YLW
Kelowna International Airport

2023

Safety Management System

Annual Review Report

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March 2024

Prepared by: **Curiosity**
Analysis and Consulting

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1. FOLLOW-UP ACTIONS

No corrective action plans were issued from previous reviews.

The following table shows an update on the action items.

	2023		2022		2021		2020		2019	
	#	%	#	%	#	%	#	%	#	%
TOTAL	19		24		22		50		90	
Outstanding from previous year(s)	1	5%	6	25%	6	27%	33	66%	18	20%
Added during current year	18	95%	18	75%	16	73%	17	34%	72	80%
Status										
Complete	**13**	**68%**	20	83%	14	64%	32	64%	52	58%
Open – In progress	4	21%	2	8%	5	23%	2	4%	17	19%
Open – Not started	2	11%	2	8%	1	5%	4	8%	6	7%
Replaced / Cancelled	0	0%	0	0%	2	9%	12	24%	15	17%

OPEN ACTION ITEMS

An update on open action items is provided and updated below. Full list of action items to be included with Appendix A: SMS Annual Review Meeting Minutes.

Discussion of open action items and/or new target dates will be included in Appendix A: SMS Annual Review Meeting Minutes.

Item #	Action:	Assigned to:	Due Date:	Status:
22A-1.1	Provide any safety requirements for ground handling agreements to Toni (replaces action item 19A-10.2b)	Neil/Laura	31-May-23	IN PROGRESS. Need to wait until agreements are developed as safety requirements may change.
22A-1 .3	Update ground handling agreements to make contractors accountable, including but not limited to: (replaces action item 18A-10.3C) Safety standards; Environmental standards; Performance standards; Auditable training records	Toni	31-Dec-23	IN PROGRESS. Development in progress.
22A-5.1	Develop some possible questions for a "pulse" survey	Neil/Laura	30-Apr-23	NOT STARTED. Other priorities in tenant SMS relations.
22A-5.2	Conduct "pulse survey"	Neil/Consultant	31-Dec-23	NOT STARTED. Other priorities in tenant SMS relations.
22A-10.3	Provide a hazard/incident report for all CONSTRUCTION related reports to development on a quarterly basis within a month of end of quarter	Laura	31-Dec-23	IN PROGRESS. Was sending to Lori. Need to know if this is still required as project managers are now more involved in the SMS.

Item #	Action:	Assigned to:	Due Date:	Status:
22A-10.10	Develop and begin implementation of communication strategy to front line workers	Phillip/Cassie	31-Dec-23	IN PROGRESS. A plan has been created for implementation in 2024.

2. CHANGES THAT COULD AFFECT THE SMS

Operational and organizational changes that occurred in 2023 that will impact 2024 safety planning will be discussed and documented in Appendix A: SMS Annual Review Meeting Minutes.

Planned changes to staffing / organizational structure, infrastructure, and processes in 2024 will be documented in Appendix A: SMS Annual Review Meeting Minutes.

3. SAFETY REGULATION REVIEW

From review of amendments to the Canadian Aviation Regulations, there were no changes to regulations in 2023 that affect YLW Operations.

https://tc.canada.ca/en/corporate-services/acts-regulations/list-regulations/canadian-aviation-regulations-sor-96-433/canadian-aviation-regulations-sor-96-433-regulatory-change

There were no exemptions issued by Transport Canada in 2023 that are applicable to YLW.

https://tc.canada.ca/en/aviation/reference-centre/exemptions-canadian-aviation-regulations-cars

No audits of YLW were conducted by Transport Canada in 2023. There are currently no outstanding Transport Canada findings.

4. SAFETY POLICY

The safety policy was not amended or updated in 2023. The current policy is documented in SMS Manual Revision 11 Section 1.1.

Acceptance of this policy and/or proposed changes will be documented in Appendix A: SMS Annual Review Meeting Minutes 2023.

5. SMS ROLES, RESPONSIBILITIES AND EMPLOYEE INVOLVEMENT

Employee involvement is assessed through report submission. Below is a summary of the number of reports submitted:

	2023	2022	2021	2020	2019
Total Reports	**1351**	1322	1055	1065	808
Change from Previous Year	**+2.2%**	+25.3%	-0.9%	+31.8%	+ 39.8%
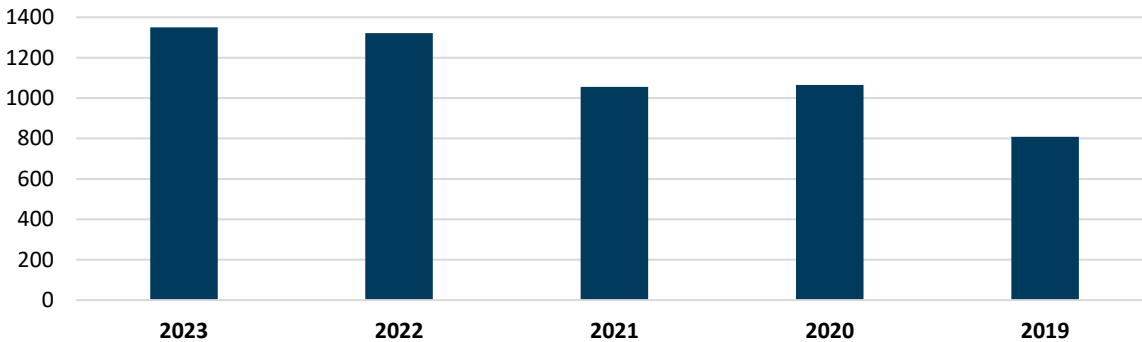
The number of submitted reports increased in 2023 and shows strong employee involvement in the SMS.

No specific activities to verify that employees understand the SMS and their role and responsibilities in it were undertaken in 2023. It was decided not to update the survey in 2022 at the 2021 Annual Management Review. There was discussion of implementing a new "pulse" survey at the 2022 Annual Management Review (see Action Items 22A- 5.1/5.2). This was not completed in 2023 as focus shifted to developing relationships with tenant SMS partners.

Any discussion or decisions on activities to be undertaken in 2024 will be documented in Appendix A: SMS Annual Review Meeting Minutes.

6. SMS COMMUNICATION

No specific reports were submitted for feedback on the SMS as feedback was gathered through regularly scheduled meetings and documented in the minutes.

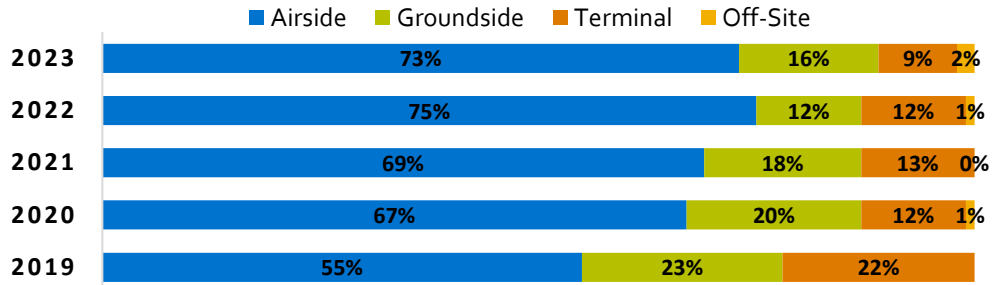Safety is discussed as a regular item at all Management, Airport Operators Committee (AOC) and Project Coordination Committee meetings. Resulting discussion, decisions, and action items are documented in the meeting minutes. SMS and QA items were discussed at all Ops CT meetings.

Any discussion and/or decisions on SMS Communication effectiveness will be documented in Appendix A: SMS Annual Review Meeting Minutes.

7. HAZARD AND OCCURRENCE REPORT REVIEW

Overall report submissions are noted in section 5.

Below is an overview of submitted reports by location since 2019:

Legend: ■ Airside ■ Groundside ■ Terminal ■ Off-Site

2023	73%	16%	9%	2%
2022	75%	12%	12%	1%
2021	69%	18%	13%	0%
2020	67%	20%	12%	1%
2019	55%	23%	22%	

	2023	2022	2021	2020	2019
Airside	**986 (73%)**	988 (75%)	724 (69%)	716 (67%)	446 (55%)
Groundside	**211 (16%)**	156 (12%)	192 (18%)	212 (20%)	184 (23%)
Terminal	**123 (9%)**	161 (12%)	134 (13%)	126 (12%)	178 (22%)
Off-Site	**31 (2%)**	17 (1%)	5 (0%)	7 (1%)	0*

*Off-Site category not used in 2019

Below is an overview of Proactive (Hazard) or Reactive (Incident)ports since 2019.

