THE NORTH STAR PRACTICES

The North Star Practices

The North Star Practices (NSP) is a safety program created by the former Floatplane Operators Association (FOA), now the Northern Air Transport Association (NATA) Seaplane Working Group, with support from the British Columbia Forest Safety Council (BCFSC).

To facilitate this endeavor, the Air Carriers Safety Working Group (ACSWG) was established. Given some of the challenges associated with floatplane travel, it was felt that a set of defined operational practices were needed to achieve the greatest level of safety for crew and passengers. There is after all, no more important a goal, than getting all our people home safely.

In order to address this goal, the ACSWG in consultation with floatplane operators and forest industry members developed the North Star Practices. The NSP is a set of operating practices and procedures, along with an auditing system that provides an assurance to clients, and the public, that an operator has not only met the basic Transport Canada regulations, but strives to operate to a higher level. It also provides guidance to the clients, so that they may understand what their part is in creating a safe environment for floatplane operations.

For an operator, this program provides an opportunity to show their customers and potential customers that their operation has put safeguards in place that don't rely on the pilot as the only line of defense. For the pilots, the NSP provides guidance on safe practices and assists them in making decisions that support and maintain the highest level of safety performance. The NSP was created to address all safety expectations being put upon an operator providing a service to their clients/passengers. This program should therefore, help eliminate multiple audits requested by multiple clients on the operator.

By investing in safety, the operator can expect to not only improve business performance but garner favour from their clients, peers and the public. By fostering a culture of safety and increasing safety throughout the industry, operators can be at the forefront of creating the safest and most efficient air carrier services in Canada.

Safety is good for business!

North Star Practices Description

The NSP is comprised of a set of practices and an audit process. This manual describes these and outlines the structure of the program. For ease of reading, some of the practices are kept brief. At the end of this manual is an appendix that contains more detailed descriptions of some of the practices and the concepts behind them.

Auditing is done to ensure that the operator is compliant with the North Star Practices. By having an auditing element in this program, all participants are given the opportunity to prove that they are implementing these practices and are proving that they are being audited fairly amongst their peers. These audits also provide the operator the opportunity to identify gaps in their safety programs and address them accordingly.

The result of this endeavor will be the recognition by the ACSWG of operators that have met the designated level of compliance and have been awarded their ‘North Star’. This symbol can then be displayed by the operator for recognition by clients as an approved ‘North Star’ operator.

After the annual audit is submitted, either by the operator or by an independent auditor and is deemed compliant by the ACSWG, then a new North Star will be submitted to the NSP candidate for display. Display of the North Star by the participant, and the recognition provided on the ACSWG review board, will be proof of an NSP participant in good-standing.

Benefits of Being a NSP Participant

1. Improved health and safety for employees, clients and the public.
2. A more positive workplace culture and improved morale.
3. Improved business performance through increased safety performance.
4. Support and recognition of clients, industry members, industry stakeholders, regulators and the public.
5. The NSP is itself an audited program, and could therefore, replace many customer derived audits.

Air Carrier Safety Working Group

The ACSWG is not a regulatory body nor is it a group that has the legal authority to impose any imposition on any operator or pilot. The ACSWG is in the business of improving safety by promoting safe practices and supporting actions that forward that objective. The ACSWG will review audit performance when considering the initial and recurrent approval of an operator's North Star endorsement.

Vision Statement

The vision with which the NSP is based, is one where a culture of safety is fostered and supported within the floatplane industry that recognizes, practices and promotes safety at the highest level. Float plane operations are a key component of Canada's commercial transportation sector and continued confidence therefore, by clients, regulators and the public in the float plane industry's ability to provide safe and reliable services is critical.

Mission Statement

Participants in the North Star Practices intend to use predetermined practices to drive actions that will secure continuous improvements in safety.

Titles, Abbreviations and Definitions

ACSWG	Air Carrier Safety Working Group – a panel of industry members who meet regularly to oversee the North Star Practices.
Air Carrier	A term used to describe an air transportation company.
BCFSC	British Columbia Forest Safety Council
CARs	Canadian Aviation Regulations
CHAG	Coast Harvesting Advisory Group
Client	Anyone who has hired an aircraft from a respective operator for the purpose of being flown to and/or from any given destination.
ELT	Emergency Locator Transmitter
FOA	Floatplane Operators Association
Line-check	A line-check is a testing procedure. A pilot's proficiency must be observed in the appropriate duty position on the airplane for which he/she is currently qualified
NATA	Northern Air Transport Association
NS - North Star	A displayable decal or logo, and registration within the ACSWG, that shows to all that an operator has met the requirements of the NSP.
NSP	North Star Practices
OC	Operating Certificate (Issued by Transport Canada), the license to conduct business as an Operator; and contains a description of the business allowed to be conducted.
OH&S	Occupational Health and Safety
Operator	or ‘Air Operator’ is a company or individual that provides the aircraft transportation service and is licensed by Transport Canada to do so.
PIC	Pilot in Command
PFD	Personal Floatation Device

SMS	Safety Management System
SOPs	Standard Operating Procedures
Stakeholders	Any group or person that has an interest in the operation of floatplanes, such as the operator, client, regulator, insurer, media, public.
Subcontractor	An individual or company that is hired and/or used by a client to perform a specific task, e.g. falling, surveying or scaling.
TAG	Trucking and Harvesting Advisory Group
TC	Transport Canada
TDG	Transportation of Dangerous Goods

Components of the North Star Practices (NSP)

This section describes all the components that make up the NSP.

Operator Practices	Describes what the operator is required to do and broadly defines how they shall conduct their operations. The operator will strive to meet all of these practices in a manner that best suits their operation. There may be certain items that an operator may choose not to meet, or may meet, with an alternate means of compliance. For the most part, these operator practices are based on regulations, but often go beyond what the regulations require.
Operator Requirements	A list of requirements that all operators must meet to obtain and maintain their NSP designation.
Pilot Practices	Practices that provide direction and assist pilots striving to be as safe and professional as possible.
Client Practices	The safe conclusion of any flight relies on more than just the operator and the pilot. Due to the nature of the aviation industry, the client plays a part in the success or failure of the flight. These practices are meant to assist clients who charter the aircraft and (where relevant), their employees, with information on what can be done to ensure a successful outcome of all flights.
Audit Process – Static	This component of the audit process is conducted by a review of the operator's records and documentation of procedures. It may lead the auditor to areas where more attention will be needed in the Dynamic audit.
Audit Process – Dynamic	This portion of the audit determines whether the operator is performing in compliance with NSP requirements. It reviews the operations in action and may also review a sampling of past flight information to determine consistency in operational practices.
Operator Review	After the audits are complete, the ACSWG will review the results of each operator's audit. Feedback will be provided, and guidance suggested where needed. If the ACSWG is satisfied, the operator will be awarded the North Star.

