

A black and white photograph of a nuclear mushroom cloud. The cloud has a thick, dark stem rising from a base of white smoke and debris. The top of the cloud is a large, billowing, white and grey mushroom shape. The background is a light, hazy sky.

**FLYING
BETWEEN
2 SUNS,**

**the insiders' guide to
nuclear cloud
sampling**

by joe pasquini

Flying between two Suns
April 28th 1958, Grapple Yankee, Christmas Island

This is the first, and only 'unauthorized' account of the Nuclear Cloud Sampling operation conducted by 76 Squadron RAF; flying into, and through the first true Hydrogen Bomb detonated by the United Kingdom. The guardians of the 'official' version may not have had all the full details delivered to them, and with this, may perhaps learn a thing or two. Three nuclear devices were air dropped from Christmas Island during 1957.

While the PR machine claimed that these were hydrogen bombs, none of them reached a point where the detonating mass reached the point of 'fusion'. They were not big enough, nor hot enough. They were just 'super' atom bombs, not hydrogen bombs. Yet many of the participants believed the PR stories and were mesmerized into thinking that they had watched a hydrogen bomb detonation. Sorry!

From the Navigation Log of Sniff Boss, the Air Control aircraft, that was tasked with monitoring and supervising the specially equipped aircraft and trained crews; that would fly through the radioactive cloud collecting microscopic debris, isotopes and nuclear gases. The nuclear samples would be field tested locally, to make a preliminary assessment to the size and nature of the detonation.

The main radiological samples were packed into lead lined containers and rushed back, halfway around the World, to AWRE Aldermaston in England, where more sophisticated equipment was available to perform a full analysis on the radioactive samples.

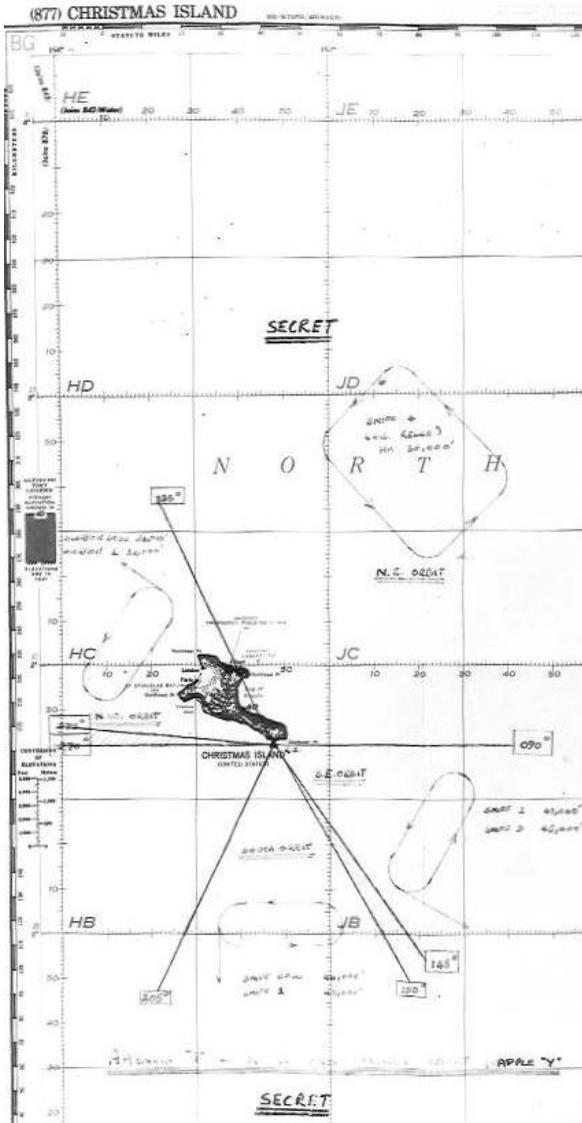
Christmas Island is positioned right in the very centre of the Pacific Ocean. Fourteen hundred miles due South of Hawaii. It is part of the Line Island group and is the largest coral atoll in the World. It is set 2 degrees (100 miles) above the Equator. All times shown are local Pacific Time.

0100	Aircrew wake-up call
0200	Flying Meal – Eggs, Bacon, Toast and Tea.
0300	Preliminary weather briefing
0400	Main flying briefing, all Squadrons
0500	Kitting up and collecting personal dosimeters and Film Badges. (The only protection against ionizing radiation). Then out to the aircraft to perform external checks.
0600	Internal equipment and instruments checked – all OK A two hour wait ensued. SOP for the military, hurry up and wait!
0859	Engines started
0902	Compasses synchronized – variation set 9 degrees East Longitude Position 01.59 North 157.20 West (Christmas Island airfield)
0905	Permission to Taxi to Runway 08
0912	Lined up for take-off
0913	Wheels up and airborne. Set heading south towards holding pattern. Climbing to 46,000 feet. Calculating altitude correction (ALTICOR)
0915	Radar on and serviceable
0918	Switching to Secret Grapple Operations radio frequency
0940	At altitude. In racetrack orbit. All aircraft on racetrack holding patterns.