Legend: ■ Proactive (Hazard) ■ Reactive (Incident)

2023	2022	2021	2020	2019
21%	19%	15%	11%	28%
79%	81%	85%	89%	72%
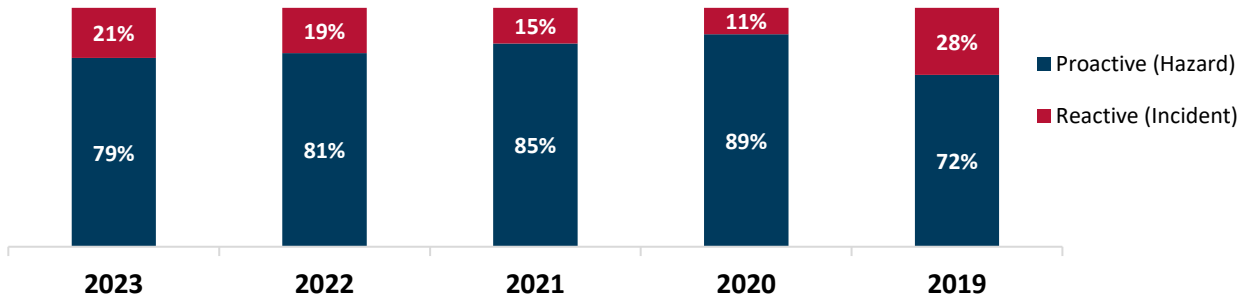
	2023	2022	2021	2020	2019
Proactive (Hazard)	**1064 (79%)**	1072 (81%)	898 (85%)	946 (89%)	584 (72%)
Airside	**798 (81%)**	855 (87%)	651 (90%)	657 (91%)	340 (76%)
Groundside	**152 (72%)**	94 (60%)	142 (74%)	173 (82%)	111 (60%)
Terminal	**89 (72%)**	113 (70%)	103 (77%)	110 (87%)	133 (75%)
Off-Site	**25 (81%)**	10 (59%)	2 (40%)	6 (86%)	
Reactive (Incident)	**287 (21%)**	250 (19%)	157 (15%)	119 (11%)	224 (28%)
Airside	**188 (19%)**	133 (13%)	73 (10%)	63 (9%)	106 (24%)
Groundside	**59 (28%)**	62 (40%)	50 (26%)	39 (18%)	73 (40%)
Terminal	**34 (28%)**	48 (30%)	31 (23%)	16 (13%)	45 (25%)
Off-Site	**6 (19%)**	7 (41%)	3 (60%)	1 (14%)	

REPORTING SOURCES
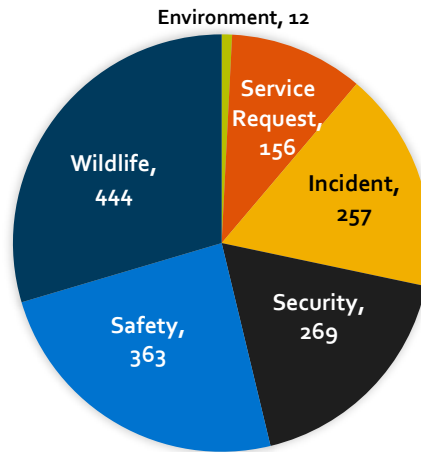
AIRCRAFT MOVEMENT NUMBERS

Classification	2022	2023	Comments
Fixed Wing Jet	26,762	26,764	Increase of 2 Movements Approximately 0.01%
Fixed Wing Piston	14,608	14,776	Increase of 168 Movements Approximately 1.15%
Fixed Wing Turbine	9,410	9,162	Decrease of 248 Movements Approximately -2.64%
Helicopter	12,234	11,240	Decrease of 994 Movements Approximately -8.12%
Total	**63,014**	**61,942**	**Decrease of 1,072 Movements Approximately -1.70%**

Considering the minimal change in aircraft movement numbers from 2022-2023, this data will not be used to compare number of reports between 2022-2023.

RESPONSE TIMES (SAFETY REPORTS)

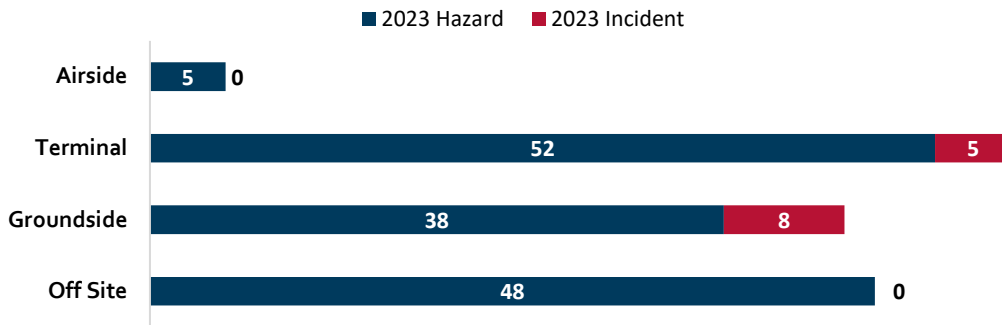|	2023**	2022*	2021	2020	2019
Report Closure (Time between when the report is submitted to when the report is closed.)					
Average / Mean (Days)	45	13.8	4	18	35
Median (Days)	18	7	0.5	5	13
Max (Days)	356	118	57	254	322
< 7 Days	32%	48%	81%	53%	36%
< 30 Day (%)	66%	82%	97%	82%	69%
> 90 Days (%)	17%	1%	0%	3%	13%

NOTE: Report closure data for 2022 was taken exclusively from the new reporting software (Aug – Dec 2022) and does not include all report closure data.

**NOTE*: In 2023, YLW started involving tenant agencies in the YLW SMS process by asking them to provide root cause and corrective action. This additional, but valuable, step increased the response times.*

AIRPORT SERVICE REQUESTS

Prior to the annual review, the relevant 2023 Service Requests for YLW submitted through the public website were reviewed against the hazard register. A new Service Request system was developed by the City of Kelowna and the cutover to the new system occurred in July. Requests from both systems are included in this analysis.

Service Requests by location and hazard/incident, are noted below:

	2023	2022	2021	2020	2019
Service Requests	**156**	**155**	**141**	**89**	**180**
Airside	5 (3%)	7 (5%)	7 (5%)	9 (10%)	5 (3%)
Terminal	57 (37%)	55 (35%)	53 (38%)	20 (22%)	48 (27%)
Groundside	46 (29%)	52 (34%)	29 (21%)	21 (24%)	51 (28%)
Off Site	48 (31%)	41 (26%)	52 (37%)	39 (44%)	76 (42%)

Service Requests by month for 2023 are included below against passenger numbers:
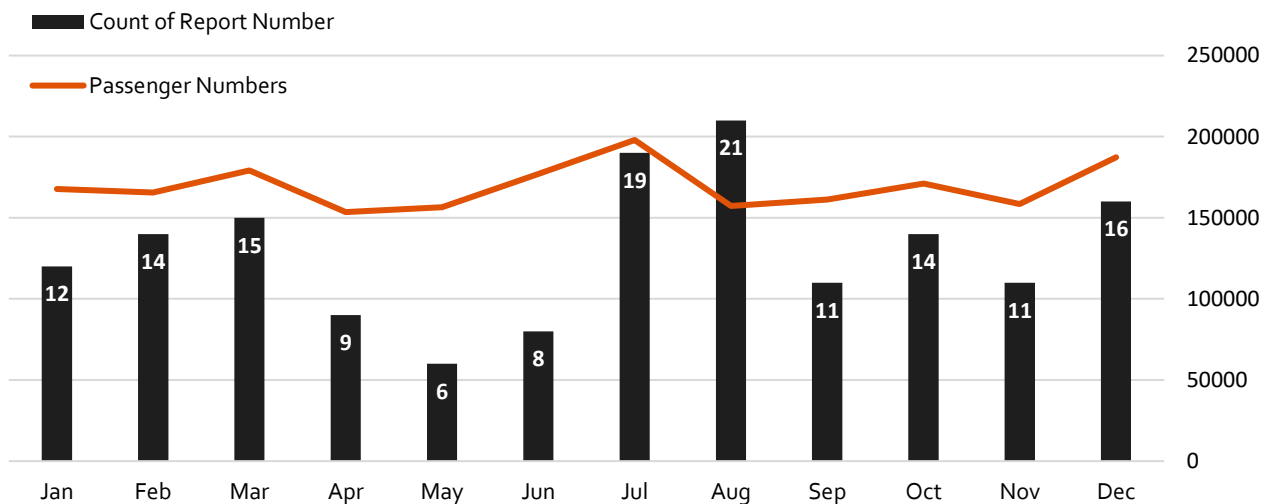
The top hazard categories for Service Requests by number of reports, against the number of reports from 2022/2021 are shown below.

Legend: ■ 2023 ■ 2022 ■ 2021

- COMMERCIAL Poor customer experience — 86
- COMMUNITY Local community — 47
- AIRCRAFT OPERATION Noise — 37
- HUMAN FACTORS Long Term Contractors — 20
- PUBLIC VEHICLES Parking — 19
- COMMERCIAL Security screening — 18
- AIRCRAFT OPERATION General aviation — 17
- GROUNDSIDE INFRASTRUCTURE Parking lots — 15
- HUMAN FACTORS Tenant staff — 13
- SECURITY THREATS Baggage screening — 12
- PUBLIC VEHICLES Taxi service / Shuttles — 11
- GOVERNANCE CBSA — 11
- ACCESSIBILITY — 9
- GROUNDSIDE INFRASTRUCTURE Roads — 8
- BUILDING MAINTENANCE Furnishings — 8
- AIRCRAFT OPERATION Helicopters — 8

NOISE COMPLAINT ANALYSIS

	2023	2022	2021
TOTAL	37	35	39
Helicopters	7	6	15
General Aviation	16	11	13
Other	14	18	11

NOTE: With the change to the Service Request system, the map of noise complaints is no longer available.