Amendment Control Page

Amendment #	Amendment Date	Date Entered	Entered By:
ORIGINAL	OCT 01 2019	OCT 01 2019	AS ISSUED

Table of Contents

1.0 North Star Objectives

1.1 Focus

1. Recognize and promote actions that reduce injuries and fatalities within the BC float plane industry.

2. Establish safety practices that can be adopted by industry stakeholders.

3. Recognize the achievements and practices of operators that improve safety performance.

4. Reward those operators that have met the safety objectives of the NSP with an industry standard of recognition. i.e. the ‘North Star’

5. Involve industry stakeholders in developing, recognizing and implementing innovative ideas and concepts that will enhance safety.

2.0 Operator Practices

2.1 Safety Management

Safety Management, regardless of the size of the operation is critical in addressing NSP requirements. The selection and implementation of an appropriate Safety Management System (SMS) can significantly aid in this process. The complexity, size and scope of the SMS will be determined by many factors, but it must address the basic need for the operator to identify and address both safety risks and hazards and disseminate within the organization important information relevant to this process.

2.2 Reportable Incidents and Accidents

Any incidents or accidents (see Appendix A - Reportable Aviation Occurrence) must be documented, reported to the appropriate authorities, actioned and documented. This documentation must be available for review during the triannual audit.

2.3 Maintain Roster of North Star Pilots

The operator must maintain a list of qualified pilots who are operating under the NSP. This qualification must be valid for any flights where the client has requested or requires operations to a NS standard. A pilot may occasionally be removed from a qualified list for reasons such as expired training or having had an incident or accident that warrants removal from the NS qualified status. In these cases, once the training has been completed or the company has determined the pilot has regained qualification, the pilot's name will be added back to the qualified list.

Where a pilot is involved in a reportable accident, the pilot shall be removed from the operators' list of approved pilots until the exact cause of the accident is determined, and appropriate action is taken.

It will be up to the operator to address any deficiencies and document that the operator now has regained confidence in the pilot to reestablish them to operate under the NSP. The event, along with all remedial action is to be documented for audit purposes.

2.4 Flight Following

The operator will have a trained dispatcher or flight-follower in place whenever an aircraft is dispatched.

The flight-follower will be provided with annual training. Flight-follower training is to be documented.

2.5 Personal Floatation Devices

Each operator will establish and implement a policy on personal floatation devices that consider current regulatory requirements.

2.6 Daylight Operations Only

No planned water take-offs or water landings during official Civil Twilight, which is 30 minutes prior to sunrise and 30 minutes after sunset. All flights must be planned to depart after the morning twilight and/or land prior to evening twilight. The intent of this variation from the Canadian Aviation Regulations (CARs) is to ensure better lighting for water operations.

2.7 Ceiling Limits

Pursuant to paragraph 703.27 (B) of the CARs, no sustained flight below 300 ft.

NSP pilots are expected to not fly below 300' except for safety reasons, to exit an area of low cloud for the purposes of a diversion or course reversal.

2.8 Visibility Limits

Pursuant to paragraph 703.28 (1) and 723.28 of the CARs, no flight below 1000 ft in visibility less than two statute miles unless authorized to do so in the operator's Operating Certificate (OC).

If an operator is authorized to do so in their OC and they and the pilot have met all terms of the OP SPEC 004, then no flight below one statute mile visibility shall be conducted. The operator will be required to provide documentation that all the requirements of the training have been met for each pilot.

2.9 Wind Limits

In many cases wind limits are determined by several factors, such as the aircraft type, destination, enroute weather, pilot experience, cargo load and even the passengers themselves. An operator must be able to describe the decision-making process surrounding wind limits and give examples of the limits for the operator's aircraft and typical destinations. The operator will be expected to provide a decision-making process supported by documentation that shows there is an effective process in place to address wind limits and flight factors. An example of such a decision process can be found in the appendix. (See Appendix A - Wind Decision Tree/Flow Chart)

2.10 Passenger and Payload Weights

It is expected that where scales are available, all passengers, their baggage and all cargo shall be weighed. Where scales are not available, the operator must use a method of determining weights as prescribed in the operator's approved Weight and Balance procedures.

2.11 Pilot Experience

A pilot operating under the NSP shall have these minimum experience levels prior to conducting duties as the Pilot in Command (PIC) without another NS pilot acting as a co-pilot in a supervisory role.

Piston and Turbo-Prop Single-Engine Aircraft:

- 500 hours PIC on fixed wing aircraft
- 200 hours on floats if flying a float plane

Piston Multi-Engine Aircraft:

- 1,500 hours total time with 1000 hours PIC
- 500 hours multi-engine with valid pilot proficiency check (PPC) on type
- 50 hours as PIC in the previous 90 days

Turbo-Prop Multi-Engine Aircraft (Non-Pressurized):

- 2,500 hours total time with 1,000 hours PIC
- 500 hours multi-engine and valid PPC on type
- 50 hours PIC on aircraft make and type
- 50 hours as PIC in the previous 90 days

Note: **Operator to keep an up to date list of their North Star qualified pilots.**

2.12 Line-Checks

The operator will conduct line-checks of their pilots. The outcome of unsatisfactory line-checks must be a corrective action such as a briefing, further training and if needed, disciplinary action. If the nature of the issue is serious enough that it requires further training, a follow-up line-check is required before release to normal duties. Subsequent line-checks must not show repeats of the same deviations without corrective action being taken.

A line-check of each pilot must be conducted at the minimum; annually on each type of aircraft, to ensure that pilots are adhering to company procedures and regulations. Records of line-checks are to be kept in the pilot's files and made available for NSP audit purposes.

2.13 Pilot Duty Times and Fatigue Management

The operator shall have in place a system to monitor pilot duty times and a policy with respect to fatigue. If a pilot reports that he/she is fatigued, or management suspects they are fatigued, they must be released from duty.

2.14 Drug and Alcohol Policy

The operator must have in place a Drug and Alcohol policy. Included in the policy, there must be a process whereby the operator is able to do drug and alcohol tests if a pilot has been in an accident or a reportable incident, or if there is a reasonable suspicion of the pilot being under the influence, the operator will proceed with a drug and alcohol test. The operator will likely have a flowchart to follow that will describe when or when not to administer a screening test.

2.15 Satellite Tracking

A tracking system must be installed with Transport Canada’s approval that provides an updated telemetry on 2-minute cycles and maintain a record of flights for a minimum of 6 months. The operator must document the methods used to provide operational control and oversight of the tracking system while any aircraft are in flight (2.4 Flight Following).

