

The NStar Chronicle

North Star – Hangar Queen Again

Bruce Gemmill

Nr 2 Engine

Work has progressed quickly on Number 2 engine. Many major components such as the engine block, crankshaft and pistons have been refurbished and re-assembled. Already, the engine is beginning to look new again. Work is underway on the upper engine – cylinder heads and valve train – which will soon be mated to the block. Many components remain to be restored, but the experience gained from Number 1 engine has already paid off, and it should be possible to have this engine back on the engine frame by spring.

Engine Frame

The engine frame is also beginning to take shape. The basic frame has been cleaned and repainted, and some clamps and other hardware attached. The wiring harness has also been refurbished, but will not be installed until after the engine is in place. This was a key lesson learned from engine 1. Some assemblies were installed too early, and had to be removed

again so the engine was accessible. This time, we will assemble the Quick Engine Change (QEC) module from the inside out. Pipes and hoses will only go on after major parts are in place.



Figure 1: Frame

Cockpit

The North Star is back inside the storage hangar for the winter. The radio rack was finally painted in September, and some panels and wiring installed. We have erected scaffolding around the nose so the

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windows can be removed. Leaks were detected during the summer, and these need to be fixed before other cockpit work can be done. We have numerous pieces of equipment to re-install, such as the control column, centre control pedestal and floor sections. We are also looking for material to repair or replace the headliner blankets that cover the interior of the cockpit. This has taken a lot of searching and has delayed some work. Remaking the headliners will be a major undertaking, but will be an important part of the finished cockpit.



Figure 2: Cockpit

Fuselage

Some repairs have been made to the main body of the aircraft. Emergency exit windows were removed so that the latch mechanisms could be repaired. The windows are back in place until we start work on the main cabin when they will be removed for complete restoration. Inspections are now finding damaged or

missing rivets on the exterior skin. These will be replaced as time permits. Some of the control cables also need to be replaced. The scaffolding around the nose also provides an opportunity for some volunteers to begin the laborious but rewarding task of polishing the exterior aluminum. Years of grime and corrosion need to be removed, and the aluminum polished to its original high shine.



Figure 3: Airbox

Volunteers

Speaking of volunteers, we have a number of new volunteers on the crew, and more are joining us in the near future. We have 20 volunteers who come in regularly, and several other specialists who are available when needed. This is a big increase from the number of regular volunteers working on the North Star last year. The enthusiasm for the project is evident, with many volunteers putting in more than forty hours a month. Keep up the good work.

PNSAC

Northward Ho

Tim Timmins

In November 1949 I arrived at 426 Squadron, based at Dorval Airport. Over the past year the Squadron had completed its conversion from C47 Dakota aircraft to the new Canadair North Star. Training for the newly minted aircrew was entrusted to the old hands on the Squadron, and, other than some formal conversion training for pilots and flight engineers, everything else was on an ad hoc, on-the-job ba-

sis. In preparation for global tasking, crews were sent on training flights to Europe, Africa and South America. The first flights to the Arctic were being introduced in preparation for a prominent role in the logistic support of the Joint Arctic Weather Stations (JAWS) located across the high Arctic.

In the immediate post WWII period, both Canada and the United States turned their attention to the vast uninhabited regions of the Canadian Arctic. Air navigation, navigation aids and Arctic weather information were shared concerns, while Canada needed to establish its presence in support of its sovereignty

