

The Institution of Engineers, Australia; Sydney Division
Engineering Heritage Committee

ORAL HISTORY PROGRAM

INTERVIEWEE: **Dr K.N.E. (Bill) Bradfield**

NUMBER OF TAPES: **8 ****

INTERVIEWS TOOK PLACE AT : **Dr K.N.E. (Bill) Bradfield's home at :-
Apartment 13
Fairlight Tower
4 Hilltop Crescent
FAIRLIGHT NSW 2094.**

RESTRICTION ON USE: **None**

**** 8 tapes completed as at Nov 1999**

NOTE:- In April 2002, Bill and Jeanette Bradfield moved to their new address,
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INTERVIEWS TAPE LOG

Tape Number	Interview		Interview Tape Log prepared by :-
	Date	Interviewer	
IEA SYD : JB1 JB2 JB3	14 - July - 1996	Jon Breen	David W. Butcher (October, 1999)
IEA SYD : DWB 9 DWB 10 DWB 11 - Side A	22 - Sept - 1999	David W. Butcher	David W. Butcher (Oct / Nov, 1999)
IEA SYD : DWB 11 - Side B DWB 12 DWB 13	24 - Sept - 1999	David W. Butcher	David W. Butcher (Oct / Nov, 1999)
IEA SYD : DWB DWB DWB	8 - Dec - 1999 <i>Postponed</i>	<i>David W. Butcher</i>	<i>See comments at Items 16 and 17 of "Contents".</i>

NOTE : This Tape Log includes a Table of Contents (at front of Tape Log) for ease of location of the subjects within the body of the Tape Log.

The Tape Log body comprises summary (in a few early parts indicated) & edited transcript of the above interviews/conversations with Dr K.N.E. (Bill) Bradfield.

This interview is part of the Oral History Project of the Engineering Heritage Committee of the Sydney Division of the Institution of Engineers, Australia.

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16	<u>Period 1953 to 1968 – in Australia with Dept of Civil Aviation.</u> Period after returning to Australia from ICAO in Montreal. Took up previous position of Chief Airport Engineer in Department of Civil Aviation. Wing Commander Alan Hepburn was Director of Airports.		<i>Interview has not been done – refer to NOTE on page 65 of Tape Log.</i>
17	<u>Period 1973 to 1976 – in Papua New Guinea.</u> 3½ years spent in Papua New Guinea as Civil Aviation Adviser and Controller of civil Aviation. Refer to Interview Tape Log, Section 11.17, Page 56.		<i>Interview has not been done – refer to NOTE on page 65 of Tape Log.</i>

Tape Log

Tape: IEA SYD: JB 1, Side A		
COUNT	SUBJECT	NAMES & KEYWORDS
000-008	Tape Identification	
008-075	<p><u>1). Early interest for career in civil aviation.</u></p> <p><u>1.1). Bill's first flight on 4 December 1921 (age 10 almost 11).</u> 15 minutes joy ride over Sydney with Captain Follet in open cockpit Avro 504. Described how won flight from a puzzle competition in Weekly magazine "School Sportsman"- shared with next 2 brothers - cost 3 pence. Pocket money did not extend to 1 penny needed - so had job to run down to shop to buy magazine which always had some puzzle - sketches from which derive well known saying - particular week sister Mary helped complete - 'All that glisters is not gold' - and was Bill's turn to put signature on entry - so by luck was puzzle winner that week.</p>	<p>Captain Follet Avro 504 Magazine "School Sportsman".</p>
075-118	<p><u>1.2). Gliding club at Sydney University</u> - Tommy Leech (lecturer in Civil Engineering 1926 to approx 1935 - started gliding club) - gave voluntary extra curriculum instruction in aeronautical engineering. Under his guidance built glider - not too successful - got off ground once for short distance. Later learnt - Adelaide University also doing & were successful - John Watkins (later Chief Engineer TAA) one of front runners.</p>	<p>Sydney University Gliding Club. T.(Tommy) D.J. Leech, Civil Engineering. Adelaide University. John Watkins, later Chief Engineer TAA.</p>
118-271	<p><u>2). Early childhood-born Gordon (Sydney) 25 Dec 1910.</u> Talked about early childhood - youngest by 4 years of 6 children - had 4 brothers (2 doctors and 2 lawyers) & 1 sister, Mary - the eldest. Very happy home environment, disciplined but plenty of freedom. Quite strict religious upbringing - St. John's Gordon Church choir - relieved when voice broke as had so many other things to do. Lived in relatively small house on 1 acre which father bought in 1890's. Third was bushland & two thirds house / tennis court / garden filled with fruit & other trees (incl. great bunya pine) which father (a Queenslander) had brought from Queensland. Talked about memories of father - eg. carrying him into bush riding high on shoulders (about 5 years old) - teaching about trees, rocks, birds & animals - not only father & son - became very close friends. Father (J.C.C.Bradfield) born 1865 & received Engineering Degree Sydney University 1889 - went back to Queensland & worked for Queensland railways - in Depression - 'last on first off' - was retrenched - joined NSW Public Works Department early 1890's. Father was in London at outbreak World War I - had got out of Germany one week before war broke out - was in Europe on mission for NSW Government looking at underground railways. In London, tried to enlist at street recruitment booth but told was too old. Father was staunch monarchist & environmentalist - passionately fond of the Australian bush. Mother also from Queensland where she was a teacher .</p>	<p>Gordon, Sydney.</p> <p>St. John's Church, Gordon.</p> <p>Bunya Pine. Queensland.</p> <p>J.C.C. Bradfield Engineering Degree, Sydney University. Queensland railways. Depression. NSW Public Works Dept World War I. Germany, Europe. Underground railways. Monarchist. Environmentalist. Teacher.</p>
271-366	<p><u>3). Primary School-Gordon Public School-1916 to 1921.</u> Good basic education - talked about this & subjects. Friendly & neighbourly atmosphere. Children from all backgrounds. Weekly nature study walks in bush. Mr Cox (Headmaster) strict disciplinarian but very fair. Spent lot of time in bush with friend Bert Wood (went to NSBHS - Bill to 'Shore' - & graduated Sydney Univ - Science & Engineering - thinks 1932). Bert still alive - talked other day. After students got qualifying certificate to go to secondary</p>	<p>Primary School, Gordon Public School.</p> <p>Mr Cox, Headmaster. Bert Wood. NSBH - North Sydney Boys High School. Sydney University,</p>

	<p>school, Mrs Cox - brilliant teacher - ran course in geometry (about 6 did this over 2 weeks) - taught enough to cover first year at 'Shore'.</p> <p>Another happy experience - used to sit on floor in Mrs Amy Mack's house & eat Arnott's biscuits while she told stories about bush & animals. She used to write children's stories about bush & animals - published these later in book "Bushland Stories".</p>	<p>Science & Engineering. Mrs Cox. Mrs Amy Mack Arnott's biscuits.</p> <p>"Bushland Stories".</p>
366-456	<p>4). Secondary School - 'Shore' - 1922 to 1928.</p> <p>There one year more than normal because father felt no boy or girl should go to university till 18 years of age.</p> <p>Glad did Leaving Certificate twice as enabled do English Honours. In 2nd Leaving Certificate year was Dux of School - said was 'by default' because felt close friend Dennis Carson should have been but had mumps at time of exam.</p> <p>Carson did Mining Engineering at Sydney University - shared study at St Paul's College & spent life in South Africa - now dead.</p> <p>Excellent teaching (Humanities/Latin/French), sport every afternoon & compulsory join Army Cadets - learnt toughness / discipline - at Sydney University joined University Regiment. In final year wanted take English & Maths honours & decided give up Latin in order do honours English - Headmaster L.C. Robson said keep Latin as would be help in Maths & help an engineer - said lot of logic in Latin & so too in Maths. Needed letter from father to drop Latin.</p> <p>Only in final year (1928) decided do Engineering - had been considering literary career or engineering - torn between the two. Father never pressured - but obviously pleased as was only one of 5 sons who did engineering.</p>	<p>'Shore' - Sydney Church of England Grammar School (SCEGS). Leaving Certificate. Dux of School. Dennis Carson. Mining Engineering, St Paul's College, Sydney University.</p> <p>Army Cadets. Sydney University Regiment. Shore Headmaster, L.C. Robson.</p>
456-480	<p>5). Sydney University - 1929 to 1933.</p> <p>Did Civil Engineering - did Science on way - after first 2 years of Engineering, could do 3rd Year Science & get Science Degree - graduated BSc in 1932. Was in period of Depression but had 'Exhibition' to University & Scholarship at St Paul's so not great cost to family.</p> <p>Graduated BE with First Class Honours in 1934.</p> <p>In 1st Year - involved about 3 hours travelling time each day from Gordon to University & back again.</p> <p><i>Continued on Tape IEA SYD : JB2, Side B.....</i></p>	<p>Sydney University Civil Engineering, BE. Science, BSc. Exhibition to University. Scholarship to St. Paul's St Paul's College. Travelling time. Gordon.</p>
480	End of Tape IEA SYD : JB 1, Side A	

Tape Log

Tape: IEA SYD: JB 1, Side B		
COUNT	SUBJECT	NAMES & KEYWORDS
000-008	Tape Identification.	
008-199	<p>5). Sydney University (1929-33) - Contin from Tape IEA SYD : JB 1, Side A</p> <p>In 1st Year - involved about 3 hours travelling time each day from Gordon to University & back again :</p> <ul style="list-style-type: none"> • Train from Gordon to Milson's Point. • Ferry to Circular Quay. • Tram to Sydney University. <p>therefore great assistance when going to St Paul's (gain of 3 hours) as able to take part in more sport.</p> <p>Spent 5 very happy years (4 at St Paul's) at University - had very good teachers :</p> <ul style="list-style-type: none"> • Sir Henry Barraclough - Head of Civil Engineering Dept.- did not take part in teaching, very good administrator - later Dean of Engineering. • Willie Miller - extremely good teacher, influence throughout whole of life -taught particularly stress analysis (structures). <i>*On staff 1914 to 1951 - Professor of Civil Engineering from 1926.</i> • Tommy Leech - aviation interest, started University Gliding Club, later senior member of S.M.H.E.A. <i>* T.D.J. Leech - lecturer & demonstrator in Civil Engineering from 1926 to around 1935.</i> • Georgie Sutherland - Head of Drawing Office. <i>* G.F. Sutherland appointed in 1912 as assistant lecturer & demonstrator, engineering & design. Appointed Assistant Professor 1923 & retired around 1941.</i> • Mr Vogan - very good lecturer / teacher. • Mr Aston - very good lecturer / teacher. <i>* R.L. 'Doc' Aston - lecturer in Civil Engineering & Surveying from 1929 to approx. 1963.</i> • Professor Eastauagh - Professor of Materials. <i>* F.A. Eastauagh commenced 1907 as a demonstrator in assaying & chemistry, became assistant professor in 1921 & Professor, Engineering Technology in 1938 - retired in 1947.</i> • Professor Carslaw - in 3rd Year Science - known as "coffee Carslaw" - taught mathematics - very happy recollections - everyone had great respect for him. Was trying to do honours maths - Carslaw taught how to prove if draw two circles anywhere would intersect one another in infinity - went to Professor one day & said worried because can prove it but don't believe it, talked about & Professor said should give up honours maths. Talked about Carslaw who could draw perfect circles on board & recollected classes overlooking hockey field - would watch women playing, get engrossed, remember where he was & jump straight back to teaching. <i>* Horatio Scott Carslaw, Professor of Mathematics, 1903-35.</i> <p>NOTE : - Information marked * refer to publication 'Bill Bradfield at Oxford, 1935-1938' - edited transcript of conversation with Jeremy Steel, Sydney University in January 1996, Pages 7,8,33.</p> <p>Talked about time at University, incl. St Paul's College & involvement in sport. Remembers only once having nerve to do what people say you must do before your final examinations - have 'relaxation break' - went with Ray Priddle (another engineer - later President of Institution of Engineers, Australia) - week before finals to small camping spot at Stanwell Park camping / fishing / surfing / etc. - did good because Ray Priddle got University Medal & Bill got First Class Honours.</p>	<p>Sydney University</p> <p>Gordon. Train, Milson's Point. Ferry, Circular Quay. Tram. St. Paul's College.</p> <p>Sir Henry Barraclough, Head Civil Engineering, Dean of Engineering. William Miller. Stress Analysis (structures). T.(Tommy) D.J. Leech. S.M.H.E.A. - Snowy Mountains Hydro Electric Authority.</p> <p>G.F. Sutherland</p> <p>Mr Vogan R.L. ('Doc') Aston</p> <p>F.A. Eastauagh Professor, Engineering Technology. Professor H.S. Carslaw, Professor Mathematics.</p> <p>"Bill Bradfield at Oxford, 1935 - 1938', Jeremy Steel</p> <p>Ray Priddle President, Institution of Engineers, Australia. Stanwell Park. University Medal.</p>

199-293	<p>6). After Sydney University - went to Queensland to work on design of Brisbane River Bridge.</p> <p>Father had finished Sydney Harbour Bridge work & was working with Queensland Government - under agreement that he could take work in other subjects. Under agreement with NSW Government, father formed consulting engineering firm Dr J.J. Bradfield & Son - had planned do this when Bill graduated.</p> <p>Very good staff - some from Sydney Harbour Bridge (eg James Holtson in charge Drawing Office) & some young people from Queensland. Father was consulting Engineer on Brisbane River Bridge - & this what Bill worked on.</p> <p>At night began studying Law - was resident St John's College (University of Queensland) - close to Design Office at Kangaroo Point. In 1935 rowed for Queensland University Eight.</p> <p>Firm J.J. Bradfield & Son continued till Bill returned to Australia after Rhodes Scholarship & joined Commonwealth Public Service - not possible be member of consulting firm as well as be in Commonwealth Public Service. In England worked with firm Norman & Dawbarn of London - first English firm of consulting engineers & architects to specialise in airport planning & design. Plan was for J.J. Bradfield & Son and Norman & Dawbarn to amalgamate, one in England & one in Australia to set up international firm dealing with airports - never eventuated due to start World War II. Father was interested in civil aviation. Talked about relationship with father & father's interests. Father had been member of committee which set up Richmond airport many years before. Father had worked with a professor from a university in Queensland producing aluminium from bauxite from Tambourine Mountain - probably first aluminium ever produced in Australia. Also concerned with some coal developments in Central Queensland.</p>	<p>Queensland.</p> <p>Brisbane River Bridge.</p> <p>Sydney Harbour Bridge.</p> <p>Queensland Government</p> <p>NSW Government.</p> <p>Consulting engineering firm, Dr J.J. Bradfield & Son.</p> <p>James Holston.</p> <p>St John's College (Univ. of Queensland)</p> <p>Kangaroo Point.</p> <p>Rhodes Scholarship.</p> <p>Commonwealth Public Service.</p> <p>Norman & Dawbarn.</p> <p>Airport planning/design</p> <p>World War II</p> <p>Richmond airport.</p> <p>Bauxite, Aluminium.</p> <p>Tambourine Mountain.</p> <p>Coal developments,</p> <p>Central Queensland.</p>
293-470	<p>7). Rhodes Scholarship at Oxford (1935 to 1938) & period in UK.</p> <p>7.1 Scholarship application / topic studied & arrangements to work with Norman & Dawbarn (in airport design).</p> <p>Rhodes Scholarship interrupted all of the above.</p> <p>Applied in 1933 - missed - awarded to Hugh Barry (Medico).</p> <p>Applied again 1934 - Bill awarded 1935 Rhodes Scholarship.</p> <p>Len King (Chemist) missed 1935 but awarded 1936 Scholarship.</p> <p>All three at Oxford together.</p> <p>One of reasons applied due to another engineer - Jan McShane who awarded Scholarship in 1933 - Bill & Jan at Sydney Univ. together & very close friends - when he got it , suggested Bill have go for it.</p> <p>At the time, if awarded while an undergraduate - finished undergraduate studies at Oxford & got BA Degree - but was not accepted by IEAust as qualification for engineering in Australia. Two others had experienced this :</p> <ul style="list-style-type: none"> • Keith Lamport - 1930 Rhodes Scholar - was first engineer to break through & get a Rhodes Scholarship. • Jan McShane - 1933 Rhodes Scholar - pointed out Bill would have degree, therefore had Engineering qualification so could take advanced course at Oxford - i.e. doctorate - & not suffer non acceptance by IEAust. Also Professor R.V. Southwell at Oxford was world authority on stress analysis. <p>At Sydney Univ had done thesis on stress analysis - on structurally indeterminate structures by normal maths - fitted perfectly as Prof. Southwell was developing relaxation theory which did same thing. Applied for Scholarship on this basis - do</p>	<p>Rhodes Scholarship.</p> <p>Hugh Barry(Medico).</p> <p>Len King (Chemist).</p> <p>Oxford University.</p> <p>J.(Jan)M.S.McShane (Engineer).</p> <p>Oxford, BA Degree.</p> <p>IEAust - The Institution of Engineers, Australia.</p> <p>N.K.(Keith) Lamport</p> <p>Jan McShane</p> <p>Professor R.V.Southwell</p> <p>Oxford University.</p> <p>Stress analysis.</p> <p>Structurally indeterminate structures.</p> <p>Relaxation theory.</p>

	<p>advanced course on stress analysis with Prof. Southwell - however all this changed.</p> <p>Took about 5 weeks to travel by ship to England - time to think. Felt if did stress analysis, someone is always bound to say only got position due to 'old man' - also got to think further must be opening for someone with good civil engineering training in development of airports - with growth in aviation, size aircraft & frequency travel - realised real opportunity & would require something more than a grass field. From Suez, wrote father of thinking - letter waiting in England - father agreed good idea. Had several weeks in England before going Oxford - had occasion to speak with Sir Phillip Game (had been Governor of New South Wales just prior) - good friends with son Phillip at St Paul's & stayed at their country residence at Exeter. Sir Phillip had said when you come to England, come & see me. At that time he was head of Scotland Yard - visited he & his wife at their home outside London (son Phillip was away) - when told Sir Phillip thoughts, he was old Air Force man himself - he said "Bill, never let anyone change your mind on that".</p> <p>Went to Oxford & saw Warden (Mr C.K. Allen) at Rhodes House & told him what thinking of doing - reply was nobody here can teach this. Was called up to explain to Rhodes Trustees - suggested to them could spent part of Scholarship at Berkeley University in California who have course on Airport Engineering - was asked to leave room. Called back - no one at Oxford could teach you this - we think you have good idea - if you can get your doctorate in 2 years, we will give you third year at Berkeley University. This was whole change to Scholarship procedures. Spoke to Prof Southwell - he suggested give answer in 6 weeks as don't know each other - at end 6 weeks Prof agreed. Worked together - Relaxation Theory & applied it to problems in Engineering Science - towards end 2nd year called up to Trustees as Prof Southwell said good chance to do it - but Trustees said don't want you to leave England & prefer spend 3rd year Scholarship in UK. So went down to Air Ministry - advised can't help - but suggested go see Norman & Dawbarn - firm consulting engineers who specialise in airport design. Trustees allowed Bill spend 3rd year of Scholarship working with private firm of consultants in London, Norman & Dawbarn.</p> <p>Rhodes Scholarship..... - Continued on Tape IEA SYD : JB 2, Side A</p>	<p>Travel by ship to England.</p> <p>Development of airports.</p> <p>Suez.</p> <p>Sir Phillip Game, Governor of New South Wales.</p> <p>Scotland Yard.</p> <p>Rhodes House - Warden, Mr C.K. Allen Rhodes Trustees. Berkeley University in California, course on Airport Engineering.</p> <p>Prof. Southwell</p> <p>Relaxation Theory.</p> <p>Air Ministry (UK). Norman & Dawbarn, Consulting Engineers.</p>
470	End of Tape IEA SYD : JB 1, Side B	

Tape Log

Tape: IEA SYD: JB 2, Side A		
COUNT	SUBJECT	NAMES & KEYWORDS
000-008	Tape Identification.	
008-128	<p>7.1 Rhodes Scholarship application / topic studied & arrangements to work with Norman & Dawbarn (in airport design). Rhodes Scholarship</p> <p><i>.....Continued from Tape IEA SYD JB 1, Side B.</i></p> <p>Trustees gave opportunity to gain doctorate at Oxford in Stress Analysis, whilst at same time such freedom to go to London at any time to attend demonstrations, etc on airport matters. Work required to get doctorate in engineering at Oxford at that time was - you must produce something that was completely new. Prof Southwell chose thesis title as "Relaxation Theory applied to problems in Engineering Science". To get doctorate working on pure research - when submit thesis, face examiners who could ask any question which could be covered by the thesis -so title should not be too broad. Two subjects which really gained doctorate were</p> <ol style="list-style-type: none"> 1. Devising method to determine approx stresses (was by a series of approximations) in beam of variable cross section, such as fish bellied beam similar to components found in aircraft. 2. Determine nodes & antinodes of vibration of a cantilever when the cantilever is rotating, ie. same as aircraft propeller. <p>The examination was very serious - took about 2 hours - awarded Doctor of Philosophy in Engineering Science in 1938. Work was published by the Royal Society & in RAF publications.</p>	<p>Rhodes Scholarship</p> <p>Oxford, Stress Analysis. London. Airport matters.</p> <p>"Relaxation Theory applied to problems in Engineering Science"</p> <p>Awarded Doctor of Philosophy in Engineering Science.</p> <p>Royal Society. RAF publications.</p>
128-146	<p>7.2). Oxford University Squadron - joined 1935 when went to Oxford. Run by RAF & taught by RAF instructors with RAF aircraft - learnt to fly & got licence in 1936.</p> <p>Talked more - Counter 194 - 202 Section 7.2)continued on this Tape side.....</p>	<p>Oxford Univ. Squadron. RAF - Royal Air Force.</p>
146-194	<p>7.3). Basis for design of airports - talked about how to be successful in designing airports, one must have not only engineering knowledge but must have aircraft operational knowledge. Flying aircraft gave basic knowledge of way aircraft operated & how that applied when designing an airport. Airport is not linear (ie. taxi ways, etc.) - it is volumetric (ie. is whole airspace, in aircraft approach & take off). For example, runway may be 4,000 metres long but will have an air space around that runway - may be 20 km each end of runway plus 5 km either side of runway plus 2,000 feet in elevation (feet used in civil aviation for altitude).</p>	<p>Airport design basis.</p> <p>Runway, air space, elevation, altitude.</p>
194-202	<p>7.2). Oxford University Squadron.....</p> <p>- continued from Counter 146 above</p> <p>Years in squadron was vital as far as career was concerned. Squadron had number of other engineers - Jan McShane & Bill from Sydney - J.C. Richards & Harley Stumm from Queensland - & quite few from UK .</p>	<p>Oxford Univ. Squadron. Jan McShane, Sydney. J.C. Richards, Harley Stumm, Queensland.</p>
202-318	<p>7.4). Preparations in England before World War II</p> <p>- some 2 years before war broke out - verbal order came around (never saw in writing) - anyone who wished continue flying with Univ Squadron must join RAF Reserve - but qualifying part was, any engineer flying with Univ Squadron not allowed to join RAF Reserve. If war, would be called up & would go into combat - 'powers to be' in England at that time realised engineers would be more useful on ground.</p> <p>They were right -</p> <ul style="list-style-type: none"> • Jan McShane (right hand man to Essington Lewis) and 	<p>England, World War II.</p> <p>Oxford Univ Squadron RAF Reserve</p> <p>Jan McShane, Essington Lewis, J.(Jack) C. Richards,</p>