Metaphorically, Christmas Island was cut up like a cake. At the end of each slice, a racetrack circuit was drawn. These racetracks became the holding patterns, distributed around Christmas Island, used by the Sampling aircraft, so as not to bump into each other. With different squadrons performing different tasks, it was a very crowded airspace.

At the time I had been assigned to write the monthly Operational Report Bulletins (ORB's). These detailed the major activities that occurred during the month and represented an ongoing Squadron history.

For the April 1958 report, I drew up a map showing the location of each of the racetracks that were used for the Grapple Yankee detonation. At the time, I decided to classify it as a SECRET document. It has been in the Public Domain now for several decades. After six decades, since it was drawn, if it hasn't been 'officially' declassified, then I deem it declassified now. This is it!



Map of the racetrack holding pattern, showing tracks and heights, pre and post detonation of 76 Squadron aircraft around Christmas Island

These patterns were chosen so as not to compromise the flight patterns of other operational aircraft that would be flying during the live bomb run and drop of the Grapple Yankee nuclear test device.

0950 Listening in to Bombing Run by drop Valiant bomber

1004 BOMB DROPPED – all aircraft turn away from Ground Zero detonation point.



Grapple Yankee falling from drop Valiant, photographed from pursuit Valiant.

“BOMB GONE – BOMB FALLING”

COUNT DOWN TO DETONATION!

“Ten---Nine---Eight---Seven---”

1005.13

H-HOUR

BOMB BURST

DETONATION!!!

FLASH!!!

Using the one-eye technique developed during night flying operations. One eye was kept open, and the other closed, so if the bright flash burnt out the retina in the back of the eyeball, the other eye would hopefully still be available to see with. With one eye tightly closed, and the other slightly opened, I timed the duration of the entire detonation process to a 19 second flash, from start to finish. This was the length of time it took for the hydrogen bomb detonation to expand from the size of a small motorcar, to a molten swirling perfect round white ball of liquid nuclear magma, over one nautical mile in diameter.

The detonation created three separate pulses. The first being the Neutron pulse that radiated high intensity radiation, like that generated by the Sun. Traveling faster than the speed of light, the radiation pulse created an aura of beams around the entire detonating ball of magma. Second came the light pulse (at the speed of light), that ejected both light and heat, as a product of the nuclear fusion.

Finally, the pressure pulse came, (much slower, at the speed of sound) that carried the sound of the detonation, together with massive wave of over pressure; that on the ground would have blasted a few eardrums and knocked several people off their feet.

1005.32 Flash subsides

A new Sun had been created in the atmosphere and it was suspended motionless, a mile above the surface of the sea. Never having seen such a wonder or anything quite like it in all my life, I watched with awe and wondering at what was happening. It was like looking at, then seeing the face of God.

This was the first true hydrogen bomb had been exploded by the United Kingdom. The first that achieved a fusion reaction, reaching the magical thermonuclear hydrogen heat threshold of 6000 degrees Celsius. Even to seasoned nuclear test veterans, who had seen super atom bombs explode earlier, this was an incredible sight, it totally blew their minds away.

To avoid the Shockwave, all other aircraft carried on flying as quickly as they could. They were all performing their individual RAF maneuver (Run Away Fast). Alone, and with a single purpose, Sniff Boss; avoiding a high speeds stall, spun sharply left, and back, and raced towards the nuclear inferno, Sniff Boss was the only aircraft flying towards the critical action.

Braced for the shock of the Pressure Wave, we flew back towards the maelstrom. I pulled the curtains away from the Navigation windows, allowing outside light to enter the darkened cabin. Above my head were two sky lights, which provided illumination for the Navigation cabin.

1010.03 Shockwave – Our aircraft received an extremely hard aerial pummeling and pounding.

With the speed of sound at 767 mph, we were 70 miles away from Ground Zero when the Shockwave hit us. Troops located on the ground at the Main Camp would have felt the Pressure Wave and heard the sound, just over 3 minutes after detonation.

Our aircraft soon reached the heights above Ground Zero, and we started to wheel slowly around it in a gentle Rate 1 turn. As we circled around the swirling glowing mass below, the sunlight streamed into the cabin through the two overhead sky lights, casting moving shadows across the cabin.