A tracking system allows an operator to not only know the whereabouts of an aircraft but also provides a picture of the routing and altitudes at which the pilot is flying. This can provide the operator with oversight of the pilot's progress and decision-making processes. Tracking systems have also been proven to be very effective at locating aircraft if an emergency does occur.

The operator may also allow the client to live-track their own charter flights and that this practice is to be made available for sampling purposes once or twice a year upon request from the ACSWG. Historical records are provided and/or with real-time tracking, where upon request, the ACSWG representative is temporarily provided with the Operator’s tracking access codes.

Operators wishing to lengthen the interval time (telemetry) may request permission to do so from the client/customer.

The aircraft shall not be dispatched with an inoperative tracking system unless there is a functioning Emergency Locator Transmitter (ELT) on board.

The requirement to have a tracking system may be waived if the aircraft is equipped with an operating transponder and is operated exclusively within a radar environment.

2.16 Aircraft Communications

The operator must establish the means of contact between the aircraft and whoever is providing operational oversight. When operating within the normal operating area, the operator shall establish a method of communications where the pilot may be in contact with operations every 30 minutes. At times, pilots operate in areas that have limited or no radio contact with their company dispatch/flight-follower. An augmentation to limited radio contact, therefore, may be sat phones, cell phones, internet communications, or satellite tracking – any method that allows a pilot to communicate an emergency back to base is acceptable. The operator must provide details of what procedures are used when an aircraft will be operating out of direct communications range. These procedures must be acceptable to the client/customer.

2.17 DHC-2 Door Latches / Push-Out Windows

Aircraft must either have door latch/double handles or push-out windows.

2.18 Underwater Egress Training

All crew members must have egress training. If a crew member is new to an operation and has not had training within the last three years, then that crew member must be trained within the first six months of employment. Recurrent training should follow after three years from the initial training period and then every five years thereafter. The operator may consider adding pictorial diagrams installed on the seatbacks or accessible to passengers that are more informative than the conventional Passenger Briefing Cards.

2.19 Centre of Gravity Calculations

Determining an aircraft's Centre of Gravity with a Whiz-Wheel or electronic calculator is required for each flight.

2.20 Standard Operating Procedures (SOPs)

Provide a SOP for each aircraft type and train pilots to these procedures. Check periodically for consistency with line-checks.

2.21 406-Megahertz Emergency Locator Transmitter

This type of transmitter shall be utilized as per regulations.

2.22 Mountain Flying Training

It is expected that this be a part of the pilot's training program where operators provide flights in mountainous areas and therefore, be documented as such in the pilot's training records and the operator's/pilot's SOP (Standard Operating Procedures). (See APPENDIX A - Mountain Flying Proficiency)

2.23 Pre-Takeoff Briefings

A pre-takeoff briefing is required for each flight. The operator must ensure good briefings are being done and pilots must ensure that not only are they doing the briefing, but that the passengers comprehend the information. It is expected that all operators/pilots brief all passengers before every flight. The list of briefing topics is to be clearly listed in the operator's Operations Manual and shall contain the items listed in (4.5 Passenger Briefings)

2.24 Record of Passengers' Details

Prior to any flight, a record of the passenger's names and contact numbers are to be communicated to the operator's dispatcher, flight-follower or responsible person.

2.25 Emergency Response Manual

The operator must provide evidence that at a minimum, the operator conducts one emergency drill per year, using their Emergency Response Manual. The drill should include flight followers and other operational staff; besides just management.

2.26 Avoidance and Recovery Training

The operator is expected to have training that includes a component on the avoidance of, and recovery from sudden encounters with conditions that are below Visual Meteorological Conditions (VMC) minima. In particular, training on how to avoid or recover from the loss of visual reference encountered in low level flight over glassy water. The recovery from this hazardous situation will include executing a 180° turn using instruments in order to avoid loss of altitude, while recapturing a path back to better conditions.

2.27 Illumination Placards

Illumination placards identifying emergency exits are to be installed onboard all float planes used in this program. The ability to quickly identify points of emergency egress in an inverted

float plane is critical to improving the chances for survival. Installation of (glow in the dark) illumination placards/decals is an uncomplicated and relatively inexpensive solution that can add to the overall strategy of enhancing float plane safety.

3.0 Documentation and Insurance

Listed below, are some of the necessary document requirements required of an NSP operator.

1. The operator will provide a list of all aircraft in operation along with payloads and seating capacity.

2. The operator will provide a list of their pilots that currently meet the North Star minimum requirements and qualifications.

3. The operator will provide a description of the Safety Management System used by the operator. This system will contain at the minimum:
    a. Policies and Procedures
    b. Historical database of incidents and accidents (see Appendix A - Reportable Aviation Occurrence) and the related Corrective Action Plans.

4. The operator is expected to have a minimum of $2,000,000 per passenger seat in liability insurance.

5. The operator must provide the documentary evidence of insurance and a photocopy of the certificate of insurance coverage on the anniversary date of renewal.

6. The operator must hold a valid Canadian Transportation Agency issued license and a Transport Canada issued Air Carrier's Operating Certificate.

7. The operator is expected to perform their full range of actions and flights in accordance with the rules and regulations specified in the:

    a. Aeronautics Act – Canadian Aviation Regulations
    b. Air Carrier's Operating Certificate(s)
    c. Transportation of Dangerous Goods Regulations
    d. Canada Labour Code
    e. Company Operations Manual
    f. Maintenance Control Manual and Maintenance Policy Manual

4.0 Pilot Principles and Competency

A pilot (whether required by their employer or client) that is operating under the North Star Practices, is expected to adhere to the following:

4.1 Principles

An NSP pilot shall aspire to practice his or her duties with the utmost attention to their occupational responsibilities, focusing on practices that address all aspects of flying in a safe and professional manner.

Practice – By practicing safety aspects relevant to your occupation, you will be better prepared with performing your duties. Examples of this are; egress techniques and/or survival training/skills. By practicing/studying the most contemporary publications and learning about the latest safety techniques, you will enhance yours' and your client's margin of safety.

Attitude – By practicing techniques that enhance your attitude, as well as how an employer encourages morale at your place of work has a direct effect on your disposition and performance. A positive attitude has been proven to help reinforce safe practices in the workplace.

Conversant – By engaging in a dialogue with your peers, your clients and your employer, you are encouraging and creating a connection that allows for a better understanding of safety related ideas and practices. Meaningful dialogue provides understanding and trust. By establishing a dialogue between yourself and your clients, safety issues can be openly addressed.

Vigilant – Familiarity can breed complacency and with complacency comes a diminished level of safety. Being vigilant and self-aware of your actions and behaviours, ensures you are not falling into a complacent disposition that can lead to a diminished level of safety.