	<p>J. (Jack) C. Richards (senior member of BHP, killed 1969 in car accident) both deeply involved in war effort in Australia.</p> <ul style="list-style-type: none"> • Bill Bradfield developing / designing airports. • Charlie Stumm - a lawyer - called up & killed in action. <p>This took place 2 years before WW II broke out - showed there were some sound thinking people in England at that time. Went to see Olympic Games in Berlin 1936 - not see much evidence of war preparations - but when off beaten track in Europe could see quite lot of military training quietly going on in Germany particularly.</p> <p>Went to Guernsey August 1938 (with wife, Jeannette) - there about 5 months - during that time meeting in Munich between Chamberlain & Hitler - prior to that there had been foreboding of war. Prior going Guernsey, no apparent military preparations in England but when came back, situation had changed. Slit trenches being built & gas masks issued. Airport work which Norman & Dawbarn doing - airport contracts changing from civil to military contracts. All this after Munich meeting when Chamberlain said 'there will be peace in our time' - felt Neville Chamberlain not telling the truth about what he himself knew because of changes 2 years earlier & foreboding & sudden change after Munich. Felt anyone who had vision to be Prime Minister must have realised & also must have known state of UK's aerial defence. Britain had sent some front line aircraft - small bombers - over to France. Hurricanes & Spitfires on assembly lines.</p> <p>Feels Chamberlain misrepresented in history & feels he was trying to win time for England to get prepared - by doing this - he gave year in which more Hurricanes & Spitfires were produced & which he thinks saved England. Is a supporter of Chamberlain rather than someone who accepts generally accepted version that he was taken in by Hitler. Chamberlain had to give that impression to Hitler - whether this right or not doesn't know - but feels it right having been in that atmosphere at the time.</p>	<p>BHP, Australia.</p> <p>Charlie Stumm, lawyer. WW II - World War II England Olympic Games, Berlin, 1936. Europe, Germany. Guernsey (Channel Islands) Munich Neville Chamberlain Adolf Hitler Slit trenches, gas masks. Norman & Dawbarn</p> <p>Prime Minister</p> <p>Aerial defence (UK). Hurricanes, Spitfires.</p>
318-333	<p>7.5). Work with Norman & Dawbarn, London - during most of 3rd year of Rhodes Scholarship ie. in 1938 :</p> <p>7.5.1). Birmingham Airport - was first airport Bill ever worked on - was a grass field about ¾ mile square. Remember going to first meeting with Birmingham Council - went with Nigel Norman - one councillor was strongly opposed to the airport & said no need for airports as helicopters just around the corner !</p>	<p>Norman & Dawbarn</p> <p>Birmingham Airport Grass field Birmingham Council Nigel Norman</p>
333-453	<p>7.5.2). Airport at Guernsey - this was main airport worked on - was grass field. Norman & Dawbarn contracted to design & supervise construction. Had just got back from honeymoon in Denmark & Nigel Norman asked - like to go & take over supervision?</p> <p>Had 5 months in Guernsey - was first time really supervising something on own. Had to get used to different laws in Guernsey (one of Channel Islands) - consider themselves separate from England - don't have to abide by Statutes of Westminster - can if they want to. Don't pay homage to the Queen as Queen of England, but to Duchies of Normandy.</p> <p>Very early on one of Jurats (there are 12 Jurats) told Bill about a law - in Guernsey if you feel someone is doing you wrong, you can commit 'Clamor De Haro'. De Haro was a Norman Prince. Go to spot & say "Haro, Haro, Haro, à mon aide, mon Prince ou me fait un tort" - which means 'Come to my help my Prince - someone is doing me a wrong'. Then kneel down & say Lord's Prayer & everything stops until matter is resolved by Jurats. For Guernsey airport, acquired all land except one small holding</p>	<p>Guernsey, Channel Islands. Guernsey Airport. Denmark</p> <p>Statutes of Westminster Queen of England Duchess of Normandy</p> <p>Jurats</p> <p>Clamor De Haro Norman Prince</p>

	<p>& man was refusing to sell & they afraid / apprehensive - if put grader through he would commit 'Haro Haro'. Bill spent time with man - one day man asked him come for tea - man knew he had to go but not until cabbage patch had grown. This taught a lesson - there are ways to do things - not just bulldoze through. Another thing learnt - called 'water divining' - one area suspected underground stream - got 'water diviner' & stick dropped. Dug up & there was a stream. Took photo & saw muscles on wrist - sent back to doctor. Learnt - don't dismiss anything you don't understand.</p> <p>Another problem - one area could not get grass to grow - person came up & said had fertiliser from rock - so tried & in 4 weeks was grass covered. Must have been earliest example of mineral fertilisers.</p>	<p>'Water divining'</p> <p>Mineral fertilisers</p>
453-469	<p>7.6). Grass covered airports - needed grasses which lock together to give cover all year round. In England - some sort of Bent / Crows Foot mix. Couch with runners been good in Australia.</p> <p>First job at Mascot - had been try to overcome damage caused by aircraft wood tail skids to pull up runners, open up ground for erosion by wind & aircraft slipstream.</p> <p><i>Continued Tape IEA SYD : JB 2, Side B.....</i></p>	<p>Grass airports</p> <p>England - Bent/Crows Foot.</p> <p>Australia - Couch.</p> <p>Aircraft wood tail skids.</p>
	End of Tape IEA SYD : JB 2, Side A	

Tape Log

Tape: IEA SYD: JB 2, Side B		
COUNT	SUBJECT	NAMES & KEYWORDS
000-007	Tape Identification	
007-138	<p>7.6). Grass covered airports - continued from Tape IEA SYD : JB 2 , Side A At time of construction of Guernsey Airport, main London Airport was at Croydon - was of grass just like Sydney. Could not stop aircraft skids digging up grass runners on air fields - so got aircraft manufacturers to fit small wheels instead of skids & problem largely disappeared - this was 1939. At that time, not a single runway in England or Europe - they were all grass fields. NOTE - as Bill subsequently explained - on grass fields, aircraft could take off and land anywhere and in any direction. These were distinct from specific aircraft runways. In Australia however, at that time, had specific aircraft runways. Usually needed to clear Spinifex, etc, to get smooth enough area to be able to form a runway. At Brunette Downs & few inland could not get grass cover - so consisted of thin skin (2 to 3 inches) rock unsealed - about half dozen specific runways in Australia. One runway at Dacca (Africa) had wire matting over sand. All aerodromes in England and Europe basically same - very hard to bomb out. Could keep going till weight aircraft too much for grass or density of traffic too high. Most early runways in Australia - gravel (unsealed) surface. Sealed surfaces (specific for runways) came later, particularly when aircraft speed & slipstream speed became larger & tended to blow gravel away. Even DC3 operated on unsealed / grassed fields. Same with DC4 - but getting up to speeds where needed sealing. Started with ends sealed - middle unsealed - when got enough money then sealed. Did not need engineers then - only needed three things : <ul style="list-style-type: none"> • a good Shire foreman • good grass culture • good drainage Did not need first class honours engineer to design airports - don't need today - but do need operational knowledge of aircraft.</p>	<p>Grass covered airports.</p> <p>London Airport, Croydon. Aircraft skids - small wheels.</p> <p>Brunette Downs, Australia.</p> <p>Dacca (Africa) airport.</p> <p>Unsealed surface (gravel). Sealed surfaces.</p> <p>DC3, DC4.</p>
138-183	<p>8). Return to Australia in July, 1939 - first job & then airport design work during World War II.</p> <p>8.1). Job hunting & first job - tried get job in airports in Department of Civil Aviation, Department of Interior, etc - could not get a job anywhere. Only job - draftsman with Works Section of Commonwealth Dept of Interior - not necessarily on airports. Then got call from John Kemp (later Sir John) - head of Dept of Bureau of Industry in Brisbane - had been working with him on Brisbane River Bridge before going to England. Offered job to design flood gates for Stanley River Dam - offered 600 pounds / year which was at least 100 pounds more than had any chance of getting from Commonwealth. Took up (in August 1939) & started design flood gates.</p>	<p>World War II, job hunting. Australian Commonwealth Department of Civil Aviation (DCA), Dept of Interior. John Kemp (later Sir John), Dept of Bureau of Industry, Brisbane. Stanley River Dam, flood gates.</p>
183-228	<p>8.2). World War II & airport construction. When war broke out 3 September 1939 - instead of no interest in airports - immediate call from Dept of Defence to build chain of airports around Australia (22 in all) - from Horn Island (at top Cape York Peninsula) - down east coast - across south - right up</p>	<p>World War II, airport construction. Dept of Defence. Horn Island (top Cape York Peninsula).</p>

	to Wyndham in west. Needed urgently for coastal surveillance & Commonwealth did not have manpower so asked Roads Departments in the various States to help. In Queensland went to Dept of Main roads - so Bill was switched from Stanley River Dam to helping Dept of Main roads design extensions to four airports at Bowen, Mackay, Rockhampton & Bundaberg.	Wyndham. Dept of Main Roads, Queensland. Airports at Bowen, Mackay, Rockhampton & Bundaberg.
228-470	8.3). Joined Commonwealth Dept of Civil Aviation (DCA) in Nov 1939 & designing airports in Australia during WW II. Had written to man met while looking for a job - Wing Commander Alan Hepburn in Melbourne - asking where could he best enlist to make use of expertise he had. At time RAAF had nothing in way of airports - he suggested go to Commonwealth Dept of Civil Aviation who did not have a job last time - but had just called applications for more aerodrome inspectors. Applied & got accepted straight away - joined Dept of Civil aviation in November 1939 as an Aerodrome Inspector. First thing that crossed table in new job were designs that had prepared for Bowen, Mackay, Rockhampton & Bundaberg - nothing was ever approved so fast.	Commonwealth Dept of Civil Aviation. Wing Commander Alan Hepburn. RAAF - Royal Australian Air Force. Aerodrome Inspector.
244.....	Extraordinary situation - no engineering expertise in Australia for airport design - this in contrast to New Zealand where had good strong expertise in Ministry of Works who worked hand in hand with their Dept of Civil Aviation - all in same structure. Reason (realised later) - NZ was single colony. Australia had six colonies - in 1900 became the Commonwealth - NSW, Victoria & Queensland had good engineering strengths & backgrounds - eg. in NSW good rail, water supply, roads, etc systems & when Commonwealth formed was no place for public system, but place for architects as doing lot of buildings. No reason for there to be strong public works dept. in Commonwealth. Aerodromes (grass) did not need engineers - Dept of Civil Aviation part of Dept of Defence & nothing to back it up. When joined Dept of Civil Aviation in November 1939, found two engineers (called Aerodrome Inspectors) :	New Zealand - Ministry of Works & Dept of Civil Aviation. Commonwealth of Australia. NSW - rail, water supply, road systems. Australia - Dept of Civil Aviation, Dept of Defence.
300.....	<ul style="list-style-type: none"> • John Yeoman - resigned shortly after & became Shire Engineer in Blue Mountains. • Norman Fricker - graduate from Adelaide University & a pilot. So in early days - Norman Fricker & Bill Bradfield - both with Civil Engineering Degrees & both pilot experience. With this limited experience - faced task of putting the 22 airfields together as soon as possible. Lied to situation with fragmentation of knowledge between departments which should not have happened - with distribution of responsibilities in early days of 1939 / 1940 - examples of what happened : a). In Dept of Civil Aviation prepared design for airports, eg. Londonderry, Rockhampton, Mackay & so on to go to state authority - Queensland Main Roads Commission - went to them through Commonwealth of Interior who had responsibility to approve design. They had no one to do so - so started recruiting engineers - first man was Alan Robson who Bill been with at university. Alan was in position to say yes or no to Bill's design but knew nothing about airport design. Used to come round to Bill's flat at night & be taught elements of airport design - Alan resigned soon after, just got fed up & same thing happened to next man, Des Miller. Everyone got on well except senior people - this continued during 1939-1940. b). Sent to Cairns (route for military aircraft to Port Moresby) for development of large airport. Another engineer, Wing Commander John Lerew, had squadron in Townsville. Cairns airport built on swamp - had to put levy bank all round to keep tide out - needed flood gates. Went to Mr R. East (later Sir	John Yeoman, Shire Engineer Blue Mountains. Norman Fricker, University of Adelaide. Dept of Civil Aviation. Airports - Londonderry, Rockhampton, Mackay. Queensland Main Roads Commission. Alan Robson Des Miller Cairns, Port Moresby. Wing Commander John Lerew, Townsville.

	<p>Ronald) - an engineer in Victorian Dept of Irrigation - for design of his flood gates - had four in store. At same time, Bill was preparing designs for Cairns - sending to Dept of Interior in Canberra - but to save time, sending up to engineer (David Anderson who Bill had known at Univ in Brisbane) from Queensland Main Roads Commission who was doing job in Cairns & his boss Jack Matheson (another engineer) - the three working together. Arranged flood gates be sent up to David Anderson - no question as war on. Sent plan to Des Miller in Canberra - took to his chief - all taking 6 weeks via Canberra - response was - 'can't do that, must design ourselves in Canberra, can't use State design'. By that time David Anderson almost had them installed.</p> <p>This atmosphere continued - feels no wonder he made himself unpopular - between engineers great friendliness & co-operation & with RAAF & US Army Corps.</p> <p>Dept of Civil Aviation was wonderful department to work for - Director General at outbreak of war Henry Corbett - ex PMG engineer - put in as a stop gap - reached retiring age - very good administrator during war before Air Marshall Williams took over. Another incident - Aerodrome Inspectors could authorise work up to a value of 5 pounds. Had job in Cairns where had to authorise to repair various drainage traps - estimate for whole job was 40,000 pounds. Had to go down to Melbourne & explain because had authorised Rockhampton engineer to go ahead & spend 20,000 pounds. In Melbourne, the accountant, Mr Jessop, - feared by all - said "let's find a way around the regulations" - this typical of co-operation within Dept at the time.</p> <p><u>NOTE - Correction</u> - Bill advised 22 Sept 1999 that above accountant's name Mr Jessop was incorrect</p> <p>- should be Mr Jepsen</p> <p>- refer Tape IEA SYD : DWB 9, Side A, Counter 028-062 where he talks about Mr Jepsen.</p> <p><i>Continued on Tape IEA SYD : JB 3, Side A.....</i></p>	<p>Mr R. East (later Sir Ronald), Victorian Dept of Irrigation.</p> <p>Dept of Interior, Canberra.</p> <p>David Anderson</p> <p>Jack Matheson</p> <p>Flood gates.</p> <p>Des Miller</p> <p>RAAF - Royal Australian Air Force.</p> <p>US Army Corps.</p> <p>Henry Corbett, Director General Dept Civil Aviation, ex PMG.</p> <p>Air Marshall Williams.</p> <p>Melbourne.</p> <p>Accountant, Mr Jepsen.</p>
470	End of Tape IEA SYD : JB 2, Side B	

Tape Log

Tape: IEA SYD: JB 3, Side A		
COUNT	SUBJECT	NAMES & KEYWORDS
000-007	Tape Identification	
007-030	<p>8.3). Joined Commonwealth Department of Civil Aviation & designing airports in Australia during W W II</p> <p>..... <i>Continued from Tape IEA SYD : JB 2 , Side B.....</i></p> <p>In Dept Civil Aviation - A.R. McComb, Chief Inspector Ground Organisation (not an engineer but a surveyor with good engineering knowledge - right sort of person for job because up to that time did not need fully qualified engineers) arranged split of responsibilities :</p> <ul style="list-style-type: none"> • Norm Fricker - took over development of aerodromes in South Australia, Western Australia (where he had come from), Tasmania & part of Victoria. • Bill Bradfield - took over development of aerodromes in Queensland, New South Wales, part of Victoria & Northern Territory. <p>Worked in same room - exchanging ideas whole time.</p>	<p>Commonwealth Dept of Civil Aviation WW II - World War II A.R.McComb, Chief Inspector Ground Organisation</p> <p>Norm Fricker. Aerodromes South Australia, Western Australia, Tasmania, Victoria, Queensland, New South Wales, part Victoria, Northern Territory.</p>
030-252	<p><u>Trips associated with flying boat bases to</u></p> <p><u>a). New Caledonia.</u></p> <p><u>b). Portuguese Timor.</u></p> <p>In World War II worked in Australia except for two stints, one in New Caledonia & other in Portuguese Timor.</p> <p><u>a). Late December 1939 asked go New Caledonia help French establish flying boat bases in New Caledonia</u></p> <p>- there 2 months.</p> <p>To get there - went by coal boat from Newcastle, carrying coal to nickel smelter in Noumea - took about a week, very slow journey - so slow crew had fishing line over back. Feel got job because could talk a little French - could understand more than could talk - did not let people in New Caledonia know this - helped to get to know what they were thinking.</p> <p>Main job - establish flying boat base in what they called Grand Harbour & while there, looking throughout New Caledonia for others, particularly Heingeiune way up north. Had as companions on this job the French colonial engineer - quite a good engineer - man called Caracure Bord(Spelling???) & couple of French Air Force people (not engineers - were operational people). Very interesting mission - had hurricane in middle. Part of mission - Bill alone was to go beyond & look for possible flying boat bases in places like New Hebrides (now Vanuatu) & Solomons up in chain towards Papua New Guinea. Did not get much beyond New Caledonia - had to find own way there & got onto a small trading vessel which went between New Caledonia & New Hebrides - but ran onto reef off New Caledonia, spent about 48 hours stuck on reef, pretty 'hairy' - could see New Caledonia way in distance, were aiming at time to get to Loyalty Islands off part of French position there. Had local Kanak crew & French captain, Captain Pons - had been living it up pretty high night before, just after dark misjudged channel they trying to go through & finished up on reef - then comedy of errors started. Had one dingy on board & no life belts - somehow managed let dingy loose - so had nothing. Comfortable high tide stuck on reef - comfortable low tide boat on side - but mid tide whole time moving about. Had companion on board (did not know he was going to have) -young Japanese man. Did not know he coming until Bill got down to vessel - used to go down every morning - Captain Ponds there for 3 days he made excuses -</p>	<p>Flying Boat bases.</p> <p>New Caledonia. Portugese Timor.</p> <p>French, flying boat bases. Coal boat, Newcastle. Noumea.</p> <p>Grand Harbour.</p> <p>Heingeiune French colonial engineer, Caracure Bord(Spelling???)</p> <p>New Hebrides (Vanuatu) Solomons, Papua New Guinea.</p> <p>Loyalty Islands Kanak crew Captain Pons</p> <p>Japanese</p>

	<p>then hurricane came through & realised old character knew something, waiting for hurricane to pass - soon as passed, left because knew he could get to where going before next one. First realisation we really at war - talking to Japanese man (spoke very good English) - said hope go Japan one of these days - shattered Bill with statement - 'don't come now because if you do you will be shot'. Realised he was doing something similar - looking for places to put flying boats & had been given word to trail Bill. Fortunately sighted by another little trading vessel - came along & suggested take two of them as passengers back to Noumea - but Captain Ponds too canny - if gave passengers to this man - somehow his insurance was not as good as it should be - so he said no & asked him to send out a tug as soon as they could - so got dragged off reef & towed back to Noumea.</p> <p>Contacted Melbourne straight away - they said come back ASAP because job want Bill to do in Darwin - so got on next coal vessel (empty) going back from Noumea to Newcastle which left next day. Just as well because the "raider" was around - did not go into Newcastle - finished up in Wollongong because captain knew "raider" was around so went way down south. The next two of those boats was caught by the "raider". By circumstance did not finish up as a prisoner of war - but brought home very quickly this war very serious - this in February 1940 - Australia was very vulnerable - & all work to put aerodromes around coast for coastal surveillance was not being done for nothing.</p>	<p>Japan</p> <p>Melbourne, Darwin.</p> <p>"raider" Wollongong</p> <p>Coastal surveillance.</p>
252-347	<p>b). Trip to Portugese Timor - in December 1940.</p> <p>Had got message Japanese had opened service from Caroline Islands to Dili in Portuguese Timor - Defence Dept did know much about it - Bill to be sent up to see what facilities like. Had been told "put affairs in order before going" - Dept then decided to send four as much higher mission as could be safer than person on own :</p> <ul style="list-style-type: none"> • David Ross - Director Operations (administrator) - was No. 2 in Civil Aviation. • an electronic engineer. • Captain Edgar C. Johnson - Assistant Director General, Dept Civil Aviation - ex Air Force surveyor - & leader of the group. • Bill Bradfield. <p>Went in Qantas flying boat to Darwin along normal route between Sydney & Singapore - rest of passengers stayed in Darwin. Plane took off with four of them & flew to Timor where dropped them off for a week. Captain Hussey made wonderful landing inside reef at Dili. Japanese flying boats had been landing outside reef & taxing in. When left Darwin did not know what reception would be because had tried contact Madrid but got nothing definite - put out sea anchor, aimed for gap in reef & kept engines running - Bill given axe to cut anchor if need take off quickly. Someone in small boat (shorts & no sleeves) came alongside, asked a few questions & then took off to the shore. Waited, then pinace came out to pick them up, appeared he was Aide de Camp to Governor - they only too pleased to see them. There for a week over New Year - they particularly pleased when transpired had more whisky between them than they had in whole colony - which brought out on New Year's eve. Found out a lot about Japanese flying boat plus took photos of model of it they had given Governor - which clearly indicated some paddles on side which could be used a gun turrets - another example to all concerned we had problem on our hands. Outcome was QANTAS started service once per week to Dili. Normal service went from Darwin to Koepang - so normal service used to drop in at Dili so we had some contact there &</p>	<p>Portugese Timor Japanese. Caroline Islands,Dili. Defence Department.</p> <p>David Ross, Director Operations, Civil Aviation. Captain Edgar C. Johnson, Asst. Director General, Dept Civil Aviation. QANTAS. Flying boat route between Darwin & Sydney, Singapore. Capt. Hussey, Dili.</p> <p>Aide de Camp, Governor.</p> <p>Paddles, gun turrets.</p> <p>Service Darwin to Koepang.</p>

	David Ross who was No. 2 in that mission went over as Consul & was caught there when Japanese came in . He could see he could do nothing to help the people who were in Dili so took off to the hills & joined the Z Force - Australians who were acting as guerillas in Timor.	David Ross, Consul. Z Force, Australians, guerillas.
347-404	<p><u>8.4). Looking after development of aerodromes in co-ordination with RAAF in capital cities & on 'ferry' routes</u></p> <p>- worked in DCA very closely with RAAF & US Air force - for example, if went Darwin, stayed in officers' mess & transport on RAAF & USAF aircraft. Norm Fricker did same thing.</p> <p>One trip on US aircraft never forget (was in Darwin) - was on normal civilian flight via Brisbane on way to Melbourne - got to Katherine & radio station operator had message for him.</p> <p>DCA had air radio stations all over Australia that looked after ground to air communications with aircraft & ground to ground communications - provided communication network for civil & also military aircraft.</p> <p>Katherine air radio operator had message from Darwin but could not understand it - so agreed Bill go on to next stop, Tennant Creek & try to get message to Bill there - message bit clearer but was in code & he did not know what code it was in. So decided Bill go on to next stop, Cloncurry - by time got there, they had got message unscrambled - requested him go back to Darwin as soon as he could. Sat on edge Cloncurry airstrip with bag waiting for next plane to come through - was US DC3 - asked if can get lift back to Darwin - they said no problem but no where for you to sit - only luggage compartment as it was freighter. Sat on a box - flew low altitude so as not too cold because had 10,000 day old chickens on board to start farm to supply troops in Darwin - chirped the whole way to Darwin. Example of working together.</p>	<p>WW II - World War II, Australia DCA - Dept of Civil Aviation. RAAF, US Air Force. Darwin</p> <p>Katherine radio station. Air radio stations. Ground to air & ground to ground communications</p> <p>Tennant Creek</p> <p>Cloncurry</p> <p>DC3</p> <p>Chicken farm, Darwin. to supply troops.</p>
404-451	<p><u>8.5). Towards end of World War II :</u></p> <p><u>8.5.1). Formation of ICAO - International Civil Aviation Organisation.</u></p> <p>United States, Canada, UK had started, quite long time before end World War II, thinking about regulation & development of civil aviation after the war - was of fairly high priority - had been meetings between Churchill (UK), Roosevelt (US) & Pearson (Canada) - decided hold a meeting of states in Chicago - took place in November / December 1944. Invitations sent to 55 allied & neutral states - 52 attended. Meeting set up ICAO - International Civil Aviation Organisation - of which there was to be a Council of 21 states. Main contributor to conference was Dr Edward Warner - a remarkable document known as The Chicago Convention was produced - now over 50 years old - think only one technical correction made to it & that was on a matter of ownership or responsibility of aircraft owned by one state being operated in another state & apart from that a few amendments, such as, to increase size of Council - but nothing else - a remarkable document.</p> <p>Australia was elected 1945 to first provisional Council - Mr A.R. McComb (Bill's boss) represented Australia - his place then taken by Wing Commander Alan Hepburn (who became Bill's immediate boss).</p> <p>When a sufficient number of states had ratified the convention - changed from provisional to actual organisation - this took place in 1947. Bill replaced A.R. McComb on Council at that time.</p>	<p>WW II - World War II.</p> <p>ICAO - International Civil Aviation Organisation, Chicago.</p> <p>Churchill, UK. Roosevelt (US). Pearson (Canada). Chicago meeting. Allied & neutral states. Council of ICAO. Dr Edward Warner. The Chicago Convention</p> <p>Provisional Council. Mr A.R. McComb Wing Commander Alan Hepburn</p>
451-470	<p><u>8.5.2). Development of Sydney Airport</u> - in 1946 - Mr Corbett (Director General of Civil Aviation) asked Bill go to Sydney & prepare master plan for Sydney airport.</p> <p>By that time Department of Works & Department of Interior had</p>	<p>Development Sydney Airport. Mr Corbett, Director General of Civil</p>