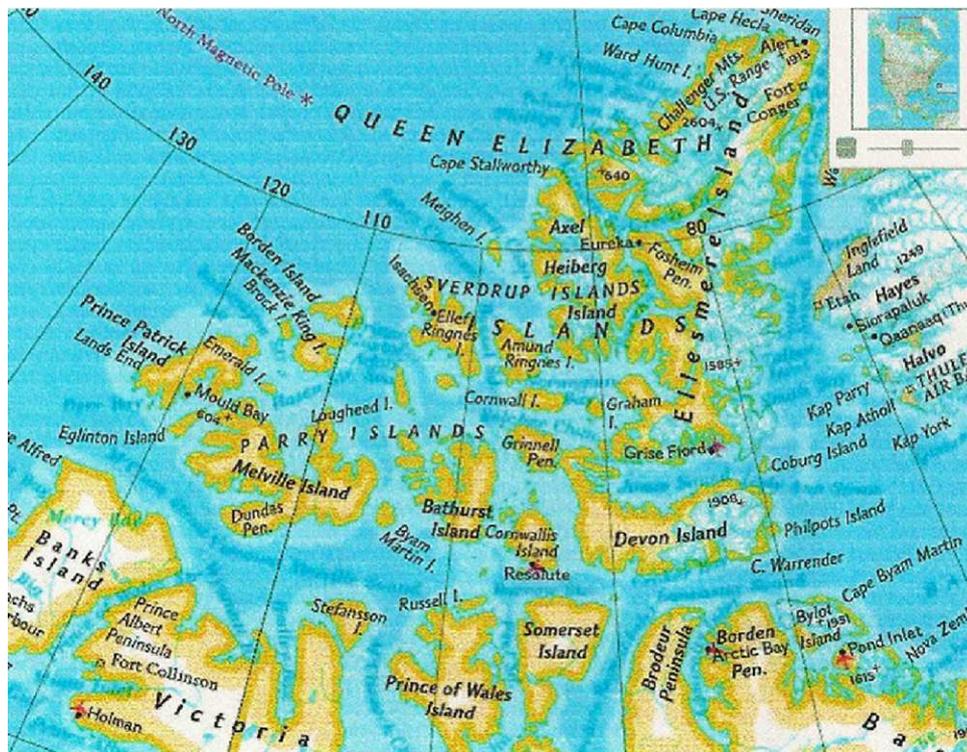


Figure 1: Map showing the Arctic Archipelago. Jaws site at Isachsen (78.14N, 103.32W not shown)

claims. The two governments reached an agreement during 1946/47 to establish five weather reporting stations in the Canadian Arctic. They would be manned by Americans and Canadians. The Commanding Officers would be Canadians, who also would serve as customs and immigration officers.

The agreement called for the United States to establish JAWS sites at Resolute Bay on Cornwallis Island, Eureka and Alert on Ellesmere Island, Isachsen on Ellef Ringnes Island and Mould Bay on Prince Patrick Island. This was accomplished over three years, 1947 to 1950. The JAWS sites would be re-supplied by air from supplies shipped to Resolute Bay and Thule, Greenland, by ship during the navigation season. The USAF would carry out the first re-supply operation, the second would be a joint USAF and RCAF operation and, henceforth, all re-supply operations would be a Canadian responsibility.

426 Squadron dispatched its North Stars in support of the joint Operation Re-Supply in February 1950. The USAF assigned C54s and C82s to the operation. These aircraft, and all aircraft powered by radial engines, are notoriously difficult to start in extreme cold conditions. Each engine has to be heated for several hours before it can be started. The North Star inline Rolls Royce engines had an oil dilution

feature; raw fuel was added to the engine oil, which allowed them to be started easily even in extreme cold conditions. Gerry Reed, Flight Engineer, recalls one day of operations at Resolute Bay. "They (USAF) had seven C-54s and one C-82 at Resolute on the ice, the temperature was -45F. I got up at 4:00 a.m. and started the APU running, then started the North Star engines and boiled off the oil dilution; this took about one and a half hours... We took off right on time to Isachsen, landed on the ice strip, unloaded and were back in the air in twenty five minutes and returned to Resolute. We refuelled the aircraft and departed with our second load to Isachsen; again we unloaded and returned to Resolute, where there were still no USAF aircraft running. We refuelled the aircraft, fixed a few snags and completed a DI (Daily Inspection) in one and a half hours and were able to depart on my third trip...to Isachsen. Again we unloaded and returned to Resolute and noted the first C-54 was just airborne. We refuelled and left with the fourth load to Isachsen..."¹ The North Star proved to be well suited for Arctic operations.

By the conclusion of Operation Re-Supply, "The satellite weather stations received a grand total of 715 tons, of which 426 Squadron (North Stars) delivered 171 tons."² While I did not participate directly

¹NStar Chronicle, June 2007, page 5

²Thunderbirds for Peace, Diary of a Transport Squadron, Larry Motiuk, page 173

in Operation Re-Supply, I flew on several support flights to Resolute and Thule during March, April and May 1950. Routine support flights destined for Resolute were routed through Churchill. After an overnight stop there, the flight proceeded to Resolute, offloaded cargo and passengers and then continued on to an ice strip at Cambridge Bay for refuelling and return through Churchill to Dorval. The refuelling operation at Cambridge Bay was a hand-powered pump operation from 45 gallon drums. Fortunately for the crew the Inuit were very willing to help man the pumps. The agreement called for the United States to establish JAWS sites at Resolute Bay on Cornwallis Island, Eureka and Alert on Ellesmere Island, Isachsen on Ellef Ringnes Island and Mould Bay on Prince Patrick Island. This was accomplished over three years, 1947 to 1950. The JAWS sites would be re-supplied by air from supplies shipped to Resolute Bay and Thule, Greenland, by ship during the navigation season. The USAF would carry out the first re-supply operation, the second would be a joint USAF and RCAF operation and, henceforth, all re-supply operations would be a Canadian responsibility.