Suddenly, while I was looking down at the brilliant nuclear magma below, I felt the heat of the real Sun on the back of my neck. It was eerie. It was spooky. I was very uncomfortable. The hair on my neck was standing up. Then I realized.....

There were two Suns. Two huge balls of pulsating nuclear magma. One seven miles directly below me, and the other 92 million miles directly above. I was flying between two Suns.

People on the ground, looking towards the South East quadrant, watched as the new Sun developed. But, flying between the two was quite different. It was a unique experience, which few people, if any, have ever experienced.



The second Sun, hovering in a tranquil clear sky, sitting motionless, a mile above the Pacific Ocean.

Invisible to the naked eye but made visible by the chemistry of the photographic process, there was a magnificent aura surrounding the new Sun. Shining forth from the ball of liquid nuclear magma, suspended between Heaven and Earth. It was a field of neutron/gamma radiation, which is called 'shine' (as in Sun shine). Emulating from the very centre of the detonation, and the physical fusion of nuclear atoms.

As with our Sun, it ejected first the radiation pulse, followed by the light pulse, finally the blast pulse. Three different and completely separate energy pulses, each with its own energy yield.

Each one needed to be measured separately. But alas, this was just one of the many balls that were dropped during the UK Nuclear Tests. So much important and vital information was just disregarded, dropped, lost, thrown away, ignored.....enough to make one weep.

The nuclear cloud beneath me started to change colour, from white to yellow, to orange, then black and red, with multi coloured flashes and flecks of magma exploded from its sides. Then it started to rise slowly towards the heavens. As it climbed it gained momentum and speeded up. The outside colour of the cloud changed to greyish white as the cloud devoured moisture from the atmosphere, which condensed into a whitish water vapour.

Gaining speed as it rose; it sped past us while we were at an altitude of 9 miles. Flares of multi coloured liquid magma continued to lick out of the sides of the roiling cloud, as it rushed past traveling at more than 200 mph. Demonstrating the energy, power and violence contained within its mass. It was a mile above us when it impacted the Tropopause and spread outwards. It was still in motion and the diameter was spreading larger by the minute.

And with that, the next 20 minutes of my life were spent gawking, watching, with wondrous amazement to all the things that I was seeing through my Navigation Window.

The detonation itself was indescribable, incredible. It was like looking at the face of God, and all his/her wonders. Later, plunging into the cloud was a kissing to the cheek. This must have been the way that the Universe was created. The Big Bang. Being high in a sky, empty of aircraft or an audience, I was a spectator to it all.

Several secrecy codes had been developed, so we could broadcast preliminary operational observations on open radio channels, directly to the Task Force on the ground. These included:

FLAGPOLE	2 mins 42 secs.	Time it took from detonation for cloud to reach Tropopause
BETA C	6 mins 31 secs.	Time it took to fly past cloud. (47 mile diameter)
BETA S	1 min. 15 secs.	Time it took to fly past stem. (8 mile diameter)
GAMMA	Base of the cloud	490 (49,000 feet)
DELTA	Top of the cloud	510 (51,000 feet)

A point overlooked by the MoD Lawyers during the Pension Appeal hearings, when they disputed the cloud measurements that were broadcast. It would appear they took the BETA C readings and 'cast them in stone'. The diameter readings of the cloud and stem were taken at approximately 10.20 am local time, they were only accurate at that very moment in time. But what would those legal rascals know? They would only listen to their 'Expert Witnesses'. None of whom had been present during the operation, and only used tainted information that had been fed to them, to read their 'Tea leaves'.

The cloud was still in motion and moving outwards and upwards. Especially at the apex right in the very top centre of the cloud; right at the very point where the Tropopause had been breached.

One requirement was to obtain the accurate measurement of the diameter of the cloud stem. We closed in on it and were flying directly under the edge of the main cloud. Approximately 20 miles out from the stem, I had just started timing the transit past the leading edge, when all hell broke out! Everyone in the aircraft tensed up. What was going on? What was happening? There seemed to be so much happening that we were all dumb struck!

Simultaneously, we were struck by rain (impossible), all the radiation instruments lit up like a Christmas tree (never seen that before), and all chatter on the intercom stopped dead. What was going on? What was happening? Twenty seconds later the rain and radiation all stopped simultaneously. It all stopped, just as fast as it had started. There was a long pregnant pause before we recovered and got back to work.

Thirty minutes earlier, before the bomb detonation, I needed to check the outside Air Temperature for one of the many calculations I was making. It was a cool minus 74 degrees Celsius. That is 74 good reasons why rain was impossible at that rarefied altitude. When I heard the rain pounding on the outside skin of the aircraft, I just didn't believe it. I remember looking through my sky light.