	<p>developed a bit & set up a joint Civil Aviation & Works office on Sydney airport. Man in charge of it in Sydney was Bill Pickford - an Aerodrome inspector, an engineer, not a graduate but from technical school - a very good man. Bill had overall charge of it from Melbourne.</p> <p>Used to spend one day per week in Sydney with the team. Used to get up in morning about 4.30 - leave Melbourne airport in DC3 at 6.00am & get to Sydney airport by 9.00am. Work at Sydney airport 9.00am to 5.00pm just in time to catch aircraft which left Sydney at 6.00pm, got back to Melbourne at 9.00pm & be home about 9.30pm.</p> <p><i>Continued on Tape IEA SYD : JB 3, Side B.....</i></p>	<p>Aviation. Dept of Works Dept of Interior Bill Pickford, Aerodrome Inspector Melbourne-Sydney air travel, DC3</p>
470	End of Tape IEA SYD : JB 3, Side A	

Tape Log

Tape: IEA SYD: JB 3, Side B		
COUNT	SUBJECT	NAMES & KEYWORDS
000-008	Tape Identification	
008-112	<p>8.5.2). Development of Sydney Airport..... <i>.....Continued from Tape IEA SYD : JB 3, Side A</i> Master Plan for Sydney Airport prepared by joint team of Dept Civil Aviation & Dept of Works - first time had tried to work together like that - was a satisfactory idea - had plan for development of Mascot. But, a senior Public Works man, named Redmont, put up alternative plan for closing Mascot & putting airport at Towra Point. But decision was made in favour of Mascot for number of reasons :</p> <ul style="list-style-type: none"> • Mascot was operating as an airport & could get what thought was required for long time in future at Mascot without going extra distance at Towra Point. • Problem on south east side Towra Point - open sand hills of Cronulla - with high winds get there, sand would blow over what would be maintenance area if airport were to be established there - would be negative aspect as far as aircraft maintenance was concerned. Sand hills move - Bill Pickford & Bill had really good look - certainly do move in wind. <p>So it was decided to go for the plan at Mascot which consisted of</p> <ul style="list-style-type: none"> • Runways in four directions on land, after diverting Cooks River, the longest runway was 8,000 feet. • Area was there for further four closely spaced parallels about 700 feet apart (as distinct from wide spaced parallels about 5,000 feet apart which is what you'd need if having 2 landing simultaneously or 2 taking off simultaneously in instrument conditions). • A third set of parallels. • A flying boat base to be put in Botany Bay because at that time, the flying boat was still very much in existence & needed to make provision for that as well. <p>That 1946 plan was followed to a great extent, but between time it was drawn up & time it was put into operation, there were two significant events which affected airport design :</p> <ol style="list-style-type: none"> 1. Aircraft were designed & built which were capable of landing out of the wind with much greater out of the wind velocity - that enabled the four runways to reduce to two & simplify the whole thing. 2. The flying boat gave way to the land plane - so no need for the flying boat base. <p>So when first big development took place at Mascot in early 1950's, it got the present two runways - not the four - & no flying boat base. That was original master plan for Mascot.</p> <p>There were some runways there before World War II - unsealed strips, one might have been sealed - because was used during the war, not only for training but also for quite a bit of military activity but also small amount of civil activity.</p> <p>Further comment on Mascot (Sydney) Airport Master Plan refer to Counter 184-204 Section 8.5.5 on this Tape side.</p>	<p>Development of Sydney Airport Dept Civil Aviation Dept of Works Mascot. Mr Redmont, Dept Public Works. Towra Point</p> <p>Cronulla sand hills</p> <p>Aircraft maintenance. Bill Pickford</p> <p>Cooks River diversion.</p> <p>Closely spaced parallels. Wide spaced parallels.</p> <p>Landing . Taking off.</p> <p>Flying boat base, Botany Bay.</p> <p>1946 Mascot Master Plan.</p> <p>Aircraft design - landing out of wind.</p> <p>Master plan for Mascot. (Sydney Airport). World War II</p>
117-146	<p>8.5.3). Darwin reconstruction after being bombed in WW II. Was on committee involved in town planning for post war reconstruction of Darwin.</p> <p>Bill's main purpose being on committee was to make sure general civil aviation needs were met - was quite easy because had good airport about 8 miles from Darwin - in use today - was the military airport.</p>	<p>WW II - World War II Darwin reconstruction.</p> <p>Civil aviation needs.</p> <p>military airport.</p>

	<p>Main contribution was - recommend send an architect from Dept of Works to Brazil to see type of architecture they had there as a consequence of that wonderful architect, Le Corbusier to get inspiration from him - pleased they did as architect from Dept of Works learnt a lot.</p>	<p>Brazil, architect, Le Corbusier. Commonwealth Dept of Works.</p>
146-184	<p>8.5.4). Planning attitude in civil aviation during WW II. Was in Canberra when atomic bomb was dropped on Hiroshima - was advising Minister on something. Did not really sink in until a few days later when got back to Melbourne. Then came - what comes next after picking up the pieces ? Lot of work done during World War II proved valuable after the war - always had that in mind. One of remarkable things throughout the war, never in civil aviation could think of anyone who felt we were going to get beaten - everyone felt this. Planning was always to what we need now but with thought to the future. Motivation was right from the top - ie. The Director General & people like Alan Hepburn & many others..</p>	<p>WW II, World War II, planning attitude in civil aviation. Atomic bomb, Hiroshima.</p> <p>Director General. Alan Hepburn.</p>
184-204	<p>8.5.5). Sydney Airport Master Plan was drawn up (<i>refer previous comments at Counter 008-112 Section 8.5.2 on this Tape side</i>) - commented that any 'master plan' must be drawn up so that it can be amended - because can't see whole future, particularly with civil aviation at that time, was difficult to see beyond immediate future. Considers any 'master plan' should be looked at every 5 years & review it to make sure what done in the 'master plan' is the right thing because you have 5 more years knowledge behind you from which to look at it.</p>	<p>Sydney Airport Master Plan</p> <p>'Master Plan' reviews.</p>
204-325	<p>8.5.6). Plans for Melbourne airport & national 'ferry' route. <u>Comments on concrete versus bituminous pavements.</u> Melbourne airport during war was Essendon - was developed during war for maintenance of military aircraft - ie. for those that could be flown back to base, ie Melbourne or Sydney. There was a fairly large extension to Melbourne airport during the war - first & only concrete runway in Australia was built in Melbourne during the war. In civil aviation, inclined towards concrete runways as something to give less maintenance But man called Hugh Cochrane in Dept of Works was engineer from Main Roads Authority (Country Roads Board) - he was known as a flexible pavements man as distinct from a man in New Zealand, McCulloch - known as a concrete pavements man. Knew of McCulloch's work which was very good & Dept Civil Aviation inclined towards that. But when Cochrane came on the scene, under divisions of responsibility worked under at that time, Dept of Works did pavements, drainage, etc. & Dept Civil Aviation did general design & layouts. As it turned out Cochrane (with flexible pavements) was right because found could not build a concrete pavement with joints in it sufficiently smooth to take operation satisfactorily of fast landing aircraft whereas can put down a bituminous / concrete pavement & get a very smooth surface. No matter how good the concrete, get little bumps at edges of the slabs. When working to a surface tolerance (maximum deviation) of 1/8 inch in 10 feet for smoothness - easier to get this with 1st class good bituminous surface than with concrete surface. Was glad Hugh Cochrane was there at time. During war, a runway 6,000 feet was built at Melbourne (Essendon) for military aircraft as well as civil aircraft. It was also the south east point for a lot of military movements from there & aerodrome at Tocumwal which the United States started to build. As well as the route through Sydney, there was the inland 'ferry' route from Melbourne to Darwin cutting across the west of New South Wales through Bourke & places like that - both RAAF & civil aviation had a hand in that.</p>	<p>WW II, World War II, Melbourne airport, Essendon. Maintenance military aircraft. National 'ferry' route. First concrete runway in Australia.</p> <p>Hugh Cochrane, Dept Works, flexible pavements. McCulloch, New Zealand, concrete pavements.</p> <p>Bituminous / concrete pavements. Surface tolerance.</p> <p>Military movements. Tocumwal, United States. Inland 'ferry' route from Melbourne to Darwin, Bourke.</p>

	<p>In Western Australia, there was an inland 'ferry' route from Perth to Darwin as distinct from the civil & present route around the coast. Had the advantage of being far enough back from the coast so aerodromes could not be knocked out by naval action. That is, there were two inland 'ferry' routes, one Perth to Darwin & one Melbourne area to Darwin - all part of the military scheme - put to serve inland towns, so have value post war. First priority was military use - but where ever practical, they done in such a way that they could be valuable afterwards.</p> <p>Many airstrips which not valuable later, eg. fighter strips such as Schofields & others around Sydney & those at back of Townsville - have had to be abandoned. On the whole, a lot of aerodrome development during the war was useful after the war. Prior WW II, there was a growing aviation network in Australia, but military needs increased the rate of growth.</p>	<p>Western Australia. Inland 'ferry' route from Perth to Darwin. Naval action.</p> <p>Fighter strips, Schofields, Townsville.</p>
325	End of Tape IEA SYD : JB 3, Side B	

Tape Log

Tape: IEA SYD: DWB 9, Side A		
COUNT	SUBJECT	NAMES & KEYWORDS
000-005	Tape Identification	
005-028	<i>Continuation from earlier interview on 14 July 1996 which was recorded on Tapes IEA SYD JB 1, JB 2 & JB 3. Brief summary of subjects covered in this earlier interview.</i>	
028-062	<p>Correction to 14 July 1996 interview tape - Tape IEA SYD : JB 2, Side B, Tape Counter approx. 465, Section 8.3</p> <p>- accountant Mr Jessop incorrect - should be Mr Jepsen. This was in regard to Rockhampton airport where had made transgression in authorising 20,000 pounds when supposed to authorise only up to 5 pounds. Gentleman in DCA to whom reported was Mr Jepsen who was one of three members brought over from PMG (Post Master General's Department) by the then Director of Civil Aviation, Mr Corbett. He brought over two engineers, Hec Adam & Mr Badmack, & also Mr Jepsen who subsequently became Chief Accountant of the DCA. Mr Jepsen was a very important person who should be remembered in the history of the Department of Civil Aviation.</p>	<p>Mr Jepsen (became Chief Accountant, DCA). Rockhampton airport.</p> <p>Dept. of Civil Aviation (DCA). PMG - Post Master General's Department. Director of Civil Aviation, Mr Corbett. Hec Adam, Mr Badmack</p>
062-227	9). Immediate Post World War II Period - in Australia.	Immediate post WW II Period - in Australia.
062-136	<p>9.1). Period of consolidation rather than development in regard to airports & aircraft.</p> <p>During the war there had been tremendous amount of money spent on airports & in immediate period after war there were far more important things to spend the available money & resources which Australia had in building the community of Australia. Australia came through the war with some 100 runways built for wartime purposes but which were subsequently proved very useful for civil aviation. They formed the backbone for the aircraft structure in Australia for the future.</p> <p>Airports - there was some airport work going on - recalls being engaged in a lot of preparation & planning - was looking towards development of a new airport in Hobart & another one in Adelaide - work on these two handled particularly by Norman Fricker - by that time Bill was Chief Airport Engineer (appointed 1945) - so all work went through Bill. Fricker - very good engineer so not much to do with anything he brought up. Finished war with Perth & Brisbane as the best of the capital city airports. Perth (at Guildford) had started development as a civil airport but became base for the famous 77 Squadron - at end of war had really good runways. Brisbane (Eagle Farm) had become quite a large base for US Air Force. Had a good runway at Melbourne, not much at Adelaide or in Tasmania & several reasonably good runways in Sydney. Perth & Brisbane had received the best development for military purposes - carried over to the civil aviation which came later.</p> <p>Aircraft - when finished war had plenty of DC3's, which had been a civil aircraft before war & was transferred into the Dakota, & few DC4's, during war these became C54 transport. Was not great difficulty to transfer them back again to very good civil aviation aircraft. The two domestic operators at that time had quite a lot of DC3's & a few DC4's. QANTAS was not very well equipped with aeroplanes, having been more concerned with flying boat operations just prior to & during the war. Had some Catalinas & Sunderlands, a good base at Rose Bay, but was a little time before they got into land based aircraft - coming into it first with Constellation in 1950.</p>	<p>Consolidation. Airports. aircraft.</p> <p>Australia - money & resources.</p> <p>Airports - Hobart, Adelaide.</p> <p>Norman Fricker. Chief Airport Engineer (Bill Bradfield).</p> <p>Airports - Perth (Guildford), Brisbane (Eagle Farm). 77 Squadron. US Air Force. Airports - Melbourne, Adelaide, Tasmania, Sydney.</p> <p>Aircraft - DC3 transferred to Dakota. DC4 transferred to C54 transport. Domestic operators. Qantas. Flying boats, Catalina & Sunderland. Rose Bay base. Land aircraft - Constellation.</p>

	Constellation in 1952.	
136-144	<p>9.2). First advancement in aircraft from wartime days - was introduction of Convair 240 in 1948.</p> <p>The Convair 240 could operate from capital city airports from / to which it was flying - so no major civil aviation developments as far as airports were concerned for several years after the end of war in 1945.</p>	<p>Convair 240.</p> <p>Civil aviation developments.</p>
144-181	<p>9.3). Country airports - accommodate DC3's & DC4's.</p> <p>DC3 a wonderful aircraft - could carry 21 passengers, had tyre pressure about 41 lb/in² which meant could easily operate off grassed fields & if could not get grassed fields, could operate from simple unsealed runways which were available in most places where aircraft wanted to fly at that time.</p> <p>During war had been development of a number of country aerodromes - eg. up Queensland coast for transport which took place to Papua New Guinea, the inland 'ferry' route through inland NSW on way to Darwin & route from Brisbane (where Macarthur had his headquarters) to Darwin as well as to Papua New Guinea. Also there was good line of airports built up Western Australian coast & the inland 'ferry' route from Perth up to Darwin. So, had quite good spread of country airports which had been built to take the DC3 at least.</p> <p>Were lots of requests for developments coming from country towns - but no real heavy development required because aircraft they needing / thinking of using - could all operate off grassed fields - eg. DC4 could.</p>	<p>Country airports.</p> <p>DC3.</p> <p>Tyre pressure.</p> <p>Grassed fields, unsealed runways.</p> <p>Queensland coast, Papua New Guinea, inland 'ferry' route through inland NSW, Darwin.</p> <p>Western Australian coast, inland 'ferry' route from Perth to Darwin.</p> <p>Country towns.</p> <p>DC4.</p>
181-195	<p>9.4). Air route opened across the Pacific from Sydney to Vancouver in 1946. - an important development at that time.</p> <p>Operated by ANA (Australian National Airlines) using a DC4.</p> <p>Pan American also flew from San Francisco to Sydney at same time - recalls also using a DC4.</p>	<p>Air route across Pacific - Sydney to Vancouver.</p> <p>ANA (Australian National Airlines), DC4.</p> <p>Pan American - Sydney to San Francisco.</p>
195-227	<p>9.5). Positive policies adopted during war paid off.</p> <p>Again, nothing in way of airport development needed in Australia to cater for that aircraft (i.e. DC3 & DC4). But busy at time in lot of planning, looking to future as well as sorting out from all airport development which had taken place during the war, which developments could be used & developed for civil aviation purposes. It brought out that the positive policies adopted during the war paid off.</p> <p>Can't recall at any time during war, thinking that war would end but in our favour, was apprehensive of course, but no thought of defeat. In Department of Civil Aviation, when designing something for wartime purpose - this was paramount - but where saw possibility of designing it in such a way that it served wartime purpose but would also serve a post war peaceful purpose, then worked that into the design. The fact that able to use so much of the wartime development for civil purposes afterwards indicated that this approach to things was successful</p>	<p>Policies.</p> <p>Airport development, future planning.</p> <p>DC3 & DC4.</p> <p>Positive policies adopted during war.</p> <p>Department of Civil Aviation.</p>
227-438	<p>10). Period 1947 to 1952.</p>	<p>Australian Representative on Council of International Civil Aviation Organisation (ICAO).</p>
227-236	<p>Australian Representative on Council of International Civil Aviation Organisation (ICAO).</p> <p>Appointed in 1947 & this appointment continued through till end 1952.</p>	<p>Council of International Civil Aviation Organisation (ICAO).</p>
236-330	<p>10.1). ICAO - created at Chicago Conference Dec 1944.</p> <p><i>Refer to earlier part of these interviews when initial establishing & setting up ICAO was talked about -</i></p> <p><i>Tape IEA SYD : JB 3, Side A, Counter 404-451, Section 8.5.1 - "Formation of ICAO in Chicago".</i></p> <p>Two essential objectives of 1944 Chicago Conference were :</p>	<p>Chicago Conference (December 1944).</p> <p>Conference objectives.</p>

	<p>1. The establishment of technical & operational administrative standards & procedures to apply to all international civil aviation issues.</p> <p>2. The establishment of administrative measures to establish & control international airline routes, together with the rates of fares & frequency of aircraft operating on those routes.</p> <p>Was general & quick agreement on first objective which dealt with technical & operational matters - led to formation of the International Council.</p> <p>Second one not so easy as dealt with economic matters to large extent. Were quite strong differences in Council about how to establish & <u>control</u> (important word) the international airline routes, together with fare rates & frequencies of aircraft.</p> <p>The USA, at that time, took the position (think have modified since - under pressure from other sources) that would allow & encourage the operation of civil aviation by private enterprise & without much, or any, control from governments. It would have given the US the ability to fly wherever they wanted to fly.</p> <p>The UK's attitude, at that time, was to have a more governmental control over international civil aviation & not so much freedom.</p> <p>There were four different propositions put to Chicago Conference regarding this second point :-</p> <ol style="list-style-type: none"> 1. The US view. 2. The UK view. 3. Different view from Canada - about half way between the two. 4. Rather radical view put forward jointly by Australia & New Zealand - that all international civil aviation should be under the control of one international authority - did not receive any or much support & was rejected fairly quickly. But it reflected the government position in both Australia & New Zealand at that time. Recalls our Foreign Minister at time was H.G. Evatt who was strong supporter of that view & he had similar counterpart in New Zealand. <p>Conference ended after about 31 days with firm agreement on first objective but they found a form of words to satisfy second objective so that conference could end - but was really not a strong decision in regard to establishing the administrative measures to establish & control international civil aviation from the actual air transport point of view.</p>	<p>International civil aviation.</p> <p>International Council.</p> <p>International airline routes, fare rates, aircraft frequency. USA. Private enterprise. Government control.</p> <p>UK.</p> <p>Canada. Australia, New Zealand.</p> <p>Foreign Minister, H.G. Evatt</p>
330 →	<p>Thinks big success of Chicago Conference was the formation of the Permanent Council of ICAO - was determined that it should be a Council of 21 states & should sit in permanent session in Montreal. That is, it was not a Council that met every now & then, but to have a representative on & be a member of Council, meant having an office in Montreal. The Council met throughout the year - about 2 meetings per week - this has gone on since 1945 when it started up to the present day.</p>	<p>Permanent Council of ICAO. States.</p> <p>Montreal.</p>
346 →	<p>Conference also determined that the President of the 1st ICAO Council should be Dr Edward Warner - at time was head of Civil Aviation Authority in USA. He had very large part in actual drafting of the Chicago Convention. He was remarkable man - had read at one time someone describing him as a "polyglot" - found in dictionary a "polyglot" is 'a man who is an expert in all fields' - & that's just what he was. He was a very good engineer & was extremely good in all phases of civil aviation - eg. air transport, economic, legal matters, anything he touched he became highly expert in & at same time he was a very human & unassuming man. He was a very good person to have as President of ICAO. He played a big part in the history of ICAO, in civil aviation & in Bill's own life.</p>	<p>President of 1st ICAO Council, Dr Edward Warner, Head Civil Aviation Authority in USA. The Chicago Convention</p>

388-438	<p>10.2). Provisional ICAO Council set up from Dec1944 mtg - development to permanent ICAO Council.</p> <p>52 states attended 1944 Chicago conference - several states were not invited, such as Germany & Japan, as war was still on. As well as the 52 states, also representatives from Denmark & Thailand were there as observers but not voting members because Denmark was still under control of Germany & Thailand still under control of Japan.</p> <p>For the Convention to come into force, had to be ratified by two thirds of the member states present & it always takes time between agreeing to something at a meeting & actual ratification by the government afterwards.</p> <p>So, Council was set up to start immediately in 1945 as the Provisional Council & as soon as the necessary number of ratifications from states came in, then it became the Permanent Council.</p> <p>Mr A.R. McCombe had been appointed by Australia as it's Representative on the Provisional Council.</p> <p>Bill was fortunate to be the Australian Representative at the first meeting of the Permanent Council which started in 1947.</p>	<p>Provisional ICAO Council.</p> <p>Germany, Japan. Denmark, Thailand.</p> <p>Germany, Japan.</p> <p>Convention.</p> <p>Mr A.R. McCombe, Australian Representative on Provisional Council.</p>
438	End of Tape IEA SYD : DWB 9, Side A	

Tape Log

Tape: IEA SYD: DWB 9, Side B		
COUNT	SUBJECT	NAMES & KEYWORDS
000-004	Tape Identification	
004-044	<p><u>10.3). Forerunner of ICAO was International Civil Aviation Navigation (ICAN).</u></p> <p>ICAO is different from other organisations within United Nations. When set up in 1945, it was not a specialised agency of the United Nations - it became a specialised agency later. It really evolved or grew out from an earlier organisation called ICAN - a French name - in English it means The International Civil Aviation Navigation Agency which had been set up in 1920's / early 1930's with headquarters in Paris. It's members would have been the few countries at that time engaging in civil aviation - UK, USA, Netherlands, France & several others in Europe & Australia. It's secretary at that time was a Frenchman called Albert Roper. When war broke out in 1939, he literally went underground with his 'office' - not other people in his office - but took all papers, etc relating to ICAN & hid them. After war over, he surfaced with all these things & so ICAO was able to take over from ICAN & use lot of this early material as one of it's bases. Roper became first Secretary General of ICAO & did a very good job.</p>	<p>International Civil Aviation Navigation (ICAN). ICAO, United Nations.</p> <p>Headquarters, Paris.</p> <p>UK, USA, Netherlands, France, Europe, Australia. Frenchman, Albert Roper.</p> <p>Secretary General of ICAO.</p>
044-059	<p><u>10.4). ICAO was different to ICAN</u> - much bigger & the Conference in 1944 had set it up with it's Permanent Council of 21 member states & also an Air Navigation Commission of 21 members, not states. Idea was that as part of structure of ICAO, Air Navigation Commission would have very strong group of technical & operational people who would deal with technical & operational subjects, prepare reports, etc, which it passed to Council & would be served by a strong Secretariat - which by time Bill left in 1952, had several hundred members of Secretariat, highly qualified people, appointed from all over the world.</p>	<p>ICAO, ICAN. Permanent Council. Air Navigation Commission.</p> <p>Technical & operational people.</p> <p>Secretariat.</p>
059-078	<p><u>10.5). Structure of ICAO & Council</u></p> <p>Following is brief description of what Council & ICAO organisation in Montreal consisted of in 1947 - 1952 period :- Council had committees - Air Transport Committee, Administrative Committee, Joint Support Committee & an Air Navigation Committee (before the Air Navigation Commission commenced in 1949 - took a little while to set this up). Secretariat had supporting staff for all of these activities. There was also a small Division which grew to a much larger Division later, which dealt with technical assistance given to smaller & developing states that needed that assistance.</p>	<p>ICAO & Council, Montreal.</p> <p>Committees :- Air Transport Administrative Joint Support Air Navigation (before Air Navigation Commission)</p>
078-096	<p><u>10.6). Air Navigation, Air Transport, Administrative and Joint Support Committees</u></p> <p>- Bill was a member of each of these throughout 1947 - 1952. Also was Chairman of Joint Support Committee (by default) - was 2nd Vice Chairman shortly after arriving in Montreal - then found after being in Montreal couple of weeks (these positions spread around) became 1st Vice Chairman of Joint Support Committee - but Chairman, who was a Council member from some state in South America hadn't arrived, so Bill found himself at very short notice as Chairman of Joint Support Committee - & remained Chairman for next 4 - 5 years.</p>	<p>Committees - as above.</p> <p>Joint Support Committee - 2nd Vice, 1st Vice & Chairman.</p>
096-148	<p><u>10.7). Joint Support Committee</u> - was the section of ICAO Council which had responsibility (as well as Secretariat who did most of the work) for the development & administration of projects which were financed, not by one state, but by a number</p>	<p>Joint Support Committee of ICAO. Project development & administration.</p>