HAZARD ANALYSIS

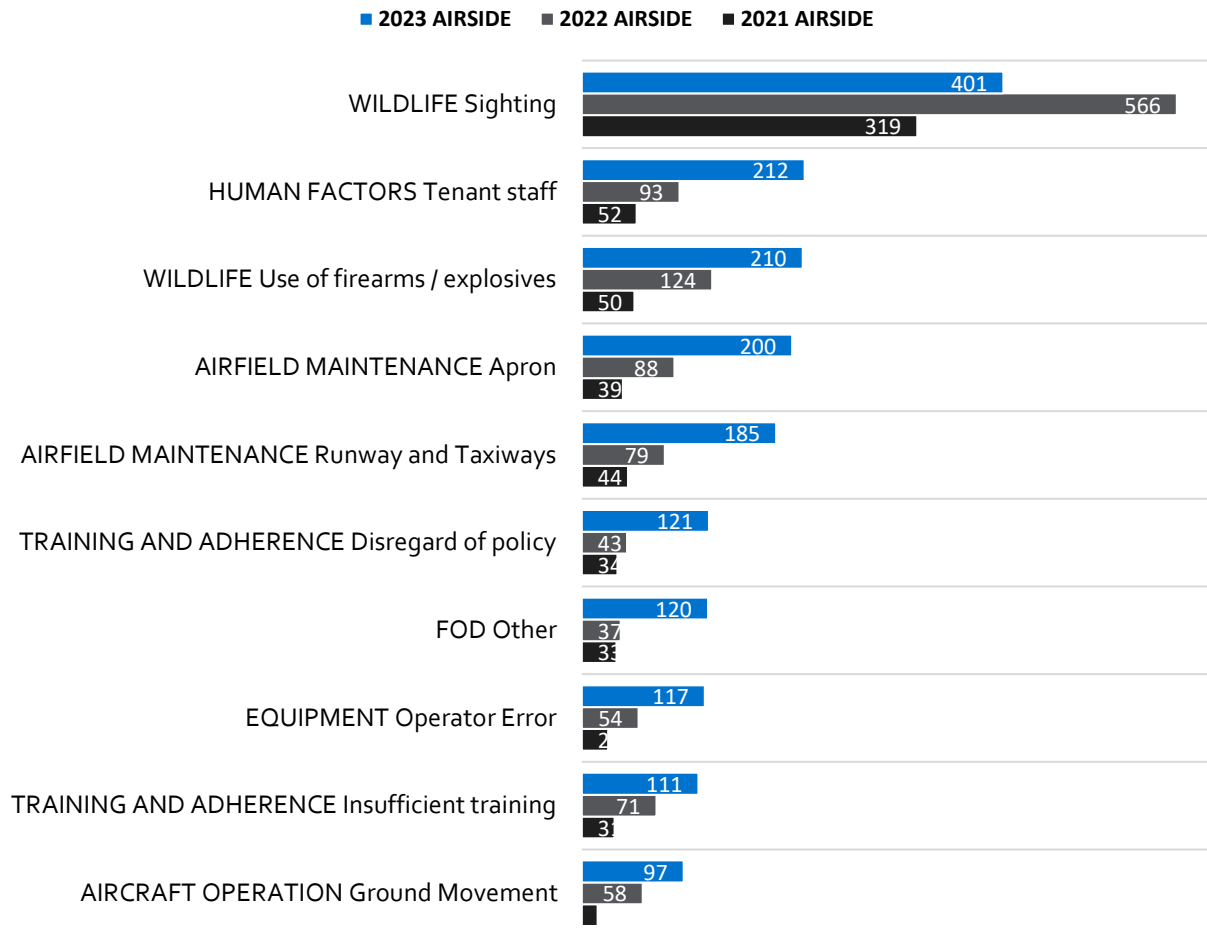The following tables represent the number of hazards related to submitted reports and service requests. As each report may be related multiple hazards, these numbers do not match report submission numbers.

For the full listing of number of related events, refer to the 2024 Hazard Register.

TOP AIRSIDE CATEGORIES

The following shows the top airside categories for 2023 by number of reports, compared with number of reports in 2022/2021.

■ **2023 AIRSIDE** ■ **2022 AIRSIDE** ■ **2021 AIRSIDE**

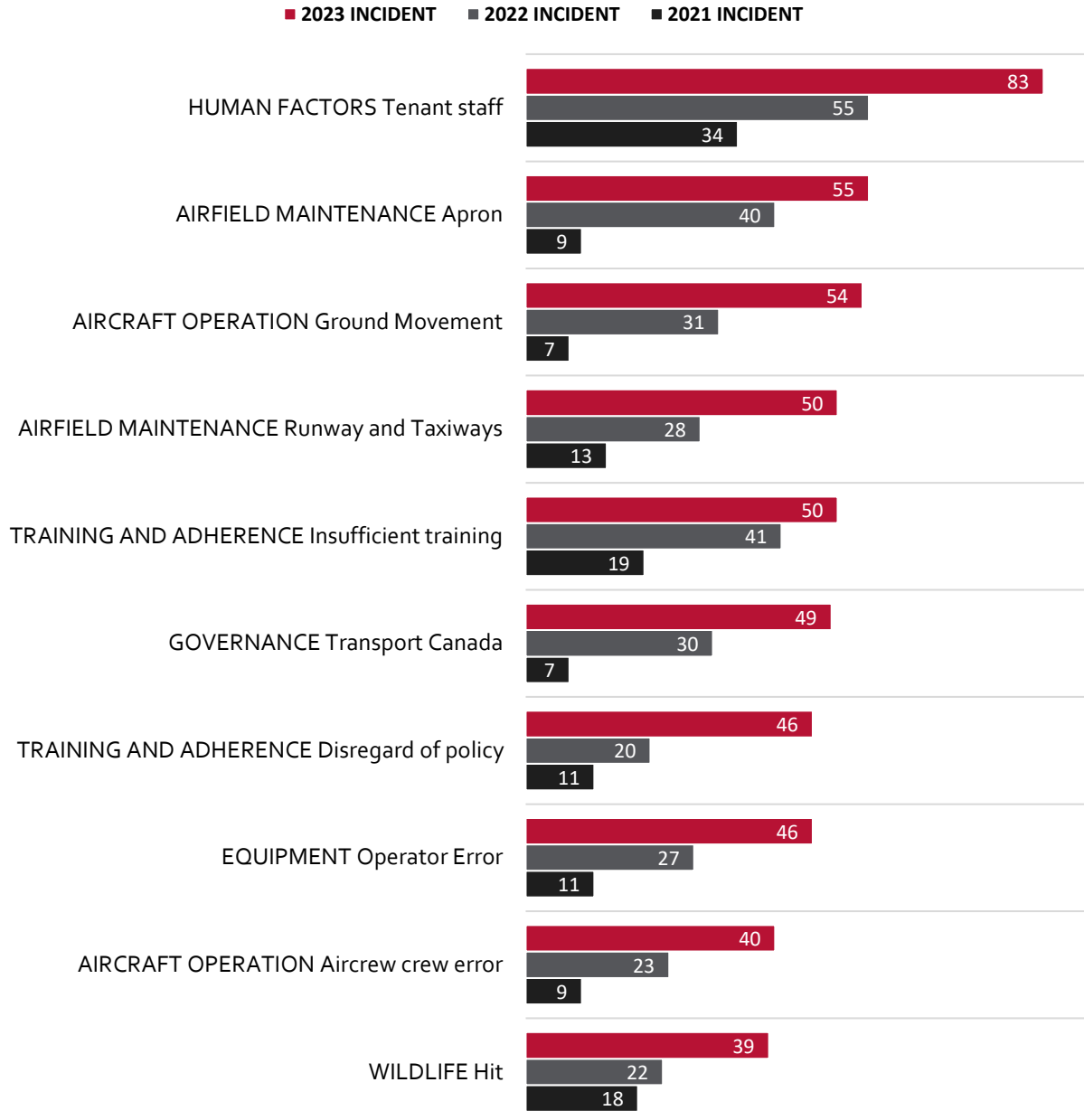| Category	2023	2022	2021
WILDLIFE Sighting	401	566	319
HUMAN FACTORS Tenant staff	212	93	52
WILDLIFE Use of firearms / explosives	210	124	50
AIRFIELD MAINTENANCE Apron	200	88	39
AIRFIELD MAINTENANCE Runway and Taxiways	185	79	44
TRAINING AND ADHERENCE Disregard of policy	121	43	34
FOD Other	120	37	31
EQUIPMENT Operator Error	117	54	2
TRAINING AND ADHERENCE Insufficient training	111	71	3
AIRCRAFT OPERATION Ground Movement	97	58	

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TOP INCIDENT CATEGORIES

The following shows the top incident categories for 2023 by number of reports, compared with number of reports in 2022 / 2021.

■ **2023 INCIDENT** ■ **2022 INCIDENT** ■ **2021 INCIDENT**

Category	2023	2022	2021
HUMAN FACTORS Tenant staff	83	55	34
AIRFIELD MAINTENANCE Apron	55	40	9
AIRCRAFT OPERATION Ground Movement	54	31	7
AIRFIELD MAINTENANCE Runway and Taxiways	50	28	13
TRAINING AND ADHERENCE Insufficient training	50	41	19
GOVERNANCE Transport Canada	49	30	7
TRAINING AND ADHERENCE Disregard of policy	46	20	11
EQUIPMENT Operator Error	46	27	11
AIRCRAFT OPERATION Aircrew crew error	40	23	9
WILDLIFE Hit	39	22	18

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RISK INDEX

The risk index is determined by multiplying the number of reports by the risk rating. The following chart shows the risk index for 2023/2022/2021, sorted by highest risk index 2023.