The sky above was white, instead of the customary black. Indicating that we were indeed flying under the main nuclear cloud. But, just a few inches above my head I watched as wet running water was slowly drizzled across the clear pane of Perspex. Whatever was happening just did not add up. There was far too much going on to stop and try to rationalize what was taking place.

We still had several other major tasks to perform, including sampling the radioactive cloud. Need to concentrate on those and worry about the extraneous stuff later.

The entire nuclear sampling programme had been organized, to be enacted like a Stage play. The Actors (sampling aircraft) would have their 'entrances', and 'exits'. The entire performance was choreographed and directed by Sniff One, the Air Control aircraft; who stayed on stage for the entire performance. It was well rehearsed, and many contingencies had been anticipated, and alternative scenarios had been prepared, and would be performed 'ad hoc'.

What we were unprepared for were the unknown and unanticipated items, such as encountering radioactive rain so close to the Stratosphere. This was the first time that the squadron had ever encountered radioactive rain. Let alone rain at such a high altitude. How many other people, anywhere in the World, have ever experienced rain while flying at 46,000 feet? It is impossible, but it happened!

At H hour + 15 minutes the cloud appeared to have started to settle down. We were almost ready to go where no man had gone before. Another 5 minutes as we flew around the cloud, assessing the most advantageous way to make the first cut. It needed to be fast, and it needed to be short.

Whichever cut was made we needed to be close to the exit, in case we needed to get out of the cloud quickly. At H hour + 20 minutes a game strategy was decided. We would descend to 40,000 feet and make the first penetration at the point where the stem entered the lower level of the cloud. We were 'off to the races', and ready to begin our first nuclear transaction.

Lining up with the chosen point of penetration, the approach to the cloud was made. Two minutes before impact we started picking up radiation 'shine' on our instruments. Too late to turn back, we were committed. What was inside? Would we be flying through the Jaws of Death? Decades later we had our answer, we had indeed flown into the Jaws of Hell.

Just ask the few remaining survivors of HMNZS Pukaki, and the rest of the British and Commonwealth nuclear veterans. Everyone in the aircraft was concentrating so hard on the task at hand, there was no time to sit back and assess the craziness of where we were, nor the things we were doing.

IMPACT! We were in the cloud. For the second time ever, the radiation instruments popped, and lit up like a Christmas tree, and then maxed out. The indicator needles pressed hard against the stops. The needles were frozen for 10 seconds, before falling back. This was fortunate, because I had to start broadcasting the radiation readings every 15 seconds while we were sampling the cloud.

At 10 seconds into the cloud, the instrument needles returned to give fairly normal readings.

Accurate? We did not know. Hopefully so, I was too busy broadcasting the radiation numbers during both sampling cuts, that I didn't have time to write the readings down in my Navigation Log. Once I'd finished calling out the data, it was time to start rebroadcasting the next set of radiation data over again.

A fast-sideways glance out of the Navigation Window to my left, and it looked as though we were flying through a regular cloud. Except that the radiation instruments were telling a far different story. We were flying where no man had flown before. The gray cloud indicated that so much moisture had been absorbed by the roiling cloud on its way up from just above the Ocean, that it had condensed into a seemingly regular cumulus cloud.

Except that cumulus clouds do not form or exist at 40,000 feet. It is far too high, and too cold for them to exist at these altitudes of rarefied low-pressure air. There was a degree of turbulence in the cloud, probably generated by the high temperature from the thermonuclear detonation.

The existence of moisture within the cloud also signaled the reason that the engines did not cut out and die on us when we entered the cloud, as the moisture created the oxygen that was needed to keep the fuel burning, and to fire the engines.

1st Entry and Cut

Time in:	H+25.50
Time Out:	H+26.20
Height:	40,000 ft.
Heading:	14 degrees

It was a delicate little cut of 30 seconds. Everything indicated that we could proceed with a second cut.

On the ground, we were being monitored by radar. Our radiation broadcasts helped pin-pointed our exact positions in the cloud. In the event that we encountered a hot magma flare, we and the aircraft would be consumed, and we would disappear off of radar, and off the face of the Earth. Climbing up 2,000 feet, our second cut would be made through the side portion of the cloud.

2nd Entry and Cut

Time in:	H+32.05
Time Out:	H+33.05
Height:	42,000 ft.
Heading:	055 degrees

A one-minute cut. All appeared OK. Time to call in the troops for the main sampling operation. While this was going on, it was safe for the aircraft from other Squadrons to return to base, and land at Christmas Island.

Meanwhile, the sampling Canberra's had returned to their original standby circuit stations around Ground zero, flying in different quadrants, at different heights so they wouldn't bump into each other.

