 3.

Accident Rates 2004 -2009

Figure 3



WSIB SUMMARY

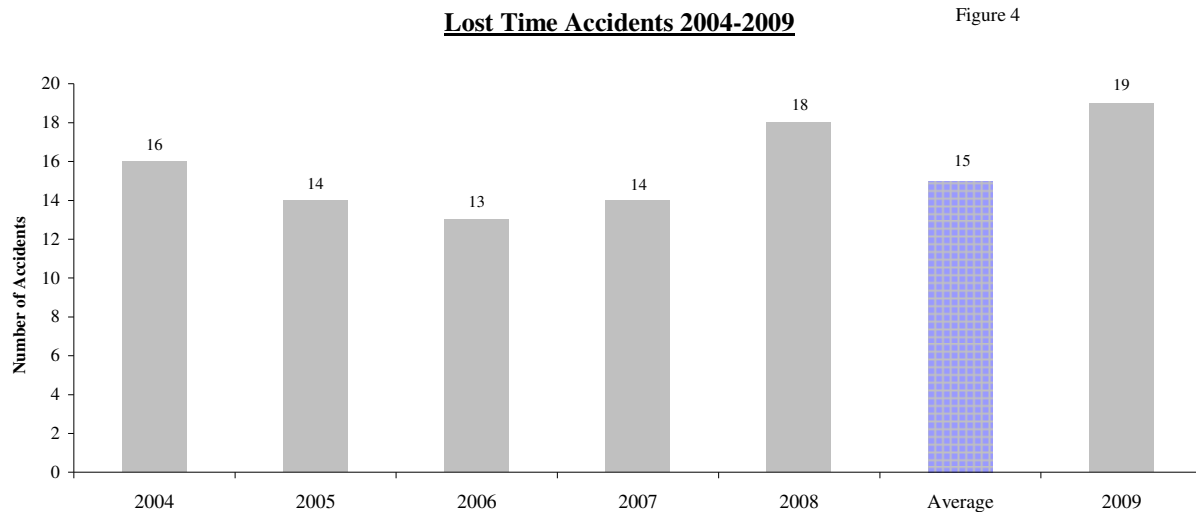
In 2009 there were a total of 31 claims submitted to the Workplace Safety & Insurance Board (WSIB), of which 19 WSIB claims resulted in 115 days of lost time. This compares to 21 claims, 18 of which were lost time totalling 202 days in 2008.

Lost Time Accidents by Branch:

<u>Branch</u>	<u>2004</u>	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>	<u>2009</u>
Horticulture	5	4	4	2	8	4
Animal Care	7	4	3	8	7	6
Facilities & Services	2	4	6	3	1	5
Animal Health Centre	0	0	0	1	1	0
Safety & Security	0	1	0	0	1	2
Conservation, Education & Research	0	1	0	0	0	0
Retail & Rides	1	0	0	0	0	0
Human Resources	1	0	0	0	0	0
Education	0	0	0	0	0	2
Totals	16	14	13	14	18	19

There were 19 lost time accidents in 2009, which was an increase of one from 2008. Lost time has decreased by 87 days over the same period. Facilities & Services experienced the largest increase from one lost time accident to five in 2009.