■ **2023 RISK INDEX** ■ 2022 RISK INDEX ■ 2021 RISK INDEX

- WILDLIFE Sighting
- TRAINING AND ADHERENCE Disregard of policy
- AIRFIELD MAINTENANCE Apron
- TRAINING AND ADHERENCE Insufficient training
- AIRFIELD MAINTENANCE Runway and Taxiways
- HUMAN FACTORS Tenant staff
- EQUIPMENT Operator Error
- AIRCRAFT OPERATION Ground Movement
- WILDLIFE Use of firearms / explosives
- FOD Other
- TRAINING AND ADHERENCE Misinterpretation of policy
- EQUIPMENT Improper Protective Equipment
- TRAINING AND ADHERENCE Lack of policy
- PUBLIC VEHICLES Parking
- GROUNDSIDE INFRASTRUCTURE Parking lots

TOP OVERALL HAZARD CATEGORIES

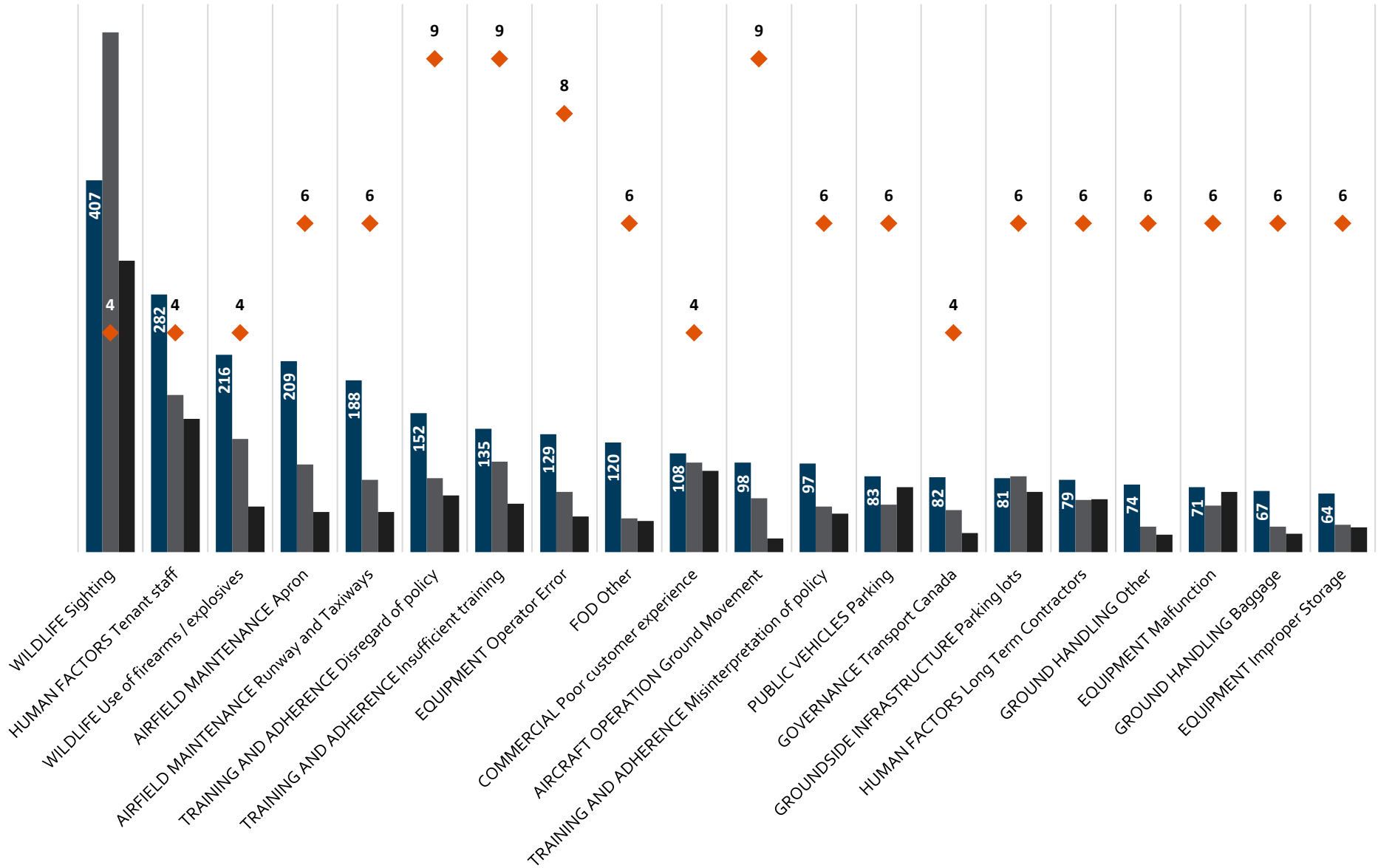The following chart shows the top overall hazard categories by number of submitted reports in 2023, sorted by highest number of reports against the number of reports in 2022/2021 and the risk rating.

8. RISK MANAGEMENT

No new hazards were added to the hazard register for 2023. For the full risk assessments, refer to Appendix B: 2023 Hazard Register and Risk Assessments.

Review of the hazard register and any resulting adjustments will be documented in Appendix A: SMS Annual Review Meeting Minutes.

2023 SAFETY RISK PROFILE

The safety risk profile developed for 2023 is given below with an update:

RANK	HAZARD	2023 ACTION PLAN	UPDATE
1	TRAINING AND ADHERENCE Insufficient training	SEE Objective.	2023: 135 reports 2022:99 reports *See Objective*
2	RUNWAY AND TAXIWAY INCURSION	SEE Objective. Tracked through airside incidents.	2023: 38 reports 2022: 14 reports *See Objective*
3	AIRCRAFT OPERATION Ground movement	SEE Objective.	2023:98 reports 2022: 59 reports *See Objective*
4	CONSTRUCTION	SEE Objective.	2023:52 reports 2022: 45 reports *See Objective*
5	TRAINING AND ADHERENCE Disregard of policy	Monitor to ensure no significant increases.	2023: 152 reports 2022: 81 reports ***88% increase***
6	COMMERCIAL Intoxicated/aggressive passengers	Monitor number of reports to ensure no significant increases occur	2023: 27 reports 2022:47 reports ***43% decrease***
7	WEATHER Snow/Ice	Monitor number of reports:snow days to ensure there are no significant increases occurring.	2023: 20:11*= 1.8 2022:50:29*=1.7 *No significant change*
8	WILDLIFE	Monitor ratio of WILDLIFE Hit versus WILDLIFE Sighting to ensure no significant increases occur.	2023:39:407= 0.10** 2022: 22:569=0.04 2021: 19:319= 0.06 2020: 17:425= 0.04 2019: 27:205 = 0.13

*NOTE: Snow days data generated by using weather data to calculate number of days with mean temp below 0°C and precipitation at YLW

**NOTE: Wildlife strikes generally correspond with commercial aircraft movements, so an increase in 2023 was expected. However, a large number of wildlife strikes occurred in September 2023 during nearby wildfire activity potentially due to habitat destruction as well as decreased visibility from smoke.

The safety risk profile for 2024 will be developed and documented in Appendix A: SMS Annual Review Meeting Minutes.

9. NON-PUNITIVE REPORTING POLICY

The non-punitive reporting policy was not amended or updated in 2023. The current policy is documented in SMS Manual Revision 11 Section 1.2.

From a review of all reported incidents in 2023, no infringement on the non-punitive reporting policy has occurred.

10. SAFETY PLANNING AND PERFORMANCE MEASUREMENT

2023 OBJECTIVE

The 2023 documented objective and safety performance indicators (SPIs) are noted below.

#	OBJECTIVE	SPI(S)

1	Improve safety culture, accountability, and communication of important safety issues to reduce airside incidents.	• Overall airside incident % less than 20%
		• Reduce incident percentage by 5% for:
		   o Insufficient training (36%)
		   o Construction (31%)
		   o Aircraft ground movement (48%)

UPDATE
- For reference, the values for the SPIs are provided since 2018 below:

	2023	TARGET	2022	2021	2020	2019	2018
Overall Airside Incidents	186		135	73	63	106	153
Overall Airside TOTAL	986		995	724	720	446	376
Overall % Incidents	19%	<20%	14%	10%	9%	24%	41%
Insufficient training Incidents	50		41	19	9	9	11
Insufficient training TOTAL	135		99	53	53	15	16
Insufficient training % Incidents	37%	<36%	41%	36%	17%	60%	69%
Construction Incidents	15		16	3	1	19	23
Construction TOTAL	52		45	8	6	38	46
Construction % Incidents	29%	<31%	36%	36%	17%	50%	50%
Aircraft ground movement incidents	54		31	7	4	18	28
Aircraft ground movement TOTAL	98		59	15	18	36	42
Aircraft ground movement % Incidents	55%	<48%	53%	47%	22%	50%	67%

50% of SPI targets met. Areas where targets were not met will be discussed further below.

GOALS FOR 2023 OBJECTIVE

- Neil to compile list of SMS contacts at all airport partners/tenant organizations.

UPDATE: **COMPLETE.** *List of SMS contacts developed for all airside tenants and information is being shared.*

- Provide airlines and ground handling organizations with this report and all quarterly updates within a month of quarter end and ask for feedback from the organizations.