Just waiting to be called in for sampling by Sniff Boss, they were on their own individual flying patterns, more than 50 nautical miles from Ground Zero, and they did not get to see any of the spectacular action close up.

Once again, just as we entered the cloud all the radiation instruments maxed out. The instruments were a vital part of sampling. They were the only pieces of equipment that provided any indication of the strength of the radiation we were being exposed to.

The ROMEO instrument provided us with the 'radiation rate per hour' we were receiving. CHARLIE would tell us the 'cumulative radiation we had received'. Film Badges, which we had stuffed in our pockets, would have to be processed; it would take a week to get readings from them. The Badges were only able to detect gamma and neutron radiation, from the front and the back, so they were very limited. In effect they were useless.

If any of the aircraft instruments malfunctioned, it could lead to disaster. On a few occasions they did fail, and the sampling crews received massive radiation overdoses. All these occurrences were 'covered up', and 'swept under the carpet'. Those poor souls who suffered the radiation overdoses are no longer with us, but their stories have been uncovered, exposed and published. However, no one in Government, or the MoD will take responsibility.

The Supreme Court, having listened to the UK Nuclear Veterans Pension Appeal claim against the Ministry of Defence, rejected their arguments on vote of five to four, that radiation did not damage or cause illness or injury to any of the participants in the UK nuclear tests. If anyone was injured and was able to demonstrate that were injured as a direct result of radiation exposure (very hard to do with MoD spending 17 Million Pounds and more to disprove all claims), they could be paid off with a minuscule monthly War Pension payment. This would buy several beers and fags at the local pub!

With the rest of the World recognizing the sacrifices of their nuclear victims and veterans, the UK is beginning to resemble a 'banana republic' more and more, as each day passes. Let's speak to the current Minister of Defense about this!

Sniff One, piloted by Flg. Off. Gibb was called in from its holding position and was ordered to make a side penetration at 46,000 feet, at the lower part of the cloud.

He entered the cloud at H+46 on a heading of 350 degrees and was in the cloud for just over 2 minutes. Radiation levels were minimal, so he was ordered to stand off, while Sniff Two, Canberra WH980, piloted by Flt. Lt. Denson was ordered in to perform the next cloud penetration cut.



76 Squadron Canberra WH980 flying over the Port London Road, Christmas Island 1958

Sniff Two was instructed to make his penetration through the very centre of the cloud, at 51,000 feet. Unbeknown to most of us, this crew had been selected as the 'patsy' for human experimentation, by the scientists at the Atomic Weapons Research Establishment (AWRE).

The aircraft and the crew were to be the 'guinea pig' test platform. The aircraft had been specifically loaded with Film Badges, which had been taped to different key strategic locations within the cabin.

The Air Controller, flying in Sniff Boss was also a member of AWRE. He would have known about the experiments and would have been a key part of it. Because, it was he who ordered Sniff Two to fly through the very centre of the cloud.

The aircraft entered the cloud at H+49 minutes and was in the cloud for over 6 minutes. They hit the very 'dirtiest' and most radioactive part of the cloud, with radiation rates as high as 280 Roentgen per hour. The readings the Navigator, Flt. Lt. Kingdon broadcast were:

ROMEO

12	14	30	65	65	45	48	60	75	160	240	250	280	270	70
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CHARLIE

0	.2	.4	.8	1.2	1.6	2.1	2.5	3	4	5.2	6.2	7.8	9	9.9
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SALMON

0	0	0	0	0	0	0	0	0	0	0	0	0	0	50+
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There appears to have been some 'instrument lag' reading in SALMON, the gas sampling unit. A 50+ reading would indicate a radiation rate of over 300 Roentgen. But what about the accuracy of the other instruments?

All of these readings and charts have been declassified into the "UNCLASSIFIED" category. Perhaps that is the reason that six-decade old nuclear test records stored in The National Archives (TNA), have very recently, and suddenly, been shut down and frozen without warning, for review and relocation, by the MoD. It is a bit too late to hide the truth, "the cat is already out of the bag".

Hence TNA holding of Nuclear Test data will be transferred from the convenient locate at Kew Gardens to an inaccessible location to the far North of Scotland. It might even be relocated near to Donald Trumps' Golf Course. This is perhaps somewhat more accessible than the Golf Course on Ascension Island.

The final CHARLIE (total cumulative whole-body dose of radiation) reading taken by the crew of Sniff Two, when they flew out of the cloud, put their radiation dose excessively over the top. Needless to say, the crew had exceeded the maximum permitted radiation dose in a single pass through the cloud. They were ordered back to base for decontamination and debriefing.

The Sniff Two aircraft was the most radioactive aircraft that had ever been encountered in all of the squadrons experience sampling nuclear clouds.