Figure 2: Refuelling

During one of our stops in Thule, Greenland, the Danish Airport Manager arranged for some of our crew to visit an Inuit family. They were most welcoming as we gathered inside their tent-like home of skins and furs. During the visit, we were offered mercifully small pieces of raw seal meat. Everyone managed to consume one piece; there was no call for seconds.

I did not return to the Arctic again until May 1953, after a tour of duty on the Korean Airlift. One of my flights was routed through Fort Chimo (Kuujuaq) on Ungava Bay to pick up an Inuit child with tuberculosis and bring him to Montreal for treatment. We waited at the airport while a Medical Orderly went in to the village to get the child. He had the foresight to bring small gifts for the parents and child. The whole village escorted the orderly and child to the airport, all seemingly pleased and no doubt confident he would be cured and returned to them. The sad reality of course was that many did not return. In between re-supply operations, North Stars would be dispatched to JAWS sites to deliver mail and supplies. In July 1953, I flew on a mission out of Resolute Bay to drop supplies at Isachsen and Mould Bay. The passenger door was removed so the packages could be ejected for a free fall to a drop site outlined by 45 gallon drums. I recall that a small evergreen tree was dropped at each site, too late for Christmas but no doubt a welcome diversion for the JAWS crew.

426 Squadron adapted very quickly to the demands of flight operations throughout the high reaches of the Canadian Arctic. The North Star aircraft proved to be a stellar performer, playing a leading role in the logistics support of the JAWS sites for several years. Flight crews mastered gyro steering procedures necessary for safe flight in areas of compass unreliably. Navigators became proficient in grid navigation techniques needed for operations in the high latitudes. Flying in the Arctic was both challenging and exciting. My experience there is a fond memory of my early years in the RCAF.

PNSAC

Amy in the Sky with (Rough) Diamonds

Amy Deeb

When I first heard about Project North Star, excited didn't come close to describing how I felt. I was jumping off the walls, thought it was the greatest thing since sliced bread, ecstatic. When I got that first call from Tim, I don't think he could understand a word I said because I was talking so fast. He must have thought that that call would be the last he would hear from me... boy, was he wrong!

Then I got to come down and check out the shop. I don't think I stopped smiling all day (and as an Engineering student, that isn't something that can be said most school days). I could tell by walking around the shop that they had no idea what they were in for.



Figure 1: Amy

My first morning at the shop, I admit, I was bored silly. I didn't know what I was doing, the guys didn't know what they could use me for and I ended up sorting screws and nuts. Helpful, but not exactly what I signed up for. That afternoon, however, well, things got shaken up.

On my first day at Project North Star there was an earthquake in Ottawa. And no, we weren't in the restoration hangar or even on the ground. Nope, we were in the cockpit of the 50 year- old plane, and boy, did it ever swing. It almost felt normal being in a plane and experiencing turbulence. Honestly, I didn't know it was an earthquake, but Bruce's train-

ing kicked in and made sure we were okay. I could not believe how long it lasted.

Day 2 was calmer and I discovered my calling: tiny fingers. In an attempt to detach the control rods from their connectors under the Central Control Pedestal, what seemed like a thousand tiny bolts in tiny, hard to reach places had to be removed, and having tiny fingers like mine to get into the little spaces to catch falling nuts or position a wrench was great. Once I had found my odd little niche, everything fell into place – even the makeshift floor let me drop in.

Over the next two months, I got a chance to try anything I had an interest in. I learned many lessons about design, assembly, maintenance and aircraft standards. I learned that when disassembling something, don't hit the thing itself, hit the wrench (or other tool) holding the object. This applies to piston/cylinders as well as door handles and locks. I discovered that it is necessary to always label everything you take apart, with words, a sketch and a photograph. Yes, all three are needed because, trust me;; there will always be one too many washers when you put it back together. I also learned pilots are given lots of helpful suggestions in the form of signs around the cockpit. But the most important:: Do Not Release Flares When Dumping Fuel, ! (Which I imagine is a helpful reminder when trying to avoid giant fireballs of death).