Health – By maintaining your health you improve mood, manage weight, combat diseases, boost energy and increase your longevity-all aspects that improve a pilot's experiences, good-reasoning (Decision-Making), disposition and job performance.

4.2 Fit for Duty

The pilot is expected to ensure they are always ‘Fit for Duty’.

It is not acceptable to have a pilot performing his/her duties when fatigued. If for whatever reason the pilot feels fatigued, he/she must report it to management and the pilot will then remove him/herself from duty. The pilot, along with the operator, is responsible for ensuring that he/she is following the duty and flight time, time free from duty and rest restrictions.

The NSP pilot shall be aware of the latest information on fatigue published by Transport Canada and understand their responsibilities and limitations.

4.3 Competency

It is the management’s responsibility to ensure that every pilot has been trained in accordance with the regulatory requirements, but it is also the pilot’s responsibility to demonstrate competency in all aspects of their job. As a further safeguard, the pilot must feel confident that he/she has adequate experience in all the following areas. If the pilot feels they do not have sufficient competency with any aspect of his/her duties, they must report to management and refuse the assigned duty until they have the experience or training required.

The pilot must feel confident that they can operate their aircraft in the following conditions and situations:

1. Extensive fog.
2. Strong or gusty wind and turbulence.
3. Glassy water.
4. Rough water.
5. Techniques to identify floating debris and/or submerged objects.
6. Flight in limited or reduced visibility.
7. The effects of mountains and terrain, with consideration given to high winds and downdrafts.
8. Be proficient in stall and spin recovery techniques for the aircraft flown.
9. Wake turbulence awareness and avoidance.
10. Water currents due to tidal or river flow.
11. Sailing techniques, with or without currents or tidal flows, with the aircraft's engine running or when not under power.
12. Handling an engine fire, both on the water or during flight.
13. Doors and/or windows opening during flight.
14. Actions to take with seized controls due to moisture and freezing conditions.
15. Total electrical failure during flight.
16. Recovering and controlling the aircraft during an engine failure.
17. Be well-versed with Winter flying for the operational area.
18. Actions to take when encountering inflight icing due to freezing fog, freezing rain and icing conditions.
19. Prevention and detection of moisture/contamination in their fuel system.

20. Understand the necessary procedures for avoiding conflict with aircraft in a restricted area. e.g. - firefighting operations.
21. Awareness of blasting or restricted areas and procedures to follow.
22. Alternate fueling procedures, e.g. from barrels/drums.
23. Understanding how best to deal with whiteout/loss of visual reference, in areas where operations regularly encounter such conditions.
24. Be well versed with altitude and hypoxia and the effects from a lack of oxygen, etc.
25. Understand the signs and effects of carbon monoxide poisoning.
26. Be well-versed with the maintenance of your aircraft, such as scheduling of Inspections, Elementary Work Authority and any action required by the pilots for Airworthiness Directives and Service Bulletins etc.
27. Understanding of boating rules and the actions expected of you when operating on the water and/or near other surface vessels. This includes the take-off and landing parameters when operating near other surface vessels.
28. Be proficient with safe docking procedures.
29. Be well-versed, trained and certified with the Transportation of Dangerous Goods and WHMIS protocols and procedures.
30. Be proficient in avoidance and recovery from potentially hazardous situations such as, executing a 180° turn using instruments in order to avoid entering a cloud, in case of low-level flight over glassy water, for example.
31. Understands what the decision-making process is regarding how weather, time restraints or logistics influence their decisions to safely perform their duties.

4.4 Pilot/Operator and Client Dialogue

Direct discussions with the client leads not only to a better-informed client and a safer operation, but also often prevents situations where a client becomes upset over the specifics of a flight. Whenever a pilot feels there may be problems with an upcoming flight, he/she will be best served by providing clear information to the customer of their concerns.

This provides the pilot and their clients a means by which to understand the importance of clear and safe decision-making. The discussion may include some or all of the following topics.

- **Load limitations** – the pilot and his/her client should discuss the payload limits and how the aircraft is to be loaded, and where people will be seated.

- **Weather** – The pilot should discuss any weather concerns along the route prior to departure. An informed passenger will generally be more comfortable.

Dialogue can go much further than these stated examples, as you or your client can suggest any topic or concern. Open discussion will allow trust and understanding to be developed that will go a long way in garnering support and a much-improved relationship that focuses on the safety aspects of a flight.

4.5 Passenger Briefing

A passenger briefing is mandatory for every flight as per TC regulations. The passenger briefing shall at the minimum, meet the expectations as described in the operator's Operations Manual that meets all Transport Canada (TC) requirements. The North Star pilot is expected to not only meet TC regulations, but where these items exceed the TC regulations brief his/her client(s) prior to every flight on the additional/following information.

- The importance of not inflating a PFD inside the aircraft.
- Further briefing may be required on specific occasions that go beyond the TC requirements, such as a client wishing to wear their own PFD. The pilot in this case must ensure that he/she is satisfied that the client is suitably informed of the ramifications of using a PFD not provided by the operator. If the pilot is not satisfied that the client will be able to safely egress using the client's PFD, then the PFD shall be removed.
- Not only the location of exits, but if the pilot suspects the client is unfamiliar, then the client should be shown and allowed to practice opening and closing the doors/exits.
- Reminder to passengers not to be carrying any dangerous or restricted goods on their person such as bear spray, bear bangers, or other hazardous materials.
- The means of communication between the passengers and the pilot while inflight.
- Passenger’s Right to Terminate the Flight. Let them know that if there is anything that concerns them with the flight, then they are to bring it to your attention. If necessary, you will make a SAFE alternate landing to further assess the situation.

4.6 Clothing, Equipment and Medication

The pilot should ensure that the passenger(s) are properly clothed for the climate or environment they are intending to fly to. Delaying or cancelling the flight and informing the passenger’s parent company of your concerns may be necessary to ensure the passenger’s safety. Most clients/corporations now expect that their employees be properly outfitted for the location that they are flying to.

4.7 Passenger’s Right to Terminate the Flight

There may be situations where the passenger(s) ask you to terminate the flight because they are concerned about safety. In this case, the pilot is to advise your dispatcher/flight-follower ASAP and divert to the nearest safe landing area. Be sure to advise the passenger(s) that you are complying as quickly and safely as you can. Upon diverting the flight to terminate and once you have safely landed you will need to contact your dispatch and advise of the situation. As this is considered uncommon, the operator will need to investigate as to the cause of the passenger’s unease and report it to the passenger’s company (if applicable) and make note of the action for future review.

4.8 Establishing an Alternate Plan of Action

Prior to flights into an area that is unfamiliar, consideration must be given to alternate landing areas if weather or other issues are encountered. Check with management, other company pilots, or even other operators for insights into the local situation or conditions, if the opportunity exists.