On entering the special Decontamination area, set aside on the airfield, it caused all the Geiger Counters in the area to start clacking. The noise was so distracting, that they were all ordered to be turned off. On the ground the radiation 'shine' emulating from the aircraft was disturbingly high. The leading edge of the wings and engines were pulsing and beaming radiation at an unprecedented rate of 5 Roentgen per hour.

The radiation isotopes on the wings and wing tip fuel tanks could be (sort of) washed off, but the burning jet fuel had fused the radiation debris right into the inside metal of the engines. A comparison shows how all the sniffer aircraft stacked up with their final radiation contamination readings. Aircraft (A/c) 980 was the Sniff Two aircraft, with much higher readings than the rest.

Arrival and handling of the sampling Canberras (5) followed accepted practice, all being received within 3 hours of burst. Details of the doses received by the aircraft are as follows:-

A/c	Stbd. Tank r/h	Stbd. Eng. r/h	Nose Wheel r/h	Crews Door r/h	Port Eng. r/h	Port Tank r/h	Charlie r	Time	Code
980	5	5	1	1	4.5	5	14	11.00	Sniff 2
757	2	2	0.4	0.4	2	2.8	10	11.45	Sniff 1
976	Did not sample							11.53	Sniff 3
754	0	.02	0.01	0.01	0.02	0	1.8	12.43	Sniff Boss
978	0.6	0.6	0.2	0.1	0.6	0.8	0.7	12.47	Sniff 4

Burst time 10.05. Charlie = Integrating Dosimeter. Sniff = code for sampler aircraft.

At approximately 1930 hours the radiological survey Shackleton aircraft was admitted into the D.C. Area having become contaminated during the course of its operational sortie. Smearable activity off-scale on a 1320 was recorded from many points on the skin of the aircraft and smearable activity was detected in the cabin. The crew were passed through the decon-

The detailed reports regarding the human experiments conducted on Eric Denson and his crew, languished in oblivion in various locations. The MoD person who declassified them obviously was unable to read or understand them. Nor would they have realized the importance of the documents, otherwise they would still be highly classified, and locked up in a safe somewhere.

They were sent to Mrs. Denson, widow of the pilot, by the MoD. She sent them on to Rosenblatt solicitors, who were representing the Nuclear Veteran Plaintiffs in their action against MoD and the Government.

Again, the lack of expertise resulted in the documents languishing once more. Eventually, they reached the right hands and the whole shameful event that had been swept under the carpet for more than 5 decades came to light, and the entire imbroglio of these deplorable experiments was exposed.

The circulation of this paper has been strictly limited.
It is issued for the personal use of C. L.

TOP SECRET

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C.O.S. (53) 239

Also D.R.P./P(55)257

20th MAY, 1953

SPECIAL CIRCULATION

CHIEFS OF STAFF COMMITTEE

ATOMIC WEAPON TRIALS

Report by the Defence Research Policy Committee

Our Sub-Committee on the Military Applications of Atomic Energy has recently been considering lists of requirements by Service and Civil Departments for tests to be included in future atomic weapon trials.

2. Many of these tests are of the highest importance to departments, since on their results depend the design of equipment, changes in organisation and administration, and offensive and defensive tactics. The Navy requires information on effects of various types of atomic explosions on ships and their contents and equipment. Although some information is available from the earliest American trials and from HURRICANE there is much to be learned before essential decisions can be taken on the design of future ships. The Army must discover the detailed effects of various types of explosion on equipment, stores and men with and without various types of protection. The primary R.A.F. requirement is for information on the effects against airfields of the atomic bomb that is to be used by the new jet medium bombers. There is also a need to determine the results of the weapon against other important target systems, such as submarine bases and oil industry, so that operational planning may proceed on a firmer basis than is now possible. Finally, there are many tests required by the Civil Defence authorities on structures, utilities and materials of different sorts in order that civil defence planning against atomic attack may proceed.

3. Most of the tests that are simple to carry out and at the same time involve the transport of little heavy equipment were included in HURRICANE or will be included in TOTEM. The bulk of the remainder involve either the transport of heavy or dangerous equipment to the site of a trial or the construction of models of structures, runways etc.

BNTVA

With evidence such as this, how on Earth could the Supreme Court declare that the Veterans would never win their case? Perhaps it was the MoD Barrister who kept intoning “Low level radiation”, “Low level radiation”, “Low level radiation”.

“Low level radiation”,
“Low level radiation”,
“Low level radiation”,

..... It appears he seemed to have mesmerized The Supreme Court Judges into thinking that low level radiation is of little consequence. Charles Dickens, the author, had his own share of run-ins with the Law. When he wrote *Oliver Twist* 180 years ago, he managed to pop in his own opinion through the mouth of Mr. Bumble, when ‘squeezing his hat emphatically in both hands’ (declared) “the law is an ass”.