	<p>of states. Particular project at that time was 'Ocean Weather Station Ships' in North Atlantic.</p> <p>To fly North Atlantic at that time, it was necessary to have ships positioned at various points across Atlantic which had beacon on them transmitting signal which aircraft could pick up to get an idea of where they were & also transmitting weather reports. These ships would move around in circles, almost on one spot for couple of weeks & then go back to shore for couple of weeks while someone took over from them - was very onerous job. The ships were provided by various states, some from US, some from UK, France, Belgium & so on. Cost of the ships & for this arrangement was paid for by the states who were flying the North Atlantic & in accordance with number of flights they were making across North Atlantic.</p> <p>All this was administered by Secretariat under the guidance, or responsibility, of the Joint Support Committee of Council. Job was to act on various reports & information given by Secretariat about it & come to conclusion if it was fair or not & pass it onto Council proper. All this started during the Provisional Council & by time Bill got there in 1947, due to development of better & longer range navigational aids, there was a move to replace these ships with land based units, some in Iceland, some in Greenland, some in Northern Canada, some in Newfoundland, & so on - which was called the 'Long Range Navigational System'. All this was coming before Joint Support Committee - was a very interesting time.</p> <p>In 1948, new agreement was signed between the states who were flying North Atlantic at that time - brought in agreement to replace the 'Ocean Weather Station Ships' agreement.</p>	<p>Ocean Weather Station Ships, North Atlantic.</p> <p>Beacon. transmitting signal.</p> <p>Weather reports.</p> <p>States - US, UK, France, Belgium.</p> <p>Cost of ships & Arrangement.</p> <p>Provisional Council.</p> <p>Long range navigational aids.</p> <p>Land based navigational units - Iceland, Greenland, Northern Canada, Newfoundland.</p> <p>Ocean Weather Station Ships agreement.</p>
148-195	<p>10.8). The Secretariat of ICAO</p> <p>Technical assistance to support committees is given by the Secretariat - to large extent, above is such technical assistance. ICAO had different structure to other specialised agencies & this brought with it a need for a much larger Secretariat than some of the other specialised agencies had. With the Permanent Council in Montreal, ICAO was different from other specialised agencies like World Health Organisation & others where the various states of the world hold regular meetings, but not on a continuing basis. They may have one or two meetings a year but not on basis of several meetings a week, week after week.</p> <p>So Secretariat of ICAO was support base for the Council, it's committees & also for the Divisions of ICAO.</p> <p>There were quite a lot of what is called 'Divisions' - eg. in air navigation field there was Communications Division, Air Traffic Control or Operations Division, Aerodrome & Ground Aids Division. All these Divisions used to meet at intervals in Montreal. Letter would go to all contracting states inviting them to such a meeting. Would have maybe 15 or more states with representatives coming to talk about subjects that were current at the time. In those first 5 years, in many cases, all were working towards standards & recommended practices which became Annexures to the Convention. So needed large support staff in Secretariat for all that work.</p> <p>Secretariat played most important part in whole organisation & the Secretary General of the Secretariat (at that time Albert Roper), was really looked upon as the No.2 person in the ICAO organisation - President of Council being No.1.</p>	<p>Secretariat of ICAO.</p> <p>Technical assistance.</p> <p>Permanent Council in Montreal.</p> <p>World Health Organisation.</p> <p>Divisions.</p> <p>Air navigation field</p> <p>Divisions -</p> <p>Communications.</p> <p>Air Traffic Control or Operations.</p> <p>Aerodrome & Ground Aids.</p> <p>Annexures to Convention.</p> <p>Secretary General of Secretariat - A. Roper</p>
195-244	<p>10.9). Composition of ICAO Council - is a council of states. Representatives of these states sit in the Council meetings in Montreal & each state has it's own delegation - might have one or more members - eg, in 1947-1952 period, US, UK & Canada had 3 members each, France 2, some of other states also had 2</p>	<p>ICAO Council.</p> <p>States, representatives.</p> <p>Delegations - US, UK, Canada, France, Australia.</p>

	<p>& rest had one each, Australia being one of those. When 'one man band', trying to cover whole activities of Council plus being member of various committees - one was fully occupied. To add to this - Bill was youngest member of Council, was 36 when went there in 1947, found himself amongst an array of far more experienced people. Head of US delegation was General Kuter - was 4 Star General who had been in charge of whole of US Military Air Transport System. Representative of UK was Sir Frederick Timms, who had been Director of Civil Aviation in India for many years (most respected man). There were Commodores & Brigadiers - lots of people who had played leading roles during war - they were not only members of Council, but also members of Secretariat. Many people in that gathering in Montreal had famous war records - so Bill felt rather a 'minnow' amongst them.</p>	<p>US Delegation Head, General Kuter - in charge US Military Air Transport System.</p> <p>Sir Frederick Timms representative of UK, been Director of Civil Aviation in India</p>
244-264	<p>10.10). Matters dealt with covered whole spectrum of civil aviation in 1947 when Bill went there - prior, he had only been concerned with 'airports, airports, airports,...' - but soon as got there found not only had whole spectrum of civil aviation to deal with, but whole spectrum of civil aviation to learn. So was great learning experience as well as a most interesting period - said it opened up his mind to civil aviation as a whole & gave very good background to move on from when returned to Australia in 1952.</p>	Whole spectrum of civil aviation.
264-333	<p>10.11). Background to first appointment to ICAO in 1947. Sir Richard Williams was at time Director General of Civil Aviation in Australia. Sir Richard called Bill down to his office & asked if would like to go to Montreal as Australian Representative on ICAO to replace Mr McCombe. Knew would like to go very much, chance of a life time - but said "please let me give you answer to-morrow morning because I'd like to speak to my wife about it" - had two small children, one was 3 & other 5. Didn't realise until got to know Sir Richard better later, that he had said exactly the right thing. Sir Richard appreciated someone who shared things with his wife. Went home that evening & talked to Jeannette & she said "isn't that where Dr Warner is at the present time? - replied "yes, he is the President". She said "you've been talking about him for years - of course we'll go". So told Sir Richard next day would like to go very much - started to make preparations to go a few weeks later. Always remembers - day before leaving - went down to Sir Richard's office, said "do you have any instructions for me, Sir?". He, as he usually did, thinks before he speaks, so in a little while he said "you do not have plenipotentiary powers, but I am not sending you 10,000 miles to sit on the end of a cable". Bill felt these were the most perfect instructions anyone could be given to someone in his position. In other words, if it was felt help or instructions were needed from home, Bill cable him, but otherwise make up own mind. That was sort of thing a man like Sir Richard Williams would do. He was the first Air Marshall that Australia had - thinks he was only one we have ever had (we have had Air Vice Marshalls) - his correct title is Air Marshall Sir Richard Williams.</p>	<p>Sir Richard Williams, Director General of Civil Aviation in Australia.</p> <p>Australian Representative on ICAO. Mr A.R. McCombe.</p> <p>Wife, Jeannette. Dr Edward Warner, President of ICAO.</p> <p>Air Marshall Sir Richard Williams.</p>
333-367	<p>10.12). Journey from Sydney to Montreal in those days. Flew by DC4 (unpressurised, but very comfortable) aircraft from Melbourne to Sydney, Sydney to Fiji, same crew whole way so had 16 hours in Fiji for crew rest. Then Fiji to Hawaii, stopping at Canton Island (just a dot on the Pacific) on way for fuel, then 27 hours crew rest in Hawaii. Then on to San Francisco & then onto Vancouver. The 27 hours rest & other periods were designed because most</p>	<p>Journey - Sydney to Montreal. Melbourne to Sydney. Sydney to Fiji. Fiji to Hawaii (stopping at Canton Island). Hawaii to San Francisco, then Vancouver.</p>

	<p>of the ocean crossing was by celestial navigation - can imagine trying to pick up spot like Canton Island which was just an atoll in middle of Pacific.</p> <p>Was a long but comfortable trip.</p> <p>Then crossed from San Francisco to Montreal by train in 3 to 4 days.</p> <p>So, in those days, journey from Sydney to Montreal was well over a week.</p> <p>Arrived in Montreal at Windsor Station & like those great railway stations in Canada, had a big hotel on top of the station & booked into the Windsor Hotel.</p>	<p>Crew rest periods.</p> <p>Ocean crossing.</p> <p>Celestial navigation.</p> <p>Train - San Francisco to Montreal.</p> <p>Windsor Railway Station, Montreal.</p>
367	End of Tape IEA SYD : DWB 9, Side B	

Tape Log

Tape: IEA SYD: DWB 10, Side A		
COUNT	SUBJECT	NAMES & KEYWORDS
000-005	Tape Identification.	
005-029	<p>10.13). Australian Representation at Division Meetings. Division Meetings were always held in Montreal. This had good consequence for Bill in that in early days (1947 to 1952), there was large intake of people into Department of Civil Aviation - DCA (in Australia), particularly from operational side - many had served as pilots during war - people from all technical sides of civil aviation. They would come to Montreal for 3 to 4 weeks at a time to attend a Division meeting - gave Bill chance to meet & work with them (many had met before) as Council member & operating from Bill's office in Montreal. Really was start of lifelong friendships with many of them. So when went back to DCA in 1952, went back to a body of people who were by then in middle level of DCA (like Bill was) who knew well & got on very well with & was a very big plus as far as Bill was concerned. <i>Refer further comments on 'Division Meetings' on this Tape side at Counter 136-150 in Section 10.15.2.</i></p>	Division Meetings held Montreal. Australian representation. Department of Civil Aviation, Australia.
029-115	<p>10.14). Working Procedures of ICAO. Divisions, to Air Navigation Committee or Air Transport Committee to Council. Procedures for Standards & Recommended Practices to Annexes to Convention. Working Procedures, at first glance, seemed to be long drawn out procedures, there was reason for it. If, for example, had a Division meeting on, say, aerodromes & ground facilities - first have all representatives from all states coming up with conclusions & recommendations as to how things should be done or how things should be. Such as - widths of runways, types of runway lights, etc - in case of the technical operational matters went to the Air Navigation Commission. In case of air transport matters, eg facilitation of civil aviation at airports, i.e. trying to get people through the various formalities (eg customs, immigration & so forth) as quickly as possible - that went to Air Transport Committee. The Air Navigation Commission (or Air Transport Committee), if it agreed with it, or if it altered it a little bit, they produced a report which went to Council. If Council accepted that report, it then went back to all states (then there were between 50 & 100 - they were coming in all the time - now something like 180) for comment. All comments coming back - in case of technical, would go to Air Navigation Commission - they looked at it again & came up with final recommendation to Council. Then Council considered it & if they approved, it was approved by Council. Sounds a long process - took a year or perhaps more - but the reason for it was - once Council approved that, these Standards &/or Recommended Procedures went into the Convention as an Annex to the Convention & it had the legal strength of the Convention itself. Being given that legal strength meant that contracting states had to abide by it, that is, unless they 'filed a difference', they were duty bound to accept that as a legal document. States were given a return date for comments & if no comment received, it was assumed they had no comment. By time something got to stage of being a Annexure to the Convention, it had gone through a pretty exhaustive process.</p>	Working Procedures of ICAO. Divisions, Air Navigation Committee, Air Transport Committee, Council. Procedures for Standards & Recommended Practices, Annexes to Convention. Representatives from states. Annex to Convention

085→	<p>It did not have absolute stability then because as civil aviation advanced, would find would need to introduce new annexures, new standards, new recommended practices - so the annexures are continually updated.</p> <p>Not much difference between a Standard & a Recommended Practice or Procedure - to give example of that - Annexure 14, one dealing with aerodromes - there are certain standards such as the angles of approach paths which must be kept clear from ends of runways - no use having a runway with a building on end of it. Runway must have a clear approach path for aircraft to fly into it & fly out. These are particularly involved with aircraft in very vulnerable part of it's flight - that would be a Standard. The width of a runway was not standard - Bill thinks should have been, but recalls argument that took place when determining width of runways. At that time, thought was should have runway width minimum 200 feet in case of large aircraft of various categories - highest category had width 200 feet. Then someone with legalistic mind said how can you be certain that if has got to be 200 feet to be safe - what about 199 feet? - can you say that would be unsafe. The legalistic view prevailed - so it was made a Recommended Practice.</p> <p>This illustrates difference between what is a Standard & what is a Recommended Practice. The Standards are those which say that all states must agree / comply - the Recommended Practices are those things which it is recommended that all states agree.</p>	<p>Standard. Recommended Procedure.</p> <p>Aerodromes. Approach path.</p> <p>Width of runway.</p>
115-136	<p><u>10.15). Other meetings other than specific Divisional or Council Meetings in Montreal.</u></p> <p><u>10.15.1). Panels.</u></p> <p>In cases where need to deal with very specific items - i.e. special technical & operational matters - Council would set up a 'Panel'. All states were invited to become part of the Panel - but really only attended by those states which had particular expertise in that matter.</p> <p>They did not have same force as Division meetings, but were never the less extremely important meetings. What they determined would often go on to become subject of discussion at Division meetings & at Council level.</p> <p>They produced what very often called 'Manuals' - very important documents & were distributed to all contracting states.</p>	<p>Panels. Special technical & operational matters.</p> <p>Manuals.</p>
136-150	<p><u>10.15.2). Regional Air Navigation Meetings.</u></p> <p>When ICAO formed, even in 'Provisional' days, decided divide world up into ten (10) Air Navigation Regions - since then, some have amalgamated & there are now five (5).</p> <p>In those first 5 years, Regional Air Navigation Meetings were held in all of the different regions that had been formed & all states in those regions & all states who had aircraft that flew in those regions. For example, US could have aircraft flying in all of them - so would attend meetings & be voting participants.</p> <p>These meetings did not lay down Standards or Recommended Practices - but produced an Air Navigation Plan of what ICAO thought should be the objective to strive for in the next 5 to 10 years. They covered locations of the aerodromes they thought should be needed, the navigational aids - roughly where they should be located, what communications should be put up & so forth. They were a plan & a list which ICAO thought should be put in as soon as possible by each of the states in which these things were situated. If a state felt it did not have the resources to do it - they could come back to ICAO & seek help from them in doing so.</p>	<p>Regional Air Navigation Meetings.</p> <p>Air Navigation Regions.</p> <p>Air Navigation Plan.</p> <p>Aerodrome locations, navigational aids, communications.</p>

	<p>That is where this technical assistance, as talked about before, (in Tape IEA SYD : DWB 9, Side B at Counter 078-098 & under Section 10.6) became so important.</p> <p>As ICAO grew & as the Air Navigation Regions became more developed - if states could not do it themselves, there would be more & more applications for assistance. A very strong technical assistance division grew up in ICAO as a consequence of that.</p>	<p>Air Navigation Regions.</p> <p>Technical assistance.</p>
192-235	<p>10.16). Second Vice President of ICAO in 1949 & acting as President of Council for several weeks</p> <p>- during absence of Dr Warner due to illness.</p> <p>For the President of ICAO, there is no time limit on tenure of office - but each year a 1st & 2nd Vice President were appointed, were honorary jobs, said an accolade more than anything else. In 1949, Bill was 2nd Vice President - again, one of states (South American) had been on Council but had withdrawn their member from Council for one reason or other & 1st Vice President was not there and Edward Warner became seriously ill. On overnight notice, Bill became acting President of Council for about two months. Was very interesting experience - again in situation of being youngest member of Council & all other Council members helped tremendously, so got through.</p> <p>Other things besides running Council meetings - taking President's place at formal occasions where he should be seen. Can remember on one occasion being in position of welcoming a new representative from a new state onto Council.</p> <p>Was awfully glad when Edward Warner came back.</p>	<p>Second Vice President of ICAO.</p> <p>Acting President of Council - Dr Edward Warner ill.</p> <p>1st & 2nd Vice President.</p>
235-344	<p>10.17). Legal Committee & it's conversion to a Commission.</p> <p>Legal Committee existed from days of ICAN - i.e. before days of ICAO. In the setting up of original ICAO, there was no Legal Committee as there was an Air Transport Committee which dealt with legal subjects.</p> <p>The Legal Committee was like a club of very high level lawyers from various parts of the world - met about once per year - maybe more than that - in first few years Bill at ICAO, they always seemed to be talking about same subject but never solving it. Not only Bill, but number of other members of Council were wondering what to make of them. They were brought back to size one day in a meeting of Council where this was being discussed because there was a move to bring them into ICAO. Sir Frederick Timms, UK Council member, in his quiet & wonderful way, referred to the Legal Committee as 'a flock of migratory birds who spend their time flying round & round the world & alighting at times at various pleasant watering holes to gabble & gabble & gabble' - there was a member of Legal Committee there at that meeting & can still remember the reaction. But Sir Frederick's description of the Legal Committee was accepted by Council generally & it was decided to disband the Legal Committee & form a Legal Commission.</p> <p>Point about this is that at a General Assembly of ICAO, at which all the states are invited & which takes place usually once every 3 years, the General Assembly has a Technical Commission, an Administrative Commission, an Air Transport Commission & a Legal Commission - so they were quietly transferred from the Legal Committee to the Legal Commission. They met once a year right under the aegisant eyes of ICAO & thinks it improved the whole situation.</p>	<p>Legal Committee, Legal Commission. ICAN.</p> <p>Air Transport Committee.</p> <p>Legal subjects. Lawyers.</p> <p>Sir Frederick Timms, UK Council member.</p> <p>General Assembly of ICAO.</p> <p>Technical Commission, Administrative Commission, Air Transport Commission, Legal Commission</p>
298-344	<p>10.18). Interpretation of the Convention - maybe a lesson for engineers.</p> <p>One legal thing that taught Bill a lesson & maybe should teach all engineers a lesson was a follows :-</p> <p>There was a case in Council where a Mexican Council member was dealing with interpretation of a clause in the Convention.</p>	<p>Interpretation of the Convention.</p> <p>Mexican Council member, Dr Loaeza.</p>

	<p>The Mexican, Dr Loaeza - (he & Bill were great friends) - had one interpretation which Bill did not agree with. So Bill put forward what he thought was right interpretation. Dr Loaeza was a lawyer & raised the point that Bill, as a engineer, had no qualifications to interpret the Convention, even though the Convention was written in English. At that time, the Convention was not in Spanish - was translated into Spanish later as a official version. Had always been translated, but not as an official version. Was a question that Bill, who had English as his natural language, but not a legal background OR he with his legal background.</p> <p>Went to a debate & a vote - with some humour in it - but quite serious. The first point of debate was whether Bill had the right to interpret the Convention - the Council decided that Bill, as an engineer, did not have the right to interpret the clause in the Convention - Bill disagreed but could not do anything about it. But , then they went to the second vote - that is, about the actual interpretation - & Council agreed with Bill's interpretation, not the Mexican interpretation.</p> <p>Think lesson there to all engineers is - maybe somehow or other - try & overcome this prejudice that because you're not a lawyer, you can't fully understand the written word & interpret it. Don't know how we are going to do it - but maybe we should try.</p>	<p>Lawyer, engineer.</p> <p>Convention in English, Spanish.</p>
344-437	<p>10.19). Atmosphere in ICAO Council & Secretariat - determination to get things done. Leadership of Dr Edward Warner.</p> <p>Was a wonderful atmosphere - was almost immediately after the war - had wonderful leadership with Dr Edward Warner - had a Council that worked very well together.</p> <p>There was feeling of 'internationalism' - certainly & quite rightly, everyone had national interests in mind, but there was genuine feeling & desire to do what thought best for international civil aviation, stressing the word international. It was a feeling - there were things to be done & you've got to do them quickly because they need to be done quickly.</p> <p>It was amazing what was done in those first five years. Produced 14 out of the 18 Annexes which exist at the present time, had Regional Air Navigation Plans for all over the world & quite a lot of work also both on the Air Transport side & some on the legal side.</p> <p>Was good rapport between Secretariat & members of Council. There was very happy atmosphere between members of Council themselves. The sort of thing that happened - Swedish Council member had a wife (was Swiss)- lady called Claire Soderberg. Claire had one child about 2 years old & another one about to be born. Claire & Henry Soderberg come around with request, particularly to Jeannette, 'would Jeannette look after the first child while Claire went into hospital & had the second child?' Bill & Jeannette did this - young boy about two came & stayed with them while Claire in hospital. Things like that bring people together so closely.</p> <p>Can't help working together in your technical & operational fields when have that feeling of being together outside the Council & that was one of the many things that happened at that time.</p> <p>It was case of whenever one felt one could - someone was there to help you or you were helping them. Were not only an international community in Montreal, but was almost like an international family & was best atmosphere you could get for people to work in. Thinks that is why were able to achieve so much in such a short time.</p>	<p>Atmosphere in ICAO Council & Secretariat. Dr Edward Warner.</p> <p>'Internationalism'.</p> <p>International civil aviation.</p> <p>Annexes. Regional Air Navigation Plans.</p> <p>Secretariat, members of Council. Swedish Council member & wife, Henry & Claire Soderberg.</p> <p>Bill & Jeannette Bradfield.</p> <p>International community, Montreal.</p>
437	End of Tape IEA SYD : DWB 10, Side A	

Tape Log

Tape: IEA SYD: DWB 10, Side B		
COUNT	SUBJECT	NAMES & KEYWORDS
000-004	Tape Identification	
004-080	<p><u>10.20). Language Translators & suggested "rules" for people using simultaneous Translators.</u></p> <p>All debates in Council & in all meetings were in three languages - had simultaneous translation - English, French & Spanish. Great part of the success of what happened was the efficiency of this language translation.</p> <p>Had this group of translators sitting up in the gallery or behind a screen listening to every word that was said - in case of Bill speaking - translating from English into French & Spanish. Secretariat & Council met one another quite regularly after meetings & met - got talking with the translators - realised the whole success of what was happening depended on what they were doing & how they did it. Bill found that there were various things that you should do when in a situation like this when using simultaneous translators - suggested "rules" to follow :-</p> <ol style="list-style-type: none"> Always speak slowly. Always try to speak clearly & in short sentences. Always try to put verb in sentence in early part of sentence - because they can't know what you are driving at until you announce the verb. If leave it till end of sentence. they can't start translating until they have heard the verb. Never use an idiom - just speak simply - don't try & put things into any strange language. Don't get into oratory. Use written statement & give written statement to translators before speaking - if you have statement to make firmly on behalf of your country. Bill found they appreciated this very much because they knew what was to be said & they could translate beforehand - as long as kept to the statement - their translation was perfect & everything went across well. <p>Gave tremendous amount of credit to the people translators. Only once in all years at ICAO, was Bill ever mistranslate - & that led to a very difficult situation. Albert Roper, who was Secretary General, reached retiring age in Council & paying tribute to him in his last day in Council - Bill remembers speaking of him in a very complimentary way as a 'unique' man. Bill had hardly finished what he was going to say before Frenchman Henri Bouché, who was also a good friend, tore strips of Bill in Council - he really was annoyed. Could not understand why & no other English speaking member in Council could either. Edward Warner realised - as soon as he could get a word in - called an early break for tea. Bill went over to Bouché - could not understand what had gone wrong. What it turned out was, Bill had used the word 'unique' & the translator had thought he had said 'eunuch' & made wrong translation - Henri Bouché was understandably extremely annoyed. When he realised, everything was quietened down - a few laughs all around & the matter proceeded. Bill said this was the one & only time that he has ever been mistranslated.</p> <p>Translating is very difficult & demanding task because you are trying to translate from all different types of accents, people who speak fast, & so on.</p> <p>Became quite friendly with the translators - that accord helps so much in a situation where you are in a meeting where there is simultaneous translation.</p>	<p>Simultaneous language translators.</p> <p>Languages - English, French & Spanish.</p> <p>"Rules" to follow when using simultaneous translators.</p>

080-301	<p><u>10.21). Spirited debates on the following :-</u> <u>10.21.1). Runway lengths & widths.</u> <u>10.21.2). Approach lighting.</u> <u>10.21.3). Distance Measuring Equipment (DME).</u></p> <p>Not all debates were simple without much action & reaction - all members held strong views on certain things & there could be quite spirited debate that went on in Council & Committee & Division meetings - particularly in some of the Division meetings & committees where you trying to get your ideas across when there were other opposition views. Above were three examples recalled.</p>	<p>Runway lengths & widths. Approach lighting. Distance Measuring Equipment (DME).</p>
100-184	<p><u>10.21.1). Runway lengths & widths.</u></p> <p>Initial runway width laid down in 1947 in the Aerodromes & Ground Aids Division was set at 200 feet. In Australia we stuck to this width as we thought it was the right one.</p> <p>The runway width measures not only width of actual pavement, but put runway lights outside that to mark pavement & all sorts of things like that.</p> <p>Remembers when UK came up with Comet I - they first of all said it would not require any runway longer than what we already had & that soon dispelled & they wanted longer runway. Then they argued they needed a longer runway but could cut down runway width from 200 feet to 150 feet & save the money there. Lot of people fell for it - too many. Australia argued against it because we thought at that time, while Comet I might be able to get away with 150 feet wide runway, aircraft would inevitably grow & it is not as easy as one might think to widen a runway. Need to put strip on both sides - but must have slope on that strip to get water away. If have runway 150 feet wide sloping from crown to each side, can't just put another 50 feet on either side flat - water stays there - must carry down into ground. This got up through the Division, the Commission (Australia did not have representative on Commission at that time) & up to Council as part of a packet of things.</p> <p>Bill proposed an amendment in Council to change figure from 150 feet to 200 feet. Only support got on Council was gentleman from Iraq - think he was one of Saudi family - his name was Ali Fuad Bey. Ali backed & seconded Bill - quite a spirited debate because Bill held to 200 feet. Was eventually beaten - all were for 150 feet & only two for 200 feet.</p> <p>In Australia continued to build runways at 200 feet width with runway lights at little more than 200 feet apart. Was just as well because pay-off came years later when Boeing 747 was introduced - the outboard engines were almost over the runway lights of the 150 feet wide runway. Runway lights always built so to be flangeable - but very difficult position to be under jet engine at take off. Wrote to Boeing Company & pointed this out to them, but never got an answer. Pay-off came when first Boeing 747 landed at Paris (150 feet wide runway) & blew quite a swathe of the runway lights out. The attitude changed after that & you'll find most runways of the world have gone back to 200 feet width. The 25 feet on each side of the 150 feet central part are of lower strength - does not matter very much, but will still support an aircraft without damage to the aircraft - they might get bit of damage themselves with very heavy aircraft.</p> <p>Runway lights are based on the 200 feet spacing.</p>	<p>Runway lengths & widths. Aerodromes & Ground Aids Division.</p> <p>Pavement, runway lights. Comet I.</p> <p>Ali Fuad Bey from Iraq, member of Saudi family.</p> <p>Boeing 747.</p> <p>Paris.</p>
184-228	<p><u>10.21.2). Approach lighting at airports.</u></p> <p>Were two systems under consideration - one a British system, (the Calvert system) & another, an American system.</p> <p>Was debated in the Division - was a lot hinging on this because whatever system was adopted was worth billions of dollars to the</p>	<p>Approach lighting at airports. British system (the Calvert) system & American system.</p>

	<p>country concerned & to the manufacturers in the country. US were sticking hard to their position & UK sticking hard to theirs. Australia agreed with UK position & also agreed with UK statement about the US position / arrangement. Under certain circumstances, infrequent but never the less possible, US system could give a signal that could easily be misleading. Americans would not accept that - but they had on their delegation a very senior airline pilot - he was not head of the delegation - but was a member of it. Can remember him getting up & in Division meeting where there had been a very spirited debate on this subject - & in almost utter silence, he made the point, that he as a senior airline pilot agreed with the UK that this could occur. That destroyed the American system straight away. Have always admired the guts of that man to stand up & not follow the delegation line - but follow the line of safety. Was looking at the international approach rather than the narrow nationalistic & manufacturer's approach.</p>	<p>Manufacturers in the country, US, UK.</p> <p>Airline pilot.</p> <p>Safety.</p>
228-241	<p>Comment / overview of debates.</p> <p>Debates were good, never anything vicious - except earlier mentioned misinterpretation of Bill's one word (<i>refer this Tape IEA SYD : DWB 10, Side B, Counter 004-080, Section 10.20</i>). Debates were certainly strong & spirited. Often after a 3 hour meeting - (all meetings were at least 3 hours) - i.e. Divisions, Committees, Councils - you knew it was time to have a rest.</p>	<p>Comment / overview of debates.</p> <p>Divisions, Committees, Councils.</p>
241-301	<p>10.21.3). Distance Measuring Equipment (DME).</p> <p>There is a navigational aid called a DME - a wonderful aid - has a transmitter at airport & 'black box' in aircraft. 'Black box' picks up signal from transmitter on ground & sends it back to aircraft & measures various times taken. Is so designed that if flying directly to airport - can do this easily by having a locator beacon of some sort (non directional beacon) at the airport & as you flying into that - just need in front of you on dial, say 35, 34, 33, 32,..... - exact number of miles you are from that beacon, i.e. the airport - so know exactly where you are. It is a most useful navigational aid.</p> <p>The old Australian DCA, working together with the CSIRO - very frequently did on research matters; wonderful combination - they had developed an Australian DME very early in the piece. Americans also had a DME - but different operating frequency - recalls Australian 200 mega cycles & American 1,000 mega cycles - & there was an attempt to get an international DME. Because of difference, there was no agreement on it & so did not have an international DME.</p> <p>In meantime, Australia thought so much of need for equipment that went ahead & produced them locally. Had DME's all over Australia some 20 years before any other country had DME's. Debate as to which one would be useful went on for years & years & got spirited at times. In the end, Australia withdrew it's DME from international field because had chosen a frequency which later became (when television became popular) - very close to the television frequency & there was chance of interruption to television by it. The American DME was so far away - there was no worry about that.</p> <p>It was some years after Bill left Council (left in 1952) - that Australia decided that with that disadvantage, could not compete on the international field so bowed out in favour of the American one as the international standard.</p> <p>Australia then had to change - & put the international DME in all our international airports in Australia - which we did, thus gradually replacing the Australian DME.</p> <p>That old DME had 20 years of very valuable service before the rest of the world.</p>	<p>Navigational aid.</p> <p>Distance Measuring Equipment (DME).</p> <p>Transmitter at airport & 'black box' in aircraft.</p> <p>Non directional beacon.</p> <p>Australian, Department of Civil Aviation, DCE. CSIRO, research. Australian DME. American DME.</p> <p>International DME.</p> <p>Frequency very close to television frequency.</p> <p>International airports in Australia.</p>

301-399	<p>10.22). Opportunities to move out of Montreal in 1947-1952 Period.</p> <p>Had opportunity to move around quite a lot - before leaving Australia - Sir Richard Williams had told Bill to learn as much as he could about what was happening in airport development in North America & if needed to move around to see various airports, he would be happy if he did this.</p> <p>If there was meeting about an airport or a new airport being built, just sent message about this to head office (i.e. Australia) & approval came for him to go.</p> <p>Able to move around quite a bit & gained a lot of information by it. Also, kept in close touch with Australian offices in New York (United Nations), Ottawa & Washington (Ambassador's office) & had wonderful relationship with them. Used to visit Ottawa three to four times a year to report on what Bill was doing, generally keep in touch with them. Similarly, visit New York & Washington at least once a year for same purpose & to get to know the people who were there. This was particularly important because all year deal with them by telephone & important to know person reasonably well you are dealing with at other end.</p> <p>Bill's salary & everything used to come from New York & again they could not have given more support.</p> <p>Was able to move about quite freely & had other things to do as well as the ICAO business.</p>	<p>Moves out of Montreal.</p> <p>Sir Richard Williams. Airport development in North America.</p> <p>Australian offices in New York (United Nations), Ottawa & Washington (Ambassador's office)</p>
344-394	<p>10.23). Office audits.</p> <p>There was an auditor whose duty it was to come around & audit the office once per year - turned into quite a tradition.</p> <p>In early days, office being very small - virtually nothing to audit - Bill said he & his secretary did not know much about how to keep the books in accordance with government procedures.</p> <p>Remember first time auditor came round - he sat down with the secretary & went over how the books should be kept. That took about one to two hours & he had the whole day to spend in Montreal. This happened once per year.</p> <p>You are never supposed to know when the auditor is going to call in on you - but somehow or other the information always used to get to Bill that he was coming on a particular day - had come through Ottawa. Plan was, if on day Bill could get away from meetings, etc., auditor would come & do audit, would go home with Bill for lunch & then Jeannette & Bill would show him something of Montreal. Very pleasant day & these were Bill's introduction to audits - a very pleasant introduction.</p> <p>In those first 5 years, lot of us, Washington, Ottawa, New York - were all finding their way to some extent - as so soon after end of war. Definite & strong procedures had not been worked out so there was a bit of give & take on both sides.</p>	<p>Office audits. Auditor.</p>
394-399	<p>10.24). 'Unofficial' Consular duties.</p> <p>Being the only Australian 'official' in Montreal, used to occasionally get called upon to perform, what might be called, 'unofficial' Consular duties.</p> <p>..... continued on Tape IEA SYD : DWB 11, Side A.....</p>	<p>'Unofficial' Consular duties, Montreal.</p>
399	End of Tape IEA SYD : DWB 10, Side B	

Tape Log

Tape: IEA SYD: DWB 11, Side A		
COUNT	SUBJECT	NAMES & KEYWORDS
000-005	Tape Identification	
005-091	<p>10.24). 'Unofficial' Consular duties. <i>..... continued from</i> <i>Tape IEA SYD : DWB 10, Side B.....</i> Being the only Australian 'official' in Montreal, used to occasionally get called upon to perform, what might be called, 'unofficial' Consular duties. They were ceremonial ones like laying a wreath on Cenotaph on ANZAC & Armistice Days. Also could be involved in others - certain amount of humour in them - not always humorous - but never the less enjoyable. A couple of particular situations recalled were :-</p> <p>10.24.1). Jailed lady at US / Canada border. Remembers getting a phone call about 10 o'clock one night from an Australian lady on border of Canada & US, just south of Montreal. Was about 1½ to 2 hours drive from home to border crossing she was at - she had just been thrown into jail. She had been living US & had come over to Canada for the day & because there was some discrepancy in her passport & identification papers, she had been thrown into jail by some over ambitious gentleman on US side of border. With the usual inmates you find in jail from time to time, she was understandably quite worried about it. In fact the situation did not look too good. Bill asked to speak to man in charge - he didn't sound too friendly, so thought only thing to do was 'to read the riot act' - which is what did & that Bill coming down straight away representing the Australian Government & would hold him responsible for anything that might happen to her. Got into car & got down there about midnight. Was no difficulty getting back into Canada - brought her back into Canada & back home for the night. Phoned Ottawa next morning - what to do? - Ottawa as helpful as usual - just put her on train to Ottawa & we will deal with it from here - which is what they did. This discrepancy was overcome - was some very minor thing - it was completely out of nature from anything else had come across up to that time. That was one that was not so humorous.</p>	<p>'Unofficial' Consular duties, Montreal.</p> <p>Jailed lady at US / Canada border. Montreal.</p> <p>Ottawa.</p>
047-091	<p>10.24.2). The four Okinawa girls. This is probably most strange experience - Bill's secretary came into him one day & said 'four young ladies just came in & would like to see you' - they turned out to be the four Okinawa girls. The story - when US High Command moved from Brisbane up north & US troops were all moving north - the aircrew of a particular US aircraft thought it would be a good idea to take with them four young ladies they had been very friendly with in Brisbane. They took them to Okinawa without anyone's knowledge or permission & these four young ladies finished up in Okinawa. Don't know why US did not return them to Australia - but from there they went to US in 1945 when war was ended & came into Bill's office in 1948 - had been in US about 3 years. Had feeling that US wanted to move them to US somewhere - somehow moved them across border into Canada & closest place to where they crossed border was Montreal. Bill was only Australian in telephone book so they finished up on Bill's doorstep.</p>	<p>Four Okinawa girls.</p> <p>US High Command, Brisbane. Aircrew of US aircraft.</p> <p>US.</p> <p>Canada, Montreal.</p>

	<p>Rang Ottawa & explained situation & they agreed as best solution - Bill buy their train tickets to Ottawa & leave it to Ottawa.</p> <p>Anyway, felt decent thing to do - took the four of them out to lunch - very pleasant lunch - & put them on train.</p> <p>This was last Bill saw of them, except one. She was a very attractive & spirited lady, very well spoken - she decided to stay in Canada. Shortly afterwards, she became Secretary of Australian Club in Montreal which Bill & Jeannette set up for Australians living in Montreal. Last time saw her was in quite a responsible position in Australian Foreign Affairs Office in New York. During that period - for several years before that happened, Jeannette, the young lady & Bill became great friends.</p> <p>The 'unofficial duties' were not onerous - they were a distraction in many ways from ICAO - & took Bill to many strange places.</p>	<p>Ottawa.</p> <p>Australian Club in Montreal.</p> <p>'unofficial duties'.</p>
091-186	<p>10.25). Role of wife & family.</p> <p>Believes so much of the success that anyone has in a job like that depends on the wife & the family - but particularly the wife. Not just case of wife looking after some Council member's child while his wife goes into hospital to have another one, (as was talked about earlier in Tape IEA SYD : DWB 10, Side A at Counter 344-437, in Section 10.19), but she is the representative of Australia.</p> <p>You go over as a family, live as a family, mix with the other members of the community as a family. Bill doesn't think the wife of the family is given sufficient credit in many cases. Thinks that of the 100% of the contribution that the family going to Montreal in a job like this - 70% of any success is due to the husband & 25% due to the wife - maybe not whole 25% - but little bit too to the two young children.</p> <p>Gave them a maternal & paternal - not talking to but - talk with them stressing that they were representing Australia in anything they did - they were 3 & 5 when went over there & were 9 & 11 when came back. They were not paragons of virtue by any means, but they never let Bill & Jeannette down once 'when the chips were down'.</p> <p>Purposely let them stay up at night if had a dinner party or cocktail party so they could meet the people that came - in fact - used them as unofficial doormen - take coats & things like that - they did that job very well. They got to know these other people & the other people got to know them. It was all part of bringing together all of the members in the ICAO Council into the one community & family.</p> <p>Can well remember the elder child (when 7-8 years old) showing the Canadian member his first baseball glove Bill & Jeannette had given him - how he could catch balls with a baseball glove & the Canadian seriously giving him hints how he could improve.</p> <p>Can remember the younger one, two years younger, seriously swapping stamps with Edward Warner. The sight of this great man sitting down with this child- even when sitting down, not up to his shoulder - because Edward Warner had found out he was interested in stamps. He had a stamp book collection & Edward Warner wanted to see the stamp collection - so it was brought out. Edward Warner brought some stamps that he had in his wallet - then the two of them seriously swapping stamps in front of maybe a dozen people.</p> <p>Those were the sort of things that happened, not only with great pleasure & great memories, but were all part of the role of the family that Bill thinks is so important.</p> <p>Cannot put too much emphasis on the value of the role that the</p>	<p>Role of wife & family.</p> <p>Representative of Australia.</p> <p>Montreal.</p> <p>Bill & Jeannette Bradfield.</p> <p>ICAO Council, members.</p> <p>Canadian member, baseball glove.</p> <p>Edward Warner & the stamp collection.</p> <p>Wife's role.</p>

	<p>wife plays, not only running the house & the home. Remembers one night - Bill had had a spirited argument with Andre Bouché in the Council & the Bradfields had a dinner party that night - a big one - stand up party of about 30 people. Everyone had turned up except Bouiché. Then door bell rang - everyone was a bit worried because a lot had been present during this argument in Council - Jeannette went to the door & there was Bouché & he said - "sorry I'm late, there has been bad blood between your husband & I this afternoon & I have been walking around the block trying to get it out of my system" - don't know what Jeannette said to him - but she said something to him. By the time he entered the room, his attitude had changed completely. She had diffused the situation that Bill had started that afternoon. That is typical of the sort of things that the wife can do & does, which helps the whole job so much.</p> <p>The husband & wife & two children are a team working together.</p>	<p>Andre Bouché.</p> <p>Husband, wife, children - team working together.</p>
186-226	<p><u>10.26). Housing arrangements & initial purchases.</u></p> <p><u>10.26.1). Housing arrangements.</u></p> <p>Housing was not provided during the first (1947 - 1952) first period with ICAO in Montreal - it was during the second time (1968 - 1972).</p> <p>First period - the McCombe's children had grown up - were living an apartment which was too small for the Bradfields - so had to find one.</p> <p>Were very fortunate - found an unfurnished upstairs part of a house (a duplex) in a place called Côte des Neiges with French landlords who had never had tenants before - Bradfields were their first tenants. Not Bradfield's first landlords, but first French landlords & had difficulty communicating with one another to some extent, although could communicate as Bill knew bit of French & Jeannette a bit more - so got on very well. Had arrived there without any furniture & without any money because at end of war, nobody in position like Bill's had any money at end of war. In fact, did not have enough money to buy what needed straight away so first thing bought after getting few cooking utensils from Woolworths & something to eat with - went along to one of big emporiums there called Morgans & bought beds for Bill/Jeanette & the children. Did not have enough money - (fortnightly pay cheque had been squandered by then) - to buy curtains - spent next two weeks with brown paper over windows. When next pay cheque came in - because have never liked running big accounts - could not put on credit because did not have any credit - so waited until next cheque came in - then bought some curtains & gradually became more established.</p>	<p>Housing arrangements in Montreal.</p> <p>Mr A.R. McCombe.</p> <p>Côte des Neiges, Montreal. French landlords.</p> <p>At end of World War II.</p> <p>Woolworths. Emporium, Morgans.</p> <p>Fortnightly pay cheque.</p>
226-243	<p><u>10.26.2). Purchases in dozens.</u></p> <p>Then started to look around purchasing other things. Then realised as had been out to a few dinner parties & things - that if were going to return hospitality, would need more than a setting of 4 or 6, so it became - if wanted some glasses - ordered a dozen of them at a time - dozen small wine glasses, dozen red wine glasses, dozen Martini glasses, dozen tumblers & everything like that - dozen knives, two dozen forks, because if have stand up dinner - everyone must have at least one fork. So purchased things in dozens rather than in bits & pieces.</p>	<p>Purchases in dozens.</p>
243-251	<p><u>10.26.3). Overview.</u></p> <p>Was so soon after war, Australia had not had time to set up a system - had allowances for this & allowances for that - they started to come later & were very useful.</p> <p>Were able to save up a little bit of money as well - but for those first few months at least, it was a case of living from fortnightly cheque to fortnightly cheque - enjoyed it & got by.</p>	

251-397	<p><u>10.27). Entertainment - ICAO hospitality/functions & the Canadian community.</u></p> <p>There was lot of entertainment going on in those days - being so soon after the war there was this sense of relief with most people & trying to enjoy things & one another & this led to dinner parties, cocktail parties & personal ones between ICAO Council members.</p> <p>Bradfields used to work on basis to have sit down dinner parties for up to 10 people & cocktail parties, or parties in that nature, for up to about 30 people - that's what could fit into their home. Left the little unit in Côte des Neiges to the wonderful French landlords after about one year - for two reasons,</p> <ul style="list-style-type: none"> - they wanted to sell the house. - needed to get elder son to a more suitable school. <p>Went to a larger unit - a semi detached building in another suburb - had more capacity for those cocktail parties.</p> <p>From to time there were 'diplomatic' parties in association with meetings with ICAO.</p> <p>At Divisional meetings, ICAO would have at least one formal cocktail party in the ICAO headquarters to which all the Council members were invited.</p> <p>Was occasional reception - like the one the City of Montreal gave once a year for the whole of ICAO - which was a wonderful reception usually accompanied by a lot of good music.</p> <p>Was plenty of entertainment.</p> <p>Sometimes when a large meeting on, like an Assembly in Montreal - you would be moving from one cocktail party to another in the same night.</p> <p>Bill put on more than one stone in weight which had to get off later - did with some exercise - got quite bit of exercise in Montreal for a while because became member of McGill University Graduates Squash team. McGill University Graduates had delightful rule that they accepted graduates from any other university into their squash team. Then did not play there for very long time because - trying to pick up squash again as used to do before starting all these cocktail parties when in far better shape in Australia & in England (you do quite lot of training before hand) - obviously was completely out of shape & felt it. Bill was playing a really good match & should not have done all he tried to do.</p> <p>In general, plenty of opportunity for pleasure.</p> <p>Montreal was a delightful city, plenty of opportunity for sport, particularly with two young children - because had to try to keep up with them. They got onto skates - like every child in Canada - they seem to be born on skates. Remember elder one coming up one day - "why don't you start skating Daddy?" - replied "getting a bit old for it now Pete - anyway I've just bought you & Jim some skates so will have to save up & buy some for me" and he said "aw gee, Daddy I don't want to be ashamed of ya".</p> <p>So, knew that had to learn to skate - & again - told story at a cocktail party that night. Wife of Netherlands Council representative was there - she burst out laughing & said - "look,(husband's Christian name?).....has got some skates - too small for him - you may as well have them". Next day he arrived around at office with the skates which were too small for him - beautiful skates & they fitted Bill. So had no alternative but to learn to skate.</p> <p>That led to all sorts of happy adventures with the local children - in fact created a skating rink on the little square of grass at back of Bradfield's unit & was open for all the children in the neighbourhood. Next door neighbour was great sporting man -</p>	<p>Entertainment - ICAO hospitality/functions. Canadian community. Soon after World War II.</p> <p>Dinner parties, cocktail parties & personal ones.</p> <p>Côte des Neiges.</p> <p>ICAO Divisional meetings.</p> <p>Once a year reception - City of Montreal gave ICAO.</p> <p>Assembly meeting.</p> <p>McGill University Graduates Squash team</p> <p>Plenty of opportunity for sport in Montreal.</p> <p>Skating, skates.</p> <p>Netherlands Council representative & wife.</p> <p>Skating rink.</p>
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	<p>very good footballer & hockey player. He & Bill made the skating rink & kept it going all winter. In fact, it was one of his daughters, 5 years old, who taught Bill to skate.</p> <p>That's how it went on - had wonderful community spirit, not only on ICAO Council but with the local Canadians.</p> <p>The friends made in Canada in those days - the Bradfields still have them - those that are left.</p> <p>So had a wonderful time in those 5½ years in Canada.</p>	Community spirit.
397-401	<p>10.28). Return to Australia in 1952 after 51/2 years at ICAO.</p> <p>Appointment was for 3 years - it lasted 51/2 years & returned to Australia in 1952.</p>	Return to Australia 1952.
401-430	<p>10.29). Possibilities of working in ICAO Secretariat.</p> <p>Bill need not have returned to Australia if he did not want to have done as had offers of various jobs to stay in Montreal in ICAO Secretariat - even a move to make Bill Secretary General.</p> <p>Council members behind that sure they had the numbers but Bill was not quite so sure. But got to point they wrote around to every member of Council suggesting Bill be Secretary General. Bill had to write around another letter & say - 'much as I appreciate the honour, I will not be standing for Secretary General because I want to get back to Australia' - Sir Richard Williams expected Bill back - had an obligation to come back to him & bring back to Australia the knowledge that had gained. Quite apart from that, thinks did the right thing in coming back to Australia.</p> <p>Bill commented that that overall recollection is that it was one extremely happy period of his life - one which opened his mind & knowledge to civil aviation from just merely airports, to the whole spectrum of civil aviation & that was a good base for everything else.</p> <p><i>This concluded the Interview session on 22 September, 1999.</i></p> <p><i>The next Interview session was held on 24 September, 1999 on Tape IEA SYD : DWB 11, Side B & Tapes DWB 12 & 13.</i></p>	<p>ICAO Secretariat.</p> <p>Job offers.</p> <p>Secretary General.</p> <p>Sir Richard Williams.</p> <p>Return to Australia.</p>
430	End of Tape IEA SYD ; DWB 11, Side A	

Tape Log

Tape: IEA SYD: DWB 11, Side B		
COUNT	SUBJECT	NAMES & KEYWORDS
000-005	Tape Identification	
005-055	<p><u>11). Period 1968 - 1972.</u> <u>Second Appointment as Australian Representative on the Council of International Civil Aviation Organisation (ICAO) in Montreal.</u> Appointed in 1968 & this appointment continued through till end 1972.</p> <p><u>11.1). Atmosphere as compared to that in initial appointment from 1947 - 1952.</u> As far as Bill personally concerned, there was a fundamental difference in that the first session (1947 - 1952) was very early in his career. After 1952 came back to Australia & worked with Department of Civil Aviation for about 16 years before second Appointment. The second Appointment was virtually at end of his career with Department of Civil Aviation & in fact he had arranged before he went to ICAO second time that he would retire from Department of Civil Aviation when returned from Montreal - so there was that difference there. Doesn't think that affected way he approached the job in any way - but there was quite a different atmosphere in the Council at that time. There had been a change in the President from Dr Edward Warner (who died in 1958) to his successor - a man called Walter Binaghi from Argentina. The difference in atmosphere was not in any due to that. Walter Binaghi was an engineer - a very competent engineer - he had been President of Air Navigation Commission & done remarkably good job there & it was an obvious succession to take over from Dr Warner when Dr Warner died. He continued the culture Dr Warner brought into the organisation. Don't think difference in atmosphere was due to the Secretariat - found them just as strong & helpful the second time as the first time. There did not seem to be the same community spirit - seemed to be more nationalism than internationalism amongst the Council itself. There was a feeling that there were political overtones & they were having some effect on the work of Council whereas in the first session (1947 - 1952) were not affected by politics in any way.</p>	<p>Second Appointment as Australian Representative on Council of International Civil Aviation Organisation (ICAO) in Montreal.</p> <p>Difference in atmosphere at ICAO.</p> <p>Australian Department of Civil Aviation.</p> <p>Previous President - Dr Edward Warner (died in 1958). President - Walter Binaghi from Argentina. President of Air Navigation Commission.</p> <p>Secretariat.</p> <p>Not same community spirit, nationalism, internationalism.</p> <p>Politics.</p>
055-104	<p><u>11.2). Australian Office at ICAO.</u> There were changes here - ICAO had changed buildings - so Australian office was larger, more comfortable & the big thing for Bill was by that time, Australia had an Air Navigation Commissioner. Was man who was there when Bill came in 1968 called Len Jacobs - a very distinguished pilot during the war & who after war joined Department of Civil Aviation. Len Jacobs was extremely competent man in anything to do with operations of aircraft. He was one of those people who could communicate very well with other people - just the right sort of person you wanted on Air Navigation Commission - other people thought that also & for a while he was President of the Air Navigation Commission. So had Len Jacobs as back up to Bill on Council - he was alternate on Council & that made it more productive situation in</p>	<p>Australian Office at ICAO</p> <p>Australian Air Navigation Commissioner, Len Jacobs.</p> <p>President of the Air Navigation Commission.</p> <p>Alternate on Council.</p>

	<p>many ways. If Bill could not be present on Council - it happened rarely - Len Jacobe took place at table with right to vote for Australia.</p> <p>One important thing to bring out - Australia always believed that the Air Navigation Commission be composed of individuals, not states, so Len Jacobe, as an Air Navigation Commissioner, talked & acted as Len Jacobe.</p> <p>Within Australian office there were four people - Len Jacobe, Bill Bradfield & two secretaries (two Canadian ladies).</p> <p>Len was responsible to Bill for such things as conduct but Bill had no authority whatever on what Len wanted to do or say on the Air Navigation Commission. That suited Bill well because that was Bill's interpretation of that part of the Chicago Convention which set up the Air Navigation Commission. That idea was not shared by all states who had representatives on the Commission. But Bill sure it was what was meant by the Convention & in fact had talked to Edward Warner about it quite extensively & know that was his thought about it & is what he would have liked to have seen.</p> <p>So while it was not the practice amongst all members of the Commission, it was certainly the Australian practice from the start & Bill is sure it is still the same.</p>	<p>Australia believed:- Air Navigation Commission - composed of individuals. Len Jacobe. Australian office, Len Jacobe, Bill Bradfield, two secretaries (Canadian ladies).</p> <p>Dr Edward Warner.</p>
104-134	<p>11.3). Scope of activities in ICAO same as in 1947 - 1952 ?</p> <p>Yes - much the same - dealing with same sort of subjects - that is, the broad spectrum of civil aviation.</p> <p>By that time, the Council had increased in numbers from 21 to 24 to 27 - as the numbers of members (or states) of ICAO grew from it's original 52 to well over 100 (by 1968) - think it is now about 180 - so size of Council has been increased. Today is 33. Air Navigation Commission has been increased from 12 to 15. Many of the new members come from states who are relatively new as independent states - eg. as previous colonies of UK, France & Belgium became independent, African colonies, Pacific colonies & so on - they all became eligible to become members of ICAO. So numbers of members grew & as they grew, the numbers of members on the Council & Commission grew.</p>	<p>Scope of activities in ICAO.</p> <p>Increase in number of members (or states), Council, Air Navigation Commission.</p> <p>New independent states, previous colonies, UK, France, Belgium, African, Pacific.</p>
134-226	<p>11.4). Meeting the advances in civil aviation.</p> <p>Advances in civil aviation were met by continuation of same rules of procedure & working procedures - they did not change very much. As new aircraft came in, were new requirements - both from operational point of view & from ground facilities point of view. All these had to be considered, new procedures adopted & standards made to allow them to operate on an international basis.</p> <p>In 1952, aircraft were at stage where Comet I had just been introduced & it was not a very common sight at that time. The largest aircraft other than the Comet, or most modern, was the Douglas DC6.</p> <p>In 1968, at Bill's second time at ICAO, the Boeing 747 was just about to come into operation - think it came into operation in 1969 - so there was large increase in aircraft size & speed. All of these different requirements had to be dealt with by ICAO - standards & recommended practices associated with them determined - so the various annexes - of which think about 14 produced in 1947 - 1952 period, had to be updated the whole time - so there was continuous updating of operational & technical requirements or procedures - all of which had to be considered & dealt with by ICAO.</p> <p>There were some new things altogether to be done, for example, had been great development in helicopters - new operational procedures & practices had to be determined.</p>	<p>Advances in civil aviation.</p> <p>New requirements, operational & ground facilities.</p> <p>Comet I.</p> <p>Douglas DC6. Boeing 747.</p> <p>Aircraft size, speed. ICAO - standards & recommended practices.</p> <p>Operational & technical requirements or procedures.</p> <p>Helicopters.</p>
175 →		

199 →	<p>The short take-off & landing aircraft, such as De Havilland Dash 7, required modifications to the aerodromes & ground facilities Annex.</p> <p>Stolports - aerodromes for short take-off & landing aircraft - small airports which required very good approaches to them - just a variation of the basic aerodrome - which is a generic term for anything of that nature.</p> <p>So was a continuing need to work on the operational side & ground side during the whole period.</p> <p>Was not always requirement for larger & larger things in the standards & recommended practices - for example - in case of matter of distance between parallel runways. When considering these in early days (i.e. 1940's & 1950's), minimum distance between parallel runways to be operated in instrument landing conditions, i.e. not visual landing conditions, was about 6,000 feet. Over the years, as navigational aids have been improved, it has been able to reduce this distance & thinks minimum distance now is about half this 6,000 feet. This is most important for anyone building airports, because it is far easier & it now may be possible to get a parallel runway in at the lower distance between them than the original 6,000 feet.</p>	<p>Short take-off & landing aircraft, De Havilland Dash 7.</p> <p>Stolports - aerodromes for short take-off & landing aircraft.</p> <p>Distance between parallel runways.</p> <p>Visual landing conditions</p> <p>Navigational aids.</p>
226-252	<p>11.5). Joint Support Committee.</p> <p>Was happy situation - having been Chairman 20 years before - joined Joint Support Committee & found himself Chairman again.</p> <p>Joint Support Committee was then dealing particularly with administration of the operation of the 'Long Range Navigational System' aids - spoken of earlier (<i>in Tape IEA SYD : DWB 9, Side B at Counter 096-148 in Section 10.7</i>), which replaced the 'Ocean Weather Station Ships'. They still in operation but giving way to navigation from satellite sources. When at ICAO in second period, they still very much in use - both the 'Long Range Navigational System' aids themselves & the meteorological information being supplied by 'Met' Stations & Facilities in very outlandish places, particularly Greenland.</p>	<p>Joint Support Committee, Chairman.</p> <p>'Long Range Navigational System' aids. 'Ocean Weather Station Ships' Meteorological information, 'Met' Stations & Facilities.</p>
252-288	<p>11.6). Technical assistance to developing states.</p> <p>This one area which really developed between Bill's two sessions at ICAO.</p> <p>With growth in number of states in ICAO & particularly with small developing states coming into ICAO - there became more & more of a requirement for help to be given to them to install & upgrade their air navigation facilities particularly & their aerodromes. So division of ICAO which dealt with technical assistance was greatly increased & did a very good job. It worked close in hand with United Nations & UNDP (United Nations Development Program) & was part of a United Nations program to help developing states. ICAO helped in civil aviation, other people helped in agriculture & so forth.</p> <p>Has a lot of time for what ICAO did in that field - feel they did an extremely good job - mostly by the Secretariat or people engaged under contract to ICAO by the Secretariat.</p> <p>The Secretariat of ICAO deserves lot of credit for what has been done in the development of civil aviation in these developing states.</p>	<p>Technical assistance to developing states.</p> <p>Small developing states.</p> <p>Air navigation facilities & aerodromes. United Nations. UNDP (United Nations Development Program). Civil aviation, agriculture</p> <p>ICAO, The Secretariat.</p>

<p>288-406</p> <p>355 →</p>	<p>11.7). New subjects dealt with in second period at ICAO (1968 - 1972).</p> <p>There were several new subjects in the second period, including,</p> <p>11.7.1). Unlawful interference of aircraft.</p> <p>Just prior to 1968, had an upsurge of instances like hijacking (first one that came to notice & became very serious), then airport bombings, aircraft bombings & lot of work was done by ICAO trying to establish ways & means of overcoming this. In fact, there is now an Annex to the Convention specifying what states should do & should not do.</p> <p>It is a very difficult subject to deal with in absolute terms, & it took up a lot of time of Council in 1967 - 1970 & so forth. The Council formed a special committee to deal with the matter & Bill was quite heavily engaged in the work of that committee. It is not the sort of work you enjoy very much because it is not creative - but it has got to be done.</p> <p>Feels the effect of the practical work in various countries from the outcomes of this work by ICAO did have a good impact. Whether it had any direct impact on those people desiring to do that - don't know - but certainly gave them a warning that they would be treated extremely harshly by the various countries that agreed to the Annex to the Convention dealing with this matter. These things still continue of course, so have not overcome that problem yet.</p> <p>But think that the work ICAO did then & is continuing to do is certainly a deterrent towards it.</p> <p>One of the things Bill remembers personally about this, at that time, was the following incident :</p> <p>There was a hijacking of a United States DC3 to Cuba & Cuban authorities refused to release the DC3 to get back to the United States. This was causing quite a serious incident & it came up before ICAO. As a way of trying to solve the problem, it was decided that a delegation of four people should try to see President Fidel Castro in Cuba.</p> <p>The delegation would be led by ICAO President Walter Binagi who could speak Spanish fluently & other three members drawn from the three official language groups in ICAO at the time - English, French & Spanish. English speaking countries wanted Bill as the one to go down - so was made one of the four to go to Cuba. Had all plans made, but Castro made a very clever move. He said that he would be quite prepared to talk with the delegation if it came to Cuba provided that it talked at same time about the number of small surface craft that had been hijacked from Cuba to the United States.</p> <p>Obviously the delegation could not do that, so it fell through - but it was a very interesting time.</p> <p>This difference between Cuba & United States at that time was solved by some other means - don't know how & think that United States got it's aircraft back. But it would have been a few interesting days in Cuba if that had gone ahead.</p> <p>.....continued on Tape IEA SYD : DWB 12, Side A.....</p>	<p>Unlawful interference of aircraft, hijacking, airport bombings, aircraft bombings.</p> <p>Annex to the Convention</p> <p>Hijacking, United States DC3 to Cuba.</p> <p>Delegation. President Fidel Castro. ICAO President Walter Binagi.</p> <p>Surface craft hijacked from Cuba to the United States.</p>
406	End of Tape IEA DWB 11, Side B	

Tape Log

Tape: IEA SYD: DWB 12, Side A		
COUNT	SUBJECT	NAMES & KEYWORDS
000-005	Tape Identification.	
005-148	<p>11.7). New subjects dealt with in second period at ICAO (1968 - 1972) continued from Tape IEA SYD : DWB 11, Side B.....</p> <p>11.7.2). Aircraft Noise. Became interested in aircraft noise during first period at ICAO & particularly in regard to noise of aircraft such as Comet I, the first jet aircraft to go into regular air transport. Remembers giving address to The Institution of Engineers in Melbourne shortly after returning from first session at ICAO - & in question & answer period afterwards making statement that felt the greatest problem that was going to face civil aviation in the future would be that of aircraft noise. It fell on deaf ears & Bill only sorry that it was not included in the address itself. It seemed to Bill that a real problem was building up there - the noise of aircraft getting louder & louder & effects of that would be on the community itself. <i>As Bill mentioned in conversation separately to this recording session - 'aircraft noise increasing due to greater aircraft load carrying capacity, therefore size & also greater speeds - all require more power & consequently greater noise'.</i> As matter of fact, Bill tried to have introduced into the Australian 'system' an arrangement where only aircraft that could conform to certain noise levels be introduced into the Australian civil aviation system - that didn't get anywhere, as he said quite understandably because aircraft were very much in a stage of development at that time & didn't think many people wanted any such restriction. From this interest in aircraft noise, Bill became responsible within Department of Civil Aviation for anything to do with aircraft noise. Matters came to a head a couple of years before the introduction of Boeing 707 (<i>in Tape, Bill said 727 - but corrected to 707 at interview session on 27 October 1999</i>) into the domestic network in Australia in 1959. Possible introduction of this aircraft was being considered & Bill's calculations on the noise which the 707 (<i>in Tape, Bill said 727 - but corrected to 707 at interview session on 27 October 1999</i>) would make on the community around Essendon led him to think that he could not agree to the introduction of the 707(<i>in Tape, Bill said 727 - but corrected to 707 at interview session on 27 October 1999</i>) into Australian civil aviation without breaching the Code of Ethics of the Institution of Engineers. Tenet No. 1 of that Code of Ethics says "It is the responsibility of members for the welfare, health & safety of the community shall at all times come before their responsibility to sectional or private interests or to other members". Did not think safety was concerned, but did think that the operation of the 707 (<i>in Tape, Bill said 727 - but corrected to 707 at interview session on 27 October 1999</i>) out of Essendon would adversely affect the welfare & health of the community. So went along to the Director General, Sir Donald Anderson (Bill said he & Sir Donald great friends) & told him this & Bill said that "I am in this difficult position because if I agree to the 707 coming in I breach the Code of Ethics of The Institution of Engineers" - (<i>in Tape, Bill said "I am in this difficult position because either I agree to the 727 coming in or I'm breaching the</i></p>	<p>Aircraft Noise.</p> <p>Comet I, first jet aircraft to go into regular air transport. The Institution of Engineers in Melbourne.</p> <p>Aircraft noise, aircraft load carrying capacity, size, speeds, power.</p> <p>Australian civil aviation system.</p> <p>Australian Department of Civil Aviation. Boeing 707.</p> <p>Domestic network in Australia.</p> <p>Essendon airport.</p> <p>Code of Ethics of the Institution of Engineers. Welfare, health & safety of community.</p> <p>Director General, Sir Donald Anderson.</p>

097 →	<p><i>Code of Ethics of The Institution of Engineers" - but corrected to the above at interview session on 27 October 1999).</i></p> <p>There was strong pressure to bring the 707(in Tape, Bill said 727 - but corrected to 707 at interview session on 27 October 1999) into the Australian system both from the airlines & also from political sources & Bill knew he had put Sir Donald Anderson in a very difficult position. But knew each other so well & got on with each other so well - was the only thing that could be done. He solved the matter by taking the responsibility for noise, as far as Department of Civil Aviation was concerned, out of Bill's responsibility & putting it into the responsibility of another part of the Department. So Bill had no influence whatever on whether or not the 707(in Tape, Bill said 727 - but corrected to 707 at interview session on 27 October 1999) did come into Australia - had the runway length to do it - it was only the noise matter which made Bill so strongly opposed to it.</p> <p>Bill said he tried to satisfy own conscience in a way by refusing to fly into or out of Essendon in a 707(in Tape, Bill said 727 - but corrected to 707 at interview session on 27 October 1999).</p> <p>Fortunately the Viscount was operating on the domestic service at the time - so if for example Bill wanted to go to Brisbane or Cairns, would catch the Viscount which left Melbourne at 6 AM for Sydney (the 707 service was 7 AM) - (in Tape, Bill said 727 - but corrected to 707 at interview session on 27 October 1999).</p> <p>Would both get to Sydney about the same time & would transfer from the Viscount to the 707 (in Tape, Bill said 727 - but corrected to 707 at interview session on 27 October 1999) in Sydney & fly out of Sydney north on that.</p> <p>Bill reflected - I don't think that did any good to the community, but it certainly was an illustration to some people that I was serious about it & I felt better in myself by doing so.</p> <p>Against that background, Bill thinks that Don Anderson also was conscience always of this noise problem. In 1968, were both at the Meeting of the 16th General Assembly of ICAO in Buenos Aires - Don was leader of delegation & Bill was his deputy. Don said to Bill one day in the meeting - "I think we should try & get some international restriction put on the noise of aircraft - please draft up a resolution which we'll put before the Assembly, asking that the Council do whatever they can to reduce this aircraft noise on he community". Took the draft around to various other delegations that we thought might be interested also - improved it with recommendations & suggestions they made.</p> <p>The Resolution went forward - not just from Australia - think had about ten signatories on it & it went to the Plenary Meeting of the General Assembly & was passed unanimously - <i>as mentioned separately to this taped interview, became Resolution No. 16.3 of the 16th Assembly of ICAO in 1968 entitled 'Aircraft Noise in the Vicinity of Airports'.</i></p> <p>There were a few abstentions from countries that had large manufacturing industries.</p> <p>The outcome was, the Council called a Special Meeting (in 1969) very promptly to deal with the subject. The Australian representative was Jim Harper - he was appointed Chairman of that conference & it went on from there & resulted in a Special Annex to the Convention (Annex 16 on Aircraft Noise) which now does set maximum noise levels that can be made by different types of aircraft. So were successful & all that took place at Bill's second session at ICAO whilst a member of Council.</p> <p>Other members of the 1968 Australian Delegation, including Sir Donald Anderson & Bill Bradfield - Jim Harper was not a delegate - were Trevor Pyman who was there from economic</p>	<p>Viscount. Domestic service, Essendon, Melbourne, Sydney, Brisbane, Cairns.</p> <p>Meeting of 16th General Assembly of ICAO, Buenos Aires, 1968. Sir Donald Anderson, leader Australian Delegation.</p> <p>Aircraft noise, community.</p> <p>Plenary Meeting of General Assembly. Resolution No. 16.3, of 16th Assembly of ICAO, 1968, entitled 'Aircraft Noise in the Vicinity of Airports'.</p> <p>Special Meeting (1969). Australian representative, Jim Harper, Chairman. Special Annex to the Convention (Annex 16 on Aircraft Noise).</p> <p>Trevor Pyman.</p>
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	<p>point of view. Fairly small delegation. Had someone from the administrative point of view - <i>can't recall his name</i>.</p> <p>Jim Harper had taken over the responsibility for noise after the 1959 incident, so he was the appropriate person to go to the Special Meeting that was called on aircraft noise.</p>	
148-236	<p>11.7.3). Systems Planning.</p> <p>This was an attempt to try to get the aircraft manufacturers, when they were designing aircraft, to design them as part of a system, not just as an individual aircraft. That is, to take into account the effect which the aircraft would have on the size of airports.</p> <p>This matter first came to Bill's attention at 1948 meeting of ICAO General Assembly in Geneva - remember at a luncheon during the meeting (given by a member of United States Delegation) - was sitting next to the Chief Designer of Lockheed, a very eminent aircraft designer, recognised throughout the world as one of the great aircraft designers - he made a statement in the luncheon conversation - "give me five years & I'll give you a aircraft which will carry 50 passengers at 500 miles per hour & with a range of 5,000 miles". Bill said to him - "what length of runway are you going to need for that?" - his answer surprised Bill but it is one that Bill has always remembered - "I'm not interested in that, that is somebody else's problem".</p> <p>This is result of not looking at overall picture, only a narrow one. That is why Bill thinks systems planning is so necessary.</p> <p>Systems planning was not really taken very seriously in a wide range of countries or by people until as late as the introduction of the Boeing 707 in 1959 (<i>in Tape, Bill said '747 in the late 1960's' - but corrected to '707 in 1959' at interview session on 27 October 1999</i>).</p> <p>When Boeing 707 (<i>in Tape, Bill said 747 - but corrected to 707 at interview session on 27 October 1999</i>) sales program was on, Boeing said they would not require any longer runways than was presently required & would not make greater noise than existing aircraft. Even before the aircraft got into final production, they had to advise everyone (because the Civil Aviation Authority in United States had worked out themselves that the statement was not true) that it would need longer runways & that created an extraordinarily big problem for many countries. People like QANTAS had already placed orders. In Australia's own case, both in Australia & Fiji, had to put new proposals before Parliament to get more money to build the longer runways. Fortunately, Australia had the capacity to do it from the physical point of view - in case of Sydney, by just going further out into Botany Bay. In many cases it created even more difficulties for other states & for other aerodromes. Imagined some states could have found it impossible & have to go to new site - not quite sure of this.</p> <p>Was a very significant increase in length requirement - in case of Fiji, first figure working on, from advice from company was that needed runway 8,500 feet, second figure was that needed 10,700 feet. That is special case, because at Nandi (in Fiji) there is a range of mountains at one end of runway & so you have got to allow for take off with a maximum tail wind component of 10 knots.</p> <p>It was a very significant increase in any airport planning - so as a consequence of that & other things, ICAO set up a Systems Planning Division & Bill, as a member of Council was quite heavily involved in that also.</p>	<p>Systems Planning.</p> <p>Aircraft manufacturers, designing aircraft.</p> <p>Meeting of ICAO General Assembly in Geneva, 1948. United States Delegation Chief Designer of Lockheed.</p> <p>Boeing 707 introduction in 1959.</p> <p>Boeing sales program.</p> <p>Runways length, noise.</p> <p>Civil Aviation Authority in United States.</p> <p>QANTAS. Australia & Fiji.</p> <p>Sydney airport, Botany Bay.</p> <p>Nandi airport, Fiji.</p> <p>ICAO, Systems Planning Division</p>

236-244	<p><u>11.7.4). General comments on type of work.</u> Generally speaking, type of work was the same & meetings with Council, the Committees & so forth. The only difference in regard to Bill's own work load at that time was that Len Jacobe was there as the Air Navigation Commissioner & Bill was not trying to handle the operations side of it.</p>	<p>Len Jacobe, Air Navigation Commissioner.</p>
244-302 250 →	<p><u>11.8). Unsolved matters since 1947 - 1952 period at ICAO.</u> Not really any unsolved matters, but there were a couple of old ones that were still coming up again & again. ICAO was still trying to get wide acceptance of the 'Warsaw Convention' & it was still on the table. The Warsaw Convention was to establish the limit of liabilities of airlines to passengers in the event of an air crash - found there were still little political problems, such as the one dealing with the Flight Information Region (FIR) or Regions in the Turkish - Cypriot area. In first days of ICAO, the world was divided up into Flight Information Regions, with the centre of each region to have the responsibility for provision & operation of the ground side aids & communications needed for air traffic control of aircraft flying in the air space of that region. There were some very large ones & as the science & operation of air traffic control has progressed, they have become larger - eg. the Nandi Flight Information Region, based in Nandi (Fiji) extends from about halfway between Fiji & Australia on the west to about halfway between Fiji & Honolulu on the east. The next FIR centre to east of Nandi is Oakland in San Francisco. But in some parts of the world where there are these little political problems, people of some states have refused or been fighting hard against allowing any other state to have authority over it's own little airspace. There was this ticklish problem in the Turkish - Cypriot part of the world on Bill's first session at ICAO & he found it was still there in the second session at ICAO - don't know whether it has been solved yet - it is not a major problem as far as Flight Information Regions are concerned. On the whole - very few unsolved problems from first session at ICAO.</p>	<p>Unsolved matters since 1947 - 1952 period at ICAO. Warsaw Convention. Liabilities of airlines to passengers in event of air crash. Flight Information Regions (FIR). Turkish - Cypriot area. Ground side aids, communications, air traffic control. Nandi Flight Information Region, Nandi, Fiji Honolulu. FIR centre at Oakland, San Francisco.</p>
302-398	<p><u>11.9). General Assembly Meetings - voting for Council members.</u> <u>11.9.1). Voting procedures for Council members.</u> At each General Assembly, the Council for the next 3 years is elected - is elected in three categories. If, for example, there are 27 members to be elected, the first category of 9 is those countries who make application for election in that category which is the states of major importance in civil aviation. Second category is the states who are not in the first category but which make a major contribution as far as providing ground facilities is concerned to air traffic control for civil aviation. Third category is those which are not elected in the first two, but are elected to ensure there is proper geographical representation on the Council & the whole world. There is a little bit of status to being elected in the first category. In the voting procedure, a state can vote for the whole 9 or it can vote for just itself. In all the previous Assemblies, all of the states had always voted for the full slate. One of the things about it is that, even though a state may be voted in the first 9 in this case, it still had to receive two thirds of the vote of all the states present at the Assembly & if there wasn't, then there was a subsequent vote.</p>	<p>General Assembly Meetings of ICAO. Council members, voting procedures. Voting categories.</p>

	<p><u>11.9.2). Voting at General Assembly in Vienna in 1971 - entry of politics.</u></p> <p>The 1971 Assembly of ICAO in Vienna is not one which many members of ICAO remember with pleasure.</p> <p>As mentioned above, in all previous Assemblies, all of the states had always voted for the full slate of 9 members.</p> <p>In the 1971 Assembly, the South Americans, which had always before had one state in that first nine - wanted to have two states. They made a deal with some of the African countries that wanted to get an additional member into the Council at the expense of some ASEAN country. A lot of the South American countries & the African countries voted for just 4 members & the 4 included the 2 South Americans they wanted plus, say the United States & the United Kingdom or the US & France or what have you & that meant that even though a lot of states like Australia had the right as far as being nations of major importance - they were denied the ability to get the two thirds majority.</p> <p>Consequence was that the South Americans (<i>in Tape, Bill said Africans - but corrected to Americans at interview session on 27 October 1999</i>) got their 2 in the first 9 & in this case it was Australia who missed out & for the one & only time was elected in the second category not the first category.</p> <p>This was the first time that politics really came to the surface in ICAO & Bill thinks it did a tremendous amount of harm, but that's the way things went.</p> <p>It is still possible to do this & an awful lot of talk has gone on in the corridors to try to stop it - but it is still possible to do .</p> <p>Apart from that, it was a very good Assembly - that 'block' voting left a very bad taste in everyone's mouth.</p>	<p>General Assembly in Vienna in 1971.</p> <p>Politics.</p> <p>South Americans.</p> <p>African countries.</p> <p>'Block' voting.</p>
398	End of Tape IEA SYD : DWB 12, Side A	

Tape Log

Tape: IEA SYD: DWB 12, Side B		
COUNT	SUBJECT	NAMES & KEYWORDS
000-004	Tape Identification.	
	Second Period at ICAO (1968 - 1972)continued from Tape IEA SYD : DWB 11, side B.	
004-103	<p>11.10). Visit to Iceland & Greenland.</p> <p>This visit came about as a consequence of Bill being Chairman of the Joint Support Committee.</p> <p>The Long Range Navigational System aids & the meteorological communication stations included a number in Iceland & also in Greenland.</p> <p>Just prior to the 1971 Assembly, the station in Greenland, at a place called Angmagasilik (Ammassalik) - (<i>in Tape, Bill said Egedesminde - but corrected to Angmagasilik at interview session on 27 October 1999</i>) - on the east coast of Greenland was hit by a storm or wind - in those regions called a 'piteraq' - an extraordinary wind. It virtually comes without forecast, very suddenly & comes over a width of some 5 to 10 kilometres - a one directional wind over that width. It hit this station in Greenland which was manned by Danes (because the Danes had some sort of responsibility over Greenland) & knocked the station out - which made it difficult for aircraft flying in the North Atlantic. The staff did a wonderful job getting it back on the air in a few hours in a temporary way & full communications back in about 24 hours. They did this under extreme danger & in extremely difficult conditions.</p> <p>The Danish government wanted to give them a pat on the back in no uncertain way & so they invited Bill - as Chairman of the Joint Support Committee, together with the Danish Council member & wives, to go up to this station in Greenland & congratulate the whole staff - which was done.</p> <p>It was an extraordinary & most interesting trip.</p> <p>To get to Greenland you have to go through Iceland - aircraft flies from Copenhagen to Iceland & from there to Greenland. Aircraft flying in at time was a DC4.</p> <p>You can't get into Greenland without having approval to go through Iceland & the Director General of Civil Aviation at that time was an old friend, Agnar Kofoed-Hansen. He & Bill had been on 1st Council of ICAO together & he was subsequently awarded the Edward Warner Award (in 1979) - he had been the Director General of Civil Aviation for many years - thinks he holds the record for being the longest standing Director General of civil Aviation in the world.</p> <p>Agnar Kofoed-Hansen said "I'll give you permission to go through Iceland provided you stay for a week in Iceland with us so I can show you a bit of my country" - which he did. He was over 60 by then, but was still flying an aircraft - recalls was a four seater Barron - so he flew us all over his Icelandic country, showing us also the navigational aids that were there as part of the system. Had a delightful week in Iceland - then took off for Greenland in a DC4.</p> <p>To get to this place, Ammassilik, first had to fly into a aerodrome called Kulusuk & then go in a fishing vessel way up in the fjord, full of icebergs & everything else - 'chocolate box' scenery - to this little outpost. Spent a couple of very interesting & pleasant days there & did the job of talking with the staff & so forth.</p> <p>But, then the Danes said " you can't go back without seeing something of Greenland" - so flew Bill & his wife, Jeannette, over</p>	<p>Iceland & Greenland. Chairman, Joint Support Committee. Long Range Navigational System aids, meteorological communication stations.</p> <p>Angmagasilik (Ammassalik).</p> <p>'Piteraq' - an extraordinary wind.</p> <p>Station in Greenland, manned by Danes (had some responsibility over Greenland). North Atlantic.</p> <p>Danish government.</p> <p>Danish Council member.</p> <p>Aircraft, DC4.</p> <p>Director General of Civil Aviation, Iceland, Agnar Kofoed-Hansen, awarded Edward Warner Award (in 1979).</p> <p>Four seater Barron.</p> <p>Ammassilik. Aerodrome called Kulusuk. Fjord, icebergs.</p>

	<p>the ice cap in a DC4 to an aerodrome, was still then a US Air Force base, on the western side - a place called Sondre Stromfjord.</p> <p>From there, they took us up in a helicopter, & what was a surprise - was the largest helicopter service in the world at that time that flew up the west coast of Greenland from the capital in the south, Godthab, up to a place well within the Arctic Circle called Egedesminde to show some aviation facilities there.</p> <p>What really surprised us more than anything else at Egedesminde - was here, inside the Arctic Circle, a boarding school with over 200 pupils, run by the Danes for the local people. They would come in from all over the place & live for so many months at a time in the boarding school. But also, there was a quite small, but well organised & well run ship maintenance facility, dealing particularly for the fishing boats that ran up & down there. There was also a shrimp canning factory & there they were turning out these cans of shrimps - like the ones you buy at the supermarket - way up in the Arctic Circle.</p> <p>It was one of the experiences - took about 2 weeks altogether, which, don't know if it did any good for civil aviation, but was certainly a most interesting time for Jeannette & Bill.</p> <p>This was one of the very happy memories of the second period at ICAO - all coming about as a result of being involved with the Joint Support Committee for so long.</p>	<p>US Air Force base, Sondre Stromfjord.</p> <p>Helicopter service.</p> <p>Greenland capital, Godthab.</p> <p>Arctic Circle, Egedesminde.</p> <p>Boarding school.</p> <p>Ship maintenance facility, fishing boats.</p> <p>Shrimp canning factory.</p>
103-111	<p>11.11). Overall comparison between 1st Appointment (1947 - 1952) to ICAO with 2nd Appointment (1958 - 1972).</p> <p><i>Refer to earlier comments made in Tape IEA SYD : DWB 11, Side B, at Counter 055-055, in Section 11.1.</i></p> <p>Apart from rather exciting things like the visit to Iceland & Greenland, just described, it is fair to say that the second session at ICAO (1968 - 1972), while being extremely interesting, was not as enjoyable as the first session (1947 - 1952).</p> <p>But there are many parts which we remember with a great deal of pleasure.</p> <p><i>Refer also to later comments made in following Section 11.12 and in Tape IEA SYD : DWB 13, Side A, at Counter 032-081, in Section 11.15.</i></p>	<p>Comparison between 1st Appointment (1947-1952) to ICAO with 2nd Appointment (1958 - 1972).</p>
111-183	<p>11.12). ICAO Council Golf Club - ways to improve situation.</p> <p>There did not seem to be the same community spirit in the Council as in the 1st session (1947-1952). People seemed to be more individuals rather than part of a team.</p> <p>So Bill & his wife, Jeannette, got the idea that maybe should try to get them to play something together rather than just work together. So started the ICAO Council Golf Club - which certainly had a lot of happy memories.</p> <p>Just off city of Montreal & in St Lawrence River is a small island called Nunn's Island. There is a 9 hole golf course there which takes up most of the island. Very easy to get to from the city, quite small course & no big club house.</p> <p>Went along to the people who ran the place & told them what wanted to do - they thought it was a great idea.</p> <p>Restricted membership to members of the Council & the Air Navigation Commission & their wives - made a total of about 80. Sent a notice around suggesting we might form this golf club - of the 80 people, something like 60 eventually joined the club, but of those 60, only 4 had ever played golf before. There were 2 people from UK who were quite good players, there was a Canadian Air Navigation Commissioner who was a very good player & Bill was the fourth but had never had a handicap lower than the longest one you can have.</p>	<p>ICAO Council Golf Club.</p> <p>Montreal, St Lawrence River, Nunn's Island, 9 hole golf course.</p> <p>Members of Council, Air Navigation Commission, wives.</p>

	<p>Talked to the two professionals & set up arrangement where we used to meet at 6.30 in the morning, the two professionals would give lessons to the people who came in - Africans as well as Europeans, South Americans, Japanese, people from all countries - was a wonderful mixture. The four 'players' took over the role of being coaches of a sort - at least tried to teach them how to put their feet in the right position in regard to the ball & so forth. It was amazing how some of these people took it on. Can remember the Indian - who had never had a golf club in his hand before - Bill showed him where to put his feet & stand in relation to the ball & said to him to aim for one of those plastic markers 150 yards away & he hit it 4 times in the next 6 strokes. Learnt later that he was a crack marksman. That's the sort of thing that happened. None of the people, except the two from UK & the Canadian, were any good at all - but everyone enjoyed themselves thoroughly. To get there at 6.30 in the morning indicated a willingness to want to do that - it did pay off - all became more friendly & got into a better work atmosphere in the Council as well as the Air Navigation Commission. Shows - a small thing like that can pay big dividends. Bill said he & Jeannette still have a beautiful tray, which when they left, the club gave to them - inscribed to Jeannette & Bill, etc - a very nice thing - one of their most loved possessions.</p>	Club professionals.
183-235	<p>11.13). Support from Australian Offices in Ottawa, New York & Washington. Support in 2nd ICAO appointment (1968 - 1972) was just as good as in 1st appointment (1947 - 1952) - it was wonderful both times. Bill said only had to ring up for something & got it or it came - it was done. Could not have been happier with the way there was this great co-ordination between the Australian offices in that part of the world. The 'unofficial' consular duties in the 1st appointment - fortunately in the 2nd appointment there was an Australian Trade Commissioner in Montreal. Even though Bill might have been senior to him in the hierarchy of the Commonwealth Public Service, he was accredited to Canada, Bill was accredited to an International Civil Aviation Organisation. So, in terms of Canada, He was senior to Bill & so he had the 'consular' duties. Used to share some of the things together - knew one another very well. For example, at one stage there was quite an extended postal strike in Canada. So, the way Ottawa got all their mail back to Australia - except very sensitive mail for which they would have had other channels - for normal correspondence, they would send it down to Montreal & then either he or Bill - whoever could spare the few hours - would drive it down to the border. Both had diplomatic privilege so had no difficulty in getting through the border - & post it in one of the United States Post Offices just south of the border. We always went to the same post office, which was quite exciting for the post office because they were in a tiny little place. Would come in with a great big bag of mail, get it all stamped, send it off & pay for the stamps, which was quite a large postal bill - did this once per week. Apart from that, he had the 'consular' duties - Bill glad he did not have those on his hands again. We both took part in the ceremonies like Armistice Day & ANZAC Day - but he had all the difficult ones.</p>	<p>Australian Offices, Ottawa, New York, Washington.</p> <p>'Unofficial' consular duties. Australian Trade Commissioner, Montreal</p> <p>Extended postal strike in Canada. Ottawa, Montreal.</p> <p>United States Post Offices.</p> <p>Ceremonies. Armistice Day & ANZAC Day.</p>

235-257	<p>11.14). Housing accommodation & community atmosphere compared to 1st period at ICAO (1947 - 1952).</p> <p>Between the two sessions at ICAO, the Australian government had bought, in Montreal, houses for the member of Council & for the Air Navigation Commissioner.</p> <p>The one occupied by the representative on Council was really a very comfortable house. So the accommodation was very much better than in the 1st session - it was in district called Hampstead. Had not only large living accommodation, but also reception areas for dinners, cocktail parties & so forth - it was extremely comfortable. Had a nice little garden both in the front & behind. But the general atmosphere in the Montreal community was different & much more difficult than it was during the first session at ICAO.</p>	<p>Housing accommodation</p> <p>Australian government. Houses for - member of Council & Air Navigation Commissioner.</p> <p>Montreal district, Hampstead.</p> <p>Community atmosphere.</p>
257-402	<p>11.15). The French Separatist movement & it's effect on the Bradfield's lives.</p> <p>By the time Bill went back for the second session at ICAO in 1968, there was a strong movement on the part of many people in the province of Quebec, for Quebec to be a separate state. The French Canadian organisation that was strongly behind this was called the 'Parti Quebecois'.</p> <p>Very soon after Bill & his wife, Jeannette, arrived in Montreal, this organisation became active in a difficult sort of way - they took the British Trade Commissioner as hostage - he was picked up as he left his home one morning & they held him hostage for over 4 months.</p> <p>He lived next door to the Council member for the United States & it was learnt later - they did not mind which one they got - the first one that came out & which could be taken easily they did. The police authority in Canada, which at that time was dealing with such matters & still is, is the Royal Canadian Mounted Police. Their intelligence was that the next person to be taken hostage would be an Australian & there were only two Australians who occupied official post in Montreal - that was Trade Commissioner & Bill. He was the senior & he had the worse time because, following this first kidnapping, they also kidnapped a French Canadian politician who was against the separate French Quebec movement & he died whilst in their hands.</p> <p>A guard was mounted on both the Trade Commissioner & the Bradfields.</p> <p>For some months, he had several police actually in the house for the whole time, not living there, but stationed there - they were making sure that no attempt was made to kidnap either he or his wife.</p> <p>Bill said In their case it wasn't quite so bad. Remembers on first night after the kidnapping of the British Trade Commissioner, had a police cordon around the house, the whole house lit up with flood lights so they could see anyone approaching. But after that, it settled down to a more reasonable situation.</p>	<p>French Separatist movement.</p> <p>Quebec, separate state. French Canadian organisation, 'Parti Quebecois'.</p> <p>Hostage, British Trade Commissioner.</p> <p>Council member for United States.</p> <p>Royal Canadian Mounted Police.</p> <p>Australian Trade Commissioner.</p> <p>Kidnap, French Canadian politician</p>
324 →	<p>Explained there is a difference between police in Montreal & Canada to that in Australia. Various parts of Montreal have their own police services, eg. Hampstead has it's own police force & the city of Westmount had their own, & so forth. Bradfields had the local police force & their station was in the next street from where they lived. They were in close touch with the Royal Canadian Mounted Police the whole time - they worked together.</p> <p>Local police asked Bradfields to put in direct telephone links with the station - had two red buttons - one next to bed & one just next to front door - & if there was anything which looked suspicious - pressed button & they reckoned they could get</p>	<p>Difference between police in Montreal & Canada to that in Australia. Hampstead, own police force & so too city of Westmount.</p>

	<p>around to the house in 90 seconds. As matter fact they were right - used to test it out every now & then - & they could do it. You lived under that kind of atmosphere.</p> <p>The button near the front door was so located that, if you looked through the door, i.e. eye hole in door, to see who was there & didn't like what you saw, you would put your left hand quietly down the side & press the button without anyone outside seeing any movement.</p> <p>Bill was at the office all day & his wife, Jeannette, was under instructions not to move out any more than she could & we lived like that for about 4 - 5 months.</p> <p>Bill said there were some interesting & humorous sides to it. Routine shopping - used to do all of shopping in weekend - by car & round to the local supermarket & other places. Wasn't so bad really because there were so many people around at time. Main worry was they might try to get Bill on way to or from work. Used to go to work & come home by bus - so was to try to catch same bus about same time each morning & same bus coming out at night. Always sit at back of bus, not at front of bus, because it would be harder for them to get Bill from the back of the bus. When got out at the stop near home at night, there was an unmarked police car in a side street & they used to follow Bill home - in their sight until got safely home. That went on for about 4 months - fortunately nothing happened.</p> <p>.....continued on Tape IEA SYD : DWB 13, Side A.....</p>	
402	End of Tape IEA SYD : DWB 12, Side B	

Tape Log

Tape: IEA SYD: DWB 13, Side A		
COUNT	SUBJECT	NAMES & KEYWORDS
000-005	Tape Identification.	
005-032	<p>11.15). The French Separatist movement & it's effect on the Bradfield's lives.</p> <p>.....continued from</p> <p style="text-align: center;"><i>Tape IEA SYD : DWB 12, Side B.....</i></p> <p>What difficulty there was , was all associated with this Separatist movement in Quebec - as Bill was saying - had arrangement where the local police kept an eye on Bill from unmarked car from time got off bus until got into home - this went on for some months.</p> <p>It was not until years later when Bill & his wife, Jeannette, both over in Canada - in Montreal - that found out that their neighbours, who were very good to them, had themselves been worried about this. They had seen the unmarked car following Bill every night - so they had set themselves up as a sort of 'vigilante' group. They were keeping an eye on the unmarked police car.</p> <p>Fortunately the whole thing stopped when the British Trade Commissioner was found alive & released.</p> <p>The 'vigilantes' & the unmarked police car never really came into contact.</p> <p>Bill said that was typical of the friendliness that they had from time to time, not only from Canadian friends, but also from Canadian neighbours.</p> <p>Bill commented - there really was in the end no danger to them, nothing happened of any consequence, but were glad when it was over & could lead a normal life again.</p>	<p>French Separatist movement.</p> <p>Montreal, local police.</p> <p>Neighbours, 'vigilante' group. British Trade Commissioner.</p>
032-052	<p>11.16). Summing up 2nd session at ICAO in Montreal.</p> <p>Summing the whole thing up - Bill said both he & Jeannette enjoyed this second session in Montreal.</p> <p>Made close acquaintances & contact again with many old friends from first time in Montreal - both Canadian & also members of ICAO. Made new friends.</p> <p>Bill commented that the work involved with in 2nd session did not have all that much to do with engineering - there was some in dealing with noise & in systems planning - but not as much as in the 1st session. But still regards it as a very interesting & completely enjoyable part of he & Jeannette's overall life.</p> <p>Went there the 2nd time with the retirement from Department of Civil Aviation, not only in mind, but really as the next move after returning to Australia.</p>	<p>Summing up 2nd session in Montreal.</p> <p>Retirement from Department of Civil Aviation.</p>
052-081	<p>11.17). Return to Australia & move to Papua New Guinea as Civil Aviation Adviser & Controller of Civil Aviation.</p> <p>This retirement from Department of Civil Aviation after returning from the 2nd session at ICAO, actually happened - but moved almost immediately from there to Papua New Guinea.</p> <p>Australian Government & the Papua New Guinea Government, or Administration at that time, wanted somebody up there to help them with the transition from Australia to Papua New Guinea of all of the civil aviation activities.</p>	<p>Return to Australia.</p> <p>Papua New Guinea, Civil Aviation Adviser & Controller of Civil Aviation.</p>
058→	<p>Arrived home in Australia at end December, 1972 & left for Papua New Guinea at end January, 1973.</p> <p>The job there was - Civil Aviation Adviser to the Papua New Guinea Administration, which included being Controller of Civil Aviation in Papua New Guinea as the various functions were moved over from Australia to Papua New Guinea.</p> <p>Were in Papua New Guinea about 3½ years & it is a chapter in</p>	<p>Civil aviation activities.</p>

	<p>itself in Bill & his wife Jeannette's lives. It was again, an extremely interesting period, completely different from anything had been doing before. It brought Bill back into the engineering field to some extent, but it was really more administrative than engineering.</p> <p>Bill will talk about this 3½ year period in Papua New Guinea later when dealing with the period other than that dealing with ICAO itself.</p> <p><i>The following Section 12) deals with involvement with & continuing contacts with the International Civil Aviation Organisation (ICAO) as a member of Papua New Guinea's Delegations to the General Assemblies of ICAO in 1977, 1980 & 1983.</i></p> <p><i>Bill talks about the 3½ year period spent in Papua New Guinea as Civil Aviation Adviser & Controller of Civil Aviation later - refer Tape</i> <i>IEA SYD : DWB ..., Side..., at Counter-..., Section.....</i></p>	<p>International Civil Aviation Organisation (ICAO).</p> <p><i>This section had not been started when interviewing was halted in November 1999.</i></p>
081-117	<p><u>12). Papua New Guinea Delegations to the General Assemblies of ICAO in 1977, 1980 & 1983.</u></p> <p><u>12.1). Introduction & background.</u> When Papua New Guinea became independent in 1975, it was eligible to join ICAO as a state in it's own right & it did this. The first session of the General Assembly after that was in 1977. After Bill had left Papua New Guinea in 1976, he had continued on as an honorary adviser to them. Prior to the 1977 ICAO General Assembly, & other Assemblies afterwards, used to go to Papua New Guinea & help them prepare the Papua New Guinea Brief for the Assembly meeting. Refer to explanation in Item 12.2) below in which Bill describes what a 'Brief' is. Was part of the Papua New Guinea Delegation to the Assemblies in 1977, 1980 & 1983. This was more to help, advise & train the Papua New Guineans in their activities of what they would like to do & what they should be doing in the international civil aviation field. This was not so much having to do with engineering but it was something that leads on in somebody's career which starts off as an engineer then turns into other activities.</p>	<p>Papua New Guinea Delegations to the General Assemblies of ICAO in 1977, 1980 & 1983. Papua New Guinea Independence.</p> <p>Honorary adviser.</p> <p>'Brief' for Assembly meeting.</p>
117-189	<p><u>12.2). 1977 - Member Papua New Guinea Delegation to 1977 Meeting of General Assembly of ICAO.</u> In 1977, Bill & his wife, Jeannette, went up to Port Moresby for 2 - 3 weeks before the Assembly, prepared with them their Brief for the Assembly & also went over to Montreal as part of the Delegation.</p> <p>Meaning of 'Brief' → before any Assembly, ICAO prepares the Agenda & sends it out to all contracting states so that the full list of all the things that are going to be discussed at the Assembly. It is a case of going through all of those, talking those over with the people of Papua New Guinea & preparing what should be Papua New Guinea's situation on each particular item of the Agenda. That covers items of a technical nature, operational nature, legal & administrative. It would include where ICAO could help Papua New Guinea - this did not occur in the first one - it occurred later & also how Papua New Guinea could help them.</p>	<p>1977 Papua New Guinea Delegation to ICAO General Assembly, Montreal.</p> <p>Meaning of 'Brief'. Agenda.</p> <p>Items - technical, operational, legal, administrative.</p>

	<p>The Australian Government & the Department of Civil Aviation had set up a Training School in Papua New Guinea quite early in the piece & Bill remembers that by the time of the last Assembly that he went to in 1983, had got to the stage where the whole of the Training School had been passed over from Australia to Papua New Guinea. Also the training of Papua New Guineans had been carried forward to a stage then where there were places vacant in the school for other trainees, if needed. In fact, in the 1983 Assembly, Papua New Guinea offered to ICAO, that they would take students from other nearby countries, like Solomon Islands, Vanuatu & so forth - they could take them & give them training in civil aviation subjects in Port Moresby. There were some discussions about technical assistance, but that took place outside the Assemblies - but were in close touch with the Technical Assistance Division at ICAO in Montreal during the Assemblies.</p>	<p>Australian Government, Department of Civil Aviation. Training School, Papua New Guinea, civil aviation subjects Port Moresby.</p> <p>Solomon Islands, Vanuatu. Technical Assistance Division at ICAO, Montreal.</p>
162→	<p>The first Delegation in 1977 was led by their Minister of Civil Aviation - man called Jephcott (was an Australian, resident in Papua New Guinea, in fact had Papua New Guinean citizenship) & was very good Minister of Civil Aviation. Was a small Delegation - Minister Jephcott, Bill & also the man Bill had trained up to be Bill's successor & had taken over & by then was the Director of Civil Aviation in Papua New Guinea - man called Joe Tauvasa - a very intelligent Papua New Guinean. Think there was also a member from the Papua New Guinea delegation at the United Nations who dealt with matters of a political nature - that come up at all Assemblies. The three who were mainly dealing with the pure civil aviation matters were the Minister, Joe Tauvasa & Bill & of course Bill's wife, Jeannette, who was there, not officially, but never the less seemed to get involved in all the secretarial work. It was a very good situation in that the Australians offered to open their office to us & really worked out of their office. Don't mean we had an office there - but could hang our hats there & worked from there. The 1977 one went off very well.</p>	<p>First Delegation in 1977. Papua New Guinea Minister of Civil Aviation - Mr Jephcott.</p> <p>Director of Civil Aviation in Papua New Guinea - Joe Tauvasa.</p> <p>Australian Office.</p>
189-205	<p>12.3). 1980 - Member of Papua New Guinea Delegation to 1980 Meeting of General Assembly of ICAO. This was a different situation to the 1977 Delegation - had a different Minister - man called Iambakey Okuk. He was a Papua New Guinea highlander - a very controversial figure in many ways - he was also the Deputy Prime Minister. Don't think we did as much real civil aviation work in that Assembly as done in the first Assembly. It was very enjoyable & interesting as far as Bill was concerned because it brought him again in close contact with the Papua New Guineans & also with ICAO.</p>	<p>1980 Papua New Guinea Delegation to ICAO General Assembly, Montreal.</p>
205-400	<p>12.4). 1983 - Member of Papua New Guinea Delegation to 1983 Meeting of General Assembly of ICAO. For this third time - same situation, Bill & his wife, Jeannette, went up to Papua New Guinea, prepared the Brief with them, then went to Montreal. This was a really interesting & successful Assembly as far as Papua New Guinea was concerned & certainly as far as Bill & his wife, Jeannette, were concerned. The Minister (of Civil Aviation) who led the Delegation was man called Tom Paius. He came from the Medang area. The Delegation consisted of Tom Paius, a young lawyer called Kaku de Iowa & Bill & as will explain later, Jeannette, who became the official secretary of that Delegation. How Kaku de Iowa got that name, don't know, but he was a very</p>	<p>1983 Papua New Guinea Delegation to ICAO General Assembly, Montreal.</p> <p>Minister of Civil Aviation Delegation leader, Tom Paius. Lawyer, Kaku de Iowa. Jeannette Bradfield, the official secretary.</p>

	<p>good young lawyer & was one of the people Bill had helped to train up when he was in Papua New Guinea - so knew one another very well.</p> <p>Tom Paius was an extraordinary man. Before going to Montreal he had only ever been out of Papua New Guinea once & that was for 6 weeks to some meeting in Fiji - he had never been overseas except for that. Yet, here he was, put into Montreal, a most modern city, different background, different culture & everything, but he, in his work in ICAO was so composed, behaved himself so beautifully & carried himself so beautifully - you just felt proud to be associated with him.</p>	
239 →	<p>It was an interesting Assembly in that between the 1980 & 1983 Assemblies, Papua New Guinea had had it's 60th Anniversary of civil aviation in Papua New Guinea (<i>in Tape, Bill said Fiji - but corrected to Papua New Guinea at interview on 27 October 1999</i>) - in fact it was just after the 61st by the time the 1983 Assembly came along.</p> <p>When reached Montreal, found that Czechoslovaks had had their 60th Anniversary of civil aviation & they had quite a large display in one of the meeting halls in the ICAO building. Papua New Guinea had of course pre dated them, but did not have any display or anything like that. But it soon became clear in talk in the corridors & things like this - that Papua New Guinea had actually preceded them - the Czech's with their great display.</p>	<p>60th Anniversary of civil aviation in Papua New Guinea.</p> <p>Czechoslovaks 60th Anniversary of civil aviation.</p>
260 →	<p>One of the things Bill remembers about the Assembly was - because it was the 61st Anniversary, thought it would be appropriate for Papua New Guinea to make a statement at the beginning of the Assembly.</p> <p>At beginning of any Assembly, there is a period for contracting states to make statements. You ask permission to do it - quite a lot of states do it - in fact so many that it had become necessary to limit the length of the statement to 6 minutes. This was just as well because some before that went on for ages. They draw a letter out of a hat as to who makes the first statement. If, say, they drew out the letter 'J', then the first country who wished to make a statement - & if it were Japan - it would be Japan - & so it continues on.</p> <p>Also, this 1983 Assembly was just after the South Korean Airlines aircraft had been shot down by the USSR fighter - with dreadful loss of life & the whole place was very tense & everyone of the statements made referred to it with great horror & there were some very strong statements against the USSR.</p>	<p>Procedure to make statement at beginning of an ICAO Assembly.</p> <p>South Korean Airlines aircraft shot down by USSR fighter.</p>
289 →	<p>Bill had written draft of the statement for the Minister to make & then discussed it with the people in Papua New Guinea, particularly their Foreign Affairs people. They added a little bit about this South Korean Airlines aircraft being shot down.</p> <p>In drafting the statement Bill said he tried to put a bit of lightness into it. This was all well before the Assembly meeting.</p> <p>Bill remembers including about the early days of civil aviation in Papua New Guinea & how in regard to the first flights between Lae & the goldfields, & particularly between Lae & Wau, it became a question of getting transport into this place. Some private authority in Australia had an aircraft in pieces which they shipped from Townsville to Lae on the same ship as somebody else also vying for that pretty lucrative transport link - who were shipping a whole lot of donkeys up there for the same purpose. So the donkeys & the aircraft travelled on the same boat to Lae. The people with the aircraft had to assemble the aircraft & do a little bit of work to get a suitable landing area at Wau.</p>	<p>Papua New Guinea draft statement. Foreign Affairs.</p> <p>First flights between Lae & goldfields, Wau.</p> <p>Aircraft in pieces. Townsville.</p> <p>Donkeys. Race between aircraft & donkeys. Suitable landing area.</p>

	<p>It became a question of who got there first. In the end the aircraft won the race & they had this wonderful history of carrying a lot of freight & cargo between Lae & the goldfields. They even carried the whole of the dredge that set up the gold mining venture at Bulolo - carried it in pieces. Was cut into pieces, taken to Bulolo & there welded together again.</p>	<p>Goldfields. Dredge, gold mining venture at Bulolo.</p>
340 →	<p>Papua New Guinea's statement - it so happened by the process of drawing out of a hat to see who spoke first - that Papua New Guinea was called up as the last speaker on the first day. Had been very tense day & Bill said how he'll always remember - Tom Paius, when his name was called up, walked right down the aisle between the rows of seats to the podium - quite a long walk. Here was this man who had never been out of Papua New Guinea, except for 6 weeks - & he went down there with all the cool & calmness in the world. Got up & delivered this address - you'd think he had been talking to gatherings like that all his life. The little bit of lightness that was put into it really brought the Assembly back onto a much better atmosphere by the time the meeting closed. Tom Paius got a wonderful acclamation for his speech & a lot of compliments afterwards by various people, including the President of the Council.</p>	<p>Papua New Guinea statement. Very tense atmosphere. Tom Paius.</p>
370 →	<p>But what really broke the place up - was an incident at the official cocktail party that evening - everyone was invited. You have the President & the reception line in one spot & to get to that you have a snake type of line moving up to it. So you have people passing one another on their way to the President. Bill remembers - there was the Papua New Guinea Delegation, with Tom Paius leading, Kaku de Iowa, then Bill & Jeannette. Somebody on the line next to Tom recognised him & congratulated him on his speech & he said - "by the way, what happened to the donkeys ?" Quick as a flash, Tom said - "we ate them" - that could be heard in the circle around there - & again it broke the place up. It lightened the evening up quite a bit. When he got up to see the President, again the President congratulated him at quite some length on his speech - which amazed Tom & he was very pleased about the whole thing - he deserved it very much.</p> <p>.....continued on <i>Tape IEA SYD : DWB 13, Side B.....</i></p>	<p>President of the Council.</p> <p>Official cocktail party.</p> <p>Papua New Guinea Delegation, Tom Paius, Kaku de Iowa, Bill & Jeannette Bradfield.</p> <p>Ate the donkeys.</p> <p>President of ICAO.</p>
400	End of Tape IEA SYD : DWB 13, Side A	

Tape Log

Tape: IEA SYD: DWB 13, Side B		
COUNT	SUBJECT	NAMES & KEYWORDS
000-004	Tape Identification.	
004-074	<p>12.4). 1983 - Member of Papua New Guinea Delegation to 1983 Meeting of General Assembly of ICAO <i>.....continued from</i> Tape IEA SYD : DWB 13, Side A.....</p> <p>Had other light moments in that 1983 Assembly - as Bill said earlier, the Minister, Tom Paius, had never been out of New Guinea & this was his first time in a big city.</p> <p>Minister's fascination with Montreal Underground Railway. Bill's wife (Jeanette), Kaku & Bill had occasion to go with him from station A to B at some time & didn't realise then just what fascination it was. At times would lose Tom, for example, there would be a luncheon break in the Assembly & would find Tom had gone to the Underground Railway which was just at the bottom of the building. He would be travelling around the railway at lunch time, getting off at various stations - he worked out very quickly how to do it & how it pays tickets & things like that. He always turned up on time - whenever he was away, knew where he was - he was on the railway somewhere.</p>	<p>1983 Papua New Guinea Delegation to ICAO General Assembly, Montreal.</p> <p>Minister of Civil Aviation, Tom Paius.</p> <p>Fascination with Montreal Underground Railway.</p>
018 →	<p>The Minister's diet problems - Tom Paius found difficulty with the rather rich food - quite different from the Papua New Guinea food he was accustomed to. Also he was having trouble at the cocktail parties because it was a case of what to drink at cocktail parties - he normally drank beer - but there was no beer served at cocktail parties. He got associated with another gentleman from another developing country who had found or thought he had found a very good drink in whisky & Coca Cola - & he introduced Tom to that. But it was enough to upset his system a little bit as well as all the rich food. So Tom was not very happy about his diet or anything like that.</p> <p>Jeannette decided to do something about it. She went out to one of the fruit shops in Montreal & bought him a great carton of fruit - different sorts of fruit - she knew he'd like. That turned the tide completely. He started to improve & then whenever Bill & Jeannette could, took him out to one of the simple places, like a McDonalds - but a bit more varied than McDonalds. Knew that could always get food there that was not rich - particularly fish, which he liked - could get very good salmon.</p> <p>So, would get Tom to eat there as much as possible - Bill & Jeannette did the same purposely.</p>	<p>Diet problems. Rich food.</p> <p>Cocktail parties.</p> <p>Fruit shops in Montreal.</p> <p>Fish, salmon.</p>
045 →	Advice from Jeannette - Tom Paius became rather dependent	Jeannette, adviser.

Tape Log

Tape: IEA SYD: DWB 13, Side B		
COUNT	SUBJECT	NAMES & KEYWORDS
000-004	Tape Identification.	
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045 →	<p>Advice from Jeannette - Tom Paius became rather dependent on Jeannette. He found she could speak a little French - so whenever a French invitation came in - it went straight to Jeannette to be translated.</p> <p>Then it got to the stage he would be wanting to do something & Kaku & Bill would be advising him to do something else - he would turn to Jeannette & ask - "What do you think Jeannette? You've got a better idea than these two".</p> <p>So you'd find he was taking Jeannette's advice as an adviser, rather than from Kaku & Bill.</p>	<p>Jeannette, adviser.</p>

054 →	<p>Jeannette appointed officially as Secretary - she was acting as his secretary in the Delegation, so he then said - "Why isn't Jeannette a member of the Delegation ? How do I go about making her a member of the Delegation ?".</p> <p>So Bill replied - "Well, actually you can do it yourself as you are the leader of the Delegation" - knew the rules as applied to these things - "...and all you've got to do is appoint her as a member of the Delegation". So he appointed Jeannette as Secretary of the Delegation. In the annals of ICAO somewhere there are two Bradfields of the Papua New Guinea Delegation of 1983 - that's probably a record to have two such people, particularly as they are two expatriates, in another delegation.</p> <p>In summary :-Altogether, that 1983 Assembly was a very pleasant meeting. Was a lot of happiness the whole time - The Minister did a very good job whenever he was called upon or had cause to make a statement he did it so well.</p> <p>Was a memorable end to the last ICAO meeting Bill attended.</p>	Jeannette, official Secretary.
074-152	<p>13). 1978 - 1988.</p> <p><u>Member of the ICAO List of Arbitrators.</u></p> <p>Appointed to this List in 1978 & remained on that List until 1988. To be appointed onto the List of Arbitrators is a kind of small honour instead of having anything to do with any serious work, but it could involve very serious work. List of Arbitrators has not had to be used since ICAO inception & that's over 50 years ago. In the Convention (<i>Article 85 of the Chicago Convention</i>) there is a Clause setting up the means to resolve disputes which might arise between two of the contracting states of ICAO about anything involved in the Convention or in the operation of anything covered by the Convention.</p> <p>To give an example - remember in one case an aircraft of one of India or Pakistan - (can't recall which country) - made a forced landing in the other country after flying in airspace to which it was not entitled. It was civil aircraft, nothing military involved in it at all, but the civil aircraft had violated the airspace of the other country which they should never have done in accordance with the Annexes to the Convention.</p> <p>The country which had the aircraft refused to give it back.</p> <p>So the country that owned the aircraft came to ICAO - there was then a formal dispute between the two countries before ICAO.</p> <p>The mechanism set up in ICAO to deal with disputes like that - was that the dispute was first brought to Council for Council to decide. If the decision of Council was not acceptable to both parties, the dispute then went to the International Court of Justice in The Hague. If whatever the Court of Justice in The Hague decided, was not acceptable to both parties, then the dispute went to a panel of three Arbitrators who were drawn from what is known as the List of Arbitrators of ICAO. Those three arbitrators must be acceptable to the two disputing states. So, it is necessary to have a permanent List of Arbitrators from whom the two disputing states can choose the three who would decide the issue. The decision of the three Arbitrators was final. In the 50 years of ICAO, it has never had to be used.</p> <p>There is no need for the person on the List of Arbitrators to be a lawyer, no need to have been a representative on Council - but it is somebody who is, Bill thinks, proposed by a state & is also accepted by Council.</p> <p>Bill was put on List of Arbitrators in 1978 & was there till about 1988. Bill commented that every now & then they probably review the List & somebody who was sitting on it was removed by 1988.</p>	<p>Member, ICAO List of Arbitrators.</p> <p>Article 85 of the Chicago Convention. Dispute resolution, contracting states of ICAO.</p> <p>Forced landing, aircraft, India, Pakistan.</p> <p>ICAO mechanism to deal with disputes.</p> <p>Dispute resolution.</p> <p>International Court of Justice in The Hague.</p>

	<p>review the List & people who are getting on in years - by 1988, Bill would be 77. For those 10 years on the List there was a possibility that might have to be called on - but as mentioned earlier, it has never been used - hopes it never will be used.</p> <p>Bill recalled the one case, talked about above, between India & Pakistan - there was another case & it was the first case - it actually happened when Bill was acting President of Council. Was a dispute between two Caribbean states - thinks it was the Dominican Republic & Haiti, or something like that. They had a difference which came to Council, but they were persuaded to withdraw it before it had to be dealt with by Council. Bill commented that he suppose it is a little accolade but does not involve any real responsibility.</p>	<p>India & Pakistan.</p> <p>acting President of Council Bill Bradfield).</p> <p>Caribbean states, Dominican Republic, Haiti.</p>
152-165	<p><u>14). The Edward Warner Award - 1991.</u></p> <p><u>14.1). The Presentation, the Award & the Citation .</u></p> <p>On 6 December 1991, Dr Assad Kotaite, President of ICAO, conferred on Bill Bradfield the 25th Edward Warner Award - this is the highest award in the world of civil aviation. He presented the award on behalf of the ICAO Council in recognition of your (Dr Bill Bradfield's) eminent contribution to the development & provision of the technical & operational requirements of the ground based infrastructure of international civil aviation. The Award is bestowed, in the form of a gold medal, in recognition of outstanding contributions to the safe & orderly development of civil air transport.</p>	<p>Edward Warner Award, 1991.</p> <p>Dr Assad Kotaite, President of ICAO.</p> <p>Award Medal.</p>
165-183	<p><u>14.2). The Citation.</u></p> <p>The Citation which accompanied the Award is in the form of a mounted 'certificate' which is as follows :-</p> <p style="text-align: center;">EDWARD WARNER AWARD</p> <p style="text-align: center;">conferred by the Council of the International Civil Aviation Organisation on Dr. Keith N. E. Bradfield, OBE</p> <p>In recognition of his eminent contribution to the development and provision of the technical and operational requirements of the ground-based infrastructure of internal civil aviation.</p> <p>He applied himself with dedication and meticulous attention to detail throughout his long career in civil aviation, contributing to the design and development of aerodromes and ground aids and facilities.</p> <p>He served with distinction on the Council of the International Civil Aviation Organisation, bringing his valuable technical knowledge to the development of the Standards and Recommended Practices governing international civil aviation.</p> <p>Conscious of the role which international civil aviation can play in the social and economic development of the nations of the world, he devoted energy, knowledge and vision to assisting States in the developing world in ensuring the safe and orderly development of their civil aviation operations.</p>	<p>Award Citation.</p>

183-220	<p><u>14.3). Feeling on receiving the Award & reflections on career.</u></p> <p>Bill commented that he felt unashamedly proud of the Award. Thinks it was a case of being in the right place at the right time, for example, when first went to ICAO it was at a time when the Standards & Recommended Practices were being formulated & he was able to play a part in that.</p> <p>Then came the time with the great development of aircraft - there also had to be large developments in airports & so Bill got involved in that.</p> <p>Then, after Bill's second term as Council member at ICAO, and after leaving the Department of Civil Aviation, got involved, not so much by chance, but involved with working with developing countries in the Pacific & in Africa.</p>	<p>Feeling on receiving Award, reflections on career.</p> <p>ICAO, Standards & Recommended Practices. Aircraft development . Airport development.</p> <p>Developing countries, Pacific, Africa.</p>
220-241	<p><u>14.4). Australian recipients of Award.</u></p> <p>Bill commented that he was very proud of having the Award & being the second Australian recipient of it.</p> <p>The first Australian recipient was Sir Donald Anderson (in 1978). As mentioned earlier, he was the Director General of Civil Aviation & Chairman of the QANTAS Board.</p> <p>It is an Award which to some extent takes account various things that you yourself have done. For example, in the case of Don Anderson, he was very much involved in his early days in the organisation of Air Traffic Control & actual development of means & methods of Air Traffic Control that became used on an internationally wide basis. Bill commented that that played just as much a part in him getting the Award as his great contribution to civil aviation by being Director General of Civil Aviation & having the top position in QANTAS.</p>	<p>Australian recipients of Award.</p> <p>Sir Donald Anderson, Director General of Civil Aviation & Chairman of the QANTAS Board.</p> <p>Development of means & methods of Air Traffic Control.</p>
241-297	<p><u>14.5). Process by which nominations for the Award are made & some previous recipients.</u></p> <p>It is awarded annually & each year ICAO sends a letter around to all contracting states, asking if they wish to nominate anyone for the Award.</p> <p>So to get Award you must be nominated by a state - in this case, Bill said he was nominated by Australia & the nomination was supported by both Papua New Guinea & Fiji where he had worked & he felt that helped a lot.</p> <p>The nominations then go before Council or a committee of the Council set up to recommend to Council who might get the Award. It is not always given each year. It can be given each year. If they don't consider that any of the nominees deserve it, then it is not given.</p> <p>The Award can be given to people, both alive & posthumously, or it can be given to organisations, for example, one Award given approx. 3 - 4 years after Bill Bradfield received his - thinks was 1991 - was to the Faculty of Air & Space Law at McGill University for their great contribution to civil aviation.</p> <p>Another was given to an organisation called ASECNA (in 1972), which is a organisation which provides ground based navigation & communication facilities & operates them for quite a large number of French speaking states in Africa.</p> <p>As Bill commented earlier, he was second Australian to get it - doesn't think any country in the world has got more than two, except the United States & he said they thoroughly deserved it. Their first nominee to get it was Charles A. Lindbergh (1975) posthumously. Their second was Dr Harry G. Armstrong (1981) - he was a pioneer in the field of aviation medicine. The man who got it before Bill was Mr Igor Ivanovich Sikorsky (1990) who designed the helicopter. He would be (Bill thinks) be classified as an American & perhaps Polish - think it was Poland where he came from originally - but he spent most of his life in America.</p>	<p>Process of nomination for the Award. ICAO. Contracting states.</p> <p>Bill Bradfield nomination by Australia, supported by Papua New Guinea & Fiji.</p> <p>ICAO Council..</p> <p>Faculty of Air Law at McGill University.</p> <p>Organisation, ASECNA.</p> <p>United States, Charles A. Lindbergh (1975) posthumously, Dr Harry G. Armstrong (1981), Mr Igor Ivanovich Sikorsky (1990) originally from Poland.</p>

297-306	<p>14.6). Possible 3rd recipient from Australia ? Bill commented that he felt Australia will have another recipient - one of the old DCA staff. Bill said he was an engineer on his staff who has made very great contributions to civil aviation particularly dealing with satellite technology. Feels it is only a matter of time before he gets it.</p>	<p>DCA - Department of Civil Aviation.</p> <p>Satellite technology.</p>
306-322	<p>14.7). Initial moves for Bill's nomination. One of the things that pleased Bill most is that what he came to learn after he had been told of the Award. Initial move to nominate him came from two of the engineers who were on his own staff. One had retired & the other was close to it. Bill commented that it gave him a tremendous of pleasure to think that it was they who first floated the idea that Australia should nominate him. He said that's another reason why he is so proud.</p>	<p>Initial moves for Bill's nomination.</p>
322-377	<p>14.8). The Ceremony in Montreal on 6 December, 1991. Bill commented how the Ceremony in Montreal was very moving for him - was held in the main hall of the International Civil Aviation Organisation (ICAO). Everything went off smoothly - very good celebration afterwards & for Bill, he said the whole thing was like a dream come true. In his Acceptance Speech, Bill dedicated the Award to his wife, Jeannette - said he did this with a lot of thought & purpose. In the speech, Bill talked about the things his wife, Jeannette, had done, how they had worked closely together & how she had been of tremendous assistance to him - he said - quoting from his written Acceptance Speech -</p> <p>"This Edward Warner Award has been presented to me. I now dedicate it to her, Enid Jeannette Bradfield.</p> <p>I look on this Award, not as my Award but as our Award, and I would ask that you, and all others, to think of it that way."</p> <p>Bill stressed that so much of what he had done in his career in civil aviation & elsewhere has been done in company with her. Not only in ICAO - has earlier mentioned the value of the wife & family in ICAO (<i>refer Tape IEA SYD : DWB 11, Side A, at Counter 091-186, in Section 10.25</i>) - but throughout his whole life. Said it just seemed the obvious thing to do, because he doesn't think he would have got to the stage of getting the Award - said he is sure he wouldn't have - without her.</p> <p>Since then, with the work that Bill said he has been doing in the last 20 years or so - she works as his partner, not only his secretary, research assistant & they just work together. He mentioned that he is even allowed to pay her (by the Taxation Department) the salary of \$15 per hour & that goes into her Income Tax & is all 'above board' with the knowledge & approval of the Taxation Department. So, he said - "you can see we do work pretty closely together".</p>	<p>Ceremony in Montreal.</p> <p>International Civil Aviation Organisation (ICAO).</p> <p>Acceptance Speech.</p> <p>Dedicated Award to wife, Jeannette.</p>

377-427	<p><u>15). Years with ICAO & Career - reflection on engineering training & discipline.</u></p> <p><u>Bill commented as follows :-</u></p> <p>I think that one point that comes out of this is that - & I realise that I am doing this recording for The Institution of Engineers, as an Engineer - although the work that I was doing in ICAO was to some extent engineering, but to a greater extent it was something that was not engineering. That is something that is important & should be recorded as part of a man's career as an engineer, because to be trained as an engineer in the first place & to work as an engineer in accordance with the disciplines which you need to impose upon yourself as an engineer, can only help, & does help, to enable you to branch into other fields.</p> <p>I'm sure that my basic engineering training and my basic engineering learning in my early days - working as an engineer - was of great value in anything I did in ICAO & in the international forums.</p> <p>So I hope you don't mind me putting this non engineering content into this recording of an engineering career.</p>	
427	End of Tape IEA DWB 13, Side B	

NOTE:-***Hold put on further interviews for IEAust Oral History programme.***

In December 1999, Dr K.N.E. (Bill) Bradfield advised David Butcher (Interviewer) that he was putting a hold on any further interviews at that time due to him embarking on a major study to provide a solution to the airport problems of Sydney.

Bill Bradfield and David Butcher had planned the next (and final) stage of these interviews at their discussions on 27 October 1999. Notes of these discussions are attached (four pages).

This final stage includes the periods,

- * 1953 to 1968 whilst working with the Department of Civil Aviation.*
- * From January 1973 for 3½ years in Papua New Guinea.*

Bill engaged consulting engineering firm Sinclair Knight Merz to assist with various aspects of the Sydney airport study. It is understood from discussions with Bill at various times during 2000, that federal and state politicians and groups such as Air Services Australia became involved. Through 2000, reports appeared in the media about developing Kurnell Peninsula as a second Sydney airport – see information in separate folder.

During December 2000, medical problems with both of his feet became serious. Then during 2001, other health problems developed relating to his hearing and sight. These all led to Bill and Jeanette moving in April 2002 to a serviced apartment in Bayview Gardens. To date Bill's health problems have prevented continuation of the interviews.