4.9 Experience & Qualifications

Experience provides a pilot with a bank of knowledge that can support safe behaviour. However, we also recognize that years of experience can also allow for bad habits to creep into a pilot's methodology. It is therefore, an expectation that a pilot operating under the NSP has a solid history of safe flights, as well as a minimum number of hours experience within the industry.

It should be noted that experience is gained from both successful operations and observations. A pilot must always be learning from their experiences and from the experiences of others. The important aspect of gaining experience is what is learned and whether the process is documented and available for review.

The NSP pilot’s minimum level of hours and experience will be based on the requirements set out in these Practices (2.11 Pilot Experience and 4.3 Competency).

5.0 Client Practices

The client whether an individual or a corporation has a responsibility to their employees and subcontractors to provide information and safety training specific to travelling by float plane.

For this purpose, the following practices outline the information and training that should be provided to the client's employees and subcontractors prior to embarking on a float plane.

It is expected that there will be participation from all signatories to this document.

A client's Occupational Health and Safety (OH&S) program can best be adapted to contain within it the following practices that will help a client prepare themselves, their employees and their subcontractors for traveling by float plane.

The practices you establish in your OH&S should be concurrent with all applicable laws and regulations.

We have divided these practices into two subgroups:

5.1 Client/Employer Practices
Practices specific to a corporation or parent company that can be initiated within their operations. The corporation or parent company will also want to review the practices in 5.2 for inclusion in employee training.

5.2 Passenger Practices
Practices that address (in particular) the employee, staff member, subcontractors or anyone who is required to travel by float plane.

5.1 Client / Employer Practices

5.1.1 Awareness

The company should ensure their employees and subcontractors are aware of all safe operating procedures and practices related to floatplane travel. This information may be in the form of written communications, web-based materials, formal in-classroom training or a combination of all the above. The more informed the clients/passengers are of safety practices, actions and potential hazards, the less likely they will contribute to any hazardous actions and the more likely they will be better prepared to safely travel by float plane.

5.1.2 Operator Selection

By informing your employees/colleagues who travel frequently, about the importance of hiring an operator that meets the safety aspects of the NSP, the client is helping to ensure the safest potential of any flight. It is up to the client to determine whether they want to do their own evaluation of an operator or rely on the ACSWG to provide them with a list of operators that meet the NSP rating.

5.1.3 Infrastructure

This practice is not meant to limit the operator from servicing locations that do not meet the infrastructure criteria; rather it is meant as a standard that once in place, will help ensure that aircraft can dock safely, and that passengers and cargo can be emplaned and deplaned in the safest manner. (See Appendix A – Infrastructure)

5.2 Passenger Practices

These following practices are recommended for anyone who travels by float plane.

5.2.1 Underwater Egress Training

Persons, who regularly travel by float plane, shall be tutored in aircraft under water egress training. Individual companies will need to establish their own level of competency and frequency with training, based on the amount of travel required by each individual. The training as common within the forest industry, may be completed every three or five years or be a single event. One approach to determining how frequently a client or individual takes an egress course would be for the client to consult with their float plane (service provider) operator.

Where an operator allows for the use of PFDs, documentation/proof of egress training shall be provided to the operator by the client if requested to do so.

For those individuals that have not had egress training and are required to travel, a preparatory briefing may be given that outlines the actions to take in the event of an upset flight. However, an operator/pilot may ask the client to not wear the PFD, if they feel the client/passenger may not be suitably trained in egress techniques.

Please review Operator Practices 2.5 (Personal Floatation Devices). Egress training courses are readily available and have proven to work well with preparing anyone who finds themselves in a compromised aircraft.

5.2.2 Situational Awareness

Review the available information on the area you are travelling to, the conditions to expect and how best to prepare yourself.

Be aware of the hazards around an aircraft such as the aircraft's propeller, whether it is spinning or stationary. Noise from a running aircraft engine/propeller and/or a passenger walking near an aircraft with a head down can place one in a dangerous situation. Always keep your head up, be aware of your surroundings and follow directions from your pilot when near an aircraft. Never touch or move a propeller. A piston powered engine can fire from even a small movement.

Stepping onto or disembarking a float plane can be difficult for some people and due to the narrow rungs used as steps on most float equipped aircraft, pose a potential problem with catching the heels of shoes and boots. We advise that you allow yourself a free hand for which to grip with, when either boarding or disembarking an aircraft. In most cases, when boarding a float plane, you are advised to look as to where you are going to place your feet. The first step from the dock to the aircraft is to the aircraft's float (pontoon)-watch for loose ropes and slippery surfaces while grasping onto the aircraft's door or frame or if provided, a handle to get a purchase (a hold) to allow yourself a means of stability. A three-point method of contact is best advised or using both hands and feet to be in contact with the aircraft when at all possible.

Once you are on the aircraft's float, place your foot on the rungs positioned in front of you and lift yourself up and into the aircraft, ensuring that you have a firm grip with your free hand while ensuring your head is low enough to avoid striking the aircraft's fuselage.

5.2.3 Right to Terminate Flight

If at any time during a flight you feel safety is being compromised by the pilot or the condition of the aircraft, you may request termination of the flight. In this case, the pilot shall divert to the nearest safe landing location and evaluate your concerns. It may be necessary to terminate the flight and contact base for further instruction.

It is expected that in such a case where a passenger requests termination of a flight, that a justification for termination be reviewed and discussed at some time shortly after to discover:

- Why the request for termination was made?
- What was learned from the event that caused the client to request the termination. This review allows the operator an opportunity to understand how to prevent such a situation from happening in the future.

5.2.4 Survival Gear

All passengers should wear, or carry on board, appropriate clothing for the conditions which may reasonably be anticipated. If you show up for your flight not wearing the appropriate clothing, the pilot may deny you boarding, even if you have the clothing with you.

5.2.5 Prescriptions and Medications

If you require daily medication, or you may need it in an emergency, you should never board an aircraft unless you have the medication available i.e. on your person or in a handbag. Never assume your baggage (with your medical needs) will get to the same location as you. If for any reason you can't physically carry the baggage with your medication, ask the pilot to verify that it is loaded on the same aircraft as you.

5.2.6 Remote Locations

During severe or winter conditions, passengers will not be left at remote locations unless suitable shelter and/or transportation is available. Do not allow the aircraft to leave you in a compromising location/situation unless you have an alternate plan to gain shelter.

5.2.7 Stowage of Freight

All freight, baggage and equipment shall be secured prior to flight in a manner that does not block any passenger exits, as directed by the pilot. If you move anything during the flight be sure to put it back in its storage location prior to landing.