In the 21st Century, on hearing the Nuclear Veterans appeal, the UK Supreme Court managed ‘to prove, beyond a shadow of a doubt’, (this being the criminal test for the validity of evidence) that the spokesperson for the Supreme Court was indeed a real Jackass.

The various Governments of the UK since the beginning of 1950 perpetrated and conducted crimes, and criminal acts against servicemen and unwary civilians, in their endeavor to produce and to obtain nuclear weapons. Nuclear experiments on servicemen had been sanctioned for the military, at the very highest levels of Governments. It is hypocritical for a succession of different Governments to deny and ignore these truths.

They should not be able to ‘kick the can’ down the road forever. Perhaps the people of the UK should take a leaf from the French and start a rebellion in Parliament Square. **‘Aux armes, citoyens’**.

But I digress. Back to aviation, and the plight of tens of thousands of UK and Commonwealth Servicemen and Civilians, their children, grandchildren, etc.

Immediately after Sniff Two left the fray and returned to base; a very interesting (technical) thing happened during the two final sampling cuts made by Sniff One, when they were recalled to carry on sampling the cloud which was most probably overlooked by most people at AWRE and within the Task Force command.

Sniff One was ordered to make a second and third pass through the cloud. Fuel loadings for all the aircraft had been carefully calibrated dependent on how long they were expected to remain airborne. Sniff One was loaded with the least amount of fuel for the operation, as it was expected to be one of the first sampling aircraft to return to base.

The longer it was airborne, the less it weighed as it burnt off its fuel. The lighter it was, the higher it could climb. Its second cut into the cloud was made at 52,000 feet on a heading of 054 degrees. Entry time H+64 minutes. Then 20 minutes later, the pilot was able to coax the aircraft up to 54,000 feet for his final cut through the cloud.

An incredible feat that should have earned him a medal. He entered the cloud at H+85 minutes, and flew through it for 6 minutes, before being ordered back to base: low on fuel, and with an unhealthy dose of whole-body radiation.

Now here is the unprecedented manifestation. The extraordinary thing about this event was that his 2nd pass at 52,000 feet was flown within the *Troposphere (Atmosphere)*, just below the Tropopause. The 3rd pass at 54,000 feet was flown through the *Stratosphere*, just above the Troposphere.

This aircraft had sampled two entirely different parts of the cloud. There was the 'filtered' (54,000 feet) level and the 'unfiltered' (52,000 feet) parts of the nuclear cloud. The main nuclear cloud trapped below the Tropopause, and the diluted gases that had penetrated and filtered through the Tropopause, to escape into the Stratosphere. The wingtip and gas sampling units would have collected and homogenized a mixture of both parts of the cloud, but the PIKE radiological unit would have captured the individual samples from each different part of the cloud.

PIKE was the unit mounted in the top of the Camera compartment, behind the bomb bay. The PIKE probe was sticking up from the top of the aircraft, like a periscope, collecting isotopes and debris as the aircraft flew through the cloud. Incoming radioactive matter was sprayed onto a moving sticky tape as the aircraft progressed through the cloud.

The Unit provided an accurate cross section of radiation for individual cuts through the cloud. I doubt if AWRE were aware of this unique opportunity to profile the two different nuclear cloud segments. Perhaps they should dust off the cobwebs from their old records and go and take another look. A slight subtle indication of these final two cuts can be read, by comparing the broadcast readings during both sampling runs. But this would need a cognoscenti to detect them.

Sniff Three did not fly. After the crew started the engines, the Wingtip sampling units were found to be unserviceable, so they it did not take off. Instead it was immediately replaced by Sniff Four, flown by Fg. Off. Ray. The final sampler Sniff Four, made three cuts through the cloud without incident, at 51,300 feet, 51,500 feet and 52,000 feet.

All of these were made within the Tropopause (Atmosphere). With Sniff Four having completed its third and final cut through the Yankee cloud, Sniff Boss made a final visual check around the nuclear cloud. Nothing unusual in sight, and no other aircraft could be seen. Then we started our descent from 'the Gods' and headed back to the Christmas Island airfield.

First to evacuate from our very radioactive aircraft, then into Decontamination, to wash off any ambient radiation if we had been contaminated. The aircraft cabin pressurization system was fed by a bleed from the starboard engine. A filter was in position to trap any radioactive particles from entering the cabin and contaminating the crew. Provided that the filter system was working properly. If it failed, we would be in grave danger. Fortunately for us, it did work.