Figure 4 illustrates the lost time accidents for the period 2004 to 2009



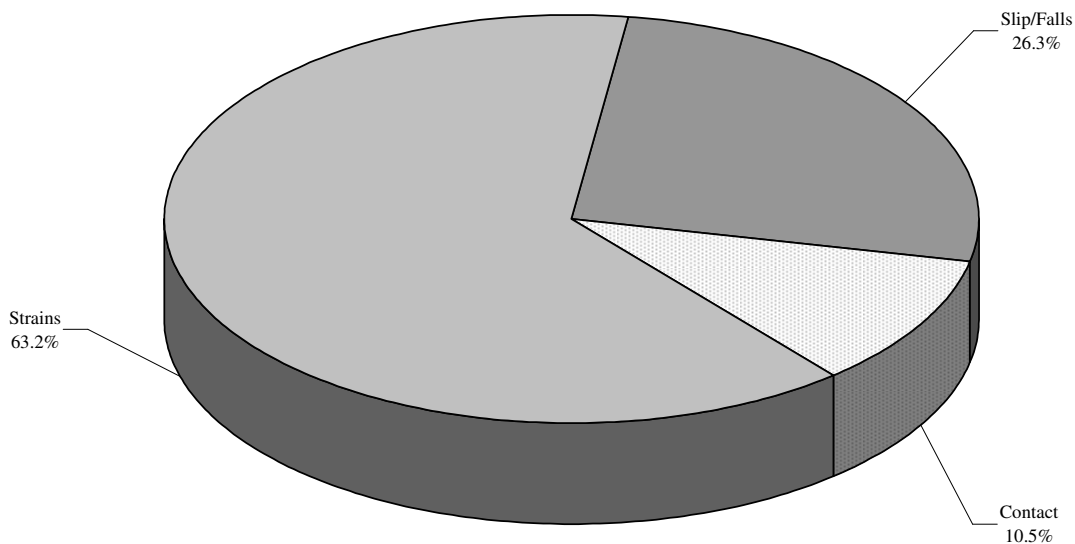
O. Lost Time Accidents by Type:

<u>Type</u>	<u>2008</u>	<u>Percent</u>	<u>2009</u>	<u>Percent</u>
Slips/falls	6	33.3	5	26.3
Strains	5	27.8	12	63.2
Contact	4	22.2	2	10.5
Exposure	2	11.1	0	0.0
Animal Action	1	5.6	0	0.0
Totals:	18	100.0	19	100.0

Figure 5 shows Lost Time Accidents by Type.

2009 Lost Time Accidents by Type

Figure 5



N. Modified Work Summary:

Of the 31 Workplace Safety & Insurance Board claims in 2009, 12 claims resulted in no lost time from work. 19 claims resulted in lost time, 15 of which resulted in lost time that was of short duration (five days or less). Four of the 19 lost time claims resulted in lost time that exceeded five days. For all the claims that resulted in lost time, the employees returned to work on modified duties and were accommodated in their own work areas. All except two claims have returned to full duties. In 2008, there were two claims that resulted in a carry over of lost time for a total two days each.

O. WSIB Cost Summary:

Under the WSIB, New Experimental Experience Rating Plan (NEER) employers receive rebates or surcharges based on their accident frequency and length of the accident claims. Calculated at the end of September, and using historical data for the past three years, the current results are compared to current trends within the rate group.

The Workplace Safety & Insurance Board charged a total surcharge of \$208,532.46 for the 2008/2009 NEER statement. The surcharge calculation is based on a three year window for the accident cost years of 2008, 2007 and 2006 and can be mainly attributed to four individual claims. While our 2007 accident cost statement was very good, it was unable to offset poor accident cost statements for years in 2008 and 2006. In 2008, two of the claims resulted in a significant amount of lost time hours. In addition one claim received a large Non-Economic Loss award because of permanent impairment. In 2006, two claims also contributed to this surcharge. Both claims had significant amount of lost time and one of the claims resulted in a referral for Labour Market Re-entry and the cost associated with this claim was adjusted to the 2006 cost statement as that was the year of injury.

Every year, the WSIB sets a premium rate for each rate group based on the collective work-related injury experience of its members. This rate covers the costs of new injuries and overhead expenses, and the cost of paying off the unfunded liability. Our WSIB rate of \$1.78 per \$100.00 wages will rise to \$1.83 in 2010.

P. 2009 – Targeted Efforts:

In 2010, the Safety & Security Branch will focus efforts on training, awareness and assisting various areas/branches of the Toronto Zoo in designing programs with specific objectives to include:

- Continuing to conduct safety training programs and introduce new programs as required.
- Increase health & safety awareness with all Toronto Zoo staff.
- Continue with Physical Demands Analysis with targeted areas on Zoo site.
- Review and update Occupational Health & Safety Policies.
- Completion of Hazard Assessments on targeted areas.
- Continue to work with the City of Toronto to deliver a consistent message with respect to pandemic planning.

Together it is hoped that these efforts will maintain legislative compliance and continue to improve the overall workplace safety conditions at the Toronto Zoo.

S. Alexander
Manager, Safety & Security