5.2.8 Hazardous Materials

Dangerous Goods including explosives, corrosives, aerosols, flammable liquids and hazardous materials will be declared to the operator and/or the pilot before departure. Given the nature of hazardous goods, they will need to be properly shipped and stored as per the Transportation of Dangerous Goods Regulations. Ignorance of these regulations does not excuse the person shipping them and infractions are not only dangerous but can result in Federal charges for even the first infraction.

Many substances and articles can be shipped if properly packaged and handled. The following items can pose a danger if not correctly stored and/or handled and therefore, should be addressed in a client's/employer's OH&S.

Reference to the Transportation of Dangerous Goods Regulations Part 12, on the Transport Canada website can help provide some valuable information when addressing the following items.

Chainsaws and Gas-Powered Equipment – Chainsaws can best be secured and transported by floatplanes when the client ensures that the chain, bar and dogs are removed prior to being transported. To comply with the Transportation of Dangerous Goods regulations, all fuel contained within the saw shall be removed from the saw's fuel tank as well as any residual fuel within the carburetor and combustion chamber, prior to being brought aboard an aircraft.

Explosives – fall within the published criteria listed in Transport Canada's Dangerous Goods regulations.

Bear Spray – is permitted aboard an aircraft if held and secured in a manner that ensures isolation from the aircraft's occupants. To ensure bear spray is kept away from the aircraft's occupants, most operators place all bear spray inside the float (Pontoon) compartments during transportation or in an approved containment device.

Firearms and Ammunition – are allowed aboard an aircraft if the guns' chambers, breaches and barrels are void of any ammunition and all clips, magazines and ammunition are kept segregated from the firearm being transported. There are limits to the amount of ammunition that can be carried.

Dive Tanks – when filled, are not allowed on aircraft following the TDG Limited Access regulations.

6.0 NSP Participants and Recognition

This is a living document that will see additions and modifications as time and circumstances call for any improvements to safety practices.

The ACSWG's goal is to support the floatplane industry in achieving the highest level of safety. The following signatories to this program intend to participate fully with the practices listed in this document.

We, the undersigned, recognize and fully support the practices listed in this document for improving upon safety in the floatplane industry.

Name	Signature	Date
_____	_____	_____

North Star Logo: Used for recognition purposes on letterheads, decals, badges and any documentation pertaining to the North Star program.

7.0 APPENDIX A – Detailed Descriptions

Underwater Egress Training – Egress training for operators and clients/passengers of floatplanes provides information on many aspects of survival after an upset event in the water. It teaches the theory of how best to survive and it teaches the practical side by having the students become familiar with the techniques in a controlled environment-in the water. At a minimum, they need to follow a routine of undoing the seatbelt, finding the exit, getting it open, retrieving the PFD (if not worn) and exiting the aircraft. It will also demonstrate the importance of proper use of PFDs and survival techniques in the water.

Personal Flotation Devices – There is legislation coming soon regarding the use of PFDs in floatplanes. As such, this is subject to change in the near future.
Each operator must have a written PFD Policy that will include considerations for:

1. Ensuring that the user of a PFD is confident of the condition of their own PFD
2. Providing PFDs to customers for use during the flight
3. Describing the benefits of taking an approved and current egress training course
4. Whether documented proof of egress training is required
5. Fitting and use of PFDs for children

Flight in Reduced Visibility – This is an Operations Specification (OP SPEC) to the Air Operators Certificate (AOC) that allows the operator to fly in 1-mile visibility. There is specific training required and each pilot needs to be individually approved by the operator to conduct the privileges of the Op Spec.

Safety Management Systems –Adoption and implementation of a Safety Management System (SMS) is a proven method of improving safety in an operation.

Transportation of Dangerous Goods – Transport Canada has developed for aircraft a set of rules (TDG Part 12) that operators are to follow when carrying DG. These will allow an operator to carry certain items to destinations that are considered to have ‘Limited Access’. This is a ‘limited’ list of items and there are specific instructions for each item. These regulations can be found in the TC TDG website.

Proposed Safety Ideas and Tools–The following is a list of proposed safety ideas brought forward by interested stakeholders and operators.

- Suggest an initiative for a weather reporting system provided by clients in remote locations to assist operators flying in areas that don’t have accurate weather reports. Weather cameras for example, are now cost effective and can be installed at camp locations providing the operator a real-time picture of weather and help with ensuring a safer flight.

-Compile a safety document derived from the local population, clients and local operators containing wind, visibility and water characteristics unique to specific areas that could be disseminated among the industry.

-Using light weight hand-held scales, that can be carried on board any aircraft for weighing passengers and freight in isolated locations.

-Having a dedicated phone or even a phone with an expired account that is fully charged can still be used to call 911; allowing an operator to call out for help when other phones on the premises are blocked from incoming calls-allows for access to emergency responders if needed.

-Ensure that **Wi-Fi** in remote locations is kept '**OPEN**' and not '**LOCKED**' to ensure aircrews have a reliable means of communication, and for accessing weather conditions.

Infrastructure −Transport Canada will soon be increasing regulatory requirements regarding aerodromes and docking infrastructure. These are some guidelines to help the client and operator prepare for pending regulations by implementing safe infrastructure.

1. Docks should be aircraft friendly. They should be sound, fully surfaced and constructed of solid material that does not have any hidden protrusions above or below the waterline that could puncture or damage any part of a float-equipped aircraft.

2. Cushioning such as recycled tires should be placed around the perimeter of any dock ensuring that an aircraft can safely approach and moor to the dock/structure without any consequent damage.

3. Objects and obstructions should be cleared back to about 22ft for wing clearance with no obstacles higher than 4 ft above the water level.

4. The dock should be built as close to the water level as is practical. An ideal height is about 12 to 18 inches. This prevents the aircraft's floats from sliding under the dock and makes it easier for people stepping to and from the aircraft's floats.

5. There should be no projections above the height of the tie-down rail to a distance of 6 feet from the edge of the dock to allow the tail of the aircraft to pass over the dock.

6. To prevent any tripping hazards, there should be no loose and/or potentially injurious objects left on the surface of any dock an operator or client is expected to use.

7. Access to a camp or site at destination should be provided to ensure that the safe movement of the pilot and passengers is practicable.

8. Orientation of the docks should be considered regarding the prevailing winds and possible water currents to help alleviate the possibility of an aircraft impacting the surrounding structures/docks.

9. Landing and departure areas around and/or near a campsite should be clear of obstacles and or/debris where practical.

10. The client/company is encouraged to participate in the weather camera initiative created by the FOA membership. This initiative is now being applied by numerous client/companies-by installing webcams at their camp locations. This cost-effective initiative allows for the operator/pilots and clients a real-time method by which to determine current weather conditions. Installs of these cameras provides a beneficial

means for determining a wide array of weather conditions (in real-time) that will improve the level of safety during the decision-making process.