When I think back on the time I spent working on the Project, it surprises me that although I had a great time learning about the cockpit and working on the pieces, getting to know the other volunteers is the first thing I think of. I can't imagine a weirder, more random set of people, all working on a single project and getting along so well. I don't know where I will end up working in the future, but wherever it is, whoever it is with, they have big shoes to fill.

Sitting back in a classroom, I miss this summer, when there were no math equations, just logic and figuring things out – learning from the experience of men who know what they are talking about and trying it out for myself to see how it works. Experience really is the most valuable form of education.

If you get the chance to meet or work with the volunteers of Project North Star, TAKE IT, because if there is one thing I can promise you, it is that you will come away having learned something new while having lots of laughs.

PNSAC

The Last Flight: A Reflection

Bill Tate

Six months ago, on May 21st, I happily concluded almost thirty-three years of flying with Air Canada, having finished that month of flying to and from Paris, France. I always wondered how I would feel knowing that someday I would end my professional career with one final take-off and landing. The only differences that day were the great number of "Thank You" chats that I had with people that made my career so great. These include Customer Sales and Service Agents, Flight Planning Coordinators, fellow pilots, Flight Dispatchers and Flight Attendants.



Figure 1: In the Office

Although not widely known, a Captain can choose the First Officer that he or she would like for his last pairing. My three choices were not available due to a simulator schedule that would have required double displacements and other regulatory issues. Although not being fair to name them, they should be able to figure it out with these clues: The YYT diversion, your first trip to FCO and the owner of a very highly modified Corvette. A most sincere "Thank You" to these fine gentlemen as it was my privilege to share the flight deck with you. However, that being said, I had a real surprise for my last flight as I had a reserve F/O Duncan Flint who made the last pairing a truly memorable one. The trip to CDG and back was like doing a Rapid Air to YUL and back as it was so pleasant.

An N.A.S.A. sanctioned "power nap" is most welcome, normally, on trans-Atlantic flights. However on the eastward flight, I spent the time watching the sunrise which is always a spectacular thing. On the way over Stumble (Wales) to Seaford (south of London) there was a sight I have not seen before. There

was so much air traffic that morning with a solid undercast sky underneath us, there were large x's where aircraft con trails had crossed and the shadows had formed underneath.

On the crew bus, I was presented with "Happy Retirement" and "Happy Birthday" cards. I received yet another surprise, upon arrival at the hotel, when I was presented with a bottle of fine Bordeaux wine and best wishes from the Service Director from a prior trip.

After my mid-morning nap, I got up and met friends and crew at the entrance of the Louvre Museum, our starting point for a walk to the Notre Dame Cathedral in the old part of Paris. We really lucked out as a choral service had just commenced in this acoustically perfect building.

After our tour of Notre Dame Cathedral, we walked to "Le Café," a favourite restaurant of mine that is situated just behind the Louvre, in a building that is over 450 years old, where we enjoyed a fine meal and more Bordeaux wine.

Three of us enjoyed the animated and lively street life on our walk back to the hotel on a beautiful, clear spring night – definitely a good way to work off the surprise birthday cake that I was presented with at the end of our meal at the restaurant.

The following morning I was up bright and early in order to get fresh croissants for my crew and to enjoy a typical bistro breakfast prior to the crew bus ride to CDG. Upon our arrival at the airport, I was met by the Station Manager who wished me a Happy Retirement over a café au lait.

The flight back to YYZ was normal in the conventional sense, with the exception of the tower operators at CDG taking pictures of my last take-off, asking for my email address and the good-byes and best wishes from the French Air Traffic Control System. On crossing the Channel Islands, our data link printer started printing the first of many congratulatory messages from the various departments in the company. Over the Atlantic there were messages from the controllers of Shanwick and Gander wishing me a happy retirement, and I in turn thanked them for the excellent service that I enjoyed over the years.

Over the St. Lawrence the Service Director came up with three menus that were autographed by all the passengers wishing me well, which humbled me to no end. I departed from the normal script for my last P.A. in that I told the passengers how a six year old boy started his dream on the flight deck of a Super Constellation so many years ago and was now concluding his dream of so long ago.

On arrival into the Toronto airspace I was wel-

came by the controller along with best wishes for my retirement. And, the best surprise of all, it was my favourite controller known as "Rog" or Michelle, to me the most talented controller I have known. When I was doing the infamous "redeye" back from San Francisco, we had to contend with a 06:00 curfew for Toronto. The thing you would always try for is to be number one for the hold which meant you were number one for arrival. "Rog" would have you lined up so well, I have seen the clock change over to 06:00 at 400 feet above the runway.

It was funny that when we requested the south runway to expedite our arrival, it was denied as that is "how they wanted us to land". So it was a no aids visual on runway 05. On touchdown I could not believe how I managed to grease that landing without floating or landing long which is a real no-no. I did not want to repeat my worst landing which was in a B-727-200 going into St. Johns Newfoundland on a very dirty night. I seemed to have run out of altitude, airspeed and ideas at the same time which resulted in sixteen rows of oxygen masks being deployed. Thank God for the people of Newfoundland as they had a real sense of humour that night.

Just prior to the terminal ramp, I saw why they had us use Runway 05 as there were two fire trucks giving me the firefighters salute for retirement which is a water arch that you taxi through. At the gate as were concluding our checks, the intercom buzzer came on and, on answering, I was told to come out to the galley as people were there to meet me. I was stunned to find Captain Rick Allen, Senior Director of Flying Operations, there to present me with my retirement picture which is a framed picture of my last airplane, the Airbus A-330-300 aircraft.



Figure 2: The arrival in YYZ

Once we arrived back home in Ottawa I could not believe the wide array of emotions I felt. All the good wishes from friends and colleagues were very touching for me only to be exceeded by a surprise retirement party which I did not have a clue was going to happen.

To Luc, "Fitz", Andy and John, it was a very emotional moment for me and "Thank you" just does not say it enough.

I was very lucky to keep my health and competency to the end and leave under my own volition. To those who are still in the airline, it was fun, thank you and enjoy your career as it will go by very quickly.

Now I'm on a very different flight deck, and I'm looking forward to helping the North Star get to its final destination.

PNSAC

Naming the Supermarine Spitfire

Ted Devey

In response to Specification F.730 issued by the British Air Ministry in 1930 for a new fighter plane, R. J. Mitchell, who was Supermarine's chief designer at that time, proceeded with a design that resulted in a prototype fighter aircraft designated Type 224. A refined version, Type 300, was fitted with a Rolls-Royce Merlin Engine.

When it was time to name this aircraft, the Air Ministry submitted a number of names to Vickers, Supermarine's parent company, for the new aircraft. Early in 1936, the prototype aircraft, serial # K5054, was ready for its first flight. Sir Robert McLean, Chairman of Vickers, convened a meeting at his

home with his Vickers colleagues as well as R. J. Mitchell, the designer, and Mutt Summers and Jeffrey Quill, the test pilots. Early in the morning, the group was dealing with the agenda item about naming the aircraft when Annie, Sir Robert's effervescent daughter, returned from an all-night party. When she observed them struggling with finding a name for the aircraft, she began to laugh at them. Her father told her to b—r off to bed, but as she went up the stairs she called back, "You men are hopeless. Why don't you call it after me?" Everyone, except Sir Robert looked puzzled, then he said "Yes, perfect". Someone queried, "Perfect, how come?" And Sir Robert replied, "We call her Spitfire."

The word is said to date from Elizabethan times and refers to a particularly fiery and ferocious type of person, usually a woman!

PNSAC

Notes from the President

Richard Lodge

This is the first of what I hope will become a regular quarterly communication from me. I have been Treasurer since the formation of PNSAC. I relinquished the post in June of this year and was elected President to follow on from Austin (Tim) Timmins and before him our founding president, Robert Holmgren.

Our association has been gradually evolving since its foundation in 2003. All the original directors and officers were feeling their way on a totally new venture with the Canadian Aviation Museum, as was the Museum.

Initially the Museum was very unsure how this new team of volunteers would work and whether they could be relied on to follow the Museum's restoration procedures. This was also true of the volunteers working with the Museum staff instructions. After some years the relationship has now become very satisfactory with mutual respect and understanding on both sides.

The Association has greatly benefited from the pi-

oneering work of Robert Holmgren, who sadly died before he could see the fruits of much of his work. Following him, Tim Timmins made a major contribution in moving the Association forward into an efficient volunteer organization.

The Museum's new Chief Executive Officer, Stephen Quick, is an enthusiastic supporter of the Association and is anxious to see us develop and complete the restoration of the North Star together with assisting in the future on the restoration of other aircraft. Our Vice President, Bill Tate, and I now have a regular monthly meeting with Stephen to discuss areas of mutual interest and cooperation.

The Association's Directors have recently taken steps to put in place a structure which will enable the Association to grow and to have a higher visibility both with the Museum and the general public. All the main functions of the Association's activities have now been assigned to an individual director or volunteer. This will ensure that no one person ends up with too much work to do and will avoid taking away from our main focus which is providing volunteers to actively put in hours of work restoring the North Star.

PNSAC

Volunteers' Corner

Stan Rideout

I enlisted in the RCAF in 1949 and after basic training at Aylmer Ontario I did my aero engine course at Camp Borden and in 1950 I was transferred to my first active base at Rockcliffe, where I was attached to practice flight.



Figure 1: Stan Rideout

That summer a call went out from HQ to supply more men for the 426 squadron which was already operating, flying the Pacific, on the Korean airlift. All the technicians from practice flight were readied and sent to McChord AFB at Tacoma Washington to supplement the crews there. It was there that I came face to face with the famous Rolls Royce Merlin engines, and they certainly lived up to their reputation as being the world's best aircraft power plant.

When the Korean War came to a close we were sent back to Montreal as part of the squadron and I spent, in total, four years repairing the Merlins.

On Canada day, a year ago, I visited the museum display and the Northstar once again loomed over me and after much thought I decided to volunteer my time and experience, working on these aircraft, to help see it back in the condition that befits its place in RCAF history.

It is very satisfying to be working on the same air-

plane that I had worked on some fifty years ago.

John Tasseron

I was born in the Netherlands and came to Canada in 1951. After graduating from high school in BC, I joined the RCAF and served in Namao, Trenton, Baden-Soellingen (Germany), El Arish (Egypt) and here in Ottawa.



Figure 2: John Tasseron

I spent 30 years as an Airframe and Aviation Technician, twelve as a specialist in Non-destructive testing, working on transport, fighter and anti-submarine aircraft.

In 1990, I joined Transport Canada as an Airworthiness/Civil Aviation Safety Inspector. I conducted reviews of aircraft and engine maintenance instructions as well as maintenance schedules.

I signed up with Project North Star because of my life-long interest in aircraft and aircraft technology and for the opportunity to learn more about the Merlin engine and the technology of that time period. I also believe the North Star is an important part of RCAF history and worthy of preservation."

Milestones

Ted Devey – 3000 Volunteer Hours

PNSAC

PNSAC Quarterly Meeting, December 4

Jim Riddoch

Richard Lodge, President of the Association, welcomed members and presented them with a Christmas cracker with a paper hat and other goodies. Some actually wore the hats! He was pleased to see a good turnout and welcomed representatives from the Ottawa Airport Watch.

Paul Labranche, our Treasurer, presented a brief update on the Association's financial status and pointed out that we have a small surplus due mainly to a contribution from 426 Squadron.

Bruce Gemmill gave an update on progress on the North Star Project. The No. 2 Engine rebuild is being completed faster than on the first, and we now have at least twenty active volunteers reporting for duty more than once a week. More on this elsewhere in

the newsletter.

Bill Tate, Vice-President of the Association, reported that regular meetings with Stephen Quick, Director General at the Aviation Museum, have been very positive and that the corporation is very interested in enhancing the partnership with PNSAC. Bill also gave an update on a Memorandum of Understanding being drafted between the museum and Air Canada/Aveos on cooperation for the restoration of the North Star.

Nelson Plamondon of the Ottawa International Airport Watch gave a brief presentation on the organization and its function at airport. Of primary interest to many of our members was the relationship between Airport Watch and security authorities. Richard Lodge then brought the meeting to close and invited members stay for coffee and snacks. (Thanks to members for their contributions.)

Oh yeah. Drew Hodge won the 50/50 draw.

PNSAC

Calendar of Events

24.March.2011 Board of Directors' Meeting

2.April.2011 Quarterly Members' Meeting

2.June.2011 Board of Directors' Meeting

11.June.2011 Annual General Meeting
Board of Directors' Meeting

15.September.2011 Board of Directors' Meeting

24.September.2011 Quarterly Members' Meeting

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