Finally, after passing through decontamination, we were given a haphazard Debriefing of our mission and experiences. We beat Sniff Four back to the airfield, as we were at a lower altitude when we left, and were much closer to the airfield. We had been airborne for over three hours, flying around the same cloud more than a dozen times, and by that time, managed to get a crick in our necks, from staring out of the Port side for so long.

During the flight at high altitudes, where it was very cold, the heating system was barely adequate, the moisture from our breath started to freeze on the cabin walls, and particularly onto the ejection hatch just above our heads. Even though we had the heat set at maximum, white hoarfrost had started to build up above us on the black ejection hatch over our ejection seats.

At the end of a long flight we found ourselves sitting in a crystal white ice palace, which helped lighten and brighten the rear cabin. Unfortunately, as we started to descend the hoarfrost started to melt. Dripping off the ejection hatch, right down our necks. Ice cold drips of water. Yuck! That was the price for glory! We didn't even get a medal for it.

With a nice light aircraft, we made a smooth gentle landing after having been airborne for over 3 ½ hours. We taxied to the strategically located Decontamination Pans. Where all radioactive aircraft would be decontaminated. Stopping short of the central area, to be evacuated from the aircraft. Crew evacuation from a radioactive aircraft was another of those highly choreographed events.

It was essential that neither the crew, nor the Evacuation Team touch any part of the radioactive aircraft. Because all parts of the outside skin of the aircraft were covered with a dense layer of the many different types of radioactivity that we had collected flying through the radioactive cloud.

There was so much radioactivity, that a radioactive 'shine' enveloped and radiated outwards from the entire aircraft. Anyone just standing close to the aircraft was receiving whole body radiation from the 'shine'. We made it a point to scarp away as quickly as we could from the aircraft, and out of the field of radiation. Then into decontamination. Off with our flying gear and into the shower. With the rapid changes from cold to hot and back again, our bodies were getting very confused.

Out of the shower, dry off then through the radiation scanner, to see if we needed more showering, or perhaps even a 'haircut'. We all managed to pass the radiation test first time, so we could get into dry cloths, then off to debriefing for the mission.

Debriefing was an experience. We attempted to detail all the incredible things we had seen and done, and that had happened to us. But 'rain at high altitude' was not on the debriefers agenda. Nor was 'radioactive rain'. So, we just answered the stupid questions that they had for us and called it a day.

We had had enough, and just wanted to get the hell out of the stupid '20 questions skit'. We had been up since just after midnight and needed something more stimulating than a bunch of bureaucratic 'bumph'.

With food and drink to replete us, we then had more to drink, as we were terribly dehydrated (hoarfrost). We hit the sack and passed out until late the following morning. By then everyone was sick and tired of Christmas Island. We all wanted to pack up and go back home.

We had had enough of the heat and humidity. Of the torrential Monsoon downpours from the Intertropical Front that kept passing over the island. The wretched Land Crabs. The disgusting Thunder Boxes. The terrible food – "chips with everything'. Dr. Flit flying overhead, spraying everyone with DDT, from an Army Auster surveillance aircraft. Enough was enough! Let's go home!

Conclusion - By Alan Owen, Chairman of BNTVA

We are very thankful to Flt. Lt. Joseph Pasquini, R.A.F. (Rtd.), for this historical account, and hope that you have enjoyed reading the unique experience of a Cloud flyer, who we believe is the last man alive to have flown in Sniff Boss through Grapple Yankee.

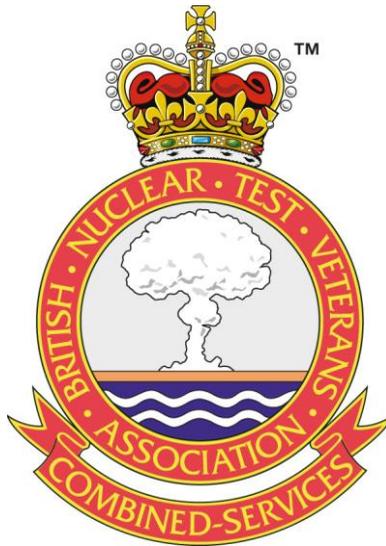
The BNTVA still campaign for the recognition of the sacrifices that the servicemen made during the British testing program and during the joint operations with the United States of America.

No human being should have been exposed to the conditions that the UK Government exposed the participants of the tests to, including the inhabitants of the testing areas. The UK Government still deny any responsibility for the exposure of the men and the experimentation that they carried out on them and continued to carry out on the remains of children and Veterans.

Now is the time to recognize the Veterans and their families, no longer can the UK Government cover up their participation in this terrible experiment.

The effects on the families will continue for generations, our world was changed forever when these tests were carried out. Hundreds of thousands of people have been affected.

These brave servicemen did their duty; it is time the UK Government does theirs.



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