11. It is recommended that there be a boat accessible for an emergency situation. Having a boat that can be used to assist an aircraft and passengers during an emergency will greatly help with expediting people to safety.

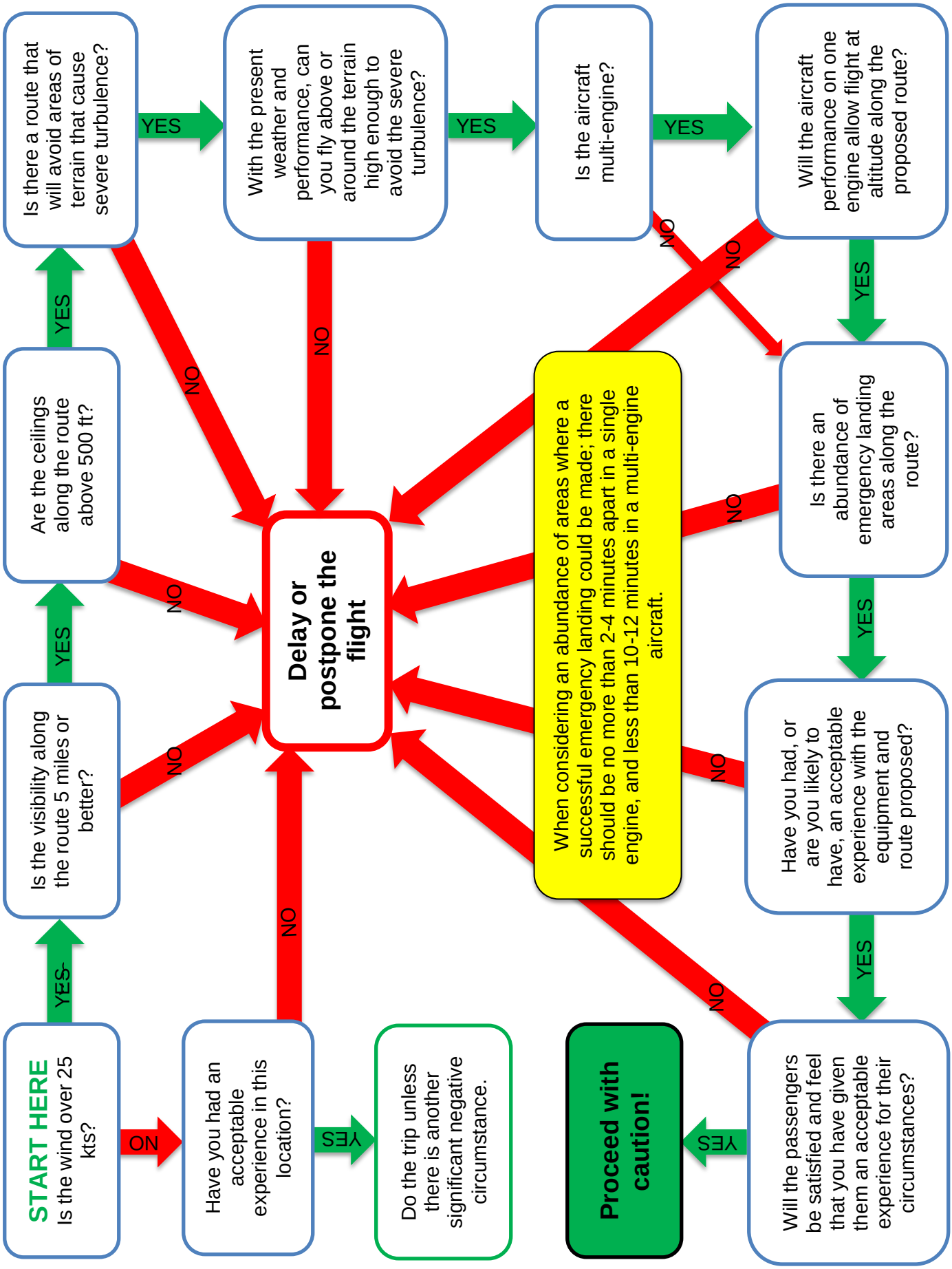
Reportable Aviation Occurrence – Further defined as either an accident or an incident as described below.

1. **Reportable Aviation Accident** – means an accident resulting directly from the operation of an aircraft where a person sustains a serious injury or is killed as a result of:
   - being on board the aircraft
   - coming into contact with any part of the aircraft or its contents
   - being directly exposed to the jet blast or rotor downwash of the aircraft
   - the aircraft sustains damage or failure that adversely affects the structural strength, performance or flight characteristics of the aircraft and that requires major repair or replacement of any affected component part
   - the aircraft is missing or inaccessible

2. **Reportable Aviation Incident** – means an incident resulting directly from the operation of an airplane or rotorcraft regardless of weight where:
   - an engine fails or is shut down as a precautionary measure
   - a transmission gearbox malfunction occurs
   - smoke or fire occurs
   - difficulties in controlling the aircraft are encountered owing to any aircraft system malfunction, weather phenomena, wake turbulence, uncontrolled vibrations or operations outside the flight envelope
   - the aircraft fails to remain within the intended landing or takeoff area, lands with all or part of the landing gear retracted or drags a wing tip, an engine pod or any other part of the aircraft
   - any crew member whose duties are directly related to the safe operation of the aircraft is unable to perform the crew member's duties as a result of a physical incapacitation that poses a threat to the safety of any person, property or the environment
   - depressurization occurs that necessitates an emergency descent
   - a fuel shortage occurs that necessitates a diversion or requires approach and landing priority at the destination of the aircraft
   - the aircraft is refueled with the incorrect type of fuel or contaminated fuel
   - a collision, a risk of collision or a loss of separation occurs
   - a crew member declares an emergency or indicates any degree of emergency that requires priority handling by an air traffic control unit or the standing by of emergency response services
   - a sling load is released unintentionally or as a precautionary or emergency measure from the aircraft
   - any dangerous goods are released in or from the aircraft

Mountain Flying Proficiency – To fly safely on the coast and in mountainous areas such as in B.C., a pilot must be proficient with mountain flying. This experience may have been gained through a course provided by a flight training facility, or by practical experience. The operator is required to provide documentation that describes how the pilot has met proficiency requirements in the following areas.

1. Updrafts and downdrafts
2. Flight over mountain ridges
3. Emergency scenarios/situations
4. Slow flight attitudes
5. Dead-end valleys
6. Low radius turns
7. Outflowing air and lee-side down drafts
8. Cold subsiding air
9. High density altitudes
10. Performance limitations in high terrain scenarios
11. Turning stalls
12. Mountain waves
13. Attitude recovery
14. Meteorology
15. Aircraft performance limitations
16. Navigation and correct flight planning
17. Use of survival gear



Wind Decision Tree

8.0 North Star Auditing

8.1 General

The participants to this program are expected to allow themselves a six-month grace-period in which to align their operation with those of the North Star Practices (prior to an audit).