UPDATE: **COMPLETE.** *Reports being shared with tenant organizations.*

- Provide a hazard/incident report for all CONSTRUCTION related reports to development on a quarterly basis within a month of end of quarter.

UPDATE: **IN PROGRESS***. Was sending to Lori. Need to know if this is still required as project managers are now more involved in the SMS.*

- Develop and communicate strategy for accountability to SMS partners (information sharing, corrective action)

UPDATE: **COMPLETE.** *DMs forward safety reports to tenant SMS contacts to request root cause and corrective action. Tenant responses are then added to the YLW SMS report.*

- Use Corrective Action Plans to address trending issues (i.e. issue CAP to development and/or tenant organizations if trends are noted to request root cause and corrective action)

UPDATE: **COMPLETE.** *CAP assigned to tenant organization for a trending issue. CAPs also used to address some major SMS report submissions that have a regulatory impact to ensure all root cause and corrective action is documented.*

- Create improved process/standards for "orientation" for contractors including more PM involvement and briefings in the field, oversight of process and sharing results at construction meetings.

UPDATE: **COMPLETE***. PMs have been more involved in contractor orientation and project coordinators have also been involved.*

- Improve signage (as possible) in construction areas, particularly around controlled surfaces (temporary or permanent) by developing signage templates, protocols for barriers to demark sensitive areas, and regular compliance monitoring.

UPDATE: **COMPLETE***. Signage has been drastically improved.*

- Continue development and improvement of SMS reporting software for improved usage and data tracking.

UPDATE: **COMPLETE***. An update to the app was completed in 2023 and planning has begun for further updates.*

- Develop strategy for feeding safety (SMS) information to communication strategy for front line workers.

UPDATE: **COMPLETE.** *Meetings held and ideas, strategy and potential content provided.*

- Develop and begin implementation of communication strategy to front line workers.

UPDATE: **IN PROGRESS***. A plan has been created for implementation in 2024.*

BREAKDOWN ON INSUFFICIENT TRAINING

As the SPI for Insufficient training incident % was not met in 2023, this breakdown provides further details on these reports. The first chart shows the number of Insufficient training reports by month and hazard/incident, along with the incident %.

The second chart below shows the related hazard categories, along with the % of related Insufficient training incidents. This percentage represents the % of insufficient training incidents that were also related to the hazard category noted.
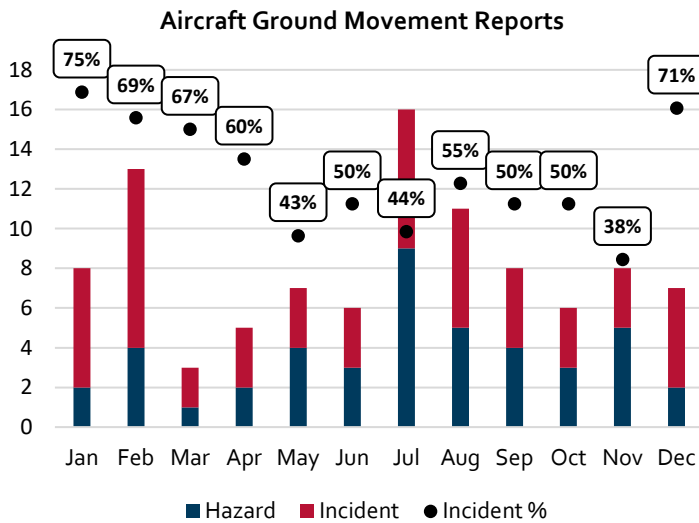

Insufficient Training Reports

Insufficient Training Incidents and Related Hazards
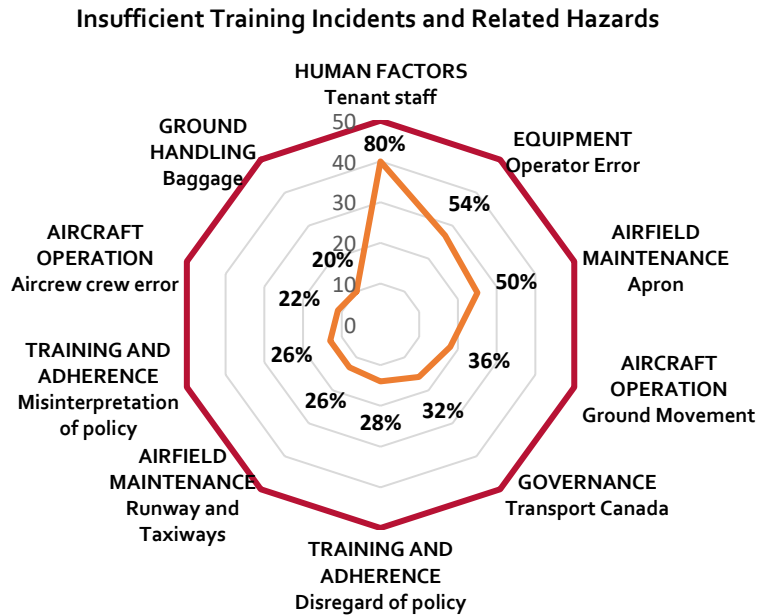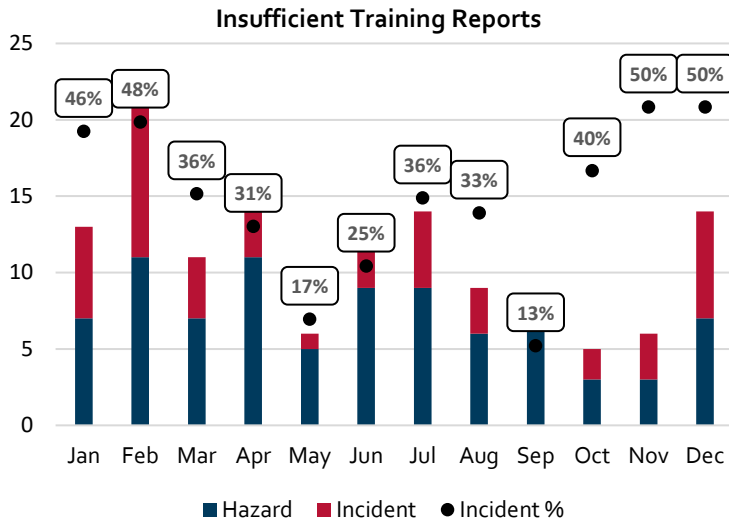
The below table shows the incident % when the related hazard is combined with the hazard of Insufficient Training.

	Number Total (Insufficient Training +)	Number Incident (Insufficient Training +)	Incident % (when + Insufficient Training)
HUMAN FACTORS Tenant staff	106	40	**38%**
EQUIPMENT Operator Error	62	27	**44%**
AIRFIELD MAINTENANCE Apron	59	25	**42%**
AIRCRAFT OPERATION Ground Movement	36	18	**50%**
GOVERNANCE Transport Canada	28	16	**57%**
TRAINING AND ADHERENCE Disregard of policy	40	14	**35%**
AIRFIELD MAINTENANCE Runway and Taxiways	15	13	**87%**
TRAINING AND ADHERENCE Misinterpretation of policy	31	13	**42%**
AIRCRAFT OPERATION Aircrew error	13	11	**85%**
GROUND HANDLING Baggage	23	10	**43%**

BREAKDOWN ON AIRCRAFT GROUND MOVEMENT

As the SPI for Aircraft ground movement incident % was not met in 2023, this breakdown provides further details on these reports. The first chart shows the number of Aircraft ground movement reports by month and hazard/incident, along with the incident %.

The second chart below shows the related hazard categories, along with the % of related Aircraft ground movement incidents. This percentage represents the % of Aircraft Ground Movement incidents that were also related to the hazard category noted.

Aircraft Ground Movement Reports

Aircraft Ground Movement Incidents and Related Hazards
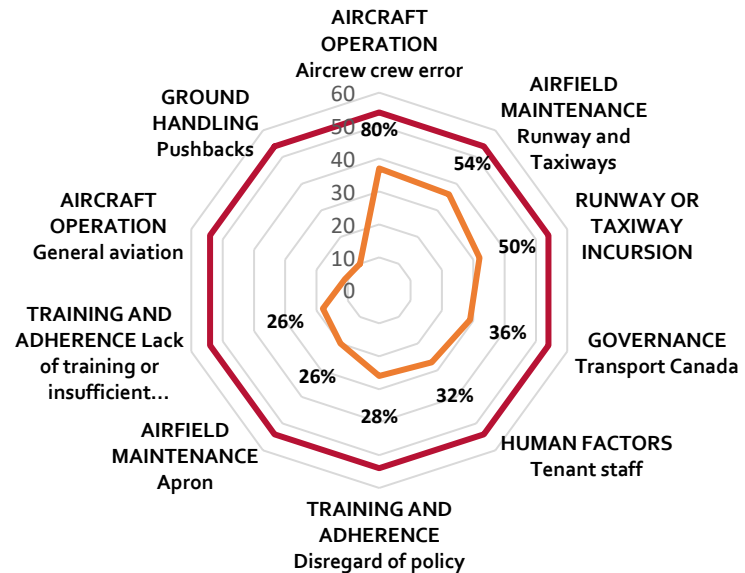
The below table shows the incident % when the related hazard is combined with the hazard of Aircraft ground movement.

	Number Total (Aircraft Ground Movement +)	Number Incident (Aircraft Ground Movement +)	Incident % (when + Aircraft Ground Movement)
AIRCRAFT OPERATION Aircrew error	41	37	90%
AIRFIELD MAINTENANCE Runway and Taxiways	41	36	88%
RUNWAY OR TAXIWAY INCURSION	32	32	100%
GOVERNANCE Transport Canada	29	29	100%
HUMAN FACTORS Tenant staff	55	27	49%
TRAINING AND ADHERENCE Disregard of policy	46	26	57%
AIRFIELD MAINTENANCE Apron	48	20	42%
TRAINING AND ADHERENCE Insufficient training	36	18	50%
TRAINING AND ADHERENCE Misinterpretation of policy	23	15	65%
EQUIPMENT Operator Error	37	13	35%
AIRCRAFT OPERATION General aviation	12	11	92%
GROUND HANDLING Pushbacks	31	10	32%

11. SMS TRAINING

No specific actions for SMS training were undertaken in 2023.

Any discussion on plans for SMS training in 2024 will be documented and included in Appendix A: SMS Annual Review Meeting Minutes.

12. QUALITY ASSURANCE

The results of Quality Assurance audits and corrective action plans in 2023 are noted in the following table:

AUDITS						
	2023	**2022**	**2021**	**2020**	**2019**	**2018**
Audits Assigned	28	19	37	23	21	44
Audits Completed	26	18	37	23	21	41
Audits Completed On Time	14 (50%)	7 (41.2%)	23 (62.2%)	13 (56.5%)	16 (76.2%)	38 (86.4%)
BY TYPE						
AOM	8	16	35	8	21	41
SMS	15	0	2	15	0	3
Regulatory	1	1	N/A	N/A	N/A	N/A
Special Purpose	4	2	N/A	N/A	N/A	N/A
CORRECTIVE ACTION PLANS						
	2023	**2022**	**2021**	**2020**	**2019**	**2018**
CAPs Logged	36	30	36	23	49	37
CAPs Answered	36	30	36	23	49	37
CAPs Closed	17	15	38	25	68	57
CAPs Answered On Time	36 (100%)	17 (56.7%)	31 (86.1%)	18 (78.3%)	45 (91.8%)	37 (100%)
BY TYPE						
AOM	16	10	20	6	35	34
SMS	6	9	2	6	0	2
Other	12	6	N/A	N/A	0	1
Continuous Improvement	1	5	14	11	14	0

13. SMS DOCUMENTATION AND RECORDS

No update was made to the Safety Management System Manual in 2023. The most current revision is Revision 11, December 13, 2022. A minor revision of the manual is planned for 2024 to update job titles and clarify processes.

Revision 8 of the Airport Operations Manual was originally completed in 2021 and submitted to Transport Canada, but has not yet been approved. The history of submissions is included below:

- September 2021 – Initial submission of AOM Edition 8 (without RESA – project planned, not started)
- December 2021 – Reply from TC with notes
- January 2022 – Meeting with TC to review notes
- December 2022 – Second submission of AOM Edition 8 (without RESA – project underway)
- January 2023 – Began work on AOM Edition 9 (with RESA)
- *TC indicated that Edition 8 (without RESA) would not be approved and YLW should re-submit Edition 8 with RESA
- October 2023 – Third submission of AOM Edition 8 (with RESA)
- January 2024 – Reply from TC with notes
- January 2024 – Meeting with TC to review notes
- March 2024 – Planned fourth re-submission of AOM Edition 8.

Any additional discussion on SMS documentation and records will be included in Appendix A: SMS Annual Review Meeting Minutes.

14. AVIATION INDUSTRY MONITORING

TSB WATCHLIST

No new Transportation Safety Board of Canada (TSB) Watchlist was released. The most recent is Watchlist 2022.
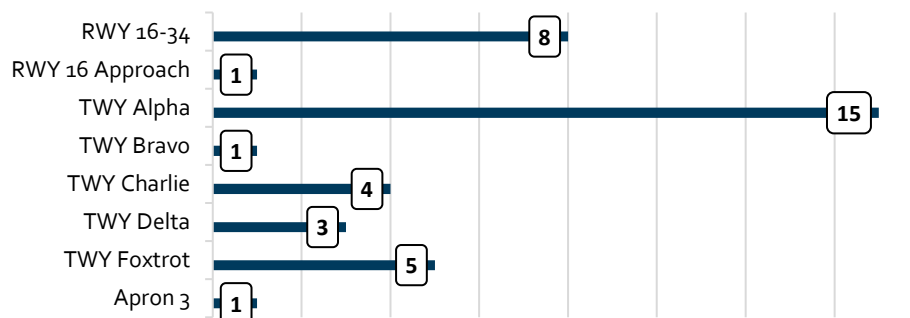
Watchlist 2022 includes:

- **RISK OF COLLISIONS FROM RUNWAY INCURSIONS** - *Runway incursions lead to an ongoing risk of aircraft colliding with vehicles or other aircraft.*

NOTE: YLW has seen an increase in runway and taxiway incursions. See data below.

	2023	2022	2021
Total RWY/TWY Incursions	38	14	3
% Increase (yr/yr)	171%	367%	N/A

2023 RWY/TWY Incursions Location Breakdown

- **RUNWAY OVERRUNS** - *Runway overruns continue to pose a risk to people, property, and the environment.*

- **SAFETY MANAGEMENT** – *Some transportation operators in the air, marine, and rail sectors are not managing their safety risks effectively, and many are still not required to have formal safety management processes in place. Moreover, those operators that have implemented a formal safety management system (SMS) are not always able to demonstrate that it is working and producing the expected safety improvements.*

- **FATIGUE MANAGEMENT** – *In the transportation industry, crews often work long and irregular schedules—sometimes in challenging conditions or crossing multiple time zones—that are not always conducive to proper restorative sleep. Fatigue poses a risk to the safety of air, marine, and freight train operations because of its potential to degrade several aspects of human performance.*

- **REGULATORY SURVEILLANCE** – *Regulatory surveillance has not always proven effective at verifying whether operators are, or have become, compliant with regulations and able to manage the safety of their operations. Furthermore, Transport Canada (TC) has not always intervened on a timely basis to ensure transportation operators in the air, marine, and rail sectors take appropriate corrective actions.*

NOTE: YLW has not seen issues with the above noted Watchlist 2022 items.

CADORS

All relevant YLW CADORS are included in the SMS data analysis as Incident reports (see Reporting Sources)

APPENDIX A: 2023 SMS ANNUAL REVIEW MEETING MINUTES

MEETING DATE: March 28, 2024

ATTENDANCE:

NAME	TITLE
Sam Samaddar	Airport CEO (Accountable Executive)
Phillip Elchitz	Director, Operations & Innovation
Shayne Dyrdal	Director, Finance & Corporate Services
Neil Drachenberg	Senior Manager, Safety & Security
William Lampard	Senior Project Manager, Commercial
Laura Mortensen	Consultant, Curiosity Analysis and Consulting Corp.
Simon O'Mara (virtually on Teams)	Consultant, Curiosity Analysis and Consulting Corp.

CONTENTS:

MINUTES:

23A-1 FOLLOW-UP ACTIONS

- Reviewed list of outstanding action items

- Further discussion on the ground handling agreement changes as this item has been on the list since prior to 2018 (some time on pause due to COVID). Numerous agreements from other airports (YVR, YYJ) have been obtained and reviewed. The safety requirements are already listed in the action item (participation in the SMS/QA, compliance with Airport policies and auditable training records). Maybe the scope has become too large, but it is important we get a new version out even if it isn't perfect and references appendices to be developed in the future. It was emphasized that item (22A-1.3) must be completed in 2024.

- Confirmed quarterly reporting on construction items no longer required as PMs now receive the safety reports and are involved in investigation and corrective action.

- Work on implementing the communication strategy is ongoing.

- Decision to cancel actions for pulse survey.

ACTION(S):
- Pass on the following requirements for the ground handling agreements:
  - Participation in the airport SMS and QA program
  - Compliance with regulations and airport policies
  - Auditable training records

Refer to list of Action Items attached.

23A-2 CHANGES THAT COULD AFFECT THE SMS

- Changes to the organization in 2024
  - Addition of Human Resources and Occupational Health Manager
  - Addition of Environment Manager
  - Addition of Senior Manager, Commercial and Business Development
  - Addition of Technology Manager
  - AFF Category change from 7 to 6

- Technology changes in 2024

  - Further improvements to the new YLW Reporting System
  - Potential changes at the direction of the Technology Manager

- Infrastructure changes in 2024

  - Airside
    - Combined operations building
    - New Airside equipment (2 snow mauler sweeper combos, Loader, 2 light electric vehicles, Wheel loader flail)
    - Airside pavement rehab
      - Apron 1 connection to Delta
      - Taxiway Delta rehab, Charlie to runway edge
    - NE corner (taxiway & utilities construction)

- Infrastructure changes in 2024 CONT.
  - Airside CONT.
    - Airfield lighting control system
    - Bridge PCL updates
  - Terminal
    - Terminal expansion
    - HID to LED conversion
    - ATB general minor improvements/lifecycle
    - Technology adoption
    - Security system upgrades
    - Air handling units
  - Groundside
    - Childcare facility expansion (subject to grant approval)
    - Hotel & parkade enabling & site servicing
    - Ready lot relocation (2025)
    - Interim employee parking (2025)

ACTION(S):
- Provide list of upcoming projects and organizational changes for inclusion in meeting minutes.

23A-3 SAFETY REGULATION REVIEW

- No relevant changes to the Regulations and Standards

- No Transport Canada audit results or corrective actions

- SeMS regulations coming

23A-4 SAFETY POLICY

- The current safety policy documented in [SMS Manual Revision 11 Section 1.1](#) was accepted with no changes.

23A-5 SMS ROLES, RESPONSIBILITIES AND EMPLOYEE INVOLVEMENT

- An increase in reporting was discussed. This shows a good safety culture.

- Sam brought up a question of how we get such good reporting while not having good adherence to policies and procedures. Is it a training issue?

- Decision to not continue with the "Pulse" survey discussed at the 2022 Annual Review to focus on training and adherence and completion of the ground handling agreement

23A-6 SMS COMMUNICATION

- Communication strategy still in progress. There was discussion of having contests every month with the material to test/gauge knowledge and provide incentive for engagement.
  - See Section [23A-10 Safety Planning and Performance Measurement](#)

- While the quarterly reports are useful; we still aren't seeing the engagement from tenants that we would like to. Hoping the communication strategy can help improve.

23A-7 HAZARD AND OCCURRENCE REPORT REVIEW

- It was noted that the new Service Request system no longer includes a map of the noise complaints
  - Investigate options to obtain map of noise complaint data

- Increased information sharing with tenant organizations has increased report closure time, but drastically improved communication and level of investigation completed.
  - This was not identified in the draft report and should be added to justify and explain the increased closure time.
  - Notification process was missed in the deployment of the initial reporting app and will be reinstated in 2024 to improve closure times.
  - Sam would like all reports closed within 90 days. DMs to be notified to work towards this target

- Discussed the option of using Corrective Action Plans in the QA system to close off findings with long term action dates. This also ensures that root cause is documented.
  - This will be added to the SMS process flow chart as an option

- There is no concern regarding the quality of work done on the reports. The investigations are being carried out, but sometimes the reports aren't being closed.

- There is some confusion around the Airfield Maintenance category as this currently used for reports where the readiness of the airfield is affected, but unrelated to any maintenance that is the responsibility of the airport.
  - Consider renaming the Airfield Maintenance category and/or no longer including items not related to maintenance by the Airport and its contractors.
  - Option to create a new category for Airfield or Airport Operational Readiness

ACTION(S):
- Investigate options to obtain map of noise complaint data
- Add asterisk and note regarding information sharing to the report times table in the SMS annual report
- Develop and reinstate outstanding SMS report notifications – this may be required for the SeMS as well
- Notify DMs that SMS reports should be closed within 90 days.
- Add option of using CAPs to close SMS report to the SMS process flow chart. Add flow chart into SMS Manual.
- Consider renaming the Airfield Maintenance category and/or no longer including items not related to maintenance by the Airport and its contractors.

23A-8 RISK MANAGEMENT

- No new hazards added in 2023.

- Discussed the high risk index on Disregard of policy
  - Sam would like to see a breakdown of the disregard of policy reports by agency and hazard/incident

- Discussed draft apron advisory agreement in the works with NAV CANADA for additional apron control

- Discussed potential new policies for better communication between pilot and ground handlers
  - Another airport has a process where the ramp lead and pilot have to have a face to face meeting. With limited apron space/segregation, this would be difficult at YLW

- It was asked if there was a TC reporting system for ground handling incidents. There is not.
  - The only National reporting is CADORs. It is mostly reports from NAV Canada and pilots for in- flight, takeoff, approach, runway and taxiway incidents. While valuable, it doesn't address anything that happens on aprons and/or in the airport buildings, etc.
  - Some of YLW's ground handling partners do collect incident (and some hazard reports) at the airports they service; however, that still only captures information for that one agency and the number and scope of their contracts at different airports varies greatly.
  - YLW has detailed analysis and great reporting culture, but that is not the same at all airports, so it would be hard to compare even if we were able to get this data.
  - Phillip to raise at OSTA to see if there is an appetite for sharing this information.

- Concern was expressed that runway and taxiway incursions are tracked in the same category and have different risk levels.
  - Track and show runway and taxiway incursions separately.

- It was noted that the map of runway and taxiway incursions has been lost because of a change to the data structure. Everything can be seen going forward, but historical mapping is lost.
  - Investigate if data can be restored so mapping can be done for historical incidents as well

- The hazard register and risk assessments were reviewed and accepted with no proposed changes. *Refer to Appendix B: 2024 Hazard Register and Risk Assessments.*

- From analysis and discussion, the safety risk profile for 2024 is as follows:

Rank	Hazard	2024 Action Plan
1	TRAINING AND ADHERENCE Disregard of policy	See Objective and SPI 1 and 2
2	TRAINING AND ADHERENCE Insufficient training	See Objective and SPI 1 and 2
3	AIRCRAFT OPERATION Ground Movement	See Objective and SPI 1 and 3
4	RUNWAY AND TAXIWAY INCURSION	Monitor (quarterly). Increase monitoring on key items.
5	EQUIPMENT Operator Error	Monitor (quarterly). Increase monitoring on key items.
6	AIRCRAFT OPERATION Aircrew Error	Monitor (quarterly). Increase monitoring on key items.
7	CONSTRUCTION	Monitor (annually)
8	WILDLIFE Sighting	Monitor ratio of WILDLIFE Hit versus WILDLIFE Sighting to ensure no significant increases occur.

9	WEATHER Snow/Ice	Monitor number of reports:snow days to ensure no significant increases occur.

ACTION(S):

- Provide breakdown of 2023 Disregard of policy related reports by tenant agency and hazard/incident to ACT.
- Track and show runway and taxiway incursions separately in the data going forward
- Investigate if runway/taxiway incursion data can be restored so mapping can be done to compare 2024 to previous years.
- Phillip to raise item at OSTA regarding the potential sharing of safety information for airfield / apron incidents to set industry standards.

23A-9 NON-PUNITIVE REPORTING POLICY

- The current non-punitive policy documented in SMS Manual Revision 11 Section 1.2. was accepted with no changes.

23A-10 SAFETY PLANNING AND PERFORMANCE MEASUREMENT

- Reviewed additional info on 2023 targets not met.

- Discussion around ensuring our objectives are achievable. We can't always assume significant improvement yr/yr in a changing environment.

- Discussion around how not focusing on factors that the airport cannot change (i.e. we cannot impact issues from the aircraft or aircrew in flight.) We don't want to set a metric that we cannot control

- Discussion around removing in flight data. Any reports that are included are CADORs that are copied from the Vortex CADORs module to the Vortex Incident module. This is done by the managers with judgement on factors that can affect YLW. All reports should be of relevance.

- After analysis and discussion, the safety objective and safety performance indicators (SPIs) for 2024 were set as:

#	OBJECTIVE	SPI(S)
1	**Increase compliance with regulations and airport policies through continued proactive reporting and increased training and awareness with airport staff, contractors, tenant staff, and pilots.**	**Overall airside incident % less than 20%** **Incident % in relation to overall training and adherence and disregard of policy (<30%) and insufficient training (<35%)** **Incident % with relation to Aircraft Operation Ground movement less than 50%**

- For reference, past values for the SPIs are provided below:

	2024 TARGET	AVG SINCE 2018 (2019)	2023	2023 TARGET	2022	2021
Overall Airside Incidents			186		135	73
Overall Airside TOTAL			986		995	724
Overall Airside Incident %	**<20%**	**19.5% (15.2%)**	**19%**	**<20%**	**14%**	**10%**
Overall Training and adherence incidents			98		64	28
Overall Training and Adherence TOTAL			344		192	131
Overall Training and adherence Incident %	**<30%**	**35.5% (30%)**	**28%**	**N/A**	**33%**	**21%**
Disregard of policy incidents			46		20	11
Disregard of policy TOTAL			152		81	62
Disregard of policy Incident %	**<30%**	**34.3% (27%)**	**30%**	**N/A**	**25%**	**18%**
Insufficient training incidents			50		41	19
Insufficient training TOTAL			135		99	53
Insufficient training incident %	**<35%**	**43.3% (38.2%)**	**37%**	**<36%**	**41%**	**36%**
Aircraft ground movement incidents			54		31	7
Aircraft ground movement TOTAL			98		59	15
Aircraft ground movement % Incidents	**<50%**	**49% (45.4%)**	**55%**	**<48%**	**53%**	**47%**

ACTION(S):
- Increase monitoring and reporting of related categories RUNWAY AND TAXIWAY INCURSION, EQUIPMENT Operator Error, AIRCRAFT OPERATION Aircrew Error to quarterly and set targets, if needed. Include these in the quarterly reviews.
- Add information to NAV CANADA publications to make pilots aware of hot spots for incursions.
- Discuss runway/taxiway incursions by aircraft at regular Flight Operations committee meetings.
- Continue information sharing of safety reports with tenant and partner organizations. Use corrective action plans to address any trending issues and/or issues with long timelines.
- Formalize improved document management/approval to expedite the document revision process and allow for timely updates.
- Consider the implementation of an equipment operator infraction program for AVOP.
- Implement the communications plan for getting important information to the front line workers.
- Implement the new LMS for SMS training
- Get email messaging set up for reminders on open SMS reports after 30 days.

- Continue development and improvement of SMS reporting software for improved usage and data tracking
- Develop strategy for feeding safety (SMS) information to communication strategy for front line workers

23A-11 SMS TRAINING

- Neil is working on a new LMS for the SMS and Security training. It may also be able to be used to transmit other training information to tenant employees.

23A-12 QUALITY ASSURANCE

- Discussion around audit completion timing
  - Need more reminders for audit timelines to be enforced.

ACTION(S):
- Improve outstanding audit notification system to ensure timely completion of audits.

23A-13 SMS DOCUMENTATION AND RECORDS

- The history of the Edition 8 Transport Canada approval process that is still ongoing was reviewed.
  - There is concern that we have been auditing to an unapproved manual for an entire audit cycle at this point and that the TC Inspector is expanding the scope of the review beyond the sections that have been changed when the other sections have been previously approved by Transport Canada.
  - This may have to be escalated if we cannot get the next revision approved.

23A-14 RECOMMENDATIONS FOR IMPROVEMENT

- All recommendations for improvement were discussed throughout the meeting and are addressed in action items as required.

23A -15 SHARING OF BEST PRACTICES

- No specific best practices shared. Some best practices are included in the objectives and throughout the meeting minutes.

ACTION ITEMS:

ITEM #	ACTION:	ASSIGNED TO:	DUE DATE:	STATUS:
21A-10.12	Assign a safety champion for each construction project to be responsible for the completion of inspections (Objective 2)	Geoff / Neil	30-Jun-23 ~~31 Dec 22~~	COMPLETE. PM is assigned as safety champion for each project.
22A-1.1	Provide any safety requirements for ground handling agreements to Toni (replaces action item 19A-10.2b)	Neil/Laura	31-May-23	REPLACED. Refer to Action Item 23A-1.
22A-1.2	Get examples of agreements from other airports to review, if possible	Neil/Toni	31-May-23	COMPLETE. Research is complete.
22A-1.3	Update ground handling agreements to make contractors accountable, including but not limited to: (replaces action item 18A-10.3C) Safety standards; Environmental standards; Performance standards; Auditable training records	Phillip/Shayne	31-Dec-24 ~~31 Dec 23~~	IN PROGRESS. Development in progress.
22A-2	Provide list of upcoming projects for inclusion in meeting minutes	Shayne/Sara	31-Mar-23	COMPLETE. List provided and included in minutes.
22A-5.1	Develop some possible questions for a "pulse" survey	Neil/Laura	30-Apr-23	CANCELLED. Other priorities in tenant SMS relations.
22A-5.2	Conduct "pulse survey"	Neil/Consultant	31-Dec-23	CANCELLED. Other priorities in tenant SMS relations.
22A-7	Investigate report follow-up process and who receives 30 day notifications	Laura	31-Mar-23	COMPLETE. 30 day notifications were not set up as part of the original app development due to time restrictions. Addition of this is an outstanding development item with CofK developers.
22A-10.1	Neil to compile list of SMS contacts at all airport partners/tenant organizations	Neil	30-Apr-23	COMPLETE. List of SMS contacts developed for all airside tenants and information is being shared.
22A-10.2	Provide airlines and ground handling organizations with this report and all quarterly updates within a month of quarter end and ask for feedback from the organizations	Neil/Laura	31-Dec-23	COMPLETE. Reports being shared with tenant organizations.
22A-10.3	Provide a hazard/incident report for all CONSTRUCTION related reports to development on a quarterly basis within a month of end of quarter	Laura	31-Dec-23	CANCELLED. Was sending to Lori. No longer required as PMs are more involved in SMS.

ITEM #	ACTION:	ASSIGNED TO:	DUE DATE:	STATUS:
22A-10.4	Develop and communicate strategy for accountability to SMS partners (information sharing, corrective action)	Neil/Laura	30-Jun-23	COMPLETE. DMs forward safety reports to tenant SMS contacts to request root cause and corrective action. Tenant responses are then added to the YLW SMS report.
22A-10.5	Use Corrective Action Plans to address trending issues (i.e. issue CAP to development and/or tenant organizations if trends are noted to request root cause and corrective action)	Neil/Laura	30-Jun-23	COMPLETE. CAP assigned to tenant organization for a trending issue. CAPs also used to address some major SMS report submissions that have a regulatory impact to ensure all root cause and corrective action is documented.
22A-10.6	Create improved process/standards for "orientation" for contractors including more PM involvement and briefings in the field, oversight of process and sharing results at construction meetings	Neil/Geoff/William	31-May-23	COMPLETE. PMs have been more involved in contractor orientation and project coordinators have also been involved.
22A-10.7	Improve signage (as possible) in construction areas, particularly around controlled surfaces (temporary or permanent) by developing signage templates, protocols for barriers to demark sensitive areas, and regular compliance monitoring	Neil/Geoff/William	31-May-23	COMPLETE. Signage has been drastically improved.
22A-10.8	Continue development and improvement of SMS reporting software for improved usage and data tracking	Laura	31-Dec-23	COMPLETE. An update to the app was completed in 2023 and planning has begun for further updates.
22A-10.9	Develop strategy for feeding safety (SMS) information to communication strategy for front line workers	Neil/Laura	30-Jun-23	COMPLETE. Meetings held and ideas, strategy and potential content provided.
22A-10.10	Develop and begin implementation of communication strategy to front line workers	Phillip/Cassie	31-Dec-24 ~~31-Dec-23~~	IN PROGRESS. A plan has been created for implementation in 2024.
22A-11	Set up risk assessment / root cause training workshop for DMs, any other new managers	Neil/Laura	31-Jul-23	COMPLETE. Root cause training completed at Quarterly DM meeting.
23A-1	Pass on the following requirements for the ground handling agreements: - Participation in the airport SMS and QA program - Compliance with regulations and airport policies - Auditable training records	Neil/Laura	30-Apr-24	NEW

ITEM #	ACTION:	ASSIGNED TO:	DUE DATE:	STATUS:
23A-2	Provide list of upcoming projects and organizational changes for inclusion in meeting minutes.	Shayne	15-Apr-24	COMPLETE. List included in the minutes.
23A-7.1	Investigate options to obtain map of noise complaint data	James/Laura	30-Jun-24	NEW
23A-7.2	Add asterisk and note regarding information sharing to the report times table in the SMS annual report	Laura	15-Apr-24	COMPLETE. Note added to SMS annual report.
23A-7.3	Develop and reinstate outstanding SMS report notifications – this may be required for the SeMS as well	Laura/Neil	30-Sep-24	NEW
23A-7.4	Notify DMs that SMS reports should be closed within 90 days.	Neil	30-Apr-24	NEW
23A-7.5	Add option of using CAPs to close SMS report to the SMS process flow chart. Add flow chart into SMS Manual.	Laura	30-Apr-24	NEW
23A-7.6	Consider renaming the Airfield Maintenance category and/or no longer including items not related to maintenance by the Airport and its contractors.	Laura	30-Apr-24	NEW
23A-8.1	Provide breakdown of 2023 Disregard of policy related reports by tenant agency and hazard/incident to ACT.	Laura	30-Apr-24	NEW
23A-8.2	Track and show runway and taxiway incursions separately in the data going forward	Laura	31-Dec-24	NEW
23A-8.3	Investigate if runway/taxiway incursion data can be restored so mapping can be done to compare 2024 to previous years.	Laura/James	30-Sep-24	NEW
23A-8.4	Phillip to raise item at OSTA regarding the potential sharing of safety information for airfield / apron incidents to set industry standards.	Phillip	30-Jun-24	NEW
23A-10.1	Increase monitoring and reporting of related categories RUNWAY AND TAXIWAY INCURSION, EQUIPMENT Operator Error, AIRCRAFT OPERATION Aircrew Error to quarterly and set targets, if needed. Include these in the quarterly reviews.	Laura	31-Dec-24	NEW

ITEM #	ACTION:	ASSIGNED TO:	DUE DATE:	STATUS:
23A-10.2	Add information to NAV CANADA publications to make pilots aware of hot spots for incursions.	James	30-Apr-24	NEW
23A-10.3	Discuss runway/taxiway incursions by aircraft at regular Flight Operations committee meetings.	James	31-Dec-24	NEW
23A-10.4	Continue information sharing of safety reports with tenant and partner organizations. Use corrective action plans to address any trending issues and/or issues with long timelines.	Neil/Laura	31-Dec-24	NEW
23A-10.5	Formalize improved document management/ approval to expedite the document revision process and allow for timely updates.	Laura	31-Dec-24	NEW
23A-10.6	Consider the implementation of an equipment operator infraction program for AVOP.	Neil/James	31-Dec-24	NEW
23A-10.7	Implement the communications plan for getting important information to the front line workers.	Cassie/Phillip	31-Dec-24	NEW
23A-10.8	Implement the new LMS for SMS training	Neil	31-Dec-24	NEW
23A-10.9	Get email messaging set up for reminders on open SMS reports after 30 days.	Laura	30-Sep-24	NEW
23A-10.10	Continue development and improvement of SMS reporting software for improved usage and data tracking	Laura	31-Dec-24	NEW
23A-10.11	Develop strategy for feeding safety (SMS) information to communication strategy for front line workers	Laura/Cassie	31-Dec-24	NEW

APPENDIX B: HAZARD REGISTER AND RISK ASSESSMENTS

The hazard register and risk assessments are available to YLW team members through the following links:

[HAZARD REGISTER](#)

[RISK ASSESSMENTS](#)