The NS Audit is divided into two categories

Static format – Ensures the operator is in accordance with the rules and regulations specified in the Aeronautics Act, Canadian Aviation Regulations, Air Carrier's Operating Certificate(s), Transportation of Dangerous Goods Regulations, Company Operations Manual, Maintenance Control Manual and Maintenance Policy Manual.

Dynamic format – Addresses the activities, flights and procedures conducted by an operator while performing a service to the client.

By ensuring compliance, the operator can better understand and recognize any safety items that need to be addressed.

8.2 Process

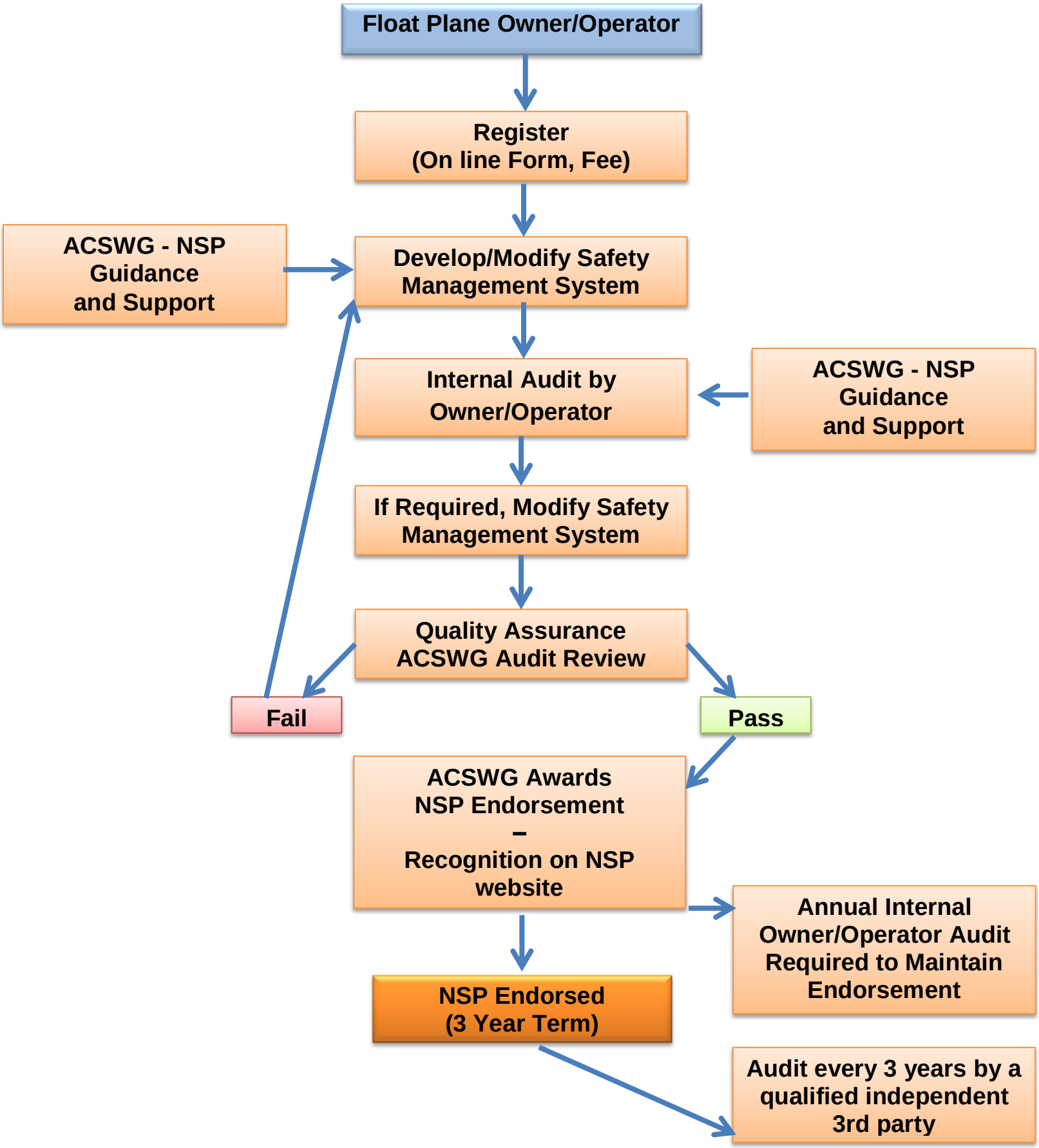
The participants to this program are expected to allow themselves a six-month grace-period in which to align their operation with those of the North Star Practices (prior to an audit). The initial audit process is expected to be conducted internally by the operator to identify any gaps in their current safety management system. If required (based on the gap analysis), the operator is expected to address any areas requiring further attention regarding alignment with the NSP. It should be noted that the ACSWG is available to aid the operator in this process where appropriate. Once the operator is satisfied their current SMS addresses NSP requirements, a quality assurance audit review is conducted by the ACSWG. Once the operator is successful in addressing quality assurance audit requirements they are recognized as an NSP participant and endorsed.

Following the issuance of the NSP endorsement an annual audit is required. This is an internal audit conducted, compiled and submitted by the operator to the ACSWG. The intent of this audit is to identify any further fine-tuning of the current operators SMS and to ensure any incidents or safety issues captured during the previous annual operating period were documented and addressed via appropriate corrective action.

Once every three years an independent audit is required, to be carried out by a qualified independent third party. The results of the audit are submitted to the ACSWG for review and to confirm the operator qualifies for reissuance of the NSP endorsement.

Costs for the independent audits are to be decided upon by the Operator and the Auditor.

(NSP) Endorsement Process Flow Chart



9.0 Supplementary Documents

The attached Documents contain the necessary tools needed for the Client and Auditor to ensure compliance with the NSP program. Below, you will find a Quality Assurance format; the complete Audit checklists for both the Static and Dynamic Audits; a (Non-Disclosure) Contract format for Auditor and Client use; an insert form for the Client's Safety Management System and a Memorandum that can be used by the Client/Customer to encourage Operators use of The NSP.

If you have difficulty opening or downloading the documents below; contact us through our **Contact** page and we will send you the entire NSP program.

Quality Assurance Program FINAL

NSP Audit Package FINAL

NSP Audit Contract Supplement FINAL

Client Air Carrier Safety-SMS FINAL

We the undersigned FINAL

NOTES: